United States Court of Appeals for the Federal Circuit

APPLE INC., A CALIFORNIA CORPORATION,
Plaintiff-Cross-Appellant

v.

SAMSUNG ELECTRONICS CO., LTD., A KOREAN CORPORATION, SAMSUNG ELECTRONICS AMERICA, INC., A NEW YORK CORPORATION, SAMSUNG TELECOMMUNICATIONS AMERICA, LLC, A DELAWARE LIMITED LIABILITY COMPANY,
Defendants-Appellants

2015-1171, 2015-1195, 2015-1994

Appeals from the United States District Court for the Northern District of California in No. 5:12-cv-00630-LHK, Judge Lucy H. Koh.

Decided: October 7, 2016

WILLIAM F. LEE, Wilmer Cutler Pickering Hale and Dorr LLP, Boston MA, argued for plaintiff-cross-appellant. Also represented by DANA OLCOTT BURWELL, ANDREW J. DANFORD, MARK CHRISTOPHER FLEMING, LAUREN B. FLETCHER, SARAH R. FRAZIER, RICHARD WELLS O'NEILL; MARK D. SELWYN, Palo Alto CA; THOMAS GREGORY SPRANKLING, Washington, DC; RACHEL

KREVANS, Morrison & Foerster LLP, San Francisco, CA; ERIK JEFFREY OLSON, Palo Alto, CA.

KATHLEEN M. SULLIVAN, Quinn Emanuel Urquhart & Sullivan, LLP, New York, NY, argued for defendant-appellants. Also represented by WILLIAM ADAMS, DAVID MICHAEL COOPER; BRIAN COSMO CANNON, KEVIN P.B. JOHNSON, VICTORIA FISHMAN MAROULIS, Redwood Shores, CA; JOHN B. QUINN, SCOTT L. WATSON, MICHAEL THOMAS ZELLER, Los Angeles, CA.

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Before PROST, *Chief Judge*, NEWMAN, LOURIE, DYK, MOORE, O'MALLEY, REYNA, WALLACH, CHEN, HUGHES, and STOLL, *Circuit Judges*.[*]

Opinion for the court filed by *Circuit Judge* MOORE, in which NEWMAN, LOURIE, O'MALLEY, WALLACH, CHEN, and STOLL, *Circuit Judges*, join.

Concurring in the result without opinion *Circuit Judge* HUGHES.

Dissenting Opinion filed by *Chief Judge* PROST.

Dissenting Opinion filed by *Circuit Judge* DYK.

Dissenting Opinion filed by *Circuit Judge* REYNA.

MOORE, *Circuit Judge*.

I. INTRODUCTION

The current appeal results from a patent infringement suit and countersuit between Apple Inc. ("Apple") and Samsung Electronics Co., Ltd., Samsung Electronics America, Inc., and Samsung Telecommunications America, LLC (collectively, "Samsung"). Relevant to this en

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[*]   *Circuit Judge* TARANTO did not participate.

banc decision, the district court granted summary judgment that Samsung's accused devices infringe the asserted claim of U.S. Patent No. 8,074,172 ("the '172 patent"). After a thirteen day trial, the jury found the asserted claim of U.S. Patent No. 5,946,647 ("the '647 patent") infringed, and the district court denied Samsung's requested judgment as a matter of law ("JMOL"). The jury also found the asserted claim of U.S. Patent No. 8,046,721 ("the '721 patent") infringed and not invalid and the asserted claim of the '172 patent not invalid. The district court later denied Samsung's requested JMOL and entered judgment accordingly.[1]   Samsung appealed the district court's grant of summary judgment of infringement as to the '172 patent, denial of JMOL of non-infringement as to the '647 patent, and denial of JMOL of obviousness as to the '721 and '172 patents.

II. PROCEDURAL PROGRESS

A. The Decision to Grant En Banc Review

On February 26, 2016, a panel of this court reversed the denial of JMOL with regard to the jury verdict of infringement as to the '647 patent and non-obviousness as to the '721 and '172 patents. Apple filed a petition for rehearing en banc. Apple's petition argued that the panel reversed the jury's finding of infringement of the '647 patent by relying on extra-record evidence "none of which

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[1]   Separately, the jury found that Samsung had not infringed the asserted claims of Apple's '414 or '959 patents. Additionally, the jury found that Apple had infringed the asserted claim of Samsung's '449 patent but had not infringed the asserted claim of Samsung's '239 patent and awarded Samsung $158,400 in damages. We reinstate the panel decision as to the appeals relating to these issues.

was of record and that the panel appears to have located only through independent research." Apple Pet. 2. Apple argued that this extra-record extrinsic evidence was used to modify the agreed to and unappealed claim construction. *See, e.g., id.* at 8 ("The panel looked to [this extra-record evidence] to create its own plain meaning of 'server' as requiring a 'stand alone' program."). Apple also argued that this extra-record evidence was used in "considering the factual question whether Samsung's phones met the 'analyzer server' limitation." *See id.* at 6, 8 ("The panel also relied on dictionary and encyclopedia entries to inform its understanding of how the shared library code **in Samsung's phones** work." (emphasis in original)). Apple also argued that the case should be taken en banc because "in an unprecedented decision," the panel reversed nearly every fact finding by the jury which favored Apple. *Id.* at 1.

We granted Apple's en banc petition to affirm our understanding of the appellate function as limited to deciding the issues raised on appeal by the parties, deciding these issues only on the basis of the record made below, and as requiring appropriate deference be applied to the review of fact findings. There was no need to solicit additional briefing or argument on the question of whether an appellate panel can look to extra-record extrinsic evidence to construe a patent claim term. "The Supreme Court made clear that the factual components [of claim construction] include 'the background science or the meaning of a term in the relevant art during the relevant time period.'" *Teva Pharms., Inc. v. Sandoz, Inc.*, 789 F.3d 1335, 1342 (Fed. Cir. 2015) (quoting *Teva Pharms., Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 841 (2015)). After *Teva*, such fact findings are indisputably the province of the district court. We did not need to solicit additional briefing or argument to conclude that the appellate court cannot rely on extra-record extrinsic evidence in the first instance or make factual findings about what such extrin-

sic evidence suggests about the plain meaning of a claim term in the art at the relevant time or how such extra record evidence may inform our understanding of how the accused device operates. We likewise did not need additional briefing or argument to determine that the appellate court is not permitted to reverse fact findings that were not appealed or that the appellate court is required to review jury fact findings when they are appealed for substantial evidence. The panel reversed nearly a dozen jury fact findings including infringement, motivation to combine, the teachings of prior art references, commercial success, industry praise, copying, and long-felt need across three different patents. It did so despite the fact that some of these findings were not appealed and without ever mentioning the applicable substantial evidence standard of review. And with regard to objective indicia, it did so in ways that departed from existing law.

The dissents, and Judge Dyk's dissent in particular, raise big questions about how aspects of the obviousness doctrine ought to operate. But no party—at the panel or the petition for rehearing en banc stage—invited this court to consider changing the existing law of obviousness. We did not take this case en banc to decide important legal questions about the inner workings of the law of obviousness. We have applied existing obviousness law to the facts of this case. We took this case en banc to affirm our understanding of our appellate function, to apply the governing law, and to maintain our fidelity to the Supreme Court's *Teva* decision.

B. The En Banc Decision

We affirm and reinstate the district court's judgment as to the '647, '721, and '172 patents. We conclude that the jury verdict on each issue is supported by substantial evidence in the record and that the district court did not err when denying Samsung's respective JMOLs. Accordingly, we vacate the panel opinion and affirm the district

court's judgment with respect to these patents. We reinstate the panel opinion regarding U.S. Patent Nos. 6,847,959, 7,761,414, 5,579,239, and 6,226,449. In all other respects, the panel decision is vacated. We have jurisdiction under 28 U.S.C. § 1295(a)(1).

III. DISCUSSION

We review a district court's order granting or denying JMOL under the standard applied by the regional circuit. In the Ninth Circuit, JMOL "is proper when the evidence permits only one reasonable conclusion and the conclusion is contrary to that of the jury." *See Monroe v. City of Phoenix*, 248 F.3d 851, 861 (9th Cir. 2001). The Ninth Circuit explains that "[t]he evidence must be viewed in the light most favorable to the nonmoving party, and all reasonable inferences must be drawn in favor of that party." *Id.* The Ninth Circuit reviews a district court's decision to grant or deny JMOL de novo. *Id.*

A. The '647 Patent

Apple asserted infringement of claim 9 of the '647 patent. The jury found that Samsung infringed and awarded Apple $98,690,625. J.A. 40869–79. The district court denied JMOL of non-infringement. J.A. 40–48. Samsung argues the district court erred in not granting its motion for JMOL of non-infringement. Because there was substantial evidence to support the jury's verdict, we affirm. "Substantial evidence . . . means such relevant evidence as a reasonable mind might accept as adequate to support a conclusion." *Consol. Edison Co. of N.Y. v. N.L.R.B.*, 305 U.S. 197, 229 (1938).

Infringement is a question of fact. *Lucent Techs., Inc. v. Gateway, Inc.*, 580 F.3d 1301, 1309 (Fed. Cir. 2009). Our review on appeal is limited to whether there was substantial evidence in the record to support the jury's verdict. *Id.* We presume the jury resolved all underlying factual disputes in favor of the verdict. *SSL Servs., LLC*

v. Citrix Sys., Inc., 769 F.3d 1073, 1082 (Fed. Cir. 2014).

The '647 patent discloses a system and method for detecting structures such as phone numbers, addresses, and dates in documents, and then linking actions or commands to those structures. When the system detects a structure in a document, an "analyzer server" links actions to that detected structure. Actions include things such as placing a phone call or adding an address to an electronic address book. *See* '647 patent at 2:21–41. Apple asserted claim 9, which depends from claim 1:

> 1. A computer-based system for detecting structures in data and performing actions on detected structures, comprising:
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>> an input device for receiving data;
>>
>> an output device for presenting the data;
>>
>> a memory storing information including program routines including
>>
>>> *an analyzer server for detecting structures in the data, and for linking actions to the detected structures*;
>>>
>>> a user interface enabling the selection of a detected structure and a linked action; and
>>>
>>> an action processor for performing the selected action linked to the selected structure; and
>>
>> a processing unit coupled to the input device, the output device, and the memory for controlling the execution of the program routines.
>
> 9. The system recited in claim 1, wherein the user interface enables selection of an action by causing

the output device to display a pop-up menu of the
linked actions.

'647 patent at 7:9–55 (emphasis added).

Samsung contends no reasonable jury could have
found infringement based on our constructions of "analyz-
er server" and "linking actions to the detected structures."
We previously addressed the constructions of both terms
in *Apple, Inc. v. Motorola, Inc.*, 757 F.3d 1286 (Fed. Cir.
2014) ("*Motorola*"), a separate litigation involving the
'647 patent. Our *Motorola* opinion issued on the parties'
final day for presenting evidence at trial in this case.
J.A. 42. During the *Markman* hearing, neither Apple nor
Samsung had sought a construction of "analyzer server"
or "linking actions," and instead sought to rely on the
plain and ordinary meanings of those terms. After
Motorola issued, the parties agreed to give the *Motorola*
constructions to the jury and reopen evidence to give both
sides an opportunity to present expert testimony about
the impact of the *Motorola* constructions on
'647 infringement. J.A. 43. The jury was instructed as
follows:

> The term "analyzer server" means "a server rou-
> tine separate from a client that receives data hav-
> ing structures from the client."

> The term "linking actions to the detected struc-
> tures" means "creating a specified connection be-
> tween each detected structure and at least one
> computer subroutine that causes the CPU to per-
> form a sequence of operations on that detected
> structure."

Final Annotated Jury Instrs., No. 22, *Apple Inc. v. Sam-
sung Elecs. Co.*, No. 5:12-cv-00630-LHK, (N.D. Cal. Apr.
28, 2014), ECF No. 1848. Neither side objected to the jury
instruction and neither side has appealed the construc-
tions given to the jury. We address Samsung's arguments

for each term separately.

1.   Analyzer Server

The only issue on appeal relating to the "analyzer server" limitation is whether there was substantial evidence to support the jury's fact finding that Samsung's accused devices satisfy this limitation under our *Motorola* construction. In *Motorola,* we construed "analyzer server" as "a server routine separate from a client that receives data having structures from the client." *Motorola,* 757 F.3d at 1304. In *Motorola,* the court explained:

> We agree with the district court's construction of "analyzer server." As the district court recognized, the plain meaning of "server," when viewed from the perspective of a person of ordinary skill in the art, entails a client-server relationship. Consistent with this perspective, the specification discloses an analyzer server that is separate from the application it serves. The analyzer server is part of the "program 165 of the present invention." '647 patent at col. 3, ll. 38–39. Fig. 1 shows the program 165 and the application 167 as separate parts of a random-access memory (RAM):
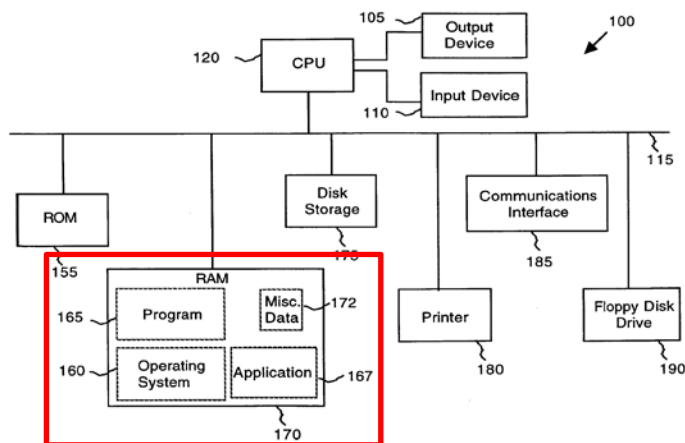

FIG. 1

> *Id.* at Fig. 1. Further, the specification states that
> "the program 165 of the present invention is
> stored in RAM 170 and causes CPU 120 to identi-
> fy structures in data presented by the applica-
> tion 167."   *Id.* at col. 3, ll. 37–41.   Thus, the
> specification describes the analyzer server and the
> application, which it serves, as separate struc-
> tures.

Id. at 1304–05 (red box annotation to figure added).[2] This
court explained that the '647 patent's separate require-
ment for the analyzer server is met when the "pro-
gram 165" and "application 167" are stored in "separate
parts of random access memory." *Id.* As we explained,
Figure 1 of the patent "shows the program 165 and the
application 167 as separate parts of a random-access
memory (RAM)" and they are thus "separate structures."
Id. Under the *Motorola* claim construction, the program
and application satisfied the separate requirement be-
cause they were structurally separate, i.e., located in
different parts of the RAM.   In this case, the parties
agreed that the *Motorola* construction be given to the
jury, and neither party appealed that construction.

The panel, however, used extra-record extrinsic evi-

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2   The district court opinion in *Motorola*—which we
affirmed—likewise based its determination of "separate"
on the fact that the client and analyzer server are located
in different parts of the memory, also citing Figure 1 of
the patent: "Had the patent intended the analyzer server
to be integrated into the application, rather than sepa-
rate, the program box would logically appear inside the
application box in Figure 1." *Apple Inc. v. Motorola Inc.*,
No. 1:11-cv-08540, 2012 WL 12537293, at *6 (N.D. Ill.
Mar. 19, 2012).

dence to modify the agreed upon and unappealed construction of "analyzer server."[3] Panel Op. at 8, 10 n.5. It held that Samsung's accused systems did not infringe because "the Samsung software library programs are not 'standalone' programs that run separately." Panel Op. at 13. Neither party asked for this changed construction.[4] And there is no foundation in *Motorola* for it.

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[3]   The panel opinion also used the extra-record evidence to understand the operation of the accused products. *See, e.g.*, Panel Op. at 9 ("In other words, the software library program runs as part of the client program. *See Program library (software library)*, Dictionary of Computing 391 (4th ed. 1996) ("Usually it is only necessary to reference the library program to cause it to be automatically *incorporated in* a user's program.") (emphasis added)."); *id.* at 10–11 n.5 ("A client/server relationship assumes a 'clean separation of functions'— both the client and the server are independently operating programs, each performing separate functions. *See, e.g.*, Stephen L. Montgomery, Object-Oriented Information Engineering: Analysis, Design, and Implementation 265 (1994)."). Apple argues that portions of the same extra-record evidence not cited by the panel support Apple's position. We make no findings regarding the teachings of the extra-record evidence.

[4]   Samsung did not argue that the *Motorola* construction should be expanded or modified to require that the "analyzer server" "run separately" or "stand alone" from the client application. The only instances where *Motorola* uses the word "separate" are when describing locations, such as "separate parts of a random-access memory (RAM)" or describing the analyzer server and client application as "separate structures." *Motorola*, 757 F.3d at 1304–05. Both parties tried the case and presented appellate arguments based on this understanding.

The dissents claim that Apple agreed to a new construction during oral argument.[5]   The dissents take Apple's statement out of context. When Apple's counsel stated that the analyzer server runs separately, he was explaining that the analyzer server runs in its own location in memory; the shared library code is not copied into and run as part of the client application. *See* Oral Arg. at 29:15–30:25. "The big fight was this, this was the big fight, does the code from the analyzer server get copied and become part of the analyzer server where it is run, or is there one copy of the code, and it is run at the analyzer server separately at the analyzer server as a part of a separate routine." *Id*. at 44:55. Apple's counsel repeatedly and clearly rejected the panel's suggestion that "separate" means a standalone program which runs separately. "There is no requirement in the claim interpretation that it run as a standalone program." Oral Arg. at 34:55.[6] Apple argued that the panel's proposed interpretation of "separate" was "a new claim construction that's actually more specific and different than the jury charge. No one

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[5]   Two of the dissents argue Apple agreed to the panel's construction that the analyzer server must "run on its own." Prost Dissent at 21–22; Dyk Dissent at 22. We note that Judge Reyna's dissent does not address this issue.

[6]   *See also* Oral Arg. at 28:45 ("There is no requirement that it be stand alone."); *id*. at 33:15 ("There is nothing in the claim interpretation that says it has to be stand alone. It says it has to be a separate routine."); *id*. at 40:15 ("The question is . . . does the claim require a completely standalone, separate routine, and this court's *Motorola* interpretation doesn't require it, and the claim doesn't require it, but it does require a separate routine."); *id*. at 44:00 ("There is no requirement legally that it be a standalone program.").

has urged you to do that. There is no suggestion that the claim interpretation is wrong." *Id*. at 45:45.[7] Apple reiterated its objection to the panel's modified construction in its Petition for Rehearing.[8]

Claim construction was not appealed and we do not agree that Apple agreed to the panel's change to the construction of analyzer server. Even Samsung's counsel agreed, "[Apple] is correct that we are not disputing the claim construction." Oral Arg. at 1:12:40. We thus return to our *Motorola* construction which was agreed upon by the parties in this case, given to the jury, and not appealed: "analyzer server" is "a server routine separate from a client that receives data having structures from the client." We evaluate whether there is substantial evidence for the jury's finding of infringement under that

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[7]   Apple's counsel explained that to require the analyzer server to be a standalone program "would be taking the claim interpretation that was given in the *Motorola* case and reinterpreting it to require something more specific." *Id*. at 44:00; *see id*. at 46:05–46:25 ("Court: The question is what does the claim interpretation mean? Apple: No your honor, they haven't raised that issue. There is no issue of claim interpretation, there is no issue of whether it was incorrect, there is no issue of whether it was given. The only question is, on that charge, was there substantial evidence to support the jury's decision.").

