UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

POSCO CO., LTD. et al.,
Petitioner,

v.

ARCELORMITTAL,
Patent Owner.

IPR2024-01376
Patent 10,961,602 B2

Before BARRY L. GROSSMAN, JULIA HEANEY, and BRIAN D. RANGE, *Administrative Patent Judges*.

RANGE, *Administrative Patent Judge*.

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314

POSCO-1068
POSCO v. ArcelorMittal
IPR2025-00370

I. INTRODUCTION

POSCO Co., Ltd. ("Petitioner") filed a Petition requesting *inter partes* review of claims 1–30 of U.S. Patent No. 10,961,602 (Ex. 1001, "the '602 patent"). Paper 1 ("Pet."). ArcelorMittal ("Patent Owner") filed a Preliminary Response. Paper 6 ("Prelim. Resp."). With our authorization, Petitioner filed a Reply (Paper 7, "Pet. Reply"), and Patent Owner filed a Sur-Reply (Paper 8, "PO Prelim. Sur-Reply"). With further authorization (*see* Ex. 3001), Patent Owner filed a Supplementary Response (Paper 9, "PO *Fintiv* Resp."), and Petitioner filed a Reply to the Supplementary Response (Paper 10, "Pet. *Fintiv* Reply").

The Patent Trial and Appeal Board has authority to conduct an *inter partes* review pursuant to 35 U.S.C. § 6(b). Under 35 U.S.C. § 314(a), an *inter partes* review may not be instituted unless the information presented in the petition "shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." The Board determines whether to institute a trial on behalf of the Director. 37 C.F.R. § 42.4(a). The following findings of fact and conclusions of law are not final, but are made for the sole purpose of determining whether Petitioner meets the threshold for initiating review. Any final decision shall be based on the full trial record, including any response timely filed by Patent Owner. Any arguments not raised by Patent Owner in a timely-filed response may be deemed waived.

For the reasons stated below, we determine that Petitioner has established a reasonable likelihood that it would prevail with respect to at least one claim. We hereby institute an *inter partes* review as to claims 1–30 of the '602 patent based upon Petitioner's asserted grounds of unpatentability.

II. BACKGROUND

A. Real Parties in Interest

Petitioner identifies itself, as well as VinFast Auto, LLC, VinFast Auto Ltd., VinFast USA Distribution, LLC, Vingroup USA, LLC, and VinFast Trading and Production JSC, as the real parties in interest. Pet. 83. Patent Owner identifies itself as the real party in interest. Paper 4, 1.

B. Related Matters

> The parties identify the following matters as related to this proceeding: *Certain High-Strength Aluminum or Aluminum Alloy-Coated Steel, and Automotive Products and Automobiles Containing Same*, Inv. No. 337-TA-1402 (ITC) (filed Apr. 17, 2024); and *ArcelorMittal v. VinFast Auto, LLC et al.*, No. 2:24-cv-03128 (C.D. Cal.) (filed Apr. 16, 2024).

Pet. 83; Paper 4, 1.

C. The '602 patent

The '602 patent, titled "Coated Steel Strips, Coated Stamped Products and Methods," issued March 30, 2021, with claims 1–30. Ex. 1001, codes (45), (54), 14:59–18:24. The '602 patent claims priority as a "[c]ontinuation of application No. 15/606,770, filed on May 26, 2017, which is a continuation of application No. 13/621,015, filed on Sep. 15, 2012, now Pat. No. 9,708,683, which is a division of application No. 12/447,777, filed as application No. PCT/IB2006/004019 on Oct. 30, 2006, now Pat. No. 8,307,680." *Id.* at code (60). The '602 patent explains that "the use of pre-coated steels in hot-stamping processes for the shaping of parts has become important, especially in the automotive industry," with the fabrication including "[p]re-coating of a steel sheets by hot dipping; [t]rimming or cutting for obtaining blanks; [h]eating the blanks in order to obtain alloying of the steel

substrate with the precoating . . . and [h]ot forming followed by rapid cooling of the part." *Id.* at 1:37–46. The blanks having "an alloying of the pre-coating with the steel substrate, which has the effect of creating intermetallic alloys with high melting temperature . . . may be heated in a temperature range where austenitizing of the metallic substrate takes place, allowing further hardening by quenching." *Id.* at 1:50–55. "Heat treatments of the blanks . . . are most frequently performed in furnaces, where blanks are traveling on rollers," but problems "are experienced with the furnace operation" because "the rollers may become fouled by metallic deposits which come from the pre-coating of the blanks" and "[i]f these deposits are excessive, maintenance of the rollers has to be performed and productivity is decreased." *Id.* at 1:67–2:2. The parts that are "obtained after heating and rapid cooling display very high mechanical resistance and may be used for structural applications, for example or automotive industry applications," and "[t]hese parts must be frequently welded with others and high weldability is required." *Id.* at 2:3–7.

The '602 patent aims to provide "coated steels which may be conveniently used to prepare shaped parts by a stamping process" and "which may be used to prepare shaped parts by a stamping process which are suitable for welding," as well as "processes for preparing such coated steels and stamped parts." *Id.* at 2:27–33. Figure 1 of the '602 patent, reproduced below, illustrates a "coated part, after heat treatment and stamping," that "is particularly favorable for the further welding of the part." *Id.* at 3:52, 3:55–56.

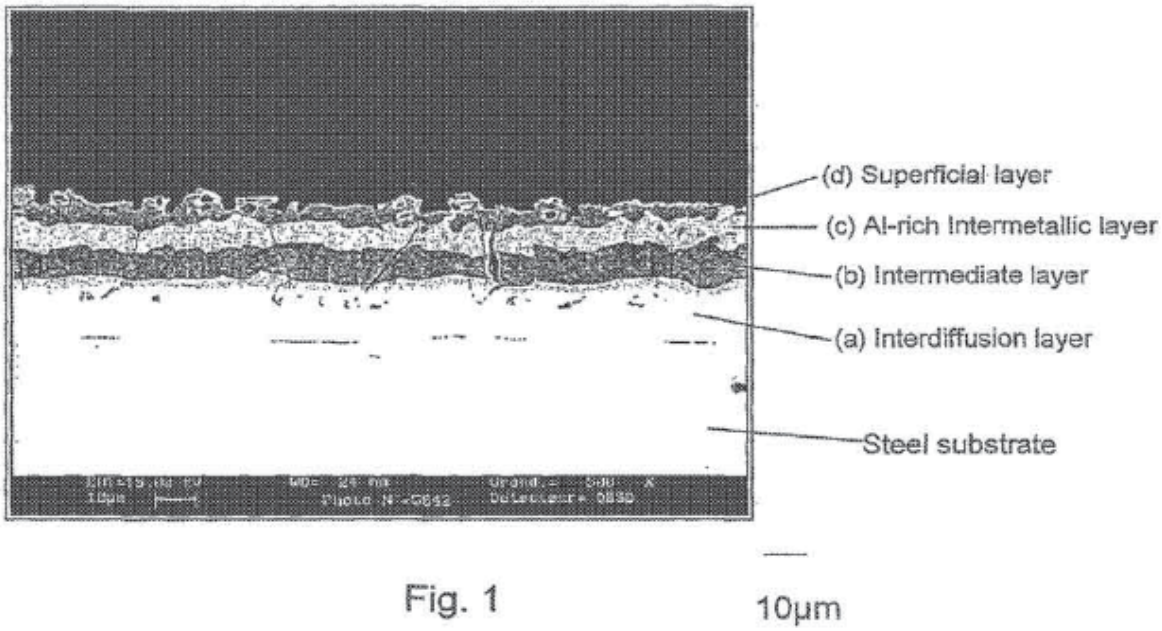

Figure 1 illustrates the "succession of layers of the coating on the steel substrate is: (a) interdiffusion layer; (b) intermediate layer; (c) intermetallic layer; and (d) superficial layer." *Id.* at 3:52–55; *see id.* at 6:8–51.

