

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

LYFT, INC.,
Petitioner,

v.

RIDESHARE DISPLAYS, INC.,
Patent Owner.

IPR2021-01602
Patent 10,748,417 B1

Before THOMAS L. GIANNETTI, LYNNE E. PETTIGREW, and
JOHN D. HAMANN, *Administrative Patent Judges*.

HAMANN, *Administrative Patent Judge*.

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

I. INTRODUCTION

Lyft, Inc. (“Petitioner”) filed a petition for *inter partes* review of claims 1–5 (“the challenged claims”) of U.S. Patent No. 10,748,417 B1 (Ex. 1001, “the ’417 patent”). Paper 1 (“Pet.”). Rideshare Displays, Inc. (“Patent Owner”) filed a Preliminary Response. Paper 6 (“Prelim. Resp.”).

Institution of an *inter partes* review is authorized by statute when “the information presented in the petition . . . and any response . . . 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.” 35 U.S.C. § 314(a) (2018); *see* 37 C.F.R. § 42.108 (2020). Upon consideration of the papers, we conclude that the information presented shows that there is a reasonable likelihood that Petitioner would prevail in establishing the unpatentability of the challenged claims of the ’417 patent.

A. *Real Parties-in-Interest*

The parties identify themselves as the real parties-in-interest. Pet. 8; Paper 5, 2.

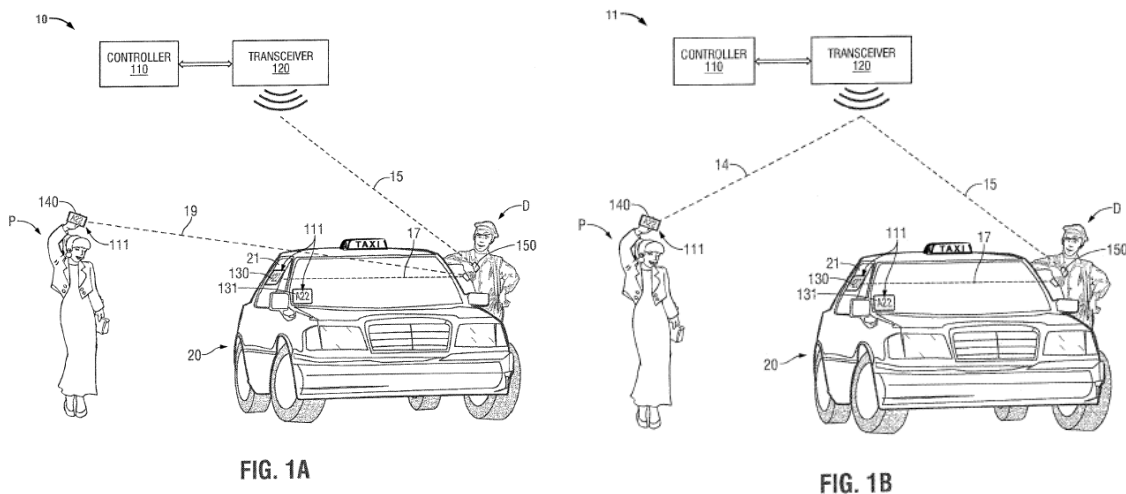
B. *Related Matters*

The parties identify *Rideshare Displays, Inc. v. Lyft, Inc.*, 20-cv-01629-RGA-JLH (D. Del.) (the “parallel litigation”) as a matter that may affect, or be affected by, a decision in this proceeding. Pet. 8; Paper 5, 2. In addition, Petitioner has filed petitions for *inter partes* review of four additional patents that are related to the ’417 patent and owned by Patent Owner: (i) U.S. Patent No. 9,892,637 B2 (IPR2021-01598); (ii) U.S. Patent No. 10,169,987 B1 (IPR2021-01599); (iii) U.S. Patent No. 10,395,525 B1 (IPR2021-01600); and (4) U.S. Patent No. U.S. Patent No. 10,559,199 B1 (IPR2021-01601). Pet. 8; Paper 5, 2.

C. The Challenged Patent

The '417 patent is titled "Vehicle Identification System." Ex. 1001, code (54). The '417 patent describes a system for "provid[ing] an indicator on a mobile communication device of a user having requested a ride service to allow the user to identify a vehicle prior to boarding the vehicle." *Id.* at 1:22–26. According to the '417 patent, "[a] continuing need exists for systems and methods adapted for use by transportation services to ensure rider and driver security." *Id.* at 1:59–61.

Figures 1A and 1B, shown below, illustrate two separate embodiments of the '417 patent. *Id.* at 2:38–43.



Figures 1A and 1B illustrate two embodiments of a vehicle identification system in accordance with the '417 patent. *Id.* Referring first to Figure 1A, vehicle identification system 10 includes controller 110, transceiver 120, and one or more displays associated with motor vehicle 20. *Id.* at 3:37–39. First display 130 is associated with a passenger side rear window 21 of motor vehicle 20, and second display 131 is associated with the front windshield of motor vehicle 20. *Id.* at 3:39–43. Vehicle identification system 10 can “generate one or more signals representing an indicator, which may be

displayable as a ‘code’ (e.g., a text string or an alphanumeric string), an icon, or other identifier, on” display 130 and on mobile communication device 140 associated with the user P to enable the user P to identify the vehicle that he or she has requested for a ride service. *Id.* at 4:4–13.