[8]   *See* Apple Pet. 6 ("[T]he panel relied on non-record sources to make its own finding as to [server's] plain meaning. Specifically, the panel ruled that 'servers' must be "standalone programs' that run separately."); *id*. at 7 n.4 ("But Apple's counsel was clear that '[t]here is no requirement that [the analyzer server] be standalone. The requirement is that it be a separate routine.'") (alterations in original).

construction.[9]

On appeal, Samsung argues no reasonable jury could have found its accused devices meet the "analyzer server" limitation because the accused devices do not contain a server routine "separate" from the client application. Samsung Br. 16–25. It argues that "the uncontested evidence at trial showed that the Browser and Messenger applications each contain their own routines *within the application* for analyzing the data (*i.e.*, performing the detecting and linking functions) and do not rely on a separate server." *Id.* at 18 (emphasis in original). It argues that in its accused devices, when a client application needs shared library code, "it will copy it from the library and it will run as part of the application." *Id.* at 19. It cites the testimony of its expert, Dr. Jeffay, that "[y]ou go to the library, you take code out of the library, you integrate it in your application, and at that point the

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[9]   Two of the dissents allege that the library programs cannot satisfy the analyzer server limitation despite the fact that they are separate programs which perform detecting and linking actions in response to a client request as required by the claims. Prost Dissent at 21–22; Dyk Dissent at 20–21. The claim language plainly indicates that the client application uses the analyzer server to perform the linking and detecting functions. *See* '647 patent claim 1. Samsung argued it did not infringe because of *where* the shared library code was used (whether it was copied into the client application before use), not whether it was used by the client application. *See, e.g.*, Samsung Br. 17, 18, 19, 21–22, 24. The concept that the analyzer server must be "standalone" or "run on its own" or run in isolation apart from a client request has no foundation in the '647 patent, in our prior *Motorola* decision, or in the parties briefs on appeal to this court.

library code is no different than any other code in the application." *Id*. at 21.

There is no real dispute regarding whether the shared library code in the accused devices performs all the claimed functionality—the dispute is where it performs those functions. Samsung contends the shared library code in its devices is copied and incorporated into the client application, so when the code is run, it runs as part of the client application. Therefore, its shared library code is not "separate" from the client application.

Apple contends the shared library code in Samsung's accused devices is never copied but rather remains at the library. It contends that, when a client application wishes to use Samsung's shared library code, the application goes to the shared library and uses the code there. Therefore, Samsung's shared library code is "separate" from the client.

We limit our appellate review to the evidence of record before the district court. On this record, we hold that substantial evidence supports the jury's finding that Samsung's accused devices contain "a server routine separate from a client that receives data having structures from the client." *See Motorola*, 757 F.3d at 1304.

Apple's expert, Dr. Mowry, testified that the "analyzer server" in the accused devices is shared library code, and the client applications are the Browser and Messaging applications. J.A. 13030:4–22. He testified that Samsung's shared library code and client applications are "separate" because they are located in separate parts of memory: "the shared libraries are developed independently of the application" and are "designed to be reused across different applications." J.A. 13035:12–18, 13036:13–20. He explained that "there's only one copy of the shared library code," and when client applications in Samsung's accused devices wish to use the library code, "those applications go to that code and use it where it is

each time they want to access that code." J.A. 13035:22–25. He testified that, in the accused devices, one copy of shared library code may be shared by "20 or 100" different applications, J.A. 13036:13–20, and that, in order for an application to use the library code, the application must "go to the shared library code in the one place that exists in the computer memory hardware to use it." *Id.*; *see also* J.A. 13037:1–6 ("It has access to the code and it goes to the code where it is and uses it there, and it does that each time that it accesses the code."). Dr. Mowry also testified that the client applications and shared library code in the accused devices are stored "in a different part of the address base." J.A. 13036:1–2. He concluded that the shared library code and client programs in the accused devices are "definitely separate." J.A. 13036:20.

On this record, this is substantial evidence to support the jury's finding that the accused devices meet the "analyzer server" limitation. Dr. Jeffay provided contrary testimony to Dr. Mowry, but the jury was in the best position to determine whether it found Dr. Mowry or Dr. Jeffay more persuasive. *See, e.g.*, *MobileMedia Ideas LLC v. Apple Inc.*, 780 F.3d 1159, 1168 (Fed. Cir. 2015) ("[W]hen there is conflicting testimony at trial, and the evidence overall does not make only one finding on the point reasonable, the jury is permitted to make credibility determinations and believe the witness it considers more trustworthy.").[10] We see no error in the district court's

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[10]   We leave credibility issues to the jury. We note that the district court repeatedly mentioned that Samsung's expert Dr. Jeffay gave inconsistent testimony about a particular limitation. *See, e.g.*, 4/28/14 Tr. at 3058:6–10 ("[Dr. Jeffay has] been all over the map about what the plain and ordinary meaning of this term is . . . . He's been all over the map."); *id*. at 3059:2–3 ("He's

conclusion that substantial evidence supported the jury verdict with respect to this limitation.

2. Linking Actions

Samsung also appealed the district court's denial of JMOL of non-infringement based upon the "linking actions" limitation. We hold that there was substantial evidence to support the jury's finding that the accused devices meet the "linking actions" limitation under our construction in *Motorola*.

In *Motorola*, we construed "linking actions to the detected structures" as "creating a specified connection between each detected structure and at least one computer subroutine that causes the CPU to perform a sequence of operations on that detected structure." *Motorola*, 757 F.3d at 1307. On appeal, Samsung argues there is no "specified connection" in the accused devices between a user's request to perform some action and the application that ultimately performs the requested action. More specifically, Samsung argues the "startActivity()" subroutine—the accused "computer subroutine" in Samsung's

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all over the map on plain and ordinary meaning of analyzer server."); *id*. at 3063:17 ("I think that is contrary to how he just testified."); *id*. at 3072:17–18 ("What's been testified to thus far is misleading."); *id*. at 3073:13–17; *id*. at 3076:7–9 ("He was all over the map, he didn't give an opinion on plain and ordinary meaning of analyzer server, he's very inconsistent throughout."). The district court also scolded Dr. Jeffay in its JMOL order for "misleadingly" attempting to argue he had used the *Motorola* constructions "since the very first day I worked on this case." J.A. 43. A reasonable jury could have concluded that such inconsistencies negatively impacted the persuasiveness of Dr. Jeffay's opinions.

products—does not satisfy the specified connection re-
quirement. Samsung Br. 27. It argues startActivity()
merely determines which application will perform the
requested action rather than performing the task itself.
Id. at 29. Thus, a "specified connection" to the startActiv-
ity() subroutine would not infringe because there is no
connection to the application that ultimately performs the
task. *Id.*

This argument can be illustrated through an example.
Android (the operating system run on the accused phones)
phones typically contain multiple applications capable of
sending emails. When a user inputs a command to send
an email, the phone prompts the user to select an availa-
ble application to send the email. There may be two or
three available applications; the user selects which appli-
cation to use. Samsung contends this is not a "specified
connection" because the user's command is not tied to a
particular application that performs the command. *See*
Samsung Br. 28; J.A. 11586:1–11587:6 (trial testimony of
Dianne Hackborn, Google engineer). It argues there is
"no evidence of any specified connection between detected
structures and *actions*," Samsung Br. 26 (emphasis add-
ed).

Our claim construction, however, does not require a
specified connection between detected structures and the
applications that perform operations on them. It requires
a specified connection between detected structures and
*the computer subroutine that causes the CPU to perform
the operations*. The district court made this observation
in its JMOL order: "The *Motorola* construction of 'linking
actions,' however, requires only that the detected struc-
ture be linked to a 'computer subroutine that *causes the
CPU to perform*' that function." J.A. 45 (emphasis in
original). The court quoted and rejected Samsung's
argument that "no specified connection exists because
claim 9 requires that 'you link the actual program that
performs that function,' such as dialing a phone number."

Id. (quoting Dr. Jeffay).

We agree with the district court that Apple presented substantial evidence that the accused devices contain a specified connection between a detected structure and a computer subroutine that causes the CPU to perform a sequence of operations. In the accused devices, the detected structure is an object in the data, such as a phone number or email address. J.A. 10854:11–25, 10858:3–12. And the computer subroutine is a method called "startActivity()." J.A. 13040:25–13041:4. Dr. Mowry testified that the phone numbers and email addresses form part of an Intent object. J.A. 10858:3–12. When a user wishes to perform some action in the accused devices (such as place a phone call or send an email), a method called setIntent() passes the Intent object to the startActivity() subroutine. J.A. 13040:6–23.[11] Dr. Mowry explained that if a "program wants to open another program, it uses an Intent object." J.A. 10861:4–6. He described startActivity() as the "launcher" that launches other programs to perform the requested action. J.A. 10858:13–20. For example, if a user wishes to make a phone call, the startActivity() subroutine launches the user's selected dialing application. *See* J.A. 10861:4–10.

According to Dr. Mowry, startActivity() is "the computer subroutine that causes the CPU to perform a sequence of operations on that detected structure," as our construction requires. J.A. 13040:25–13041:4. Dr. Mowry testified that startActivity() is "necessarily" called when a user selects a particular action. J.A. 13040:6–23, 13041:7–16. He explained that "if the user picks a partic-

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[11] Dr. Mowry testified that "the names [of the subroutines] are a little different" depending on the version of the accused product. J.A. 10862:16–20.

ular option, that information will be passed to another procedure shown on the bottom, which is called Start Activity, and that is the launcher." J.A. 10858:13–20. He testified that "you get different behaviors from Start Activity based on how you fill in the fields in the Intent object. So that causes the different actions to occur." J.A. 13042:25–13043:2. A reasonable jury could have relied on this testimony to find that Samsung's accused devices meet the linking actions limitation. *See* J.A. 45 ("[T]he jury could have determined that startActivity() satisfies this limitation because it is admittedly a linked subroutine that causes performance of an action.").[12]

In the Ninth Circuit, JMOL "is proper when the evidence permits only one reasonable conclusion and the conclusion is contrary to that of the jury." *Monroe,* 248 F.3d at 861. Dr. Mowry's testimony provided substantial evidence of infringement. In light of Dr. Mowry's testimony, we cannot conclude that the evidence permits only one reasonable conclusion which is contrary to the jury verdict. We see no error in the district court's denial of JMOL of non-infringement.

The judgment of validity of the '647 patent was not appealed. We affirm the district court's denial of JMOL

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[12] Samsung also argues the "specified connection" must be in place before the user selects a command to begin operations on a detected structure. Samsung Br. 31–32. This timing argument is premised on Samsung's contention that startActivity() does not satisfy the specified connection limitation. Because we conclude that there is substantial record evidence for this jury finding, the timing argument necessarily fails. Regardless, we see no timing limitation in the claim, and construction of this claim was not appealed.

as to this patent.

B.   The '721 Patent

Apple asserted infringement of claim 8 of the '721 patent. The jury entered a verdict that claim 8 was infringed and would not have been obvious. J.A. 40872, 40874. Samsung challenges the district court's denial of JMOL that claim 8 would have been obvious. We agree with the district court that there was substantial evidence to support the jury's underlying fact findings and that these fact findings supported the conclusion that Samsung failed to establish by clear and convincing evidence that claim 8 would have been obvious.

Obviousness is a question of law based on underlying facts. *Kinetic Concepts, Inc. v. Smith & Nephew, Inc.*, 688 F.3d 1342, 1356–57 (Fed. Cir. 2012). When reviewing a denial of JMOL of obviousness, where there is a black box jury verdict, as is the case here, we presume the jury resolved underlying factual disputes in favor of the verdict winner and leave those presumed findings undisturbed if supported by substantial evidence. *Id.* We then examine the legal conclusion de novo in light of those facts. *Id.* at 1357.

In *Graham v. John Deere Co.,* 383 U.S. 1, 17–18 (1966), and *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007), the Supreme Court set out the framework for the obviousness inquiry under 35 U.S.C. § 103:

Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to

give light to the circumstances surrounding the origin of the subject matter sought to be patented.

A determination of whether a patent claim is invalid as obvious under § 103 requires consideration of all four *Graham* factors, and it is error to reach a conclusion of obviousness until all those factors are considered. *In re Cyclobenzaprine Hydrochloride Extended-Release Capsule Patent Litig.*, 676 F.3d 1063, 1075–76 (Fed. Cir. 2012) (citing *Richardson-Vicks Inc. v. Upjohn Co.*, 122 F.3d 1476, 1483 (Fed. Cir. 1997)).[13] Objective indicia of non-obviousness must be considered in every case where present. *See, e.g.*, *Transocean Offshore Deepwater Drilling, Inc. v. Maersk Drilling USA, Inc.*, 699 F.3d 1340, 1349 (Fed. Cir. 2012) ("[E]vidence rising out of the so-called 'secondary considerations' must always when present be considered en route to a determination of obviousness." (quoting *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1538 (Fed. Cir. 1983)); *Simmons Fastener Corp. v. Illinois Tools Works, Inc.*, 739 F.2d 1573, 1575 (Fed. Cir. 1984) ("The section 103 test of nonobviousness set forth in *Graham* is a four part inquiry comprising, not only the three familiar elements (scope and content of the prior art, differences between the prior art and the claims at issue, and level of ordinary skill in the pertinent art), but also evidence of secondary considerations when such evidence is, of course, present."). This requirement is in recognition of the fact that each of the *Graham* factors helps inform the ultimate obviousness determination.

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[13] Even though no secondary considerations were argued to the Supreme Court in *KSR* with regard to obviousness, the Court explains: "*Graham* sets forth a broad inquiry and invited courts, where appropriate, to look at any secondary considerations that would prove instructive." *KSR*, 550 U.S. at 415.

Kinetic Concepts, 688 F.3d at 1360; *Nike, Inc. v. Adidas AG*, 812 F.3d 1326, 1340 (Fed. Cir. 2016) (holding that evidence of secondary considerations must be examined to determine its impact on the first three *Graham* factors).

The '721 patent discloses a portable device with a touch-sensitive display that can be "unlocked via gestures" performed on the screen. '721 patent at Abstract. The patent teaches that a "problem associated with using touch screens on portable devices is the unintentional activation or deactivation of functions due to unintentional contact with the touch screen." *Id.* at 1:38–40. "Unintentional activation or deactivation of functions due to unintentional contact with the touch screen" is commonly referred to as "pocket dialing." *See, e.g.*, J.A. 10638:9–13 (Andrew Cockburn) (describing the "pocket dial problem"); Apple Br. 25 ("Apple's '721 patent discloses a user-friendly solution to the problem of accidental activation of mobile touchscreen devices (e.g., 'pocket dialing')."). Greg Christie, an inventor of the '721 patent, described the problem he and his colleagues set out to solve:

> [W]e were worried about accidental use, pocket dialling [sic], the phone getting shut down accidentally, or since we were going to have all these features on the phone, like e-mail and messaging, we were worried that, you know, mail could be sent accidentally or deleted accidentally or the phone would answer itself simply because the touch surface – you know, if it was like, like, the touch surface against your leg in your pocket, we were worried that just, like, you know, jostling around, moving around would trigger things on the screen.

J.A. 10601:4–13.

The '721 patent also describes the importance of making phone activation as "user-friendly" and "efficient" as possible. It teaches:

Accordingly, there is a need for more efficient, user-friendly procedures for unlocking such devices, touch screens, and/or applications. More generally, there is a need for more efficient, user-friendly procedures for transitioning such devices, touch screens, and/or applications between user interface states (e.g., from a user interface state for a first application to a user interface state for a second application, between user interface states in the same application, or between locked and unlocked states). In addition, there is a need for sensory feedback to the user regarding progress towards satisfaction of a user input condition that is required for the transition to occur.

'721 patent at 1:56–67. Mr. Christie testified that the ease of the user interface was a central design consideration when developing the slide to unlock feature:

[W]e thought to introduce some sort of definite gesture. We knew we wanted to have some instruction. We knew we wanted the interface to be obvious to the customer. It would be possibly the first experience even in a retail environment. They're deciding whether they want to buy it. They pick up this iPhone, you know, it would be very bad if they looked at the phone that they had heard so much about and they look at it and say "I can't figure out how to use this. I don't know how to unlock it. It's locked." At the same time, we knew that people would be unlocking their phone, you know, tens or hundreds of times a day, so we didn't want the instruction to be, you know, insulting or talk down to the customer. We didn't want it to be cumbersome, something that they would grow tired of after a while.

J.A. 10602:6–20. Apple's expert, Dr. Cockburn, explained that there was a tension between preventing pocket

dialing and ease of use: ". . . [I]t has to work. It has to succeed in preventing accidental activation by mistake. But yet it needs to be something that's easy to do, but not so easy that it can occur by accident, and it succeeds in that." J.A. 10639:19–23.

Apple asserted claim 8, which depends from claim 7, against several Samsung devices. These claims recite:

7. A portable electronic device, comprising:

a touch-sensitive display;

memory;

one or more processors; and

one or more modules stored in the memory and configured for execution by the one or more processors, the one or more modules including instructions:

to detect a contact with the touch-sensitive display at a first predefined location corresponding to an unlock image;

to continuously move the unlock image on the touch-sensitive display in accordance with the movement of the detected contact while continuous contact with the touch-sensitive display is maintained, wherein the unlock image is a graphical, interactive user-interface object with which a user interacts in order to unlock the device; and

to unlock the hand-held electronic device if the unlock image is moved from the first predefined lo-

cation on the touch screen to a predefined unlock region on the touch-sensitive display.

8. The device of claim 7, further comprising instructions to display visual cues to communicate a direction of movement of the unlock image required to unlock the device.

The jury found that Samsung's accused devices infringed claim 8 of the '721 patent. J.A. 40872. Samsung does not appeal this aspect of the verdict. The jury also found that Samsung's infringement was willful and that Samsung failed to prove by clear and convincing evidence claim 8 is invalid. J.A. 40874. Following the verdict, Samsung moved for JMOL that, *inter alia*, claim 8 would have been obvious and Samsung did not willfully infringe the claim. The district court denied Samsung's motion as to obviousness but granted the motion as to willfulness.

Samsung argues claim 8 would have been obvious in light of the combination of Neonode and Plaisant. "Neonode" refers to the Neonode N1 Quickstart Guide. J.A. 20713. Neonode discloses a mobile device with a touch-sensitive screen. It explains that a user may unlock the device by pressing the power button. After the user presses the power button, text appears instructing the user to "Right sweep to unlock." Sweeping right then unlocks the unit. J.A. 20725.

"Plaisant" refers to a video and corresponding two-page paper published in 1992 titled "Touchscreen Toggle Design" by Catherine Plaisant and Daniel Wallace. J.A. 20742. The authors of the paper conducted an experiment to determine which controls ("toggles") users prefer on wall-mounted controllers for "entertainment, security, and climate control systems." *Id.* These controllers were intended to be installed "flushmounted into the wall or the cabinetry." *Id.* The authors presented six alternative unlocking mechanisms to a group of fifteen undergradu-

ate students, including a "slider toggle" where a user could activate the controller by "grab[bing] the pointer and slid[ing] it to the other side." J.A. 20743. The students preferred "toggles that are pushed" over "toggles that slide," and generally ranked the slider fifth of the six alternatives. *Id.* The paper also notes that sliders "were not preferred," "sliding is a more complex task than simply touching," and that "sliders are more difficult to implement than buttons." *Id.*

On appeal, Apple does not contest that, together, Neonode and Plaisant disclose all the elements of claim 8.[14] Rather, the parties dispute whether a person of ordinary skill in the art would have been motivated to combine one of the unlocking mechanisms disclosed in Plaisant with Neonode. Samsung argues "there was no evidence of any kind suggesting that Plaisant's application to a wall-mounted device would lead inventors not to combine Plaisant with Neonode." Samsung Resp. Br. 19–20. Its expert, Dr. Greenberg, testified that a person of ordinary skill "would be highly interested" in both references because "they both deal with touch base systems, they both deal with user interfaces." J.A. 11982:13–17. Dr. Greenberg testified that "a person looking at this would just think it natural to combine these two, as well taking the ideas in Plaisant, the slider, and putting them on the Neonode is, is just a very routine thing to think about in

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[14] There does not appear to be a dispute between the parties over whether the two references are prior art and within the analogous arts. Of course, concluding that the references are within the scope and content of the prior art to be considered for obviousness does not end the inquiry. *Graham* makes clear that the obviousness inquiry requires a determination whether the claimed invention would have been obvious to a skilled artisan.

terms of interaction design."   J.A. 11982:23–11983:2.
Samsung points to the Plaisant reference which states
that sliding movement "is less likely to be done inadvert-
ently." Samsung Br. 35–36 (quoting J.A. 20743).