D. Illustrative Claims

Claims 1, 21, and 24 are independent. The other challenged claims (claims 2–20, 22, 23, and 25–30) depend, directly or indirectly, from either claim 1, claim 21, or claim 24. *See* Ex. 1001, 14:59–15:16, 16:41–64, 17:3–18:2; 15:17–16:40, 16:65–17:3, 18:3–24.

Claim 1 (with identifiers of claim elements, *see, e.g.*, Pet. vii) is illustrative and is reproduced below.

> [1pre] A precoated steel product comprising:
>
> [1a] a strip of base steel having a first side and a second side; and
>
> [1b] a coating on at least one of the first side of the strip of base steel and the second side of the strip of base steel,
>
> [1c] wherein the coating results from interdiffusion between the base steel, and an aluminum or aluminum alloy pre-coating,

> [1d] and wherein the coating includes, proceeding from the base steel outwards: (a) an interdiffusion layer having a first mean iron composition,
>
> [1e] (b) an intermediate layer having a second mean iron composition different from the first mean iron composition,
>
> [1f] (c) an intermetallic layer having a third mean iron composition different from the first and second mean iron compositions, the third mean iron composition being higher than the second mean iron composition; and
>
> [1g] (d) a superficial layer having a fourth mean iron composition different from the third mean iron composition,
>
> [1h] wherein the coating has a thickness greater than 30 micrometers.

Ex. 1001, 14:59–15:16.

E. Asserted Grounds of Unpatentability

Petitioner, supported by the Declaration of Dr. Michael Miles (Ex. 1003), asserts the following grounds of unpatentability (Pet. 1):[1]

Claims Challenged	35 U.S.C. §	References/Basis
1, 9–11, 14, 18, 20–22, 24, 26, 27, 30	102(a)	Engels[2]
1, 2, 9–30	103(a)	Engels
2, 5, 6	103(a)	Engels, Cornette[3]

[1] The relevant sections of the Leahy-Smith America Invents Act ("AIA"), Pub. L. No. 112–29, took effect on March 16, 2013. The '602 patent claims priority before this date. *See* Ex. 1001, code (60). For the purposes of this Decision, pre-AIA statutes apply.

[2] *Controlling and Monitoring of the Hot-Stamping Process of Boron-Alloyed Heat-Treated Steels*, published 2006, Ex. 1005 ("Engels").

[3] *High Strength Steels for Automotive Safety Parts*, SAE Technical Paper Series, published 2001, Ex. 1014 ("Cornette").

Claims Challenged	35 U.S.C. §	References/Basis
3, 4, 7, 8	103(a)	Engels, Laurent[4]
3–6	103(a)	Engels, Nishibata[5]
6	103(a)	Engels, Cornette, Nishibata
8	103(a)	Engels, Cornette, Laurent
11–17, 19, 23, 25, 27–30	103(a)	Engels, Takagi[6]
1–30	103(a)	Takagi, Hein[7], GMW14400[8]
3, 4, 7, 8	103(a)	Takagi, Hein, GMW14400, Laurent
3–6	103(a)	Takagi, Hein, GMW14400, Nishibata

III. ANALYSIS

A. Legal Standard

A claim may be invalid as anticipated by a prior art reference if "each and every limitation is found either expressly or inherently in a single prior art reference." *Sanofi–Synthelabo v. Apotex, Inc.,* 470 F.3d 1368, 1375 (Fed. Cir. 2006) (internal quotation marks omitted). Anticipation under § 102 may be established by showing, as a matter of fact, that all elements arranged as specified in a claim are disclosed within the four corners of a reference, either expressly or inherently, in a manner enabling one skilled in the art to practice an embodiment of

[4] US 6,296,805 B1, issued Oct. 2, 2001, Ex. 1023 ("Laurent").

[5] WO 2004/106573 A1, published Dec. 9, 2004, Ex. 1049 ("Nishibata").

[6] US 2004/0009366 A1, published Jan. 15, 2004, Ex. 1016 ("Takagi").

[7] *Hot Stamping of USIBOR 1500 P: Part and Process Analysis Based on Numerical Simulation*, published 2006, Ex. 1019 ("Hein").

[8] *Low Carbon, Heat-Treatable Boron Steel – Uncoated or Aluminized Pre-Coated*, GM Worldwide Engineering Standards, Material Specification Metals, published Nov. 2005, Ex. 1026 ("GMW14400").

the claimed invention without undue experimentation. *See ClearValue, Inc. v. Pearl River Polymers, Inc.*, 668 F.3d 1340, 1344 (Fed. Cir. 2012).

A patent claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the claimed subject matter and "the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) when in evidence, objective evidence of nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).[9]

B. Level of Ordinary Skill in the Art

In order to determine whether an invention would have been obvious at the time the application was filed, we consider the level of ordinary skill in the pertinent art at the critical time. *Graham*, 383 U.S. at 17. The resolution of this question is important because it allows us to "maintain[] objectivity in the obviousness inquiry." *Ryko Mfg. Co. v. Nu–Star, Inc.*, 950 F.2d 714, 718 (Fed. Cir. 1991). In assessing the level of ordinary skill in the art, various factors may be considered, including the "type of problems encountered in the art; prior art solutions to those problems; rapidity with which innovations are made; sophistication of the technology; and educational level of active workers in the field." *In re GPAC, Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995) (quotation omitted). Generally, it is easier to establish obviousness under a higher level of ordinary skill

[9] At present, the parties have not raised any issues related to objective evidence of nonobviousness.

in the art. *Innovention Toys, LLC v. MGA Entm't, Inc.*, 637 F.3d 1314, 1323 (Fed. Cir. 2011) ("A less sophisticated level of skill generally favors a determination of nonobviousness . . . while a higher level of skill favors the reverse.").

Petitioner contends that a person of ordinary skill in the art (POSITA) "would have had an undergraduate degree in materials science, manufacturing engineering, mechanical engineering, or equivalent knowledge, training, or experience, with two years of experience working in metallurgy." Pet. 6 (citing Ex. 1003, 15). Patent Owner does not dispute the level of ordinary skill in the art. Prelim Resp. 3.

For purposes of this Decision, we adopt Petitioner's proposal as reasonable and consistent with the '602 patent specification and the prior art. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) (the prior art may reflect an appropriate level of skill in the art).

C. Claim Construction

In *inter partes* reviews, the Board interprets claim language using the district-court-type standard, as described in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). *See* 37 C.F.R. § 42.100(b). Under that standard, we generally give claim terms their ordinary and customary meaning, as would be understood by a person of ordinary skill in the art at the time of the invention, in light of the language of the claims, the specification, and the prosecution history. *See Phillips*, 415 F.3d at 1313–14. Although extrinsic evidence, when available, may also be useful when construing claim terms under this standard, extrinsic evidence should be considered in the context of the intrinsic evidence. *See id.* at 1317–19.

Petitioner does not propose any claim constructions. Pet. 3. Patent Owner argues that Petitioner improperly incorporates by reference meanings of

"interdiffusion layer," "intermediate layer," "intermetallic layer," and "superficial layer" as proposed by Petitioner during IPR2019-01275 which addresses related U.S. Patent No. 9,708,683 ("the '683 Patent") (citing Pet. 19). Prelim. Resp. 8–10. Patent Owner argues that this incorporation results in the Petition not "specify[ing] where each element of the claim is found in the prior art patents or printed publications relied upon," and that the Petition should, thus, be denied for failure to satisfy 37 C.F.R. § 42.104(b)(4). *Id.* at 9–10.