Figure 3, shown below, is a flowchart illustrating a method of identifying a vehicle in accordance with the ’417 patent. *Id.* at 2:47–49.

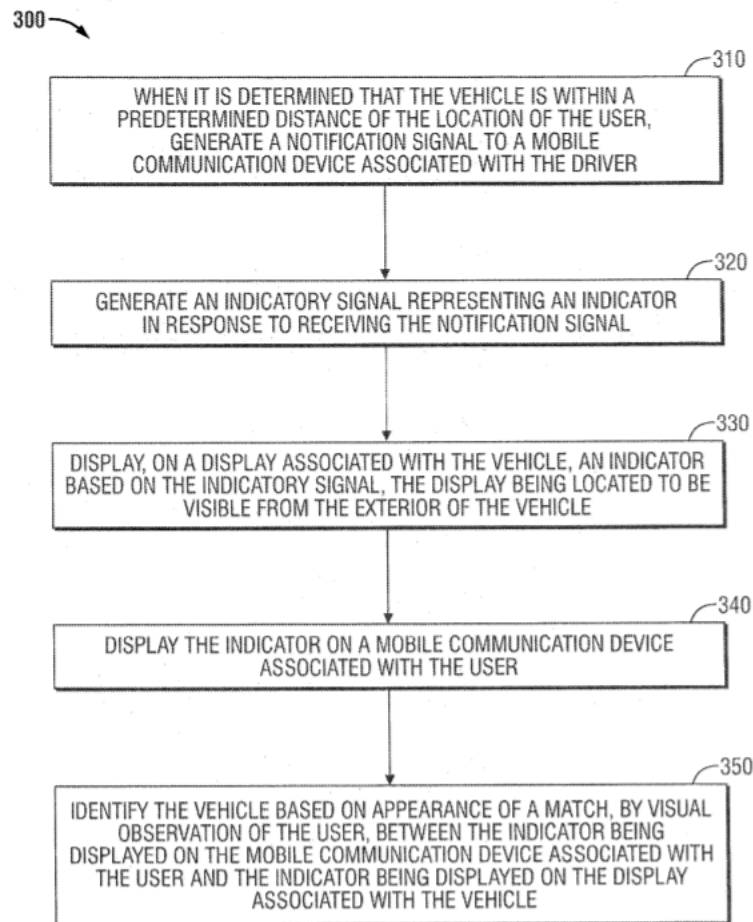


Figure 3 illustrates a method of identifying a vehicle being dispatched to a location of a user having requested a ride from a transportation service. Ex. 1001, 6:66–7:2. When it is determined that motor vehicle 20 is within a predetermined distance of the location of user P, notification signal 15 is generated to mobile communication device 150 associated with driver D. *Id.*

at Fig. 3 (block 310). Indicatory signal 17 representing indicator 111 is generated in response to receiving notification signal 15. *Id.* at Fig. 3 (block 320). Indicator 111 based on indicatory signal 17 is displayed on display 130 associated with motor vehicle 20. *Id.* at Fig. 3 (block 330). Display 130 is located to be visible on the exterior of motor vehicle 20. *Id.* at 7:12–13. Indicator 111 is also displayed on mobile communication device 140 associated with user P. *Id.* at Fig. 3 (block 340). Motor vehicle 20 is identified based on appearance of a match, by visual observation of user P, comparing the indicator being displayed on the mobile communication device associated with user P and the indicator being displayed on the display associated with motor vehicle 20. *Id.* at Fig. 3 (block 350). In the embodiment of Figure 1A, the mobile communication device associated with driver D generates the second signal representing an indicator that is transmitted to the mobile communication device associated with user P. *Id.* at 5:32–37. In the embodiment of Figure 1B, vehicle identification system 11 generates indicatory signal 14 transmitted to the mobile communication device associated with user P and notification signal 15 to be transmitted to the mobile communication device associated with driver D. *Id.* at 5:40–49. In this latter embodiment, the driver's mobile communication device does not communicate with the user's mobile communication device. *Id.* at 5:49–54.

D. The Challenged Claims

Petitioner challenges claims 1–5 of the '417 patent. Pet. 11. Claim 1 is the only independent claim. Claim 1 is illustrative of the challenged claims, and reads as follows:

1. A vehicle identification system for mobile communication device users, comprising:

a display associated with a vehicle, wherein the display is located to be visible from an exterior of the vehicle by mobile communication device users;

a controller communicatively coupled to a network and configured to, in response to receipt of a ride request signal from a mobile communication device of a user in a pickup area, generate and transmit a notification signal via the network to a mobile communication device associated with a driver of the vehicle, and in response to the mobile communication device associated with the driver of the vehicle receiving the notification signal an indicatory signal representing a visual indicator is generated and transmitted to the display and the mobile communication device of the user, wherein the visual indicator is not duplicated in the same pickup area.