Apple counters that a skilled artisan designing a mo-
bile phone would not have been motivated to turn to a
wall-mounted air conditioning controller to solve the
pocket dialing problem. Apple Br. 26–27. Its expert, Dr.
Cockburn, testified that a person of ordinary skill would
not have been naturally motivated to combine Neonode
and Plaisant. J.A. 12877:17–21. Dr. Cockburn testified
that the way the Plaisant controllers "were intended to be
used was the touch screen would be mounted into a wall
or into cabinetry and it would be used to control, for
remote control, office or home appliances, like air condi-
tioning units or heaters." J.A. 12876:20–23. He also
explained to the jury that Plaisant itself discloses that
sliding toggles were less preferred than the other switches
disclosed.   J.A. 12877:7–16. Apple points to Plaisant's
teachings that "sliders were not preferred," "sliding is a
more complex task," and "sliders are more difficult to
implement." Apple Br. 27–28. Apple argues there was
substantial evidence for the jury to conclude that there
would not have been a motivation to combine Plaisant
and Neonode to arrive at the claimed invention.

What a prior art reference teaches and whether a
skilled artisan would have been motivated to combine
references are questions of fact. *See Par Pharm., Inc. v.
TWi Pharms., Inc.*, 773 F.3d 1186, 1196–97 (Fed. Cir.
2014); *Transocean Offshore Deepwater Drilling, Inc. v.
Maersk Contractors USA, Inc.*, 617 F.3d 1296, 1303 (Fed.
Cir. 2010). "Before *KSR*, we had also consistently treated
the question of motivation to combine prior art references
as a question of fact. . . *KSR* did not change this rule . . . ."
Wyers v. Master Lock Co., 616 F.3d 1231, 1238–39 (Fed.
Cir. 2010); *id.* at 1237 ("[W]hether there was sufficient
motivation to combine the references" is a "factual is-

sue[].”). The district court determined that a reasonable jury could have found that a person of ordinary skill would not have been motivated to combine Plaisant and Neonode:

> A reasonable jury could infer from [Dr. Cockburn's] testimony that an ordinary artisan would not have been motivated to combine elements from a wall-mounted touchscreen for home appliances and a smartphone, particularly in view of the "pocket dialing" problem specific to mobile devices that Apple's invention sought to address.
>
> Additionally, Dr. Cockburn explained that Plaisant "teach[es] away from the use of sliding," because it "tells you not to use the sliding [toggle] mechanism."

J.A. 55 (citations omitted).[15] After noting that what a reference teaches is a question of fact, the district court discussed the various statements in Plaisant about sliding toggles and concluded that substantial evidence supports the jury's fact findings that Samsung failed to establish a motivation to combine. J.A. 55–56. We agree with the district court that on this record, the jury's implicit fact findings that Plaisant would not have provided a skilled

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[15] The district court denied JMOL on two discrete bases. J.A. 54–56. Because we find substantial evidence support for the jury's fact finding regarding motivation to combine, we need not reach the issue of whether Plaisant teaches away from the combination. We note, however, that, even if Plaisant does not teach away, its statements regarding users preferring other forms of switches are relevant to a finding regarding whether a skilled artisan would be motivated to combine the slider toggle in Plaisant with the mobile phone in Neonode.

artisan with a motivation to combine its slider toggle switch with Neonode is supported by substantial evidence. In addition to the statements in Plaisant, the court explained:

> Dr. Cockburn testified, contrary to Dr. Greenberg, that a person of ordinary skill in the art would not have been motivated to combine the Neonode and Plaisant in such a way as to invent claim 8. He provided two reasons. First, Plaisant described "toggle designs" intended to be used with a "touch screen [that] would be mounted into a wall or into cabinetry" for controlling "office or home appliances, like air conditioning units or heaters." A reasonable jury could infer from this testimony that an ordinary artisan would not have been motivated to combine elements from a wall-mounted touchscreen for home appliances and a smartphone, particularly in view of the "pocket dialing" problem specific to mobile devices that Apple's invention sought to address.

J.A. 54–55 (citations omitted).

We agree with the district court's analysis. Because the jury found the issue of validity in favor of Apple, we presume it resolved the conflicting expert testimony and found that a skilled artisan would not have been motivated to combine the slider toggle in Plaisant with the cell phone disclosed in Neonode. The question for our review is whether substantial evidence supports this implied fact finding. We conclude that it does. Neonode discloses a mobile phone. Plaisant discloses a wall-mounted air conditioning controller. The jury had both references before it. Although Samsung presents arguments for combining the two references, these arguments were before the jury. Our job is not to review whether Samsung's losing position was also supported by substantial evidence or to weigh the relative strength of Samsung's

evidence against Apple's evidence. We are limited to determining whether there was substantial evidence for the jury's findings, on the entirety of the record. And under the Ninth Circuit standard, we cannot conclude that the evidence affords only one reasonable conclusion and that it is contrary to that of the jury. *See Monroe*, 248 F.3d at 861. We agree with the district court: "A reasonable jury could infer from this testimony that an ordinary artisan would not have been motivated to combine elements from a wall-mounted touchscreen for home appliances and a smartphone, particularly in view of the 'pocket dialing' problem specific to mobile devices that Apple's invention sought to address." J.A. 55.

1. The Objective Indicia of Non-Obviousness

The Supreme Court explained that various factors "may also serve to 'guard against slipping into use of hindsight,' and to resist the temptation to read into the prior art the teachings of the invention in issue." *Graham*, 383 U.S. at 36 (citation omitted). These factors are commonly known as secondary considerations or objective indicia of non-obviousness. These include: commercial success enjoyed by devices practicing the patented invention, industry praise for the patented invention, copying by others, and the existence of a long-felt but unsatisfied need for the invention. As this court held in *Stratoflex*:

> Indeed, evidence of secondary considerations may often be the most probative and cogent evidence in the record. It may often establish that an invention appearing to have been obvious in light of the prior art was not. It is to be considered as part of all the evidence, not just when the decisionmaker remains in doubt after reviewing the art.

713 F.2d at 1538–39. Apple introduced evidence of industry praise, copying, commercial success, and long-felt need. We presume the jury found that the evidence was sufficient to establish each by a preponderance of the

evidence. We find substantial evidence in the record to support each of those findings.

a.   Industry Praise

Evidence that the industry praised a claimed invention or a product that embodies the patent claims weighs against an assertion that the same claimed invention would have been obvious. Industry participants, especially competitors, are not likely to praise an obvious advance over the known art. Thus, if there is evidence of industry praise of the claimed invention in the record, it weighs in favor of the non-obviousness of the claimed invention. *See, e.g.*, *Institut Pasteur & Universite Pierre Et Marie Curie v. Focarino*, 738 F.3d 1337, 1347 (Fed. Cir. 2013) ("[I]ndustry praise . . . provides probative and cogent evidence that one of ordinary skill in the art would not have reasonably expected [the claimed invention]."); *Power-One, Inc. v. Artesyn Techs., Inc.*, 599 F.3d 1343, 1352 (Fed. Cir. 2010) (noting that industry praise, and specifically praise from a competitor, tends to indicate that the invention would not have been obvious).

Samsung's entire appeal regarding the jury's fact finding that industry praise weighed in favor of non-obviousness is contained in one half of one sentence: "Indeed, the district court relied solely on generic praise not linked to the actual subject matter of the claim . . . ." Samsung Br. 37. The district court rejected Samsung's argument on this issue, determining that substantial evidence supports the jury's underlying findings in favor of "industry praise specifically for Apple's slide to unlock invention." J.A. 56. It cited numerous internal Samsung documents that both praised Apple's slide to unlock feature and indicated that Samsung should modify its own phones to incorporate Apple's slide to unlock feature:

- PTX 119 at 11: presentation prepared by Samsung's European design team in June 2009 with a picture of the iPhone stating that Apple's slide

to unlock invention is a "[c]reative way[] of solving UI complexity" and that "swiping unlock on the screen allows to prevent erroneous unlock," J.A. 50950;

- PTX 121 at 100: Samsung software verification group document with a picture of the iPhone noting that unlike Samsung's "Victory" phone, the iPhone's "unlocking standard is precise as it is handled through sliding, and it allows prevention of any wrong motion," and recommending a "direction of improvement" to make it the "same as iPhone, [and] clarify the unlocking standard by sliding," J.A. 51289;

- PTX 157 at 19–20: Samsung document with a picture of the iPhone recommending improving the Samsung phone by making it "easy to unlock, [given that] lock screen always shows guide text or arrow like the iPhone" and to make the lock icon's movement "be smooth and continuous" like the iPhone, J.A. 57 (JMOL Order citing PTX 157);

- PTX 219 at 14: Samsung document with a picture of the iPhone noting that the iPhone "intuitively indicate[s] the direction and length to move when unlocking on the lock screen," J.A. 51603;

- PTX 120 at 28, 84: Samsung document with a picture of an iPhone that describes the "Direction of Improvement" as using a defined bar to unlock the phone, as is done on the iPhone. The same document describes the "Direction of Improvement" as displaying the unlock instruction on the screen, as is done on the iPhone. J.A. 51028, 51084.

See J.A. 56–57 (JMOL Order citing several Samsung

documents). Such internal documents from the patentee's top competitor represent important admissions, acknowledging the merits of the patented advance over the then state of the art and can be used to establish industry praise. Dr. Cockburn, Apple's expert, testified "these various Samsung documents recognized the advantages of claim 8." J.A. 57 (citing J.A. 10640–52).

The court also explained that Apple presented a video at trial showing Steve Jobs unveiling the slide to unlock feature at an Apple event. When Mr. Jobs swiped to unlock the phone, "the audience burst into cheers." J.A. 12879–80 (Andrew Cockburn). The video was shown to the jury, and Apple's expert, an inventor, and Apple's Vice President of Marketing all referenced the video in their testimony. *See* J.A. 57 (JMOL Order citing 4/4/14 Tr. at 603:6–11 (Greg Christie)); J.A. 12879:17–12880:2 (Andrew Cockburn); 4/1/14 Tr. at 428:12–17 (Phillip Schiller) ("There were many press in attendance at the event, and the reaction was enormous.").

Samsung does not discuss any of this evidence on appeal. In light of this evidence, we find its argument that the district court cited only generic praise of the iPhone, and not praise tied to the claimed slide to unlock feature, is without merit. The jury was presented with substantial evidence of praise in the industry that specifically related to features of the claimed invention, thereby linking that industry praise with the patented invention.

b. Copying

Samsung does not dispute in its briefing that the jury heard substantial evidence that it copied the iPhone's claimed features. In other words, Samsung does not challenge on appeal that substantial evidence exists in the record that Samsung copied Apple's slide to unlock feature, nor does it challenge on appeal that this evidence of copying supports a conclusion that claim 8 would not have been obvious. Apple cites the same Samsung inter-

nal documents for both industry praise and copying, as they show evidence of both. The record contains multiple internal Samsung presentations given by different Samsung groups at different times stating that the iPhone's slide to unlock feature is better than the various Samsung alternatives. *See supra* J.A. 50950 (PTX 119); J.A. 51028, 51084 (PTX 120); J.A. 51289 (PTX 121); J.A. 57 (JMOL Order citing PTX 157); J.A. 51603 (PTX 219). And many of these same presentations conclude that the direction for improvement is for Samsung to modify its unlocking mechanism to be like the iPhone. *See id.* This is substantial evidence of copying by Samsung, and it supports the jury's verdict that the claimed invention would not have been obvious.

c.   Commercial Success

In its opening appellate brief, Samsung also glosses over commercial success, giving it one sentence: "Apple made no effort to establish a nexus between commercial success and the subject matter of claim 8."   Samsung Br. 37.   Commercial success requires a nexus to the claimed invention. *Transocean*, 699 F.3d at 1350. We look to the record to ascertain whether there is substantial evidence for the jury's fact finding that Apple established a nexus between commercial success and the invention in claim 8.

At trial, Apple's expert, Dr. Cockburn, testified that the iPhone practiced the asserted claim of the '721 patent, and "clearly there's been commercial success of the iPhones that use this invention."   J.A. 12879:20–22; *see also* J.A. 11984:24–25 ("[T]here's no question that the Apple iPhone was a commercial success.") (Saul Greenberg, Samsung's expert).   Critically, Apple presented survey evidence that customers would be less likely to purchase a portable device without the slide to unlock feature and would pay less for products without it, thus permitting the jury to conclude that this feature was a

key driver in the ultimate commercial success of the products.[16] J.A. 21066, 21108. Apple's Senior Vice President of Worldwide Marketing testified that slide to unlock was the very first feature shown in Apple's original iPhone TV commercial, 4/1/14 Tr. at 433:16–434:18 (Phillip Schiller) (citing PTX 180), and the jury saw that commercial during the trial. *Id.* A reasonable jury could have found evidence that Apple's marketing experts elected to emphasize the claimed feature as evidence of its importance. It is likewise reasonable to conclude that advertising that highlights or focuses on a feature of the invention could influence customer purchasing decisions. And an inventor of the '721 patent—an Apple Vice President—confirmed that slide to unlock was important because it "would possibly be [a customer's] first experience even in a retail environment" when the customer was "deciding whether they want to buy it."

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[16]   In its reply brief, Samsung argues that Apple's survey evidence "did not even test the '721 patent for smartphones." Samsung Resp. Br. 21. The claims of the '721 patent, however, are not directed to a smartphone, but rather to a "hand-held electronic device." J.A. 685. Apple's survey evidence tested tablets with 7" screens. No one argued that a 7" tablet was not a "hand-held electronic device," nor does this distinction have anything to do with the slide to unlock feature. The dissents suggest that the survey evidence should be rejected because the survey only establishes that customers would prefer to purchase a device with a slide-to-unlock feature and that such evidence does not demonstrate a nexus to Apple's particular slide-to-unlock mechanism. We decline to reach this argument because it was never made in this appeal.

J.A. 10601:25–10602:22 (Greg Christie).[17]   Mr. Schiller explained the importance of the slide to unlock feature in great detail:

> When this ad ran, people hadn't had the oppor-tunity yet to actually use an iPhone for them-selves, and so they've never used at this point in time a device anything like it. The challenge is how do you show people, in a simple, 30-second ad, something that gives them a feel for what it's like to use this new generation of Apple's smartphone. And we started the ad with some-thing you're going to be doing every day, many, many times a day, which is to unlock the screen, and to do that, you use a simple gesture, slide to unlock. And that one gesture, having seen that one thing first, you get an instant idea of how multitouch works so that you're doing a gesture on the screen, and it does something simple and useful to you, and that it's easy to use. You don't need a manual to figure it out. And that one starting point was a great beginning to your un-derstanding of what an iPhone is and what this

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[17]   We have previously recognized that a finding of nexus between the commercial success of a product and the merits of the patented invention embodied in that product can be undermined by factors external to the patented invention, such as marketing and advertising. *See, e.g.*, *Brown & Williamson Tobacco Corp. v. Philip Morris Inc.*, 229 F.3d 1120, 1129–30 (Fed. Cir. 2000); *In re Paulsen*, 30 F.3d 1475, 1482 (Fed. Cir. 1994). Unlike the present facts, however, those cases did not involve an advertising campaign that specifically stressed and high-lighted the patented feature as a way to introduce a new, complex product to the public.

kind of device can do.

4/1/14 Tr. at 433:1–18. Finally, the video of the crowd "burst[ing] into cheers" when Steve Jobs demonstrated the slide to unlock feature supports a conclusion that consumers valued this particular feature. J.A. 12879:20–12880:2 (Andrew Cockburn). It is the fact finders' job to assess the probative value of the evidence presented. *Pro-Mold & Tool Co. v. Great Lakes Plastics, Inc.*, 75 F.3d 1568, 1574 (Fed. Cir. 1996) ("It is within the province of the fact-finder to resolve these factual disputes regarding whether a nexus exists between the commercial success of the product and its patented features, and to determine the probative value of Pro-Mold's evidence of secondary considerations . . . .").

This record overall contains substantial evidence of a nexus between the slide to unlock feature and the iPhone's commercial success, and we are required to give this jury fact finding deference. It is not our role to reweigh the evidence or consider what the record might have supported. This commercial success evidence supports the jury's verdict that the claimed invention would not have been obvious.

d.   Long-Felt Need

Evidence of a long-felt but unresolved need can weigh in favor of the non-obviousness of an invention because it is reasonable to infer the need would not have persisted had the solution been obvious. There is substantial evidence for the jury to have found that there was a long-felt but unresolved need for a solution to the pocket dialing problem until Apple's claimed invention, with its slide to unlock feature, solved that problem. Samsung's appeal of the jury's fact finding of long-felt need was limited to a single sentence, which was itself simply a quote from *George M. Martin Co. v. All. Mach. Sys. Int'l LLC*, 618 F.3d 1294, 1304 (Fed. Cir. 2010): "[w]here the differences between the prior art and the claimed inven-

tion are as minimal as they are here, . . . it cannot be said that any long felt need was unsolved." Samsung Br. 37 (alteration in original). In its brief, there was no application to this case, no analysis of the issue of long-felt need, and no citation to any record evidence.

To the extent that Samsung's quote should be interpreted as precluding a jury finding of long-felt need favoring non-obviousness when the difference between the prior art and the claimed invention is small, we reject such a categorical rule. This type of hard and fast rule is not appropriate for the factual issues that are left to the province of the jury. There could be a long-felt need for what might be considered a relatively small improvement over the prior art—it all depends upon the evidence, and it is up to the fact finder to assess that evidence.

Moreover, we do not understand the quote from *George M. Martin* to be a proclamation of law but instead simply an application to the particular facts of that case. The quoted language makes clear that the court was evaluating the facts in that particular case regarding the claimed advances over the prior art, "as minimal as they are here." *George M. Martin*, 618 F.3d at 1304. And importantly, the *George M. Martin* court explains that the "need" had already been met by the prior art devices that already solved the problem at issue. *Id.* at 1305. Thus, in *George M. Martin*, not only was the difference between the prior art and the claimed invention minimal, but the prior art had already solved the problem for which the patentee claimed there was a long-felt need. *Id.* Samsung's sole argument on long-felt need is thus based on a misreading of *George M. Martin*.

In this case, there is substantial evidence for the jury's finding that long-felt need supported the non-obviousness of the claimed invention. Denying JMOL on this issue, the district court cited testimony from Apple's expert: "Dr. Cockburn's testimony that phone designers

had been trying to solve the problem of accidental activation and the 'pocket dial problem' before the iPhone existed, but had only come up with 'frustrat[ing]' solutions." J.A. 57 (quoting J.A. 10638–39). While the expert discusses particular examples in the first person: "I have been very frustrated with [the prior art options]," the jury could still reasonably find that this testimony was probative of a long-felt need. *See* J.A. 10638:17–19.

The district court also cited the testimony of one of the inventors, where he discussed concerns over pocket dialing.[18] In addition to the portion of Dr. Cockburn's testimony cited by the district court, there are other portions of his testimony upon which the jury fact finding could be predicated. The record contained a document

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[18]   This is how the inventor described the problem to be solved:

Q: What was the problem that you guys were working on at the time that you came up with the '721 invention?

A: . . . We were worried about accidental use, pocket dialling [sic], the phone getting shut down accidentally, or since we were going to have all these features on the phone, like e-mail and messaging, we were worried that, you know, mail could be sent accidentally or deleted accidentally or the phone would answer itself simply because the touch surface—you know, if it was like, like, the touch surface against your leg in your pocket, we were worried that just, like, you know, jostling around, moving around would trigger things on the screen.