While it is true that Petitioner states that the cited art "satis[fies] the meanings of [interdiffusion, intermediate, intermetallic, and superficial] as proposed by Petitioner during IPR proceedings for the '683 Patent" (Pet. 19), Petitioner is quite clear that, for this proceeding, Petitioner takes the position that no claim construction is required. Also, Patent Owner does not propose any claim constructions ("Patent Owner does not submit any terms for construction"), and, for the most part (except as we otherwise address below), does not dispute application of the prior art to the challenged claims. As such, we do not agree with Patent Owner that Petitioner's claim construction position results in a failure to specify where the claim is in the prior art and justifies denial of institution "for this reason alone." Prelim. Resp. 10.

For purposes of this Decision, we do not discern a need to construe explicitly any claim language because doing so would have no effect on our analyses below of Petitioner's asserted grounds and will not assist in resolving the present controversy between the parties. *See Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) ("The Board is required to construe 'only those terms . . . that are in controversy, and only to the extent necessary to resolve the controversy.'") (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

D. Discretionary Denial Under 35 U.S.C. § 314(a)

Patent Owner argues that, pursuant to *Apple Inc. v. Fintiv, Inc.*, IPR2022-00019, Paper No. 11 (precedential) ("*Fintiv*"), "the Board should exercise its discretion to deny institution given the late stage of the parallel ITC Investigation involving the '602 Patent and the same prior art references." PO *Fintiv* Resp. 1. Patent Owner argues that each of the six *Fintiv* factors support discretionary denial. *Id.* at 2–4. Petitioner argues that *Fintiv* does not support discretionary denial. *See* Pet. *Fintiv* Reply, *passim*.

Below, we address the framework we apply to resolve these arguments, address each of the six *Fintiv* factors, and assess whether discretionary denial is appropriate.[10]

1. Legal Background and Framework

Under 35 U.S.C. § 314(a), the Director has discretion to deny institution. In determining whether to exercise discretion on behalf of the Director, we look to, for example, the guidance provided in *NHK Spring Co. v. Intri-Plex Technologies, Inc.*, IPR2018-00752, Paper 8 (PTAB Sept. 12, 2018) (precedential), and *Apple Inc. v. Fintiv Inc.*, IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020) (precedential) ("*Fintiv*").

Fintiv sets forth six non-exclusive factors for determining "whether efficiency, fairness, and the merits support the exercise of authority to deny institution in view of an earlier trial date" in a parallel proceeding. *Fintiv*, Paper 11 at 6. These factors consider:

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[10] On June 21, 2022, the Director of the United States Patent and Trademark Office entered a memorandum relating to discretionary denials under *Fintiv*. On February 28, 2025, the Office withdrew that guidance. We, thus, do not consider the June 21, 2022, guidance in our determination.

> 1. whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted;
>
> 2. proximity of the court's trial date to the Board's projected statutory deadline for a final written decision;
>
> 3. investment in the parallel proceeding by the court and the parties;
>
> 4. overlap between issues raised in the petition and in the parallel proceeding;
>
> 5. whether the petitioner and the defendant in the parallel proceeding are the same party; and
>
> 6. other circumstances that impact the Board's exercise of discretion, including the merits.

Id.

Fintiv recognizes that there is some overlap between the identified factors and that some facts may be relevant to more than one factor. *Fintiv*, Paper 11 at 6. "Therefore, in evaluating the factors, the Board takes a holistic view of whether efficiency and integrity of the system are best served by denying or instituting review." *Id.*

2. Background

Patent Owner instituted an International Trade Commission action[11] against "Respondents VinFast Auto Ltd., VinFast Auto, LLC, VinFast USA Distribution, LLC, Vingroup USA, LLC, and VinFast Trading and Production JSC.[12]" Ex. 2002; *see also* PO *Fintiv* Resp. 1. Petitioner identifies the VinFast entities as "additional

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[11] The action is captioned *Certain High-Strength Aluminum of Aluminum Alloy-Coated Steel, and Automotive Products and Automobiles Containing Same*, Inv. No. 337-TA-1402 (ITC), filed April 17, 2024 ("the ITC Investigation"). *See* PO *Fintiv* Resp. 1.

[12] We collectively refer to the Respondents as "the VinFast entities."

real parties-in-interest." Pet. 83. The ITC set a hearing date of March 3–7, 2025, initial determination date of June 23, 2025, and target date for completion of investigation of October 23, 2025. Ex. 2002, 4; *see also* Ex. 1059–1060 (transcripts of March 5 and March 6, 2025, hearings).

3. Fintiv Factor One: Stay

Patent Owner argues that factor one heavily favors discretionary denial because there is no stay in the ITC, and the VinFast entities never requested a stay. PO *Fintiv* Resp. 2. Petitioner argues that this factor favors institution or is neutral because Patent Owner's district court case against VinFast is stayed. Pet. *Fintiv* Reply 2 (citing Ex. 1053). The district court stayed litigation pending the ITC Investigation. Ex. 1054.

Fintiv instructs that "[a] district court stay of litigation pending resolution of the PTAB trial allays concerns about inefficiency." *Fintiv* at 6. Here, however, the district court stay is a stay pending conclusion of the ITC Investigation. Ex. 1054. In such a situation, *Fintiv* indicates that the focus should be on "whether the patentability disputes before the ITC will resolve all or substantially all of the patentability disputes between the parties, regardless of the stay." *Fintiv* at 9. We address *Fintiv* factor four (overlap) below. We determine that, given *Fintiv*'s explanation of this situation, the weight of the district court's stay pending the ITC Investigation and the weight of the lack of a stay of in the ITC Investigation itself depends, in part, on factor four. Thus, we determine that factor one, by itself, is neutral or bears little weight in our overall analysis, but consideration of the district court stay pending ITC investigation elevates the importance of factor four.

4. Fintiv Factor Two: Proximity of Trial Date

Patent Owner argues that the ITC Investigation has a target completion date of October 23, 2025, which is more than five months before the statutory deadline

for a final written decision (March 24, 2026) if this *inter partes* review were instituted. PO *Fintiv* Resp. 2–3. Patent Owner thus argues that this factor heavily favors discretionary denial. *Id.*

Petitioner argues that this factor favors institution because the ITC cannot invalidate claims and that the district court proceeding is stayed. Pet. *Fintiv* Reply 2. Petitioner also argues that the ITC Investigation requires many steps after the target date so that "the Board's statutory deadline comes first." *Id.* at 3.

The Board often considers the ITC target date when considering this *Fintiv* factor. *See, e.g., SK Innov. Co., Ltd. v. LG Chem, Ltd.*, IPR2020-01240, Paper 15, 16–17 (PTAB Jan. 12, 2021) (citing *Garmin Int'l, Inc. v. Koninklijke Philips N.V.*, IPR2020-00754, Paper 11, 12 (PTAB Oct. 27, 2020); *Comcast Cable Commc'n, LLC v. Rovi Guides, Inc.*, IPR2020-00800, Paper 10, 12–13 (PTAB October 22, 2020)). This approach aligns with the language of *Fintiv* which focuses on the difficulty of maintaining a district court action where a claim is "determined to be invalid at the ITC." *Fintiv* at 9.

Here, as Patent Owner argues, the ITC Investigation has a target completion date of October 23, 2025, which is more than five months before the statutory March 24, 2026, deadline for a final written decision. Thus, proximity of trial date favors discretionary denial.

5. Fintiv Factor Three: Investment in the Parallel Proceeding

Patent Owner argues that this factor "heavily favors discretionary denial as the parties have progressed through fact and expert discovery and will complete the evidentiary hearing on March 7, 2025." PO *Fintiv* Resp. 3. Petitioner argues that this factor favors institution because "[n]o investment has occurred in a lawsuit against POSCO or in VinFast's district court case." Pet. *Fintiv* Reply 3.

Petitioner also argues that "Petitioner diligently filed its petition less than 4 months after the ITC investigation was instituted." *Id.*

For this factor, *Fintiv* instructs us to consider "the amount and type of work already completed in the parallel litigation by the court and the parties at the time of the institution decision." *Fintiv* at 9. Here, the record before us supports that the ITC and Patent Owner have completed substantial work for the ITC Investigation. This is somewhat, but not completely, mitigated by Petitioner's diligence in filing the Petition. We thus determine that this factor weighs, at least somewhat, in favor of discretionary denial.

6. Fintiv Factor Four: Overlapping Issues

Patent Owner argues that the VinFast entities asserted the same prior art references in the ITC that are asserted here. PO *Fintiv* Resp. 3. Patent Owner argues that the VinFast entities' expert report "asserts the same invalidity grounds being asserted in the Petition." *Id.* (citing Ex. 2003). Patent Owner acknowledges, however, that the VinFast entities "revised some of its invalidity grounds." *Id.*

Petitioner argues that the Petition asserts grounds "completely different from those heard by the ITC" and "addresses 16 more claims." Pet. *Fintiv* Reply 3. Petitioner emphasizes that the ITC Investigation's invalidity case focused on different prior art and that minimal hearing resources were devoted to the key prior art references asserted here, Engels and Takagi. *Id.* at 4.

Fintiv instructs that this factor should focus on "claims, grounds, arguments, and evidence *presented* in the parallel proceeding." *Fintiv* at 12 (emphasis added). Here, the record does not support that the Petition's invalidity grounds were presented to the ITC for consideration on the merits, and the record does not support that the ITC will ever adjudicate the invalidity grounds raised here. Rather, the VinFast entities presented Engels and Takagi alongside many other references

as evidence of the "State of the Art." Ex. 1058, 41, 47–50. This is, therefore, not a situation where the ITC Investigation will "resolve key issues in the petition." *Fintiv* at 13. Thus, this factor weighs heavily against discretionary denial.

7. Fintiv Factor Five: Overlapping Parties

Patent Owner argues that this factor favors discretionary denial because "both Patent Owner and RPI [the VinFast entities] are parties to the ITC investigation." PO *Fintiv* Resp. 4. Petitioner argues that Petitioner is a supplier to the VinFast entities. Pet. *Fintiv* Reply 5. Petitioner argues that discretionary denial would thwart Petitioner's ability to "efficiently resolve validity to avoid future litigation." *Id.* Petitioner emphasizes that it "named its customer, VinFast, as an RPI 'out of an abundance of caution' and 'to avoid unnecessary litigation at the PTAB.'" *Id.* Petitioner also represents that VinFast has had no involvement or control over the Petition. *Id.*

Fintiv instructs that this factor may weigh against exercising discretion where "a petitioner is unrelated to a defendant in an earlier court proceeding." *Fintiv* at 13. Here, Petitioner and VinFast have a supplier/customer relationship, but we appreciate that a supplier, like Petitioner, may have interests in resolving validity issues that are unrelated to those of a single customer. On balance, we determine that this factor is neutral given the particular circumstances presented.

8. Fintiv Factor Six: Other Circumstances

Patent Owner argues that this factor favors discretionary denial because the Petition's merits are weak. PO *Fintiv* Resp. 4. Petitioner argues that the Petition's merits are strong. Pet. *Fintiv* Reply 5.

On the present record, the merits of the Petition are strong for the reasons we explain in Section III(G), *infra*. This factor, thus, favors institution.

9. Conclusion

When considering the *Fintiv* factors, we "take[] a holistic view of whether efficiency and integrity of the system are best served by denying or instituting review." *Fintiv* at 6. Here, *Fintiv* factors one and five are neutral, factors two and three favor discretionary denial, factor four strongly weighs against discretionary denial, and favor six weighs against discretionary denial.

The integrity of the system will benefit from institution because of the strong merits the Petition presents (factor six), and the ITC Investigation will not resolve these merits (factor four). This outweighs any potential inefficiency as indicated by factors two and three. We further note that any inefficiency in resolving the grounds the Petition presents is mitigated by the stay of the district court action (factor one). We, thus, decline to exercise discretionary denial under 35 U.S.C. § 314(a).

E. Discretionary Denial Under 35 U.S.C. § 325(d)

Pursuant to 35 U.S.C. § 325(d), in determining whether to institute an inter partes review, "the Director may take into account whether, and reject the petition or request because, the same or substantially the same prior art or arguments previously were presented to the Office." In evaluating arguments under § 325(d), we use

> [A] two-part framework … (1) whether the same or substantially the same art previously was presented to the Office or whether the same or substantially the same arguments previously were presented to the Office; and (2) if either condition of first part of the framework is satisfied, whether the petitioner has demonstrated that the Office erred in a manner material to the patentability of challenged claims.

Advanced Bionics, LLC v. MED-EL Elektromedizinische Geräte GmbH, IPR2019-01469, Paper 6, 8–9 (PTAB Feb. 13, 2020) (precedential) ("*Advanced Bionics*"); *see also Becton, Dickinson & Co. v. B. Braun Melsungen AG*, IPR2017-01586,

Paper 8 at 17–18 (PTAB Dec. 15, 2017) (precedential as to Section III.C.5, first paragraph) (listing factors to consider in evaluating the applicability of § 325(d)) ("*Becton, Dickinson*").[13]

1. First Prong

As to the first prong of the *Advanced Bionics* assessment, Petitioner argues that the "references applied against claim 1 . . . were not applied in rejections during prosecution of the '602 Patent" except for Laurent, which "is cited here only as a secondary reference against dependent claims." Pet. 81–82.

Patent Owner contends that "*[a]ll* seven references were before the Patent Office, and Petitioner's two primary references (Engels and Takagi) were discussed and/or applied during the prosecution of the '602 Patent." Prelim. Resp. 4. Petitioner does not particularly dispute this prong but instead focuses on the second prong. *See, e.g.,* Pet. Reply 1. For purposes of this decision, we determine that substantially the same art was previously before the Office.

2. Second Prong

Petitioner argues that the Examiner erred in a manner material to the patentability of the challenged claims. In particular, Petitioner argues that the prior record before the Office is "silent as to the specific prior art teachings cited in the Petition." Pet. Reply 1. Petitioner argues that, with regard to Petitioner's first ground, the Examiner's only consideration of Engels was via an information disclosure statement ("IDS") citing one hundred references alongside another IDS citing another 25 references. *Id.* (citing Ex. 2001, 699, 837–868). The Examiner

[13] By statute, the Patent Office Director determines whether to institute an *inter partes* review. 35 U.S.C. §§ 314(b), 325(d). The Director has delegated institution decisions to the Patent Trial and Appeal Board. 37 C.F.R. § 42.4. Where specific guidance from the present Director is lacking, we rely on the best available guidance. For example, here we rely on *Advanced Bionics* and related guidance.

then issued only a rejection pursuant to 35 U.S.C. § 112 because the Examiner "was unable to determine the scope of these claims." Ex., 2001 837–841. Petitioner argues that the Office only considered Engels substantively as part of a "***successful***" *inter partes* review challenge of the '683 patent ("the '683 Patent IPR"). *Id.* at 2.

Patent Owner emphasizes that Engels was submitted to the Examiner three times. Patent Owner argues that Engels was submitted via IDS twice during prosecution of the '602 patent. PO Sur-Reply 2 (citing Ex. 2001, 723–724, 726, 914–922, 936. Patent Owner argues that the Examiner reviewed the information. *Id.* (citing Ex. 2001, 914–922). Patent Owner also argues that the Examiner was provided the '683 Patent IPR where Engels was just one of seven refences. *Id.* Patent Owner further argues that the '683 Patent IPR described Engels of having a coating "approximately 40 µm thick." *Id.* at 3 (citing Ex. 1031, 25, 76–77).