J.A. 10600:17–10601:13 (Greg Christie).

(PTX 55) in which Samsung listed all the alternatives to the iPhone slide to unlock. *See* 4/4/14 Tr. at 680:10–687:15 (Andrew Cockburn). Apple's expert went through several of the alternatives, including the Ripple unlock, the glass unlock, and the circle unlock, and explained how each of these failed to solve the accidental activation problem. *Id.* The jury could have reasonably found that this testimony established long-felt unresolved need.

In addition, the jury could have found that the same internal Samsung documents Apple relied upon for industry praise and copying demonstrate that Samsung compared four of its own rejected alternative unlock mechanisms (Kepler, Victory, Behold, & Amythest) to the iPhone slide to unlock mechanism, and that Samsung concluded the iPhone slide to unlock was better. *See, e.g.*, J.A. 51028 (PTX 120 at 28 ("Behold3: Unintentional unlock occurs . . . iPhone Lock undone only when sliding action is applied to a specific button")); J.A. 51289 (PTX 121 at 100 ("Victory: The Screen Lock gets unlocked with a slight flick motion"; "iPhone Unlocking standard is precise as it is handled through sliding, and it allows prevention of any wrong motion")). The jury could have found that these Samsung documents show that Samsung, Apple's fiercest competitor, was unsuccessfully trying to solve the same problem. All of this evidence was presented to the jury during the trial in this case. This evidence constitutes substantial evidence for the jury fact finding that there was a long-felt but unresolved need, which Apple's '721 patented invention solved. This evidence weighs in favor of non-obviousness.

2.   Conclusion on Obviousness of the '721 Patent

Acknowledging that "it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does," the Supreme Court cautioned that "[h]elpful insights, however, need not

become rigid and mandatory formulas." *KSR*, 550 U.S. at 418–19. The Supreme Court explained:

> The obviousness analysis cannot be confined by a formalistic conception of the words teaching, suggestion, and motivation, or by overemphasis on the importance of published articles and the explicit content of issued patents. The diversity of inventive pursuits and of modern technology counsels against limiting the analysis in this way.

Id. at 419. "Rigid preventative rules that deny factfinders recourse to common sense, however, are neither necessary under our case law nor consistent with it." *Id.* at 421. With these principles in mind, we review de novo the ultimate legal determination and conclude that it would not have been obvious to a skilled artisan to combine the prior art to arrive at the claimed invention.

Common sense and real world indicators indicate that to conclude otherwise would be to give in to hindsight, to allow the exact ex post reasoning against which the Supreme Court cautioned in *Graham* and *KSR*. The record includes Plaisant and Neonode and all that these references teach, including Plaisant's reference to inadvertent activation, complexity, difficult implementability, and that users do not prefer sliders. Though the prior art references each relate to touchscreens, the totality of the evidence supports the conclusion that it would not have been obvious for a skilled artisan, seeking an unlock mechanism that would be both intuitive to use and solve the pocket dialing problem for cell phones, to look to a wall-mounted controller for an air conditioner. The two-page Plaisant paper published in 1992 reported the results of a user-preference survey of fifteen undergraduates on six different computer-based switches. That a skilled artisan would look to the Plaisant paper directed to a wall-mounted interface screen for appliances and then choose the slider toggle, which the study found rated

fifth out of six options in usability, to fulfill a need for an intuitive unlock mechanism that solves the pocket dialing problem for cell phones seems far from obvious.

We have considered the jury's implicit fact findings about the teachings of Plaisant and Neonode. We have also considered the objective indicia found by the jury which are particularly strong in this case and powerfully weigh in favor of validity. They include copying, industry praise, commercial success, and long-felt need. These real world indicators of whether the combination would have been obvious to the skilled artisan in this case "tip the scales of patentability," *Graham*, 383 U.S. at 36, or "dislodge the determination that claim [8 would have been] obvious," *KSR*, 550 U.S. at 426. Weighing all of the *Graham* factors, we agree with the district court on the ultimate legal determination that Samsung failed to establish by clear and convincing evidence that claim 8 of the '721 patent would have been obvious. We affirm the district court's denial of JMOL.

3. Willfulness

Apple appealed the district court's grant of JMOL that Samsung did not willfully infringe claim 8 of the '721 patent. The district court's decision was solely based on its determination that Samsung's defenses were objectively reasonable under the standard from *In re Seagate Tech., LLC*, 497 F.3d 1360, 1371 (Fed. Cir. 2007). J.A. 63–66. Given the Supreme Court's recent willfulness decision in *Halo Elecs., Inc. v. Pulse Elecs., Inc.*, 136 S. Ct. 1923 (2016), we remand the willfulness issue for the district court to consider under the new standard in the first instance.

C. The '172 Patent

Apple moved for summary judgment of infringement of claim 18 of the '172 patent, which the district court granted. The jury entered a verdict that claim 18 of the

'172 patent would not have been obvious. Samsung challenges the district court's judgment of infringement which was based on the court's construction of the term "keyboard." It also challenges the district court's denial of JMOL that claim 18 would have been obvious. We affirm both the judgment relating to infringement and that relating to invalidity.

The '172 patent is directed to a method, system, and interface for providing "autocorrect" recommendations to users inputting text into a portable electronic device. '172 patent at Abstract. Claim 18, the only asserted claim, recites a graphical user interface comprising "a first area" and "a second area" of a touchscreen. The "first area" displays the text, or "current character string," input by the user. The "second area" displays both the "current character string" and a suggested replacement. Claim 18 provides a user with the option to accept the suggested replacement or keep the text as inputted. The user can accept the suggested replacement by activating a key on the keyboard (such as a spacebar) or by performing a gesture on the suggested replacement in the second area. The user can keep its inputted text by performing a gesture on the "current character string" in the second area. Claim 18 is recited below.

> 18. A graphical user interface on a portable electronic device with a keyboard and a touch screen display, comprising:
>
> > a first area of the touch screen display that displays a current character string being input by a user with the keyboard; and
> >
> > a second area of the touch screen display separate from the first area that displays the current character string or a portion thereof and a suggested replacement

character string for the current character string;

wherein;

the current character string in the first area is replaced with the suggested replacement character string if the user activates a key on the keyboard associated with a delimiter;

the current character string in the first area is replaced with the suggested replacement character string if the user performs a gesture on the suggested replacement character string in the second area; and

the current character string in the first area is kept if the user performs a gesture in the second area on the current character string or the portion thereof displayed in the second area.

Before trial, Apple moved for summary judgment that Samsung's accused devices infringe claim 18 of the '172 patent. In response, Samsung disputed only whether its accused devices satisfy claim 18's requirement of a "keyboard." The district court granted Apple's motion, determining that Apple had shown infringement and that no reasonable jury could find that Samsung's accused devices fell outside the court's construction of "keyboard." J.A. 164.

The jury trial proceeded on the issues of validity and damages. The jury found claim 18 of the '172 patent was not invalid and awarded Apple $17,943,750 for infringement by Samsung's accused devices. J.A. 40874–76. Samsung moved for JMOL, arguing that no reasonable jury could find that claim 18 of the '172 patent is not invalid. In its motion, Samsung argued that claim 18

would have been obvious over the combination of U.S. Patent No. 7,880,730 ("Robinson") and International Publication No. WO 2005/008899 ("Xrgomics"). The district court denied Samsung's motion, determining that substantial evidence supported the jury's fact findings related to obviousness and concluding that these fact findings supported the conclusion that Samsung had failed to prove by clear and convincing evidence that the '172 patent was invalid. J.A. 67–69.

On appeal, Samsung argues the district court erred by denying its motion for JMOL that the '172 patent would have been obvious over Robinson and Xrgomics. Samsung also argues the district court erred in construing "a keyboard and a touchscreen display" to encompass both physical and virtual keyboards, resulting in the district court's erroneous grant of summary judgment that Samsung's devices infringe claim 18 of the '172 patent. We consider each argument in turn.

1.   Obviousness

Robinson, titled "Keyboard system with automatic correction," is directed to "an enhanced text entry system that uses word-level disambiguation to automatically correct inaccuracies in user keystroke entries." Robinson at 3:24–26 (J.A. 20910). Xrgomics, titled "Letter and word choice text input method for keyboards and reduced keyboard systems," is directed to a "method for entering text efficiently by providing letter or word choices." Xrgomics at Abstract (J.A. 21000). The parties presented the jury with expert testimony on both references and on objective indicia of non-obviousness.

Samsung's expert, Dr. Wigdor, testified that Robinson discloses every limitation of claim 18 of the '172 patent except the limitation requiring a "current character string in the first area." J.A. 12024:5–12025:9. Dr. Wigdor further testified that "anyone who's used a computer since the 1970s would be familiar with this idea that . . . as you

type, the text shows up at your cursor." J.A. 12025:1–9. He testified that one example of prior art that discloses the limitation missing from Robinson, a "current character string in the first area," is Xrgomics. J.A. 12025:1–11. Dr. Wigdor stated that Figure 5 of Xrgomics, like claim 18, displays the inputted text "deva" both where the user is typing and in the suggestions bar. J.A. 12026:3–19. He also testified that a person of ordinary skill in the art would have combined Robinson with Xrgomics to render claim 18 obvious. J.A. 12027:1–21.

Apple's expert, Dr. Cockburn, disagreed on the scope and content of the prior art. He testified that Robinson fails to disclose "a series of elements" in addition to lacking the "current character string in the first area" limitation. J.A. 12915:24–12916:15. According to Dr. Cockburn, because Robinson does not display the text when the user types the characters in the first area, Robinson fails to disclose any of claim 18's options for replacing or keeping the "current character string." In particular, he testified that Robinson does not disclose that the "current character string in the first area is replaced," either by activating a key on the keyboard or by performing a gesture on the suggested replacement, because in Robinson, "there was no text there to be replaced." J.A. 12916:6–13. Likewise, Dr. Cockburn testified that "because the current character string is not there [in Robinson], it can't be kept if the user performs a gesture." J.A. 12916:14–15.

Dr. Cockburn testified that Xrgomics does not disclose these missing elements. He testified that Xrgomics is not directed to spelling correction, but is a "word completion patent," where a user can "type a series of characters and Xrgomics offers alternative words that complete that word." J.A. 12916:22–25. Using the same example as Samsung's expert, Dr. Cockburn testified that Xrgomics does not teach correcting the spelling of "deva," but suggests the words "devastating, devalue, devastate, all of

which are completions of what the user has already typed." J.A. 12917:11–15. He testified that Xrgomics, like Robinson, therefore does not disclose "the current character string in the first area is replaced with the suggested replacement string," because "[i]n Xrgomics, if the user presses the space bar . . . D-E-V-A is kept. There's no replacement." J.A. 12917:18–12918:2.

On objective indicia of non-obviousness, Samsung's expert testified, "it's clear to me that none of those secondary considerations were met." J.A. 12032:14–15. Dr. Wigdor testified that, while the iPhone is commercially successful, it does not have the user interface specifically recited in claim 18. J.A. 12032:17–24. Apple's expert, Dr. Cockburn, disagreed, stating there was "clearly" commercial success, testifying that "Samsung has sold over 7 and a half million devices that use this technique." J.A. 12918:6–9. Apple introduced survey evidence comparing the willingness of users to buy devices containing the patented feature versus those without. J.A. 51440. This survey indicated a heightened willingness to buy devices with the '172 patent's patented feature. Dr. Cockburn also testified that Samsung's internal documents and comments from carriers were evidence of industry praise. J.A. 12918:10–13. Dr. Cockburn testified that one such internal Samsung document, J.A. 51488, reflected T-Mobile's request that Samsung modify its autocorrect technology to adopt the functionality of claim 18. J.A. 68 (citing 4/4/14 Tr. at 698–700). A reasonable jury could have construed evidence that Samsung's carrier customer requested Samsung adopt the claimed technology as praise of the claimed feature.

The jury determined that Samsung did not prove by clear and convincing evidence that claim 18 was invalid. J.A. 40874. The district court determined that substantial evidence supported the jury's implicit fact findings on each *Graham* factor and that "[i]n light of the jury's factual findings, this Court cannot conclude that there is

clear and convincing evidence that it would have been obvious, as a matter of law, to bridge the gaps between the prior art and claim 18." J.A. 69. The district court reasoned that the jury impliedly found Dr. Cockburn's testimony that Robinson and Xrgomics did not disclose all the elements of claim 18 more credible than Dr. Wigdor's opinion, and the jury impliedly accepted Apple's evidence of objective indicia of non-obviousness over Dr. Wigdor's testimony that no such evidence existed. J.A. 67–68. The district court held that these presumed fact findings were supported by substantial evidence and denied Samsung's motion for JMOL. *Id.* We see no error in the district court's weighing of the *Graham* factors.

Samsung does not appeal the jury's finding that Apple's evidence of objective indicia supports non-obviousness. Samsung's only mention of the objective indicia with regard to the '172 patent in its opening brief appears in a footnote which in its entirety reads: "For the same reasons discussed with respect to the '721 patent (*see supra* at 37), secondary indicia of non-obviousness are likewise inapplicable to the '172 patent." Samsung Br. 45 n.5. Samsung's passing reference to its arguments for an entirely different patent, claiming an entirely different invention, and concerning different evidence, is hardly enough to constitute a meaningful dispute regarding the weight of Apple's evidence of objective indicia of non-obviousness or the jury's fact findings in favor of Apple. Apple presented evidence of commercial success and industry praise for the '172 patented invention, which supports non-obviousness. Samsung did not dispute this evidence or the jury fact findings related to them on appeal.

Apple also presented substantial evidence on which a reasonable jury could find that the combination of Robinson and Xrgomics failed to disclose every claimed element. Apple's expert, Dr. Cockburn, testified that neither Robinson nor Xrgomics disclose that "the current character

string in the first area is replaced with the suggested replacement character string," and that Robinson does not disclose replacing text at all. *See* J.A. 12915:24–12916:15 (testifying that Robinson does not disclose a "current character string in the first area," replacing text in the first area, or keeping text in the first area); J.A. 12916:19–12917:17 (testifying that Xrgomics does not disclose text *replacement* at all, but teaches text *completion*). While Samsung's expert provided contrary testimony, as the district court observed, with conflicting expert testimony before it, "the jury was free to 'make credibility determinations and believe the witness it considers more trustworthy.'" J.A. 68 (quoting *Kinetic Concepts*, 688 F.3d at 1362 (citation omitted)). By finding in favor of Apple, the jury impliedly found Apple's expert's testimony more credible and persuasive than the testimony proffered by Samsung. *Kinetic Concepts*, 688 F.3d at 1362; *MobileMedia*, 780 F.3d at 1168. This evidence, together with Apple's evidence of objective indicia of non-obviousness, weigh in favor of the legal conclusion that Samsung did not prove by clear and convincing evidence that claim 18 would have been obvious to a skilled artisan.

Even in cases in which a court concludes that a reasonable jury could have found some facts differently, the verdict must be sustained if it is supported by substantial evidence on the record that was before the jury. But as an appellate court, it is beyond our role to reweigh the evidence or consider what the record might have supported, or investigate potential arguments that were not meaningfully raised. Our review is limited to whether fact findings made and challenged on appeal are supported by substantial evidence in the record, and if so, whether those fact findings support the legal conclusion of obviousness. We agree with the district court that there is substantial evidence for a reasonable jury to have found that there was a gap in the prior art that was not filled by the combination of Robinson and Xrgomics, and that the

entirety of the evidence weighs in favor of non-obviousness. We cannot conclude that the evidence affords only one reasonable conclusion contrary to that of the jury. *See Monroe*, 248 F.3d at 861. Weighing the *Graham* factors, we agree with the district court that Samsung failed to establish by clear and convincing evidence that claim 18 of the '172 patent would have been obvious. We thus affirm the district court's denial of Samsung's motion for JMOL.

2. Claim Construction & Infringement

In a single page in its opening brief, Samsung argues that the district court erred when it construed the term "a keyboard and a touchscreen display" in claim 18 to encompass both physical and virtual keyboards. We disagree. The district court determined that the plain and ordinary meaning of the term "keyboard" as used in claim 18 and throughout the specification included both physical and virtual keyboards. J.A. 162–63. The specification of the '172 patent discloses graphical user interfaces containing both virtual and physical keyboards. *See* '172 patent at 7:13–15, 7:33–35 (describing embodiments containing "a virtual or soft keyboard" or "physical keyboard"). The specification expressly contemplates keyboards that are part of the touchscreen. *See, e.g.*, *id.* at 4:11–12 ("The user interfaces may include one or more keyboard embodiments displayed on a touch screen."); *id.* at 5:38–39 ("The touch screen 112 may be used to implement virtual or soft buttons and/or one or more keyboards."); *id.* at 7:10–15 (describing a touch screen containing a virtual or soft keyboard). As recognized by the district court, every figure in the '172 patent that depicts a portable electronic device, as recited in the preamble of claim 18, includes a virtual keyboard. J.A. 162 (citing '172 patent at figs. 2, 4A–4I, 5A–5B). And the specification describes Figure 2, which has a virtual keyboard, as "a portable electronic device having a touch screen *and* a soft keyboard." '172 patent at 3:15–17

(emphasis added). We see no error in the district court's construction.

Because Samsung concedes that its accused devices contain a virtual keyboard and does not otherwise dispute infringement of claim 18, we affirm the court's grant of summary judgment that Samsung's accused devices infringe claim 18 of the '172 patent.

IV. CONCLUSION

We affirm and reinstate the district court judgment as to the '647, '721, and '172 patents. We reinstate the portions of the panel decision that pertain to the '959, '414, '239, and '449 patents, for which the panel decision affirmed the district court's rulings on all issues of those patents. We thus reinstate the district court's award of costs which the panel had vacated. We remand the willfulness issue for the district court to consider under the Supreme Court's *Halo* standard in the first instance.

AFFIRMED

COSTS

No costs on this appeal.

United States Court of Appeals
for the Federal Circuit

APPLE INC., A CALIFORNIA CORPORATION,
Plaintiff-Cross-Appellant

v.

SAMSUNG ELECTRONICS CO., LTD., A KOREAN CORPORATION, SAMSUNG ELECTRONICS AMERICA, INC., A NEW YORK CORPORATION, SAMSUNG TELECOMMUNICATIONS AMERICA, LLC, A DELAWARE LIMITED LIABILITY COMPANY,
Defendants-Appellants

2015-1171, 2015-1195, 2015-1994

Appeals from the United States District Court for the Northern District of California in No. 5:12-cv-00630-LHK, Judge Lucy H. Koh.

PROST, *Chief Judge*, dissenting.

At the outset, I share Judge Dyk's and Judge Reyna's concerns as to the procedural irregularities surrounding this case at the en banc stage. There was no need to take this case en banc. However, having done so, the en banc court would certainly have benefited from our normal practice of allowing further briefing and argument from the parties and from hearing the views of amici, such as the government.

On the merits, I agree with Judge Dyk that *KSR International Co. v. Teleflex Inc.* significantly reduced the evidentiary burden necessary to establish a motivation to combine prior art references and held that motivation to combine can be found in "any need or problem known in the field of endeavor," not just the problem faced by the inventor. 550 U.S. 398, 420 (2007). I also agree with his concerns regarding the majority's elevation of secondary considerations beyond their historic role, which is that secondary considerations take on less importance when there is little doubt as to obviousness. *See Dow Chem. Co. v. Halliburton Oil Well Cementing Co.*, 324 U.S. 320, 330 (1945) ("But these considerations are relevant only in a close case where all other proof leaves the question of invention in doubt."); *Goodyear Tire & Rubber Co. v. Ray-O-Vac Co.*, 321 U.S. 275, 279 (1944) ("These factors were entitled to weight in determining whether the improvement amounted to invention and should, in a close case, tip the scales in favor of patentability.").

Aside from these broader legal principles, though, I write separately to express concern that the majority misapplies the substantial evidence standard of review with respect to the invalidity analysis, finding evidence in the record when there is none to support the jury's implicit factual findings. With respect to the '647 patent, the majority goes too far by implicitly modifying our prior claim construction that is binding on and agreed upon by the parties.

In the majority's view, the existence of *any* evidence that could theoretically support a jury verdict would seem to end our substantial evidence review on appeal. *But see Consol. Edison Co. of N.Y. v. Nat'l Labor Relations Bd.*, 305 U.S. 197, 229 (1938) ("Substantial evidence is more than a mere scintilla. It means such relevant evidence as a reasonable mind might accept as adequate to support a conclusion."). Indeed, as Judge Reyna forcefully articulates in his dissent today, the majority has abdicated its

role in substantial evidence review. For the additional reasons discussed below, I respectfully dissent.

DISCUSSION

I

A

Under the majority's analysis, the question with respect to the validity of claim 8 of the '721 patent is straightforward: whether there is substantial evidence to support the jury's implicit finding that there was no motivation to combine Neonode and Plaisant. The en banc majority relies on the testimony of Apple's expert, Dr. Cockburn, to say that a skilled artisan would not be motivated to combine Neonode and Plaisant. In support, the en banc majority cites only one fact (that is self-evident from the face of the references themselves): Neonode concerns a portable telephone and Plaisant concerns wall-mounted touchscreen devices. That lone statement does not rise to the level of substantial evidence.

Neonode describes a portable phone that may be activated by "[s]weep[ing] right" on the screen. J.A. 20725. Plaisant discloses a toggle device for use on a touch screen, referred to as a "[s]lider toggle," which requires a user to slide a pointer from one side of the toggle to the other in order to activate it. J.A. 20743. Plaisant also teaches that an "advantage of the sliding movement is that it is less likely to be done inadvertently therefore making the toggle very secure (the finger has to land on and lift off the right locations)." *Id.* It is undisputed that Neonode and Plaisant are analogous art references that together disclose all of the limitations of claim 8. The relevant question is whether a skilled artisan would be motivated to combine the references to solve the problem addressed by the '721 patent, namely "the unintentional activation or deactivation of functions due to unintention-

al contact with the touch screen."[1] '721 patent col. 1 ll. 38–40. *See KSR*, 550 U.S. at 420 (noting that a motivation to combine may be found in "any need or problem known in the field of endeavor at the time of invention and addressed by the patent").

The majority holds that there is no motivation to combine Neonode with Plaisant because a person of ordinary skill would not turn to Plaisant's wall-mounted

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[1]   Apple also argued at the district court and on appeal that Plaisant teaches away from using sliders because they were "not preferred" over other toggle devices. Apple Br. 27. The majority declined to address teaching away, focusing instead on motivation to combine. The majority states, however, that "even if Plaisant does not teach away, its statements regarding users preferring other forms of switches are relevant to a finding regarding whether a skilled artisan would be motivated to combine the slider toggle in Plaisant with the mobile phone in Neonode." Majority Op. at 22 n.13. This rationale is new. It was never before the jury, *see* J.A. 12876–78, and even Apple does not assert that rationale.

In any event, there is no teaching away here. Though Plaisant notes that sliders may not be preferred, it also describes advantages that sliders have over other toggle methods. J.A. 20743. As a matter of law, "the mere disclosure of more than one alternative does not amount to teaching away from one of the alternatives where the reference does not criticize, discredit, or otherwise discourage the solution" presented by the disclosure. *SightSound Techs., LLC v. Apple Inc.*, 809 F.3d 1307, 1320 (Fed. Cir. 2015) (internal quotation marks omitted) (citation omitted); *see also Allergan, Inc. v. Apotex Inc.*, 754 F.3d 952, 964 (Fed. Cir. 2014) (stating that "mere disclosure of alternative preferences" does not teach away).

touchscreen to solve the "unintentional activation" problem of a portable phone. The problem with that conclusion is that Apple did not present any evidence to support it. Indeed, a review of the entirety of Dr. Cockburn's testimony on motivation to combine reveals the striking absence of any evidence that a skilled artisan would not look to Plaisant simply because it discloses wall-mounted touchscreens:

> Q. And can you show us, please, using some graphics, remind us what the Plaisant application is.
>
> A. Sure. Quickly I've got a few slides on Plaisant, this is the paper, the two-page paper, it describes touch screen toggle designs, so these are on/off switches.
>
> *And the way they were intended to be used was the touch screen would be mounted into a wall or into cabinetry and it would be used to control, for remote control, office or home appliances, like air conditioning units or heaters.*
>
> The publication itself and the video that accompanies it both teach away from the use of sliding. . . . [Plaisant] tells us that toggles that are pushed seem to be preferred over toggles that slide; and the sliding is more complex than simply touching; and also that sliders are harder to implement.
>
> And the figure at the top shows those results for user preference indicating that both of the two designs that they considered, levers and sliders, was the least preferred, that's the slider highlighted in red and the lever.
>
> Q. [Samsung's expert] told this jury that a person of ordinary skill in the art would have been natu-

rally motivated to combine the Neonode guide with the Plaisant article.

Did you agree with that opinion?

A. *No, I do not.*

Q. And why do you say that?

A. The patent office, the patent examiner, had all of the Neonode guide available to them.

They also had Plaisant, in its complete form, available to them, and they commented extensively on Plaisant. There was an extensive discussion of Plaisant, and at the end of that discussion, they conclude that Plaisant does not, or none of the prior art discloses continuous movement of the unlock image to order to unlock the device.

J.A. 12876–78 (emphases added to denote portions of the testimony relied on by the majority).[2]

Dr. Cockburn's statement concerning wall-mounted touchscreens did not concern whether a person of ordinary skill would look to Plaisant to solve the problem of "unintentional activation"; it was merely a restatement of Plaisant's express disclosure. *See* J.A. 20742 ("Users see the screen flushmounted into the wall or the cabinetry.").[3]

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[2]   Apple never even argued to the jury that Plaisant's disclosure being a wall-mounted device had any bearing on motivation to combine. *See Apple Inc. v. Samsung Elecs. Co.*, No. 5:12-cv-630, Trial Tr. of Apr. 29, 2014 at 3212–14, ECF No. 1929.

[3]   The majority only cites Dr. Cockburn's statement that he did not believe there was a motivation to combine Neonode with Plaisant but not his subsequent explanation. A court may not treat a conclusory answer without any context as evidence. *See Telemac Cellular Corp. v.*

Indeed, leaving aside his reference to the entirely discrete issue of teaching away, Dr. Cockburn's only purported rationale for a lack of motivation to combine was that both Neonode and Plaisant were before the Patent Office during prosecution—a fact that Apple does not rely on before us with respect to motivation to combine.

In stark contrast, the jury heard compelling evidence that a skilled artisan would be motivated to combine the references to solve the problem of unintentional activation. Most importantly, Plaisant itself expressly teaches that an "advantage of the sliding movement is that it is less likely to be done inadvertently." J.A. 20743. Indeed, this disclosure alone does more than motivate the combination of Plaisant with Neonode—it actually teaches and suggests it.

Samsung's expert, Dr. Greenberg, explained this to the jury when asked whether a skilled artisan would be motivated to combine the references:

> They both specifically describe how a sliding action is used to prevent accidental activation.
>
> So this is -- you know, a person looking at this would just think it natural to combine these two, as well taking the ideas in Plaisant, the slider, and putting them on the Neonode is, is just a very routine thing to think about in terms of interaction design.

J.A. 11982–83. By the end of trial, the jury had thus heard from Samsung's expert, who articulated a specific motivation to combine based on the explicit disclosure of Plaisant itself, and from Apple's expert, who gave no

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Topp Telecom, Inc., 247 F.3d 1316, 1329 (Fed. Cir. 2001) (holding that conclusory statements offered by experts are not evidence).

explanation as to why a skilled artisan would not be so motivated.

Nonetheless, the majority finds that there is substantial evidence of a lack of motivation to combine. But a reviewing court in our situation must "review the record as a whole," crediting not only evidence favoring the nonmovant but also "evidence supporting the moving party that is uncontradicted and unimpeached, at least to the extent that that evidence comes from disinterested witnesses." *Reeves v. Sanderson Plumbing Prods., Inc.*, 530 U.S. 133, 151 (2000) (internal quotation marks omitted). Here, the record as a whole makes clear that a skilled artisan, starting with the portable phone of Neonode, would have seen a benefit to adding Plaisant's sliders to solve the accidental activation problem described by the '721 patent.[4] *See KSR*, 550 U.S. at 424. A straightforward evaluation of the entire record compels only one reasonable conclusion—there is a motivation to combine Neonode with Plaisant.

In sum, there is no support in the record for the majority's conclusion that substantial evidence supports the jury's implicit factual finding that a person of ordinary skill in the art would not be motivated to combine Neonode and Plaisant. Substantial evidence may be a lenient standard, but it is a standard nonetheless that cannot be met with the stark absence of evidence. There-

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[4]   Because it is undisputed that Plaisant is analogous art, a hypothetical person of ordinary skill would be aware of it. *See Mast, Foos, & Co. v. Stover Mfg. Co.*, 177 U.S. 485, 494 (1900) ("[I]n determining the question of invention, we must presume the patentee was fully informed of everything which preceded him, whether such were the actual fact or not."); *Kimberly-Clark Corp. v. Johnson & Johnson*, 745 F.2d 1437, 1449–54 (Fed. Cir. 1984) (collecting cases).

fore, no rational jury could find that a motivation to combine the references to arrive at the claimed invention was lacking.

B

Despite the majority's statement that there is no motivation to combine, the majority does not appear to rest its conclusion on that basis. *See* Majority Op. at 30. Instead, the majority goes on to state that it considers Plaisant's teachings, including the reference to "inadvertent activation," against the evidence of secondary considerations. *Id.* at 42–43. It is unclear what analytical framework the majority has adopted in its analysis and whether this goes to the question of motivation to combine. We have only weighed the teachings of a prior art reference related to motivation to combine against each other in the teaching away context. *See, e.g.*, *Galderma Labs., L.P. v. Tolmar, Inc.*, 737 F.3d 731, 739 (Fed. Cir. 2013) (a teaching that a concentration of 0.1% was optimal did not weigh against a teaching that 0.3% concentration was possible); *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 567 F.3d 1314, 1327 (Fed. Cir. 2009) (a teaching expressing a "general preference for an alternative" did not weigh against a teaching). Doing so as part of the ultimate legal question of obviousness, as the majority does now, is a new approach that neither we nor the Supreme Court has sanctioned.

Given the majority's conclusion (with which I disagree) that there was no motivation to combine references in this case, there is no reason for the majority to go on to opine on the question of secondary considerations at all—that discussion is arguably dicta.[5] *See, e.g.*, *Allergan, Inc.*

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[5]   The majority's assessment of secondary considerations also relies on additional evidence that was not presented by Apple to the district court or to us on appeal

v. Sandoz Inc., 796 F.3d 1293, 1304–07 (Fed. Cir. 2015) (affirming a nonobvious determination based only on issues of teaching away and unexpected results); *Stryker Corp. v. Zimmer, Inc.*, No. 2013-1668, 2016 WL 4729504, at *7 (Fed. Cir. Sept. 12, 2016) (declining to reach secondary considerations in reaching a determination of nonobviousness), *vacated and remanded on other grounds sub nom. Halo Elecs., Inc. v. Pulse Elecs., Inc.*, 136 S. Ct. 1923 (2016)*; In re Fine*, 837 F.2d 1071, 1076 (Fed. Cir. 1988) (same).

In my analysis, however, I conclude that no reasonable jury could find a lack of motivation to combine, so I am obligated to consider Apple's proffered evidence of secondary considerations. *Nike, Inc. v. Adidas AG*, 812 F.3d 1326, 1339 (Fed. Cir. 2016).

In the history of our court, we have only once held that evidence of secondary considerations outweighs strong evidence of obviousness. *See Transocean Offshore Deepwater Drilling, Inc. v. Maersk Drilling USA, Inc.*, 699 F.3d 1340 (Fed. Cir. 2012). In that case, the jury, in view of "compelling" evidence, made express findings that seven types of secondary considerations supported nonobviousness. *Id.* at 1349, 1354. However, we acknowledged that "[f]ew cases present such extensive objective evidence of nonobviousness, and thus we have rarely held that objective evidence is sufficient to overcome a prima facie case of obviousness." *Id.* at 1354. This is not a case where evidence of secondary considerations is so "exten-

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in opposition to Samsung's obviousness evidence, and relies on theories that appear nowhere in Apple's briefs. *Compare* Majority Op. at 31–43 *with* Apple's Opp'n to Samsung's Mot. for J. as a Matter of Law Pursuant to Fed. R. Civ. P. 50(b) & Mot. to Am. the J. at 18, *Apple Inc. v. Samsung Elecs. Co.*, No. 5:12-cv-630, ECF No. 1908–03 ("Apple JMOL Opposition"); Apple Br. 29.

sive." *See KSR*, 550 U.S. at 426 ("Like the District Court, finally, we conclude Teleflex has shown no secondary factors to dislodge the determination that claim 4 is obvious.").

When examining evidence of secondary considerations, "courts must exercise care in assessing proffered evidence of objective considerations, giving such evidence weight only where the objective indicia are attributable to the inventive characteristics of the discovery as claimed in the patent." *In re Cyclobenzaprine Hydrochloride Extended-Release Capsule Patent Litig.*, 676 F.3d 1063, 1079 n.6 (Fed. Cir. 2012) (internal quotation marks omitted) (citations omitted). The proponent of such evidence of secondary considerations, in this case Apple, "bears the burden of showing that a nexus exists between the claimed features of the invention and the objective evidence offered to show non-obviousness." *WMS Gaming, Inc. v. Int'l Game Tech.*, 184 F.3d 1339, 1359 (Fed. Cir. 1999). Though the existence of such a nexus is a question of fact, which we review for substantial evidence, the consideration of objective indicia is part of the ultimate determination of obviousness which we review de novo. *See Agrizap, Inc. v. Woodstream Corp.*, 520 F.3d 1337, 1344 (Fed. Cir. 2008) ("Even when we presume the jury found that the objective evidence of nonobviousness favored [the patentee], this evidence is insufficient to overcome the overwhelming strength of [the alleged infringer's] prima facie case of obviousness."); *Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1162 (Fed. Cir. 2007) (agreeing with the district court's conclusion that even substantial evidence of various secondary considerations was "inadequate to overcome" obviousness as a matter of law). The mere existence of evidence of secondary considerations does not control the obviousness determination. *Richardson-Vicks Inc. v. Upjohn Co.*, 122 F.3d 1476, 1483 (Fed. Cir. 1997).

In this case, Apple presented evidence that it contends shows there was commercial success, long-felt need,

industry praise, and copying. However, Apple's evidence of commercial success does not establish a nexus with the patented feature, and the remaining evidence, even if a nexus is assumed, is not sufficient to "tip the scales of patentability." *Graham v. John Deere Co.*, 383 U.S. 1, 36 (1966).

1

To argue commercial success on appeal, Apple only relies on a portion of a survey introduced to establish the value of the "patent-related" slide-to-unlock feature on tablets with screens larger than 7 inches, J.A. 21066, 21108, coupled with Dr. Greenberg's statement that "there's no question that the Apple iPhone was a commercial success." J.A. 11984; *see* Apple Br. 29. This evidence does not establish a nexus for commercial success.[6]

With respect to the survey, it did not ask about the slide-to-unlock feature on smartphones, which in the survey had screens no larger than 5.5 inches (smaller than the surveyed tablet screens). J.A. 21076, 21108. Apple does not point to any separate evidence regarding the sales of those tablets. As for the success of the iPhone device, there is no evidence tying that success specifically to the features embodied in the claimed invention. To

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[6]   To find a nexus for commercial success, the majority also relies on testimony by Apple's Senior Vice President of Worldwide Marketing, a television commercial shown to the jury, and additional testimony from Apple's witness, Mr. Christie. Majority Op. at 35–38. Apple did not rely on any of that evidence before the district court in its JMOL opposition or before us on appeal to support a showing of commercial success. *See* Apple JMOL Opposition 18; Apple Br. 29. These rationales are new. There is no need to reach these arguments because they were never made in this appeal.

establish the requisite nexus, there needs to be some record evidence to tie the commercial success of a product to the slide-to-unlock feature of that product embodying the claimed invention. Here, there is none.

In addition, although Dr. Greenberg testified that the iPhone was commercially successful, he continued: "[b]ut I've seen no evidence that says that that commercial success was due to the lock screen." J.A. 11985. No reasonable juror could conclude that Dr. Greenberg's statement that he had seen no evidence of a nexus was somehow evidence of a nexus.[7]

2

The remainder of Apple's secondary consideration arguments consists of long-felt need, industry praise, and copying. To show long-felt need, Apple relies on the testimony of Dr. Cockburn, who provided a single example of a portable phone that he characterized as "entirely unintuitive." J.A. 10638–39. For industry praise, Apple relies upon the audience reaction at the first public unveiling of the iPhone. J.A. 12879–80. Finally, Apple relies on internal Samsung documents that it argues

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[7]   Apple also argued before the district court, but not on appeal, that Dr. Cockburn's testimony was evidence of commercial success for the '721 patent. *See* Apple JMOL Opposition 18. But Dr. Cockburn only testified that the iPhone was commercially successful, not that the iPhone was commercially successful because of the slide-to-unlock feature. *See* J.A. 12879 ("Well, clearly there's been commercial success both of the iPhones that use this invention, and for the devices that have copied the technique."). This testimony is also insufficient to establish nexus.

show both copying and industry praise. *See, e.g.*, J.A. 51289.[8]

Even assuming that the jury implicitly found a nexus between Apple's evidence and the claimed invention, this evidence is insufficient in the face of the strong evidence of obviousness. The testimony of an expert testifying as to a single example of unsatisfactory prior art is, at best, weak. *Cf. Cyclobenzaprine*, 676 F.3d at 1083 (testimony regarding an expert's experience over ten years). Similarly, Apple's evidence of applause at its own press event is also weak evidence of nonobviousness. *See In re Cree*, 818 F.3d 694, 702 (Fed. Cir. 2016) (finding a company's press release unpersuasive evidence of non-obviousness). Finally, though Samsung's internal documents are probative of copying (and industry praise), they do not move the needle in this case. *See Tokai Corp. v. Easton Enters., Inc.*, 632 F.3d 1358, 1370 (Fed. Cir. 2011) (finding evidence of copying unpersuasive evidence of non-obviousness).

Considering the totality of the evidence, Apple's evidence relating to secondary considerations does not "tip the scales of patentability." *Graham*, 383 U.S. at 36; *see also Leapfrog Enters.*, 485 F.3d at 1162 (finding substantial evidence of commercial success, industry praise, and long-felt need insufficient to overcome strong evidence of obviousness); *Richardson-Vicks*, 122 F.3d at 1483 ("Evidence of secondary considerations . . . are but a part of the 'totality of the evidence' that is used to reach the ultimate

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[8]   In addition to the evidence cited by Apple and the district court, the majority also relies on additional documentation and testimony regarding alternatives to the iPhone slide-to-unlock feature to support its conclusion on long-felt need. Majority Op. at 40–41. There is no need to reach this argument because Apple never cited that evidence before the district court or before us on appeal.

conclusion of obviousness."). The asserted claim of the '721 patent is therefore obvious as a matter of law.[9]

II

With respect to the '172 patent, the majority also errs in finding substantial evidence in support of the jury determination that the '172 patent is nonobvious. Specifically, the majority's conclusion regarding the scope and content of the prior art relies entirely on out-of-context statements by Dr. Cockburn.