With regard to Petitioner's second ground, Petitioner argues that Hein and GMW14400 were also cited in an IDS but not discussed or applied in any rejection. Pet. Reply 2–3 (citing Ex. 2001, 698, 1100). Petitioner further argues that Patent Owner argued that Takagi does not teach a coating thickness greater than 30 µm. *Id.* (citing Ex. 2001, 879, 912). But, as Petitioner argues, the present Petition does not rely on Takagi for teaching total thickness.

Patent Owner argues that, during prosecution of the '683 Patent, the Examiner issued a final rejection involving Takagi which the Board reversed. PO Sur-Reply 5. Patent Owner emphasizes that all three references were before the Examiner and "Petitioner has no evidence that the Examiner did not consider these references in combination." *Id.*

After considering the record as a whole, we determine that Petitioner has adequately demonstrated that the Office erred in a manner material to the

patentability of challenged claims. As we explain in Section III(G), *infra*, Petitioner's challenges to the '602 patent appear strong based on the current record, and Patent Owner's present arguments to the contrary are weak. Given the strength of Petitioner's challenges on the present record, this is not a situation where we would say that "reasonable minds can disagree regarding the purported treatment of the art," and we therefore determine that the Examiner erred by not considering the art in substantially the combination Petitioner proposes.

Where Patent Owner states that "evidence that the Examiner did not consider these references in combination" is lacking (PO Sur-Reply 5), we disagree. If the Examiner considered these references in combination, the Examiner would have, given the apparent strength of Petitioner's position on the merits on this record, issued a rejection. The lack of a rejection based on the combination proposed in the Petition provides some evidence that the Examiner did not consider these references in combination (because the lack of such a rejection raises the likelihood that the Examiner did not make such a consideration).

3. Conclusion

Because Petitioner adequately made a showing of material error, we decline to exercise discretion not to institute *inter partes* review under 35 U.S.C. § 325(d). *See Advanced Bionics, LLC*, IPR2019-01469, Paper 6 at 8–9.

F. Overview of the Asserted Art

1. Engels (Exhibit 1005)

Engels generally relates to "the application of ultra-high strength materials" for automotive structures using hot-stamping. Ex. 1005, Abstract. Engels describes hot-stamping of boron-alloyed steels by austenitizing blanks or parts "inside a continuous feed furnace and subsequently" bringing the austenitized blanks or

parts "into the die via a transfer unit." *Id.* at 136. "The blanks or parts are then stamped at high strain rates and kept under pressure inside the die after drawing depth is reached." *Id.* Engels explains that, "[w]hen using hot-dip aluminum coated boron steels, it is crucial to look for a correctly shaped diffusion layer with regard to layer thickness, porosity and roughness, as this layer will decisively impact the corrosion and welding properties of the hot stamped parts." *Id.* at 142. Figure 5, reproduced below, shows "a cross-section polish of the diffusion layer of the hot-dip aluminum coated boron steel."

phase number	layer thickness, µm	Al	Fe	Si	Cr	Mn
		Volume-%				
1	5 – 9	7,2	89,2	1,9	0,3	1,4
2	< 1µm	unmeasurable				
3	11 – 18	51,4	45,9	1,9	0,1	0,7
4	3 – 8	33,9	54,3	10,6	0,3	0,9
5	5 - 11	53,2	44,1	1,9	0,2	0,6

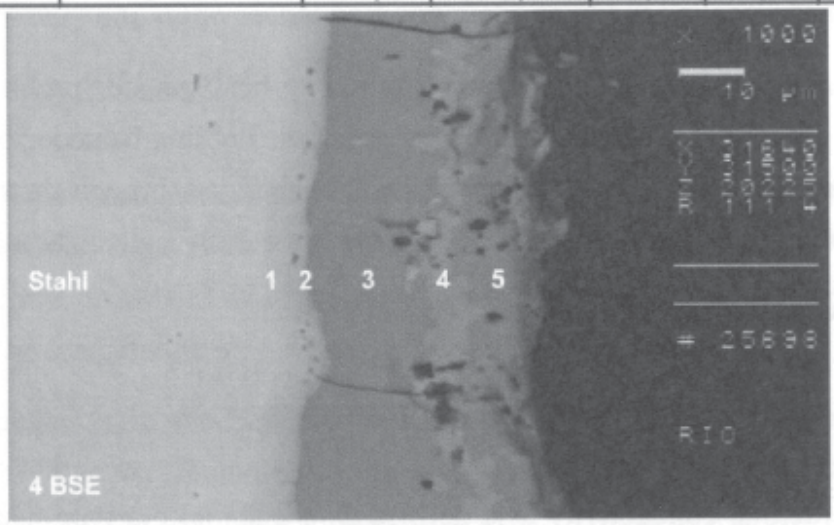

Figure 5. SEM micrograph of a cross-section polish of the diffusion layer

Figure 5 shows "[f]ive phases which differ in their layer thickness and chemical composition [that] can be easily distinguished." *Id.*

2. Cornette (Exhibit 1014)

Cornette generally relates to "high strength steels (HSLA, DP, TRIP, etc.)" and "testing and different design solutions associated with these steel grades." Ex. 1014, Abstract. Cornette's "high and ultra high strength steels (TRIP and Boron steels)" offer "strength and formability." *Id.* at 3.

3. Laurent (Ex. 1023)

Laurent "relates to a coated, hot- and cold-rolled steel sheet comprising a very high resistance after thermal treatment." Ex. 1023, 1:6–8. Laurent describes "produc[ing] a hot- or cold-rolled steel sheet of a desired thickness, coated, and affording extensive shaping possibilities and which, after thermal treatment performed on the finished casing, makes it possible to obtain" a desired "mechanical resistance . . . a substantial resistance to shocks, fatigue, abrasion and wear, while retaining a good resistance to corrosion as well as a good capacity for painting and gluing." *Id.* at 1:37–44.

4. Nishibata (Ex. 1050)

Nishibata relates to "hot-formed members which can be produced from high-strength steel plates by using a hot-forming method and which also have stabilized strengths and toughnesses, as well a hot-forming method for producing them." Ex. 1050, 4.

5. Takagi (Ex. 1016)

Takagi relates to "an aluminum-coated structural member, such as a structural member used for motor vehicles, produced by applying heat treatment and forming operation to aluminum-coated steel sheet, and coated with an alloy layer of an Al–Si–Fe alloy for improvement in formability, weldability and corrosion resistance." Ex. 1016 ¶ 1.

6. Hein (Ex. 1019)

Hein relates to hot stamping and "ultra high strength hot-stamped boron steel." Ex. 1019, Abstract. Hein explains that hot stamping, combined with the chemical composition of boron steels, results "in a robust process window for quenching and martensitic transformation," with hot-stamping by "heating blanks," and the blanks then being "transferred very quickly on a press for the stamping." *Id.* at 1. The result is "material [that] has an excellent formability and thus quite complex shapes can be formed in a single stroke." *Id.*

7. GMW14400 (Ex. 1026)

GMW14400 relates to "the requirements for low carbon, heat-treatable boron steel used in the manufacture of structural parts requiring heat treatments to achieve high strength." Ex. 1026, 1. GMW14400 explains "austenitizing a pre cut blank or pre-stamped part, hot stamping the heated blank or pre-stamped part, and rapid cooling (quenching) the stamped part in the die" or "austenitizing a pre cut blank, hot stamping the heated blank and rapid cooling (quenching) the stamped part in the die or via water quenching." *Id.*