The '172 patent is directed to methods of automatically correcting typographical errors as the user is typing on the keyboard of a portable device. In essence, asserted claim 18 of the '172 patent requires that a current "character string," or text, be displayed in a "first area;" that the text, as typed, and suggested "replacement" text be

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[9] As a basis for affirmance, the majority implies that it would be inappropriate to "reverse nearly a dozen fact findings." *See* Majority Op. at 5. The number of underlying findings to a legal conclusion is irrelevant in a legal analysis. Reversal of a jury finding of nonobviousness, which we have done not infrequently, usually requires by its very nature the explicit or implicit reversal of multiple fact findings. *See, e.g.*, *W. Union Co. v. MoneyGram Payment Sys., Inc.*, 626 F.3d 1361, 1368–1374 (Fed. Cir. 2010) (reversing jury's implicit factual findings of the scope and content of the prior art, motivation to combine, and evidence of secondary considerations); *Ecolab, Inc. v. FMC Corp.*, 569 F.3d 1335, 1348–50 (reversing a jury determination of nonobviousness and, implicitly, the underlying factual findings); *PharmaStem Therapeutics, Inc. v. ViaCell, Inc.*, 491 F.3d 1342, 1360–67 (Fed. Cir. 2007) (reversing a jury's implicit factual findings regarding the scope and teaching of the prior art, expectation of success, and secondary considerations).

displayed in a second area; and that the replacement text be automatically entered in the first area if a certain key, such as the space bar, is pressed or if the user touches the suggested replacement. Additionally, the user can choose to use the current text (as typed) if he touches that option in the second area.

Samsung presented evidence at trial through its expert, Dr. Wigdor, that claim 18 of the '172 patent is obvious in light of the Robinson and Xrgomics prior art references. Robinson describes a touchscreen keyboard that can automatically correct incorrectly typed text. Dr. Wigdor opined that Robinson discloses every aspect of the invention except for displaying incorrectly typed text in a "first area." For that missing limitation, he explained that "anyone who's used a computer since the late 1970s would be familiar with this idea that . . . as you type, the text shows up at your cursor." J.A. 12025. In addition, he pointed to Xrgomics, which describes a text-entry system in which the current character string is displayed in a first area. J.A. 21049.

The majority does not point to any evidence that Xrgomics fails to disclose displaying current text in a first area, nor could it because Xrgomics plainly discloses that limitation. *See* J.A. 12025–26. Rather, the majority concludes, based on Dr. Cockburn's testimony, that there is substantial evidence that neither Robinson nor Xrgomics discloses the text *replacement* recited by the asserted claim, as distinguished from text *completion*. That is demonstrably incorrect, at least with respect to Robinson.

Dr. Cockburn testified primarily that Robinson fails to disclose displaying current text in a "first area." He then used that statement to conclude that Robinson also lacks "a series of [other] elements" recited by the asserted claim, namely replacing or keeping current text in a first area. J.A. 12915–16. In context, Dr. Cockburn's testimony about Robinson's missing elements was entirely prem-

ised on the absence of a single element—i.e., no text being displayed in a first area:

> [*B*]*ecause the current character string is not in the first area*, it is not replaced with the suggested replacement character when the user presses a delimiter.

> As you saw, *there was no text there* [*in the first area*] to be replaced when a delimiter was pressed.

> *Similarly, the character -- current character string is not in the first area*, so it can't be replaced when the user selects a suggested replacement string.

> And, *again, because the current character string is not there* [*in the first area*], it can't be kept if the user performs a gesture.

J.A. 12916 (emphases added). To be clear, he did not testify that Robinson fails to disclose replacing or keeping text per se, but only that it fails to disclose replacing or keeping text *in a first area.*

Indeed, there can be no genuine dispute that Robinson discloses replacing or keeping, in a different area of a display, text that the user has input. Robinson is titled "Keyboard System with Automatic *Correction*." J.A. 20885 (emphasis added). And, as explained by Dr. Wigdor, Figure 1B of the patent shows that a pop-up menu includes the text as typed and suggested replacement text:
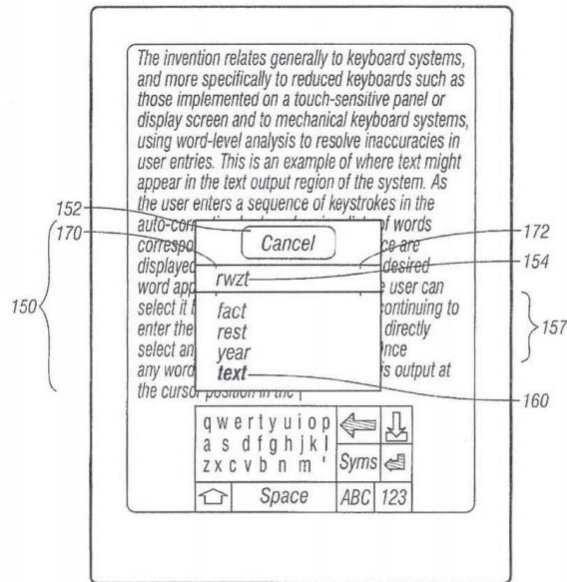
FIG. 1B

J.A. 20890. Robinson states that "[t]he space key acts to accept the default word . . . and enters the [default] word . . . in the text output region." J.A. 20925 (col. 33 ll. 12–14). In addition, it is possible to "[s]elect[] the [text as typed] for output." *Id.* (col. 18 l. 10).

Again, Xrgomics plainly supplies Robinson's missing limitation of displaying current text in a first area. In light of the record evidence, a reasonable jury would only be able to conclude that taking Robinson and supplying that limitation from Xrgomics would result in the claimed invention. Contrary to the majority's conclusion, there is no evidence—let alone substantial evidence—to support the jury's finding that Robinson and Xrgomics, when combined, would not disclose every limitation of the asserted claim.

Although the majority does not address motivation to combine with respect to the '172 patent, I also find no substantial evidence upon which a reasonable jury could

decide that motivation was lacking. Samsung's expert gave unrebutted testimony that "the person of ordinary skill in the art, seeing all of the behaviors in Robinson and understanding how they work, and then seeing how Xrgomics works, would certainly recognize this one missing element that what they type shows up where their cursor is. I believe they would combine it." *Apple Inc. v. Samsung Elecs. Co.*, No. 5:12-cv-630, Trial Tr. of Apr. 15, 2014 at 2019, ECF No. 1717. Apple offered no expert testimony to the contrary. *See id.* at Trial Tr. of Apr. 25, 2014 at 2902–06, ECF No. 1927. There is no question that Robinson and Xrgomics address the same problems that arise from typing on a relatively small keyboard. And there is nothing to indicate that the asserted combination does more than yield predictable results. Therefore, the only evidence of record demonstrates that all of the limitations of claim 18 of the '172 patent were known in the prior art, and combining those features to solve a known problem yielded no more than a predictable result. *See KSR*, 550 U.S. at 416 ("[W]hen a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result.").

With respect to secondary considerations, Apple argues that the success of the accused Samsung devices, coupled with survey evidence that consumers are more likely to buy smartphones with "automatic word correction," J.A. 21108, is evidence of commercial success. Apple also asserts that an internal Samsung document describing an alternative approach as "jarring," J.A. 51488, is evidence of industry praise. However, as with the '721 patent, Apple cites no expert or other testimony connecting the survey results to the obviousness inquiry. Furthermore, the survey evidence does not speak to whether a consumer would be more or less likely to buy a device with the specific combination of features recited in

claim 18 of the '172 patent. That is, this evidence does not show the required nexus between the patented feature and Samsung's commercial success. As with the '721 patent, any remaining evidence of secondary considerations here is not sufficient to "tip the scales of patentability." *Graham*, 383 U.S. at 36.

Accordingly, the asserted claim of the '172 patent is obvious as a matter of law.

III

As for the '647 patent, the crux of the parties' dispute is the proper application of our construction of the "analyzer server" limitation. We had construed this limitation in another case concerning the same patent to mean "a server routine separate from a client that receives data having structures from the client." *Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286, 1304 (Fed. Cir. 2014). Our previous construction of "analyzer server" is not at issue on appeal, and the parties agree that it applies in this case. Samsung does not dispute the construction, and, even if Apple had disagreed with our construction, it is bound by it. *See Blonder-Tongue Labs., Inc. v. Univ. of Ill. Found.*, 402 U.S. 313, 328–29 (1971). The question is whether substantial evidence supports the jury's finding that, under our construction, the accused instrumentalities meet the requirement for a "server routine separate from a client."

In addition to Judge Dyk's analysis with respect to the '647 patent in section VIII parts A and B of his dissent, I would add the following.

The majority asserts that, in light of the specification, a program that is "structurally separate," without more, satisfies the "'separate' requirement." Majority Op. at 10. We did not so cabin the word "separate" in our *Motorola* construction. Because no two program routines may physically occupy the same memory at the same time (i.e., any two separate program routines are, by definition,

separate in storage), the majority's interpretation effectively and erroneously reads "separate" out of our construction. Relatedly, the majority also fails to give effect to the requirement under our construction that the routine is a *server* routine, not any piece of code. That is significant because we relied in *Motorola* on the plain meaning of "server," which entailed a client-server relationship. *See Motorola*, 757 F.3d at 1304–05.

As applied to the facts of this case, no reasonable juror could conclude that Samsung's devices embody the "analyzer server" limitation. Apple asserted that pieces of software code stored in "shared libraries" are the "analyzer server" that performs the "detecting" and "linking" functions.[10] Notably, even Apple does not advocate for the majority's view that our construction merely requires the shared library code to be "structurally separate." Apple contends that the accused code is "separate" not only in its location but also in its development and design to be reused across different applications. *See* Apple Opening & Response Br. 16; Oral Argument at 29:21–30:25, 33:35–34:59, *available at* http://www.cafc.uscourts.gov/oral-argument-recordings?title=Apple&field_case_number_value=2015-1171&field_date_value2%5Bvalue%5D%5Bdate%5D.

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[10]   According to the parties' experts, a shared library is a collection of code that can be accessed by other applications. J.A. 13054 (Apple's expert); J.A. 11792 (Samsung's expert). At oral argument, Samsung analogized the difference between a server and a shared library to the difference between a client asking a reference librarian (the server) to perform a task and a client going to the library and performing a task by following instructions from a book in the library (the shared library). Oral Argument at 9:24–10:15.

Crucially, the record lacks substantial evidence that the shared library code of the accused instrumentalities meets our *Motorola* construction requiring a separate server routine. Regarding the "separate" requirement, there is nothing in our *Motorola* construction to indicate that the independent development of a program routine or reuse across different applications, relied on by Apple, is relevant. The only arguably relevant evidence that Apple relies on is that the accused applications use the shared library code at a separate location, which, as noted above, is not the only requirement of our construction. Because Apple has not offered sufficient evidence to meet our claim construction, that alone is sufficient to find noninfringement as a matter of law.

To be sure, Samsung also affirmatively argued why the shared library code is not "separate." Contrary to the majority's assertion, Samsung proffered evidence that the code "does not run on its own."[11] Samsung Br. 19. Indeed, Apple's expert admitted that the shared library code is incapable of running "outside of the client application." J.A. 13054. And, as Samsung points out, Apple did not explain why the shared library code is a "server" routine. *See* Samsung Br. 18–19, 24. There is simply no evidence that the accused instrumentalities rely on a client-server architecture.

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[11] The majority argues that the jury could have found Samsung's expert testimony regarding the meaning of "analyzer server" inconsistent, citing the district court's criticism of the expert. Majority Op. at 16–17 n.10. The court's remarks, however, were not made in front of the jury, and Apple did not argue in its appeal briefing that the expert's testimony was inconsistent. Therefore, there is no need to address this point. Regardless of the credibility of Samsung's expert, Apple's evidence under our previous construction of "analyzer server" is insufficient.

In sum, Apple's evidence only shows, in relevant part, that the shared library code is a piece of code located in a separate part of memory that is used by other applications. That is not sufficient under our previous construction of "analyzer server" to prove infringement of the '647 patent as a matter of law. No reasonable jury could conclude otherwise.

CONCLUSION

For the foregoing reasons, no jury could rationally conclude that the '721 and '172 patents were not obvious, or that Samsung infringed the '647 patent. Therefore, I respectfully dissent.

United States Court of Appeals for the Federal Circuit

APPLE INC., A CALIFORNIA CORPORATION,
Plaintiff-Cross-Appellant

v.

SAMSUNG ELECTRONICS CO., LTD., A KOREAN CORPORATION, SAMSUNG ELECTRONICS AMERICA, INC., A NEW YORK CORPORATION, SAMSUNG TELECOMMUNICATIONS AMERICA, LLC, A DELAWARE LIMITED LIABILITY COMPANY,
Defendants-Appellants

2015-1171, 2015-1195, 2015-1994

Appeals from the United States District Court for the Northern District of California in No. 5:12-cv-00630-LHK, Judge Lucy H. Koh.

DYK, *Circuit Judge*, dissenting.

I

For the first time in 26 years, this court has taken an obviousness case en banc. *See In re Dillon*, 919 F.2d 688 (Fed. Cir. 1990) (en banc). Remarkably, the majority has done so without further briefing and argument from the

parties, amici, or the government, as has been our almost uniform practice in this court's en banc decisions.[1] Failure to ask for the government's views is particularly significant given the ramifications of this issue for the U.S. Patent and Trademark Office ("PTO").   This has deprived the parties and amici of the opportunity to express their views on these important issues, and has deprived this court of the opportunity to consider these issues in light of those views.

Obviousness is the most common invalidity issue in both district court and post-grant proceedings before the PTO.[2] The importance of our obviousness jurisprudence to the intellectual property community is evidenced by, for example, the 38 amicus briefs filed in *KSR International Co. v. Teleflex Inc.*, 550 U.S. 398 (2007), including an amicus brief by the government, and the multiple amicus briefs filed in our last obviousness en banc case.   The present en banc decision will have a significant and immediate impact on the future resolution of obviousness issues. While purporting to apply established circuit law, the majority is in fact making significant changes to the law as articulated by the Supreme Court.   Indeed, as Judge Reyna convincingly points out, it is difficult to understand how this case would satisfy the requirements for en banc review if the majority's purpose were not to clarify the law.

The majority states that it takes this case en banc to correct the original panel's reliance on extra-record evi-

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[1]   Over the last 10 years, the court extended supplemental briefing or argument from parties in 36 en banc cases; in only three cases did we not do so.

[2]   *See* 2-5 CHISUM ON PATENTS § 5.06 (2015) ("The nonobviousness requirement of Section 103 is the most important and most litigated of the conditions of patentability.").

dence. Maj. Op. at 3–5. This could hardly be the reason the majority has granted en banc review, since the panel has continuingly expressed willingness, and indeed desire, to eliminate references to any extra-record evidence because of concerns raised in Apple's petition for rehearing and because they were unnecessary to the panel opinion.

While for the most part the majority does not express its shifts in obviousness principles explicitly, an examination of the majority's opinion makes clear its substantial impact on the law of obviousness. And that impact will not be a positive one, for the principles that the majority announces are inconsistent with the Supreme Court's decisions in *KSR*, *Graham v. John Deere Co.*, 383 U.S. 1 (1966), as well as earlier Supreme Court cases, and will make proof of obviousness far more difficult.

The majority complains that the parties themselves did not "raise big questions about how aspects of the obviousness doctrine ought to operate." Maj. Op. at 5. But that is exactly the point. The majority makes significant changes to the law of obviousness even though these important issues are raised by the court sua sponte without the opportunity by the parties and amici to address them, or the majority adopts previous panel decisions on obviousness that the parties could address only at the en banc level.

I agree with Chief Judge Prost's dissent, which ably points out that even under the majority's view that the issues are factual rather than legal, there is not substantial evidence to support the result the majority reaches on the issue of obviousness. The flimsy nature of the evidence found by the majority to support the jury verdict emphasizes the dangers of inviting factfinding to dominate the obviousness determination. Quite apart from the question whether the jury's factfinding was supported by substantial evidence, is the fact that these asserted

factfindings are largely irrelevant to the legal question of obviousness.

I write separately to point out the profound changes in the law of obviousness that the majority creates and to point out the majority's errors in its approach to claim construction of the '647 patent.

II

First, the majority turns the legal question of obviousness into a factual issue for a jury to resolve, both as to the sufficiency of the motivation to combine and the significance to be given to secondary considerations.

KSR explicitly rejected the contention that obviousness is always a matter of fact requiring jury resolution. In *KSR*, the patentee argued that the question of motivation to combine was for the jury. *See* Brief for Respondents, *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398 (2007) (No. 04-1350), 2006 WL 2989549, at *45. The Supreme Court rejected this contention, holding that this question was properly resolved on summary judgment because "[t]he ultimate judgment of obviousness is a legal determination. Where, as here, the content of the prior art, the scope of the patent claim, and the level of ordinary skill in the art are not in material dispute, and the obviousness of the claim is apparent in light of these factors, summary judgment is appropriate." *KSR*, 550 U.S. at 427 (internal citations omitted). Thus, while "the content of the prior art, the scope of the patent claim, and the level of ordinary skill in the art" potentially present fact issues, the *KSR* Court determined that the sufficiency of the motivation to combine was not a factual issue, and that in the particular case "it was obvious to a person of ordinary skill to combine" the prior art. *Id.* at 424.

Here too, "the content of the prior art, the scope of the patent claim, and the level of ordinary skill in the art are not in material dispute," *id.* at 427, and there is no indica-

tion that the combination of the relevant prior art does more than yield a predictable result. Yet the majority holds that the question of the sufficiency of the motivation here was a jury question. This is inconsistent with *KSR*.

For secondary considerations, *Graham* and *KSR* explained that both the significance and the weighing of secondary considerations are for the court. Secondary considerations "focus attention on economic and motivational rather than technical issues and are, therefore, more susceptible of judicial treatment than are the highly technical facts often present in patent litigation." *Graham*, 383 U.S. at 35–36. The specific holdings in *Graham* and *KSR* themselves demonstrate that both the significance and the weighing of secondary considerations are legal issues for the court. Even as an appellate court, the Supreme Court in *Graham* determined that "these [secondary] factors do not, in the circumstances of this case, tip the scales of patentability." 383 U.S. at 36. Similarly, the *KSR* Court "conclude[d] [that] Teleflex has shown no secondary factors to dislodge the determination that claim 4 is obvious." 550 U.S. at 426. Again, the majority's approach—turning the significance of secondary considerations into a factual question—is contrary to *Graham* and *KSR*.

III

Second, the majority lowers the bar for nonobviousness by refusing to take account of the trivial nature of the two claimed inventions. With respect to the '721 patent, the slide to unlock feature was known in the prior art (Neonode) and the only innovation is an image associated with the sliding gesture from fixed starting to ending points.[3] *See* Maj. Op. 25–27. With respect to the '172

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[3] Courts in other countries have uniformly found the '721 patent invalid. *See* Oral Argument 18:48–19:05

patent, the autocorrect feature was known in the prior art (Robinson), and the only innovation is displaying contemporaneously the text to be autocorrected. *See* Maj. Op. 44–47. Such text displays have long been known in the prior art (though not specifically in connection with autocorrect display).

Treating such minimal advances over the prior art as nonobvious is contrary to *KSR*, where the Supreme Court confirmed that the obviousness doctrine is designed to ensure that "the results of ordinary innovation are not the subject of exclusive rights under the patent laws." *KSR*, 550 U.S. at 427. On the face of these patents, only ordinary, indeed trivial, innovation is involved. The majority's holding that these trivial features can render a patent nonobvious will have a significant impact on future cases.

IV

Third, the majority concludes that combinations of prior art used to solve a known problem are insufficient to render an invention obvious as a matter of law. According to the majority, there must be evidence of a specific motivation to combine. *See* Maj. Op. at 28–31. Both aspects of these conclusions are contrary to *KSR*.

Under *KSR*, the existence of each patented feature in the prior art is alone not sufficient to establish obviousness. *See KSR*, 550 U.S. at 418. There must be a reason to make a combination. But *KSR* holds that the reason

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("All the other jurisdictions of the world who have considered the '721 patent . . . have invalidated it . . . based on obviousness from these references."); *HTC Eur. Co. v. Apple Inc.*, [2013] EWCA (Civ) 451 (Eng.); The Hague District Court, 24 Aug. 2011, *Apple v. Samsung*, Docket Nos. 396957/KG ZA 11-730 and 396959/KG ZA 11-731; Bundesgerichtshof [BGH] [Federal Court of Justice] Aug. 25, 2015, X ZR110/13 (Ger.).

may be found as a matter of law in the solution to a known problem. *KSR* was quite clear that the existence of a known problem suffices: "[o]ne of the ways in which a patent's subject matter can be proved obvious is by noting that there existed at the time of invention a known problem for which there was an obvious solution . . . ." *KSR*, 550 U.S. at 419–20. "[W]hen a patent simply arranges old elements with each performing the same function it had been known to perform and yields no more than one would expect from such an arrangement, the combination is obvious." *Id.* at 417 (internal quotations omitted). "[T]he simple substitution of one known element for another" makes the claimed invention obvious. *Id.*

In holding that the existence of a known problem is sufficient reason to combine prior art references, the Court specifically rejected our court's holding in *KSR* that the existence of a known problem was insufficient. *Teleflex, Inc. v. KSR Int'l Co.,* 119 F. App'x 282, 288 (Fed. Cir. 2005) (requiring that in addition to noting "the problem to be solved, . . . the district court was [also] required to make specific findings as to whether there was a suggestion or motivation to combine the teachings of [the prior art addressed to the same problem] in the particular manner claimed"), *rev'd*, 550 U.S. 398 (2007).

KSR also held, contrary to the majority, that evidence of a specific motivation to combine is not required. The Court rejected our court's approach in requiring a "specific understanding or principle" that creates a specific motivation to combine. *See* 550 U.S. at 414. In *KSR* itself, the combination was held obvious despite no "precise teachings" to combine the previous references. *See id.* at 418.

Earlier decisions of the Supreme Court relied on by *KSR* reflect the same approach. First, *KSR* explained that *United States v. Adams* taught that "when a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for anoth-

er known in the field, the combination must do more than yield a predictable result." *Id.* at 416 (citing 383 U.S. 39, 40 (1966)). Second, *KSR* explained that *Anderson's–Black Rock v. Pavement Salvage Co.* taught that when "two [prior art references] in combination d[o] no more than they would in separate, sequential operation . . . , while the combination of old elements perform[s] a useful function, it add[s] nothing to the nature and quality of the . . . already patented, and the patent fail[s] under § 103." *Id.* at 417 (internal quotation marks omitted) (citing 396 U.S. 57, 60–62 (1969)). Finally, *KSR* explained that *Sakraida v. Ag Pro, Inc.* taught that "when a patent simply arranges old elements with each performing the same function it had been known to perform and yields no more than one would expect from such an arrangement, the combination is obvious." *Id.* (internal quotation marks omitted) (citing 425 U.S. 273, 282 (1976)). The *KSR* Court held that the "principles underlying these cases are instructive when the question is whether a patent claiming the combination of elements of prior art is obvious. . . . *Sakraida* and *Anderson's–Black Rock* are illustrative—a court must ask whether the improvement is more than the predictable use of prior art elements according to their established functions." *Id.* Thus, under *KSR*, the existence of a known problem solved by the combination can render that combination obvious as a matter of law and without further evidence of a specific motivation to combine.

Here, the inventions combine features known in the prior art. With respect to the '721 patent, Apple does not dispute, and the majority agrees, that the combination of the prior art Neonode and Plaisant references produces the claimed invention. Maj. Op. at 27. As discussed below, the same is true with respect to the '172 patent (combining the Robinson, Xrgomics, and other prior art references). There is no claim that either combination yielded unpredictable results. Both of the patents also address a known problem. With respect to the '721 pa-

tent, the problems are ease-of-use and avoidance of inadvertent activation. With respect to the '172 patent, the problem is the need to see text entries. Contrary to *KSR*, the majority now holds that a known problem is not sufficient and that there must be evidence of a specific motivation.

V

Fourth, the majority errs in cabining the relevant technology in the field of prior art. The majority invites the factfinder to dismiss prior art evidence on the theory that it concerns a different device than the patented invention, even if the references are directed to solving the same problem and pertain to a related device. For example, with respect to the '721 patent, the majority holds that the jury could dismiss the Plaisant reference because it was directed to wall-mounted rather than portable devices. Maj. Op. at 28–29. With respect to the '172 patent, the majority makes much of the distinction between word correction versus word completion, rejecting Xrgomics as relevant prior art on that basis, and ignoring the extensive prior art showing text display as a routine feature. Maj. Op. at 47–48.

The Supreme Court in *KSR* rejected the theory that prior art addressing the same problem can be dismissed because it concerns a different device. "[I]f a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill." *KSR*, 550 U.S. at 417. In other words, the question is not whether the art involves precisely the same device. The question is whether it addresses the same problem within the same general field. "Under the correct analysis, any need or problem known in the field . . . and addressed by the patent can provide a reason for

combining the elements in the manner claimed." *KSR*, 550 U.S. at 420.

For example, in *Graham*, the patentee argued that prior art disclosing a container for other liquid sprayers was in a different field of art than the patented insecticide sprayer. The Court held that a "restricted . . . view of the applicable prior art is not justified. The problems confronting [the patentee] and the insecticide industry were not insecticide problems; they were mechanical closure problems. Closure devices in such a closely related art as pouring spouts for liquid containers are at the very least pertinent references." 383 U.S. at 35. In fact, this principle dates as far back as *Hotchkiss v. Greenwood*, 52 U.S. 248 (1851). In that case, the use of porcelain in a different field was held to be sufficiently related to the use of porcelain in doorknobs. *Id.* at 254.

In short, the proper inquiry is whether the prior art references address the same problem in a related area. The '172 patent involves text display for word correction. There is no question that the prior art also addresses the problem of displaying a typed text so that it can be viewed by the user; Xrgomics concerns the related art of text completion. The majority concludes that the missing element is not present in the prior art Xrgomics device because the art is in a different technology, specifically text completion as opposed to text correction. Maj. Op. at 47–48. However, Samsung presented uncontroverted evidence, quite apart from Xrgomics, that "anyone who's used a computer since the late 1970s would be familiar with this idea" of displaying the full text of what a user is typing. J.A. 12024–25. The '172 patent itself recognizes this relatively broad field of prior art, as its specification states that the disclosed invention "relate[s] generally to text input on portable electronic devices." '172 Patent, col. 1 ll. 15–16.

The '721 patent concerns unlocking touchscreen devices. Here, the prior art dismissed by the majority is, by the majority's own admission, art that concerns the general field of touchscreen devices. *See* Maj. Op. at 42. Thus, there is no question that the two prior art references address the same problem in related areas. Nonetheless, the majority urges that "an ordinary artisan would not have been motivated to combine elements from a wall-mounted touchscreen for home appliances and a smartphone, particularly in view of the 'pocket-dialing' problem specific to mobile devices that Apple's invention sought to address." Maj. Op. at 31 (quoting the District Court's analysis). The majority errs in two respects. First, the '721 patent is not limited to cell phones or to the cell phone pocket-dialing problem, and indeed makes no reference to a pocket-dialing problem. The '721 patent is directed to portable devices generally, and to ease of use and inadvertent activation with respect to all such devices. Second, the Plaisant prior art was concerned with the same problems as the '721 patent in the field of touch screen devices. Plaisant indicated that the study's "focus is on providing . . . systems that are easy for the home owner to use." J.A. 20742. Plaisant also indicated that an "advantage of the sliding movement is that it is less likely to be done inadvertently." J.A. 20743. Plaisant was thus directed to solving the same problem in the same area as the patented invention.[4]

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[4]   Even if the '721 patent had identified the pocket-dialing problem, the Supreme Court in *KSR* made clear that the prior art need not solve all problems or even address the specific problems that motivated the patentee. 550 U.S. at 420. Here, moreover, the pocket dialing problem would provide an additional reason to combine, not a reason not to combine.

The majority's approach will create significant opportunities to dismiss relevant prior art and find almost any patent nonobvious by narrowly defining the relevant technology. In this respect, the en banc decision will work a significant change on future cases in the district courts and the PTO.

This change is evident from comparing the majority's holding here to our past jurisprudence. We have previously held that "[a] reference is reasonably pertinent if, even though it may be in a different field from that of the inventor's endeavor, . . . [it] logically would have commended itself to an inventor's attention in considering his problem." *In re Clay*, 966 F.2d 656, 659 (Fed. Cir. 1992). "We therefore have concluded, for example, that an inventor considering a hinge and latch mechanism for portable computers would naturally look to references employing other housings, hinges, latches, springs, etc., which in that case came from areas such as a desktop telephone directory, a piano lid, a kitchen cabinet, a washing machine cabinet, a wooden furniture cabinet, or a two-part housing for storing audio cassettes." *In re ICON Health & Fitness, Inc.*, 496 F.3d 1374, 1380 (Fed. Cir. 2007) (internal quotation marks omitted). Even if cited prior art references "are not within the same field of endeavor . . . , such references may still be analogous if they are reasonably pertinent to the particular problem with which the inventor is involved." *In re Paulsen*, 30 F.3d 1475, 1481 (Fed. Cir. 1994) (internal quotation marks omitted).

Not only does the majority alter our jurisprudence with respect to district court proceedings, its approach would affect patent examiners who are currently instructed that analogous prior art "does not require that the reference be from the same field of endeavor as the claimed invention." Manual of Patent Examination Procedure § 2141.01(a).

VI

Fifth, the majority errs in elevating secondary considerations of nonobviousness beyond their role as articulated by the Supreme Court. Secondary considerations "without invention[] will not make patentability." *Sakraida*, 425 U.S. at 278 (internal quotation marks omitted). Thus, when, as here, a patent is plainly not inventive, that is, when the prima facie case of obviousness is strong, secondary considerations carry little weight.

The majority holds that secondary considerations must "always" be considered and that even a strong case of obviousness involving small advances in the prior art can be outweighed by secondary considerations. Maj. Op. at 22. Here, the majority is quite explicit. It concludes that "[t]o the extent that Samsung's [arguments] should be interpreted as precluding a jury finding of long-felt need favoring non-obviousness when the difference between the prior art and the claimed invention is small, we reject such a categorical rule. This type of hard and fast rule is not appropriate for the factual issues that are left to the province of the jury." Maj. Op. at 39. In this respect, the majority effectively overrules our earlier decision in *George M. Martin Co. v. Alliance Machine Systems International LLC*, which held that "[t]he district court correctly concluded as a matter of law that the differences between the prior art and the claimed improvement were minimal," 618 F.3d 1294, 1302 (Fed. Cir. 2010), and that "[w]here the differences between the prior art and the claimed invention are as minimal as they are here, . . . it cannot be said that any long-felt need was unsolved," *id.* at 1304. The majority's approach to other secondary considerations mirrors its discussion of long-felt need. But under Supreme Court authority, secondary considerations are insufficient to outweigh a strong case of obviousness involving small advances over the prior art.

KSR and *Graham* assigned a limited role to secondary considerations. *KSR* required inquiry into secondary considerations only "*where appropriate*." 550 U.S. at 415 (emphasis added). In *Graham*, secondary considerations are referred to as factors that "*might be* utilized to give light to the circumstances." 383 U.S. at 17 (emphasis added). For example, the *Graham* Court weighed (in evaluating the Scoggin insecticide sprayer patent) that despite the presence of "long-felt need in the industry" and "wide commercial success" of the patentee, "these factors do not, in the circumstances of this case, tip the scales of patentability." 383 U.S. at 35–36. This was so because in that case the invention "rest[ed] upon exceedingly small and quite non-technical mechanical differences in a device which was old in the art." *Id.* at 36. Similarly, even though the patentee in *KSR* introduced evidence of commercial success, 550 U.S. at 413, the Court dismissed it because it "conclude[d] Teleflex has shown no secondary factors to dislodge the determination that claim 4 is obvious." *Id.* at 426.

Before *Graham*, the Supreme Court repeatedly held that courts should give secondary considerations limited weight in the ultimate legal determination of obviousness and that the courts need not consider them where the claimed invention represents a small advance and there is a strong case for obviousness. For example, *Jungersen v. Ostby & Barton Co.* taught that "[t]he fact that this process has enjoyed considerable commercial success . . . does not render the patent valid. It is true that in cases where the question of patentable invention is a close one, such success has weight in tipping the scales of judgment toward patentability. Where, as here, however, invention is plainly lacking, commercial success cannot fill the void." 335 U.S. 560, 567 (1949) (citations omitted). Similarly, in *Dow Chemical Co. v. Halliburton Oil Well Cementing Co.*, the Court explained that "petitioner claims that the Grebe-Sanford process has filled a long-

felt want and has been a commercial success. But these considerations are relevant only in a close case where all other proof leaves the question of invention in doubt. Here the lack of invention is beyond doubt and cannot be outweighed by such factors." 324 U.S. 320, 330 (1945) (citations omitted). *Goodyear Tire & Rubber Co. v. Ray-O-Vac Co.* cautioned that "[t]hese factors [are] entitled to weight in determining whether the improvement amounted to invention and should, in a close case, tip the scales in favor of patentability." 321 U.S. 275, 279 (1944).[5] These pre-*KSR* "decisions remain binding precedent until [the Supreme Court] see[s] fit to reconsider them . . . ." *Hohn v. United States*, 524 U.S. 236, 252–53 (1998).

This case also is not a close one. The combination of references, the known problem, the predictable results, and the exceedingly small differences from the prior art make the combination evident and secondary considerations insufficient as a matter of law.

VII

Finally, even if secondary considerations in this case were legally relevant, the majority fails to compare to the

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[5]   *Anderson's–Black Rock* taught that although "[i]t is . . . fervently argued that the combination filled a long felt want and has enjoyed commercial success[,] . . . those matters without invention will not make patentability." 396 U.S. at 61 (internal quotation marks omitted) (citations omitted). *Great Atlantic & Pacific Tea Co. v. Supermarket Equipment Corp.* similarly taught that "[t]he Court of Appeals and the respondent both lean heavily on evidence that this device filled a long-felt want and has enjoyed commercial success. But commercial success without invention will not make patentability." 340 U.S. 147, 153 (1950). These cases are cited with approval in *KSR* or *Graham*. *See* 550 U.S. at 416–17; 383 U.S. at 6.

closest prior art to properly assess the innovation over the
prior art. Secondary considerations must be directed to
what is claimed to be inventive, because secondary con-
siderations "without invention[] will not make patentabil-
ity." *Sakraida*, 425 U.S. at 278 (internal quotation marks
omitted). It requires comparison to prior art that reflects
known advances. In other words, there must be a demon-
strated nexus to the claimed invention—a nexus to what
is new in comparison to the prior art. Furthermore, the
proponent of such evidence of secondary considerations, in
this case Apple, "bears the burden of showing that a
nexus exists between the claimed features of the inven-
tion and the objective evidence offered to show non-
obviousness." *WMS Gaming, Inc. v. Int'l Game Tech.*, 184
F.3d 1339, 1359 (Fed. Cir. 1999).

Our court has previously adopted the closest prior art
as the relevant comparison for secondary considerations.
In *Bristol-Myers Squibb Co. v. Teva Pharmaceuticals
USA, Inc.*, we noted that "the district court found evidence
of some secondary considerations of nonobviousness . . . .
To be particularly probative, evidence of [secondary
considerations] must establish that there is a difference
between the results obtained and those of the *closest prior
art* . . . ." 752 F.3d 967, 977 (Fed. Cir. 2014) (emphasis
added) (internal quotation marks omitted). In another
example, in *Kao Corp. v. Unilever United States, Inc.*, we
observed that while the "district court . . . concluded . . .
that secondary considerations . . . were sufficient to rebut
the prima facie case, . . . the district court failed to use the
closest prior art." 441 F.3d 963, 969 (Fed. Cir. 2006)
(emphasis added). Thus, ascertaining the significance of
the innovative leap over the prior art using secondary
considerations requires a comparison to the closest prior
art. This framework no longer governs under the majori-
ty's approach.

The majority's secondary considerations analysis re-
peatedly compares the '721 and '172 patents to inferior or

non-existent prior art, rather than to the relevant, closest prior art. Specifically, the evidence relied upon by the majority with respect to the secondary considerations makes no comparison, with respect to the '721 patent, to Neonode and the claimed innovation of the image associated with the slide to unlock feature, and with respect to the '172 patent, to Robinson and the claimed innovation of displaying the currently typed string of text.

For example, for commercial success, Apple and the majority rely on survey evidence developed for Apple's damages case that consumers are more likely to purchase (and pay more for) a phone with a slide to unlock feature and an autocorrect function than a phone without these features. Maj. Op. at 35–36, 48. However, this is an irrelevant comparison because Neonode provides a slide-to-unlock feature and Robinson provides an autocorrect function. There was no showing of nexus between the inventive steps (over the closest prior art) disclosed by the '721 and '172 patents and the surveyed consumer demand. For long-felt but unresolved need, the majority compares to an older Nokia device with a very different non-touchscreen, button-based unlocking feature, Maj. Op. at 40, as well as to Samsung touchscreen unlocking mechanisms that do not have the slide-to-unlock feature of Neonode, Maj. Op. at 40–41. The majority also cites Steve Job's unveiling of the slide to unlock feature at an Apple event and the audience's cheers as evidence of industry praise for the '721 patent. Maj. Op. at 34. Again, however, Apple provides no evidence that this praise was specifically for the '721 patent's innovative step beyond Neonode or even that the audience was comprised of industry experts. The majority thus errs in elevating such irrelevant comparisons as providing "particularly strong" and "powerful[]" evidence of nonobviousness. Maj. Op. at 43.

In summary, the majority decision here materially raises the bar for obviousness by disregarding Supreme Court precedent.

VIII

A

Finally, I address the '647 patent which presents issues of infringement rather than obviousness. The "analyzer server" limitation requires that the analyzer server "run" separately, and there is no substantial evidence that Samsung's devices embody the "analyzer server" limitation because the shared library code does not run separately. That the majority substitutes its own claim construction (requiring only separate storage) for the parties' agreed construction that the analyzer server must "run" separately is both improper and unwise.

In *Teva Pharmaceuticals USA, Inc. v. Sandoz, Inc.*, the Supreme Court made clear the principle "that a judge, in construing a patent claim, is engaged in much the same task as the judge would be in construing other written instruments, such as . . . contracts." 135 S. Ct. 831, 833 (2015). In the contract area, it is established that the parties' interpretation of the contract's terms is generally entitled to significant if not dispositive weight.[6] The same

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[6]   "Where the parties have attached the same meaning to a promise or agreement or a term thereof, it is interpreted in accordance with that meaning." Restatement (Second) of Contracts §201(1) (1981). In contract interpretation, "it [is] clear that the primary search is for a common meaning of the parties, not a meaning imposed on them by the law." *Id.* cmt. c. "[A]uthority . . . supports giving effect to a common meaning shared by both parties in preference to" a meaning imposed by the courts. 2 FARNSWORTH ON CONTRACTS (3d) § 7.9 (2004). *See also* 5 CORBIN ON CONTRACTS (Rev.) § 24.5 (1998) (When "the

should be true where the parties agree as to the meaning of technical terms in infringement litigation, where the outcome affects only the particular parties to the dispute. The majority here inappropriately declines to give the parties' agreed claim construction any weight, much less significant or dispositive weight.