G. Unpatentability Grounds

1. Unpatentability over Engels (Ground 1A-102)

Petitioner asserts that claims 1, 9–11, 14, 18, 20–22, 24, 26, 27, and 30 are unpatentable under 35 U.S.C. § 102(a) as anticipated by Engels, citing the Declaration of Dr. Miles for support. Pet. 1, 6–32 (citing Ex. 1003) (Petitioner's Ground 1A-102). Patent Owner provides arguments addressing this asserted ground of unpatentability, but only as to claim 1. *See* Prelim. Resp. 10–16. We address Petitioner's assertions and Patent Owner's arguments below.

a. *Claim 1*

Petitioner argues that Engels discloses each limitation of claim 1. Pet. 9–24. Petitioner argues, for example, that the preamble of claim 1 is not limiting or, alternatively, imparts no structural distinction from Engels. *Id.* at 9–12. Petitioner further argues that Engels teaches a stamped part. *Id.* at 12–14 (citing, e.g., Ex. 1005, 135 (titling Engels as "Controlling and Monitoring of the Hot-Stamping Process of Boron-Alloyed Heat-Treated Steels", 141; Ex. 1003 ¶¶ 28–31 (Dr. Miles explaining, for example, that Engels's Figure 5 depicts a hot stamped part). Petitioner argues that Engels teaches a strip of base steel having a first and second side. *Id.* at 14–15 (citing, e.g., Ex. 1003 ¶ 33; Ex. 1005, 137). Petitioner further argues that Engels teaches a coating that is a "diffusion layer" having five phases as depicted in Engels's Figure 5 and in the accompanying table. *Id.* at 16–21 (citing, e.g., Ex. 1003 ¶¶ 42–51; Ex. 1005, 136, 138, 141–142. Petitioner argues that Engels teaches a coating having a thickness greater than 30 μm. Ex. 1005, Fig. 5, 42; Ex. 1003 ¶¶ 52–59.

Patent Owner argues that Engels does not disclose, as claim 1 recites, "a superficial layer having a fourth mean iron composition different from the third mean iron composition." Prelim. Resp. 11. Patent Owner argues that a "superficial layer" must be a surface layer and that the Engels's phase 5 layer as depicted in Figure 5 (which Petitioner identifies as being the superficial layer (Pet. 18)) is not a surface layer. *Id.* 12. Patent Owner argues that Engels's Figure 5 phase 5 layer cannot be a surface layer because (1) Engels table states that phase 5 is 5–11 μm and thick and (2) Patent Owner measures, based on the scale on Figure 5, that the distance between the edge of phase 4 and the surface of the Engels Figure 5 composition is more than 11 μm. *Id.* at 12–14.

To assess Patent Owner's argument, we assume that claim 1's recited "superficial layer" must be a surface layer. Even with this assumption, Patent Owner's argument does not persuasively undermine Petitioner's position.

Figure 5 of Engels indicates 5 phases. *See supra* Section III(E)(2) (reproducing Engels Fig. 5). Figure 5 indicates that the rightmost phase, phase 5, is the phase at the surface. Figure 5, the accompanying table, and the text of Engels all indicate there is no phase six. Ex. 1005, 8–9 ("Five phases which differ in their layer thickness and chemical composition can easily be distinguished."). This evidence adequately supports, for institution purposes, Petitioner's position that phase 5 is a "superficial layer." *See also* Ex. 1003 ¶¶ 44–46. While Patent Owner's argument may present an issue of fact to be finally resolved at trial (if Patent Owner maintains the argument in a Patent Owner response), the evidence before us is sufficient to support that Petitioner has a reasonable likelihood of establishing, by a preponderance of the evidence, that Engels's Figure 5 phase 5 is a surface layer.

Patent Owner also argues that Petitioner's mapping of Engels is inconsistent with how Petitioner alleges that Hein satisfies claim 1. Prelim. Resp. 14–15. This argument does not persuasively undermine Petitioner's position because the argument relies on the *assumption* that "Petitioner did not identify a superficial layer that goes to the surface." *Id.* at 15. As explained above, Petitioner identified Figure 5 phase 5 of Engels as extending to the surface, and Engels provides evidence supporting this position (even if, as Patent Owner argues, the scale and table data of Engels may weigh against the position).

Patent Owner further argues that claim 1 requires that the superficial layer have "a fourth mean iron composition different from the third mean iron composition" and that Petitioner does not show this relationship. Prelim. Resp. 15–

16. This argument does not undermine Petitioner's position because it again relies on phase 5 not extending to the surface. *Id.* at 16. Also, Patent Owner's argument that Engels does not provide a "Volume-%" for the entire layer/phase at the surface does not undermine Petitioner's position because claim 1 does not require any particular "Volume-%." Rather, claim 1 only requires a different composition. Engels teaches "[f]ive phases which differ in their layer thickness and chemical composition can easily be distinguished," and the table accompanying Figure 5 indicates different iron compositions.[14] Ex. 1005, 8–9.

Based on our review and consideration of the current record, we determine that the information presented sufficiently supports, for purposes of institution, Petitioner's assertions that Engels satisfies each limitation of claim 1. *See* Pet. 6–24. We therefore determine Petitioner has met its burden to show a reasonable likelihood it would prevail in demonstrating that claim 1 is anticipated by Engels.

a. *Claim 21*

Independent claim 21 only differs from claim 1 by replacing claim limitation [1g] ("(d) a superficial layer having a fourth mean iron composition different from the third mean iron composition") with "(d) a superficial layer having a fourth mean iron composition different from the first, second and third mean iron compositions." Ex. 1001, 16:41–64.

Petitioner's contentions regarding claim 21, and Patent Owner's arguments against claim 21, are substantially the same as for claim 1. Pet. 30; Prelim. Resp. 11–16.

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[14] Engels's table accompanying Figure 5 indicates that the iron composition for phase 2 is "unmeasurable." Ex. 1005, 143. Petitioner's theory of anticipation, however, maps Engel's phases 1 and 2 combined to layer (a) of '602 patent claim 1. Pet. 18. The table provides evidence that phases 1 and 2 combined will have a different mean iron composition than the other phases. Ex. 1005, 143.

Based on our review and consideration of the current record, we determine that the information presented sufficiently supports, for purposes of institution, Petitioner's assertions that Engels satisfies each limitation of claim 21. *See* Pet. 30; Prelim. Resp. We therefore determine Petitioner has met its burden to show a reasonable likelihood it would prevail in demonstrating that claim 21 is anticipated by Engels.

a. *Claim 24*

Independent claim 24 uses "aluminum composition" rather than "iron composition," and replaces at least claim limitation [1g] ("(d) a superficial layer having a fourth mean iron composition different from the third mean iron composition") with "(d) a superficial layer having a fourth mean aluminum composition different from the first, second and third mean aluminum compositions, the second mean aluminum composition being greater than the third mean aluminum composition." Ex. 1001, 17:4–18:2.

Petitioner's contentions regarding claim 24, and Patent Owner's arguments against claim 24, are substantially the same as for claim 1. Pet. 31; Prelim. Resp. 11–16. Petitioner also argues that Engels's Table addresses aluminum composition. Pet. 31 (citing Ex. 1003 ¶ 85; reproducing Engels's Table at Ex. 1005, 9).

Based on our review and consideration of the current record, we determine that the information presented sufficiently supports, for purposes of institution, Petitioner's assertions that Engels satisfies each limitation of claim 24. *See* Pet. 31–32. We therefore determine Petitioner has met its burden to show a reasonable likelihood it would prevail in demonstrating that claim 24 is anticipated by Engels.

b. *Remaining Claims 9–11, 14, 18, 20, 22, 26, 27, and 30*

Claims 9–11, 14, 18, 20 depend from claim 1. Ex. 1001, 15:62–16:4, 16:13–17, 16:30–32, 16:38–40. Claim 22 depends from claim 21. *Id.* at 16:65–67. Claims 26, 27, and 30 depend from claim 24. *Id.* at 18:6–12, 18:21–24.