B

In the original *Motorola* claim construction, an "analyzer server" must be a "server routine," consistent with the "plain meaning of 'server.'" 757 F.3d at 1304. That is, the analyzer server must run separately from the client application it serves. *Id.* Both parties agreed at oral argument to this construction. Apple's counsel stated that "we agree actually that [the analyzer server] has to be run separately from the client." Oral Argument at 29:29–35. Samsung's counsel likewise agreed that the analyzer server "must run" separately from the client. *Id.* at 7:25–26. This agreed-upon construction was reiterated by the parties on their petitions for rehearing. Apple argued that Samsung's shared library code is an analyzer server because it "runs separately from the client applications it serves."[7] Samsung responded that Apple had

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parties attach the same meaning to a contract term . . . , the contract is enforceable in accordance with that meaning."). This principle has been applied as well by the Courts of Appeals. *See Ahmad v. Furlong*, 435 F.3d 1196, 1203 (10th Cir. 2006) (recognizing the impropriety of "a court's resolving a contractual ambiguity contrary to the intent of both contracting parties."); *James v. Zurich-Am. Ins. Co. of Ill.*, 203 F.3d 250, 255 (3d Cir. 2000) ("[T]he consistent practical construction given to that provision by the parties to the contract controls its terms.").

[7]   Apple Inc.'s Corrected Combined Petition for Panel Rehearing and Rehearing En Banc 5, ECF No. 93.

failed to show infringement of "an analyzer server that ran separately from the program it serves."[8]

Running separately is indeed the only construction which is consistent with an "analyzer server" program that "receives data having structures from the client," processes the data, and then returns it to the client. *Motorola*, 757 F.3d at 1304–05.[9] The so-called "library program" present in the accused Samsung device cannot be an "analyzer server" and thus cannot satisfy the claim limitation.   The parties' experts agreed that a library program is a collection of code that can be accessed by other applications in the accused Samsung device.[10] As the name implies, a client application can go to the software library and "borrow" (i.e., use) code from the library to perform a specific needed task rather than having to program that functionality into the client application. As we held in *Motorola*, in the required client-server implementation, the client sends information to an independent server which then performs a task using that information and sends information back to the client application. *See*

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[8]   Response to Combined Petition for Panel Rehearing and Rehearing En Banc 6, ECF No. 97 (internal quotation marks omitted).

[9]   This is consistent with the district court's finding that an analyzer server is "a server routine separate from a client that receives data having structures from the client," and is "definitely separate from the [client] applications." J.A. 46–47 (internal quotation omitted).

[10]   *See* J.A. 13054 (Apple expert testifying that software library code is "written as software that any program can go and access and execute"); J.A. 11792 (Samsung expert testifying that software libraries are "bits of code that exist so that all programmers can use them").

757 F.3d at 1304–05. That is not what a library program does.

The majority explicitly rejects the parties' agreed construction and affirms the infringement verdict on the basis of its own claim construction that an "analyzer server" requires only separate storage. Maj. Op. at 9–10, 15. Something which is "stored" separately is not "run" separately. The majority's approach is inconsistent with our appellate function.

The majority claims that the dissent takes Apple's concession that the analyzer server must run separately "out of context." Maj. Op. at 12. Apple's statement as to claim scope was no slip of the tongue. It was repeated four times at the oral argument,[11] and reiterated explicitly in the Apple petition for rehearing.

The majority also makes much of Apple's insistence that there is no claim construction requirement that the analyzer server be a "standalone" program, and that the panel erred in equating running separately with a standalone program. Running separately and being standalone may indeed be different concepts (because standalone implies that no assistance is provided by other hardware or software), but that makes no difference to this case. Even if the claim construction does not require a standalone program, the analyzer server still "must run separately from the program it serves." Panel Op., 816 F.3d 788, 796.

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[11]   Oral Arg. at 29:30–35 ("We agree that it has to be run separately from the client."); 30:28–39 (Q: "Did [the Apple expert] say it was run separately from the client program?" A: "Yes."); 45:09–11 ("it's run at the analyzer server separately"); 45:27–33 (Q: "[T]he question is whether it runs separately." A: "And Dr. Mowry [Apple expert] said it was.").

Separate storage is not separate running. Crucially, there is no evidence in the record that shared library code runs separately, or is capable of running separately. Apple's expert only testified that the accused code uses the shared library code; he admitted that the shared library code was incapable of running separately. *See* J.A. 13054 (testifying that the shared library code could not run "outside of the client application"); *Apple Inc. v. Samsung Elecs. Co.*, No. 5:12-cv-630, Trial Tr. of Apr. 28, 2014 at 3052, ECF No. 1928 (agreeing that the accused code "can't run on its own"); J.A. 13035 (testifying that the Samsung applications "go to that code and *use it* where it is each time they want to access that code" (emphasis added)); J.A. 13036 ("And all those applications go to the shared library code in the one place that exists in the computer memory hardware to *use it*." (emphasis added)); J.A. 13037 (testifying that Samsung application software "has access to the code and it goes to the code where it is and *uses it* there" (emphasis added)). In other words, it is the client, not the analyzer server, that runs the library program. The library program is not run separately by the analyzer server as required by the claim.

C

There are important reasons why an appellate court should not reject the parties' agreed claim construction. In this case as in other patent cases, we are dealing with complex technology that is beyond the knowledge of lay judges. "[T]he judiciary . . . is most ill-fitted to discharge the technological duties cast upon it by patent legislation." *Graham*, 383 U.S. at 36. "[C]onsciousness of their limitations should make [the courts] vigilant against importing their own notions of the nature of the creative process . . . ." *Marconi Wireless Tel. Co. v. United States*, 320 U.S. 1, 61–62 (1943) (Frankfurter, J., dissenting). Substituting the views of lay judges for the agreement of the parties, who are intimately familiar with the technol-

ogy, risks getting the construction quite wrong. This is exactly what happened here. The majority got the claim construction wrong, as a result of its freelance reinterpretation of "analyzer server" which departs from the parties' agreed-upon construction. It is difficult enough for the court to arrive at a claim construction when the parties disagree. Courts should be very wary to override the parties' agreement as to claim construction when the parties are the experts in the technical matters.

For all these reasons, I respectfully dissent.

United States Court of Appeals
for the Federal Circuit

APPLE INC., A CALIFORNIA CORPORATION,
Plaintiff-Cross-Appellant

v.

**SAMSUNG ELECTRONICS CO., LTD., A KOREAN
CORPORATION, SAMSUNG ELECTRONICS
AMERICA, INC., A NEW YORK CORPORATION,
SAMSUNG TELECOMMUNICATIONS AMERICA,
LLC, A DELAWARE LIMITED LIABILITY
COMPANY,**
Defendants-Appellants

2015-1171, 2015-1195, 2015-1994

Appeals from the United States District Court for the
Northern District of California in No. 5:12-cv-00630-LHK,
Judge Lucy H. Koh.

REYNA, *Circuit Judge*, dissenting.

The court should not have granted en banc review in
this case. En banc review is disfavored and granted only
when necessary to secure or maintain uniformity of the
court's decisions or when the proceeding involves a ques-
tion of exceptional importance. Fed. R. App. Proc. 35(a);
Missouri v. Jenkins, 495 U.S. 33, 46 n.14 (1990). This
case meets neither requirement. The en banc decision

neither resolves a disagreement among the court's decisions nor answers any exceptionally important question.

Applying Rule 35, this court has found a variety of grounds to support an en banc review. One reason we take cases en banc is to overrule precedent. *See, e.g., In re Tam*, 808 F.3d 1321, 1330, n.1 (Fed. Cir. 2015), *as corrected* (Feb. 11, 2016); *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1347–49 & n.3 (Fed. Cir. 2015). Another is to consider whether prior decisions remain sound in light of later Supreme Court decisions. *See, e.g., Lexmark Int'l, Inc. v. Impression Prod., Inc.*, 816 F.3d 721, 726 (Fed. Cir. 2016); *SCA Hygiene Prod. Aktiebolag v. First Quality Baby Prod., LLC*, 807 F.3d 1311, 1315 (Fed. Cir. 2015). We also take cases en banc to review whether a panel properly interpreted a statute, such as in a case of first impression. *See, e.g., Suprema, Inc. v. Int'l Trade Comm'n*, 796 F.3d 1338, 1344–45 (Fed. Cir. 2015). We have also taken cases en banc to "set forth the law" on an issue the Supreme Court has invited us to revisit. *See, e.g., Akamai Techs., Inc. v. Limelight Networks, Inc.*, 797 F.3d 1020, 1022 (Fed. Cir. 2015). The majority opinion today does not purport to do any of these.[1]

Instead, the majority opinion reverses the panel based on its disagreement on extremely narrow questions—the claim construction of a single patent, whether substantial evidence exists to support certain jury factual findings, and the ultimate determination of obviousness for two patents. The majority opinion is based on a belief that the panel's decision was wrong in its application of existing law to the facts of the case, and in its understanding

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[1]   I agree with Chief Judge Prost's and Judge Dyk's dissents in that the majority's application of law to the facts of this case seems inconsistent with Supreme Court precedent on obviousness and substantial evidence.

of the facts of the case. Neither reason justifies en banc review.

Granting en banc review merely because the panel allegedly reached the incorrect result "reduces the 'exceptional importance' test" to one based on "result-oriented criteri[a]." *Bartlett ex rel. Neuman v. Bowen*, 824 F.2d 1240, 1242 (D.C. Cir. 1987) (Edwards, J., joined by Wald, C.J. and Circuit Judges R. B. Ginsburg, Mikva, and Robinson, concurring in denials of rehearing en banc). "The fact that 6 of 11 judges agree with a particular result does not invest that result with any greater legal validity than it would otherwise have." *Id.* at 1243.

Judges on this court have explained that en banc review should be reserved for matters of exceptional importance or to maintain uniformity in our precedent. When a panel opinion "is not viewed as having changed the law," disagreement with the panel's decision "is not a sufficient reason for en banc review." *Dow Chem. Co. v. Nova Chems. Corp. (Canada)*, 809 F.3d 1223, 1227–28 (Fed. Cir. 2015) (Moore, J., joined by Newman, O'Malley, and Taranto, JJ., concurring in denial of rehearing en banc). En banc intervention should be reserved for actual conflicts between precedential cases and for cases of exceptional importance. *DSU Med. Corp. v. JMS Co.*, 471 F.3d 1293, 1311 (Fed. Cir. 2006) (Michel, C.J. and Mayer, J., concurring).[2]

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[2]   A survey of this issue shows that judges on every circuit have agreed that en banc review should be reserved for such circumstances. For example, "if the legal standard is correct, then the full court should not occupy itself with whether the law has been correctly applied to the facts." *Watson v. Geren*, 587 F.3d 156, 160 (2d Cir. 2009) (per curiam). "If that were the appropriate course, then our dockets would be overloaded with *en banc* polls

The role of an en banc court is "not simply to second-guess the panel on the facts of a particular case." *In re Dillon*, 919 F.2d 688, 700 n.3 (Fed. Cir. 1990) (Newman, J., joined by Cowen and Mayer, JJ., dissenting). Not every error by a panel is "enbancable," and "[a] panel is entitled to err without the full court descending upon it." *Amgen Inc. v. Hoechst Marion Roussel, Inc.*, 469 F.3d 1039, 1043 (Fed. Cir. 2006) (Lourie, J., concurring in denial of rehearing en banc).

Under principles of judicial economy, the Federal Rules of Appellate Procedure instruct us to limit our en banc review to cases presenting important issues meriting the court's full resources and careful attention. Fed. R. App. P. 35.

> The decision to grant *en banc* consideration is un-questionably among the most serious non-merits

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contesting a panel's examination of particular sets of facts." *Id.* Even if a panel allegedly errs, en banc review is not warranted when "the error would at most amount to one of misapplication of precedent to the facts at hand." *United States v. Nixon*, 827 F.2d 1019, 1023 (5th Cir. 1987) (per curiam).

Disagreement with a panel decision is not a sufficient ground for an en banc rehearing. *Mitchell v. JCG Indus., Inc.*, 753 F.3d 695, 699 (7th Cir. 2014) (Posner, J., concurring in denial of rehearing en banc). "[T]here are standards for granting rehearing en banc, and for obvious reasons they do not include: 'I disagree with the panel majority.'" *Id.* "In considering rehearing requests, the inquiry should not be, 'would I have voted differently than the panel majority,' but rather, 'is the issue this case presents particularly important or in tension with precedent.'" *United States v. Foster*, 674 F.3d 391, 409 (4th Cir. 2012) (Wynn, J., dissenting from denial of rehearing en banc).

determinations an appellate court can make, be-
cause it may have the effect of vacating a panel
opinion that is the product of a substantial ex-
penditure of time and effort by three judges and
numerous counsel. Such a determination should
be made only in the most compelling circumstanc-
es.

Bartlett, 824 F.2d at 1242.

The issues the majority opinion addresses are not
such issues, as it claims to apply existing law to the facts
of the case. The majority opinion does not explore the
applicability of existing law, or the first interpretation of
a statute. The opinion does not claim to change the law or
lead to a greater understanding of the law as its result.
In sum, the majority's en banc review is simply a do over.

My concern here is that we have made exceptional
something that is unexceptional. I see lurking in this
matter potential for damage to our system of justice. I
agree with Justice Cardozo that law should be "uniform
and impartial," and that "[t]here must be nothing in its
action that savors of prejudice or favor or even arbitrary
whim or fitfulness." Benjamin N. Cardozo, *The Nature of
the Judicial Process* 112 (1921). En banc reviews under-
taken on bases that are not of exceptional importance or
to maintain uniformity in the court's decisions will create
jurisprudence based on arbitrary whim and fitfulness.

The majority opinion is not a response to specific legal
questions, as is typically the case for an en banc review.
Indeed, en banc questions were not presented to the
public, new or supplemental briefing was not ordered, and
additional oral argument was not held. The majority
based its "substantial evidence" review on the original
briefs and record before the court.

Yet, I discern certain legal issues that I believe the
court could or should have explicitly addressed. I address

two such issues below: substantial evidence and objective indicia of nonobviousness.

1. SUBSTANTIAL EVIDENCE

The en banc court reverses the panel's decision because it disagrees with the panel about whether substantial evidence supports the jury's implicit factual findings underlying its obviousness and infringement verdicts. As Chief Judge Prost's dissent explains, the majority opinion misapplies the substantial evidence standard of review.

It is not apparent what type of substantial evidence review standard—if any—the majority opinion applies. Merely reciting all of the evidence that arguably tangentially relates to the factual findings at issue is not consistent with the Supreme Court's case law on substantial evidence. *See, e.g.*, *Con. Edison Co. v. Nat'l Labor Relations Bd.*, 305 U.S. 197, 229–30 (1938).

In reviewing a jury's obviousness verdict, "we review all of the jury's explicit and implicit factual findings for substantial evidence." *Kinetic Concepts, Inc. v. Smith & Nephew, Inc.*, 688 F.3d 1342, 1360 (Fed. Cir. 2012). "We then examine the legal conclusion of obviousness de novo to determine whether it is correct in light of the factual findings that we find adequately supported." *Id.* (citing *Jurgens v. McKasy*, 927 F.2d 1552, 1557 (Fed. Cir. 1991)).

The majority opinion implies that any evidence is substantial evidence, and that therefore we cannot actually examine the evidence presented to determine whether it actually supports the findings it is alleged to support. For example, the opinion cites survey evidence that consumers would rather purchase devices with a slide-to-unlock feature preventing accidental unlocking than purchase devices without a feature preventing accidental unlocking. Maj. Op. 35–36; J.A. 21066. This evidence is cited as substantial evidence of commercial success of the

'721 patent, which claims a particular slide-to-unlock feature.

But prior art devices, such as the Neonode, included similar slide-to-unlock features, so evidence of commercial success tied to the mere presence of such a feature—and not the novel aspects of it—is not substantial evidence of commercial success. "Where the offered secondary consideration actually results from something other than what is both claimed and *novel* in the claim, there is no nexus to the merits of the claimed invention." *In re Huai-Hung Kao*, 639 F.3d 1057, 1068 (Fed. Cir. 2011) (emphasis original); *see also, e.g., Tokai Corp. v. Easton Enters., Inc.*, 632 F.3d 1358, 1369 (Fed. Cir. 2011) ("If commercial success is due to an element in the prior art, no nexus exists.").[3] Such survey evidence cannot support an implicit jury finding of any commercial success.

I believe that a district court or this court, when reviewing whether findings of fact are supported by substantial evidence, must actually review the evidence. It should determine if it is *substantial* evidence, as opposed to merely evidence. As the majority opinion does not do so today, perhaps an en banc opinion explaining this court's role in substantial evidence review is warranted. The court en banc could provide guidance on what the substantial evidence standard means and how it is applied when we review the factual findings that underlie jury verdicts.[4]

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[3]   Samsung argued in its briefing on appeal that Apple had not established a nexus between this evidence and the slide-to-unlock feature. Samsung Br. 37; *see also* Samsung Response & Reply Br. 21.

[4]   As the case before us demonstrates, different appellate judges can review the same evidence and disagree whether it is substantial evidence in support of a jury's

2. OBVIOUSNESS ANALYSIS

I see an additional implicit dispute underlying the en banc court's reversal of the panel's obviousness determinations, one that might have served as proper grounds for en banc review in this case.

The original panel opinion could arguably be interpreted as applying a burden-shifting analysis for determining whether a patent is obvious. For example, it said "the prima facie case of obviousness was strong. Apple's evidence of secondary considerations was weak and did not support a conclusion that the '721 patent was nonobvious." *Apple*, 816 F.3d at 804. In addition, in his dissent, Judge Dyk cites Supreme Court precedent in

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factual findings, and they can interpret the same patent and decide on a different claim construction. Judges can and often do disagree on results, as demonstrated by the frequent number of split panels.

Here, for example, the majority opinion finds that substantial evidence supports an implicit jury factual finding of commercial success for the '721 patent. Maj. Op. 38. As an example of such evidence, it cites Apple's expert testimony that "clearly there's been commercial success of the iPhones that use this invention." *Id.* at 35. In contrast, the panel did not even find this testimony worth mentioning in its analysis that no nexus existed between Apple's commercial success evidence and the merits of Apple's '721 patent. *Apple Inc. v. Samsung Elecs. Co.*, 816 F.3d 788, 806 (Fed. Cir. 2016). We have repeatedly stated that that conclusory testimony does not suffice as substantial evidence, *see, e.g.*, *Whitserve, LLC v. Comput. Packages, Inc.*, 694 F.3d 10, 24 (Fed. Cir. 2012), and that evidence of commercial success is not substantial evidence unless there is a nexus between it and the merits of the claimed invention, *see, e.g.*, *Merck & Cie v. Gnosis S.P.A.*, 808 F.3d 829, 837 (Fed. Cir. 2015).

making a forceful argument that secondary considerations of non-obviousness carry little weight where strong evidence of obviousness exists.

The majority opinion states that "[a] determination of whether a patent claim is invalid as obvious under § 103 requires consideration of all four *Graham* factors, and it is error to reach a conclusion of obviousness until all those factors are considered." Maj. Op. 22. It notes that "[o]bjective indicia of non-obviousness must be considered in every case where present." *Id.*

We addressed this issue in *In re Cyclobenzaprine Hydrochloride Extended-Release Capsule Patent Litig.*, 676 F.3d 1063 (Fed. Cir. 2012). We explained that applying a burden-shifting framework in district court proceedings was inconsistent with this court's decision in *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1538 (Fed. Cir. 1983). 676 F.3d at 1076–80. We noted that such a burden-shifting framework only "ma[d]e sense" in the context of prosecuting patents before the U.S. Patent and Trademark Office. *Id.* at 1080 n.7.

It seems to me that the court disagrees over the role objective indicia play in the court's analysis of the ultimate determination of obviousness. If so, we should candidly address this issue en banc.

The legal questions I see here include (1) whether an obviousness analysis involving secondary considerations (or objective indicia of non-obviousness) is a one- or two-step process and (2) how much weight to accord secondary considerations in the obviousness analysis.

These are important issues that should be addressed in the front room of the courthouse, with all stakeholders at the litigation table. Because we failed to do so in this case, I respectfully dissent.