Petitioner shows sufficiently for purposes of this Decision that each element of claims 9–11, 14, 18, 20, 22, 26, 27, and 30 is disclosed by Engels. Pet. 26–32Patent Owner does not address any recitations of these dependent claims at this time. Thus, we determine that Petitioner has sufficiently established a reasonable likelihood of establishing claims 9–11, 14, 18, 20, 22, 26, 27, and 30 are anticipated by Engels.

2. Unpatentability over Engels (Ground 1A-103)

Petitioner asserts claims 1, 2, and 9–30 are unpatentable under 35 U.S.C. § 103(a) as obvious over Engels. Pet. 1, 6–24 (citing Ex. 1003) (Petitioner's Ground 1A-103). Patent Owner does not dispute Petitioner's assertions for this ground except as we address above. *See generally* Prelim. Resp.

Petitioner accounts for the limitations recited in claims 1, 2, and 9–30. Pet. 6–24. Petitioner shows sufficiently for purposes of this Decision that each element of claims 1, 2, and 9–30 is taught or suggested by the teachings of Engels, and shows reason to combine the Engels's teachings with rational underpinning and reasonable expectation of success. Thus, we determine that Petitioner has sufficiently established a reasonable likelihood of establishing claims 1, 2, and 9–30 are obvious in view of Engels. Furthermore, because Petitioner has demonstrated a reasonable likelihood of success in proving that at least one claim of the '602 patent is unpatentable, we include this ground in the instituted *inter partes* review. *See SAS Inst. Inc. v. Iancu*, 138 S. Ct. 1348, 1359–60 (2018); *PGS*

Geophysical AS v. Iancu, 891 F.3d 1354, 1360 (Fed. Cir. 2018); 37 C.F.R. § 42.108(a).

3. Unpatentability over Engels and Cornette (Ground 1B)

Petitioner asserts claims 2, 5, and 6 are unpatentable under 35 U.S.C. § 103(a) as obvious over Engels and Cornette. Pet. 1, 32–41 (citing Ex. 1003) (Petitioner's Ground 1B). Patent Owner does not dispute Petitioner's assertions for this ground. *See generally* Prelim. Resp.

Petitioner accounts for the limitations recited in claims 2, 5, and 6. Pet. 32–41. Pet. 32–41. Petitioner shows sufficiently for purposes of this Decision that each element of claims 2, 5, and 6 is taught or suggested by the combined teachings of Engels and Cornette, and shows reason to combine the references' teachings with rational underpinning and reasonable expectation of success. Thus, we determine that Petitioner has sufficiently established a reasonable likelihood of establishing claims 2, 5, and 6 are obvious in view of Engels and Cornette. Furthermore, because Petitioner has demonstrated a reasonable likelihood of success in proving that at least one claim of the '602 patent is unpatentable, we include this ground in the instituted *inter partes* review. *See SAS*, 138 S. Ct. at 1354, 1359–60; *PGS Geophysical*, 891 F.3d at 1360; 37 C.F.R. § 42.108(a).

4. Unpatentability over Engels and Laurent (Ground 1C)

Petitioner asserts claims 3, 4, 7, and 8 are unpatentable under 35 U.S.C. § 103(a) as obvious over Engels and Laurent. Pet. 1, 41–42 (citing Ex. 1003) (Petitioner's Ground 1C). Patent Owner does not dispute Petitioner's assertions for this ground. *See generally* Prelim. Resp.

Petitioner accounts for the limitations recited in claims 3, 4, 7, and 8. Pet. 41–42. Pet. 41–42. Petitioner shows sufficiently for purposes of this Decision that each element of claims 3, 4, 7, and 8 is taught or suggested by the combined

teachings of Engels and Laurent, and shows reason to combine the references' teachings with rational underpinning and reasonable expectation of success. Thus, we determine that Petitioner has sufficiently established a reasonable likelihood of establishing claims 3, 4, 7, and 8 are obvious in view of Engels and Laurent. Furthermore, because Petitioner has demonstrated a reasonable likelihood of success in proving that at least one claim of the '602 patent is unpatentable, we include this ground in the instituted *inter partes* review. *See SAS*, 138 S. Ct. at 1354, 1359–60; *PGS Geophysical*, 891 F.3d at 1360; 37 C.F.R. § 42.108(a).

5. Unpatentability over Engels and Nishibata (Ground 1D)

Petitioner asserts claims 3–6 are unpatentable under 35 U.S.C. § 103(a) as obvious over Engels and Nishibata. Pet. 1, 42–45 (citing Ex. 1003) (Petitioner's Ground 1D). Patent Owner does not dispute Petitioner's assertions for this ground. *See generally* Prelim. Resp.

Petitioner accounts for the limitations recited in claims 3–6. Pet. 42–45. Petitioner shows sufficiently for purposes of this Decision that each element of claims 3–6 is taught or suggested by the combined teachings of Engels and Nishibata, and shows reason to combine the references' teachings with rational underpinning and reasonable expectation of success. Thus, we determine that Petitioner has sufficiently established a reasonable likelihood of establishing claims 3–6 are obvious in view of Engels and Nishibata. Furthermore, because Petitioner has demonstrated a reasonable likelihood of success in proving that at least one claim of the '602 patent is unpatentable, we include this ground in the instituted *inter partes* review. *See SAS*, 138 S. Ct. at 1354, 1359–60; *PGS Geophysical*, 891 F.3d at 1360; 37 C.F.R. § 42.108(a).

6. Unpatentability over Engels, Cornette, and Nishibata (Ground 1E)

Petitioner asserts claim 6 is unpatentable under 35 U.S.C. § 103(a) as obvious over Engels and Cornette. Pet. 1, 45 (citing Ex. 1003) (Petitioner's Ground 1E). Patent Owner does not dispute Petitioner's assertions for this ground. *See generally* Prelim. Resp.

Petitioner accounts for the limitations recited in claim 6. Pet. 45. Petitioner shows sufficiently for purposes of this Decision that each element of claim 6 is taught or suggested by the combined teachings of Engels, Cornette, and Nishibata, and shows reason to combine the references' teachings with rational underpinning and reasonable expectation of success. Pet. 45. Thus, we determine that Petitioner has sufficiently established a reasonable likelihood of establishing claim 6 is obvious in view of Engels, Cornette, and Nishibata. Furthermore, because Petitioner has demonstrated a reasonable likelihood of success in proving that at least one claim of the '602 patent is unpatentable, we include this ground in the instituted *inter partes* review. *See SAS*, 138 S. Ct. at 1354, 1359–60; *PGS Geophysical*, 891 F.3d at 1360; 37 C.F.R. § 42.108(a).

7. Unpatentability over Engels, Cornette, and Laurent (Ground 1F)

Petitioner asserts claim 8 is unpatentable under 35 U.S.C. § 103(a) as obvious over Engels, Cornette, and Laurent. Pet. 1, 45–46 (citing Ex. 1003) (Petitioner's Ground 1F). Patent Owner does not dispute Petitioner's assertions for this ground. *See generally* Prelim. Resp.

Petitioner accounts for the limitations recited in claim 8. Pet. 45–46. Petitioner shows sufficiently for purposes of this Decision that each element of claim 8 is taught or suggested by the combined teachings of Engels, Cornette, and Laurent, and shows reason to combine the references' teachings with rational

underpinning and reasonable expectation of success. Thus, we determine that Petitioner has sufficiently established a reasonable likelihood of establishing claim 8 is obvious in view of Engels, Cornette, and Laurent. Furthermore, because Petitioner has demonstrated a reasonable likelihood of success in proving that at least one claim of the '602 patent is unpatentable, we include this ground in the instituted *inter partes* review. *See SAS*, 138 S. Ct. at 1354, 1359–60; *PGS Geophysical*, 891 F.3d at 1360; 37 C.F.R. § 42.108(a).

8. Unpatentability over Engels and Takagi (Ground 1G)

Petitioner asserts claims 11–17, 19, 23, 25, and 27–30 are unpatentable under 35 U.S.C. § 103(a) as obvious over Engels and Takagi. Pet. 1, 46–49 (citing Ex. 1003) (Petitioner's Ground 1G). Patent Owner does not dispute Petitioner's assertions for this ground. *See generally* Prelim. Resp.

Petitioner accounts for the limitations recited in claims 11–17, 19, 23, 25, and 27–30. Pet. 46–49. Petitioner shows sufficiently for purposes of this Decision that each element of claims 11–17, 19, 23, 25, and 27–30 is taught or suggested by the combined teachings of Engels and Takagi, and shows reason to combine the references' teachings with rational underpinning and reasonable expectation of success. Thus, we determine that Petitioner has sufficiently established a reasonable likelihood of establishing claims 11–17, 19, 23, 25, and 27–30 are obvious in view of Engels and Takagi. Furthermore, because Petitioner has demonstrated a reasonable likelihood of success in proving that at least one claim of the '602 patent is unpatentable, we include this ground in the instituted *inter partes* review. *See SAS*, 138 S. Ct. at 1354, 1359–60; *PGS Geophysical*, 891 F.3d at 1360; 37 C.F.R. § 42.108(a).

9. Unpatentability over Takagi, Hein, and GMW14400 (Ground 2A), over Takagi, Hein, GMW14400, and Laurent (Ground 2B), and over Takagi, Hein, GMW14400, and Nishibata (Ground 2C)

Petitioner asserts claims 1–30 are unpatentable under 35 U.S.C. § 103(a) as obvious over Takagi, Hein, and GMW14400; that claims 3, 4, 7, and 8 are unpatentable under 35 U.S.C. § 103(a) as obvious over Takagi, Hein, GMW14400, and Laurent; and that claims 3–6 are unpatentable under 35 U.S.C. § 103(a) as obvious over Takagi, Hein, GMW14400, and Nishibata. Pet. 1–2, 49–81 (citing Ex. 1003) (Petitioner's Grounds 2A, 2B, and 2C). Patent Owner does not dispute Petitioner's assertions regarding the cited art's teachings or rationale for combining the art's teachings.

Petitioner accounts for the limitations recited in claims 1–30. Pet. 49–81. Petitioner shows sufficiently for purposes of this Decision that each element of claims 11–17, 19, 23, 25, and 27–30 is taught or suggested by the combined teachings of Engels and Takagi of the cited art and shows reason to combine the references' teachings with rational underpinning and reasonable expectation of success.

Patent Owner argues Petitioner fails to establish that GMW14400 qualifies as prior art because Petitioner fails to establish GMW14400 was publicly available before the critical date. Prelim. Resp. 17–25. Petitioner explains public availability of GMW14400 as follows:

> GMW14400 qualifies as prior art under §102(a). As June Munford explains, and as supported by Shannon Schuster, GMW14400 was publicly available no later than 12/1/2005. EX-1027. GMW14400 would have been easily located using the search features provided on its distribution website, the IHS Standards Store. *Id.*

Pet. 3. Hereafter, we refer to Exhibit 1027 as the "Munford Decl."

Patent Owner first argues that it is unclear when Munford contends GMW14400 was publicly available. Prelim. Resp. 18. We disagree. Munford states that, according to the Declaration of Schuster that Munford attaches at "Appendix SCHUSTER01" ("Schuster Decl."), GMW14400 was "available for purchase from Accuris since December 1, 2005." Munford Decl. ¶ 8; *see also* Schuster Decl. ¶ 5. This date is sufficient to qualify GMW14400 as prior art. *See* Ex. 1001, code (60) (indicating an earliest possible '602 patent priority date of Oct. 30, 2006).

Patent Owner next argues that Petitioner does not "show that an *interested* POSITA would have been able to locate GMW14400." Prelim. Resp. 19. We again disagree. The evidence before us supports that Information Handling Services (IHS) or its successor Accuris had GMW14400 available for purchase in its "Standards Store" as of December 1, 2005, or earlier. Schuster Decl. ¶¶ 3–5; Munford Decl. ¶¶ 9–14 (using the "Wayback Machine" internet archive to verify public availability of GM standards documents hosted by IHS).

Patent Owner argues Petitioner did not establish "whether an interested person would have even known of these URLs in the first place." Prelim. Resp. 21; *see also* PO Sur-Reply 8. We find that the evidence before us supports that a person having ordinary skill in the art would have known to make use of the HIS web site. The evidence supports that the purpose of the IHS web site was to "provide information for aerospace engineers." Schuster Decl. ¶ 2. The IHS web site hosted General Motors engineering standards as well as other common engineering standards. *Id.* at ¶ 3; Munford Decl. ¶ 12 (establishing that IHS provided information from "AES, AFNOR, AIA/NAS, ANSI, API, ASME, ASTM, BSI, DIN, EIA, Ford, GM, IEC, IEEE, ISO, ITU, JAA, JSA (JIS), NEMA, SAE, and TIA"). Moreover, Petitioner's witness, Dr. Miles, testifies that the purpose of a material specification like GMW14400 was for General Motors "to

inform steel makers of the requirements of steel to be used in GM vehicles." Ex. 1003 ¶ 140. The evidence before us, as a whole, supports that IHS, for years, ran an online business selling a variety of engineering standards to engineers. This fact provides evidence[15] that engineers would have known to make use of this online business. *See also* Pet. Reply 6–8.

Patent Owner also criticizes Munford's evidence from the internet archive as not proving that GMW14400 in particular was available in 2003. Prelim. Resp. 22–25; PO Sur-Reply 6. The Schuster Declaration, however, is sufficient to establish GMW14400 was available for purchase on the IHS web site as of December 2005. Schuster Decl. ¶ 5. Munford's evidence from the internet archive serves to further evidence the nature of the IHS web site and what kinds of materials the IHS web site hosted. *See, e.g.,* Munford Decl. ¶ 12. Munford's evidence from 2003 combined with Schuster's testimony concerning the ongoing business of Accuris and IHS provides evidence of a continued business having a searchable index selling online standards.

We note that, while Petitioner has presented some evidence supporting publication of GMW14400 as of December 2005 (as explained above), Patent Owner does not factually dispute this point or present evidence to the contrary. Based on the entire record before us, we determine that Petitioner has a reasonable likelihood of establishing, by a preponderance of evidence at trial, that GMW14400 qualifies as prior art.

Thus, for the reasons above, we determine that Petitioner has sufficiently established a reasonable likelihood of establishing claims 1–30 are obvious in view

[15] The fact that IHS, for years, ran an online business for selling engineering standards to engineers raises the likelihood that engineers knew about this online business.

of the cited art. Also, because Petitioner has demonstrated a reasonable likelihood of success in proving that at least one claim of the ’602 patent is unpatentable, we include these ground in the instituted *inter partes* review. *See SAS*, 138 S. Ct. at 1354, 1359–60; *PGS Geophysical*, 891 F.3d at 1360; 37 C.F.R. § 42.108(a).

IV. CONCLUSION

For the reasons above, we determine that the information presented in the Petition establishes that there is a reasonable likelihood that Petitioner would prevail with respect to challenged claims 1–30 of the ’602 patent. At this juncture in the proceeding, we have not made a final determination with respect to the patentability of the challenged claims, or with respect to claim construction.

V. ORDER

For the foregoing reasons, it is

ORDERED that pursuant to 35 U.S.C. § 314(a), an *inter partes* review of claims 1–30 of the ’602 patent is hereby instituted with respect to all grounds of unpatentability set forth in the Petition; and

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial; the trial will commence on the entry date of this Decision.

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