Ex. 1001, 17:44–18:5.

E. Asserted Grounds of Unpatentability

Petitioner asserts that the challenged claims are unpatentable based on the following grounds:

Claim(s) Challenged	35 U.S.C. §¹	Reference(s)/Basis²
1–5	103	Kalanick, ³ Kemler ⁴
1–5	102	Lalancette ⁵
1–5	103	Lalancette

¹ The Leahy-Smith America Invents Act (“AIA”) included revisions to 35 U.S.C. §§ 102, 103 that became effective on March 16, 2013. Because the ’417 patent issued from an application having an effective filing date after March 16, 2013, we apply the AIA version of the statutory bases for unpatentability.

² For each of the asserted obviousness grounds, Petitioner also lists “the knowledge of” one of ordinary skill in the art. Pet. 11. Although we do not list such knowledge separately, we consider such knowledge as part of our obviousness analysis. *See Randall Mfg. v. Rea*, 733 F.3d 1355, 1362–63 (Fed. Cir. 2013).

³ US 2015/0332425 A1, published Nov. 19, 2015 (Ex. 1006, “Kalanick”).

⁴ US 9,494,938 B1, issued Nov. 15, 2016 (Ex. 1008, “Kemler”).

⁵ US 2012/0137256 A1, published May 31, 2012 (Ex. 1009, “Lalancette”).

Pet. 11, 28–63. Petitioner submits in support of its arguments the Declaration of David Hilliard Williams (Ex. 1003). Patent Owner submits in support of its arguments the Declaration of Dr. Matthew Valenti (Ex. 2001).

II. DISCRETIONARY DENIAL UNDER 35 U.S.C. § 314

Patent Owner argues that we should exercise our discretion and deny institution pursuant to 35 U.S.C. § 314(a) due to parallel district court litigation. Prelim. Resp. 12–20. Patent Owner brought the parallel litigation in the District of Delaware, asserting that Petitioner infringes the ’417 patent. *Id.* at 15.

Under Section 314(a), the Director has discretion to deny institution. *See* 35 U.S.C. § 314(a) (stating “[t]he Director *may not* authorize an inter partes review to be instituted unless the Director determines that 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”) (emphasis added); *cf. Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2140 (2016) (“[T]he agency’s decision to deny a petition is a matter committed to the Patent Office’s discretion.”).

In determining whether to exercise that discretion on behalf of the Director, we refer to the Board’s precedential decision in *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020) (precedential) (“*Fintiv*”), which sets forth the following six non-exclusive factors that we consider when determining whether a related, parallel district court action provides a basis for discretionary denial:

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. at 5–6. “[I]n 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.* at 6. We now apply these six factors to the facts and circumstances present here.

A. Factor 1: whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted

Under the first *Fintiv* factor, we consider “whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted.” *Id.* Petitioner previously filed a request to stay the parallel litigation that was denied without prejudice after the filing of the Petition. Ex. 2007 (Order from the district court in the parallel litigation granting Petitioner’s “request[], in the alternative, that the Court deny its motion with leave to renew if the PTAB institutes [IPRs]”) (second alteration in original). Petitioner asserts that it “intends to seek a stay of [the parallel litigation] pending the outcome of this proceeding.” Pet. 23.

Whether the district judge in the parallel litigation would grant a stay if one was requested after institution is speculative. This factor is neutral.

B. Factor 2: proximity of the court’s trial date to the Board’s projected statutory deadline for a final written decision

Under the second *Fintiv* factor, we consider the “proximity of the court’s trial date to the Board’s projected statutory deadline for a final written decision.” *Fintiv*, Paper 11 at 6. The scheduling order in the parallel

litigation currently sets trial for May 1, 2023, which is about a month after the projected statutory deadline for a final written decision in this proceeding. Ex. 2005, 12. Petitioner argues this factor favors institution. Pet. 24. Patent Owner argues that this factor is neutral. Prelim. Resp. 16–17. We agree with Petitioner that because the trial date and due date for the final written decision are in close proximity, this factor does not favor exercising our discretion to deny the Petition.

C. Factor 3: investment in the parallel proceeding by the court and the parties

Under the third *Fintiv* factor, we consider the “investment in the parallel proceeding by the court and the parties.” *Fintiv*, Paper 11 at 6. Patent Owner argues that in the parallel litigation “[t]here has been substantial investment already by the district court and the parties to this point.” Prelim. Resp. 17. Patent Owner points to (i) rulings by the magistrate judge and district court judge on the issue of patent eligibility under Section 101; (ii) denial of Petitioner’s motion to stay; (iii) briefing on claim construction scheduled for completion on February 18, 2022; (iv) a *Markman* Hearing scheduled for May 3, 2022; (v) a June 15, 2022 fact discovery cutoff; (vi) various meet-and-confers; (vii) production of documents and service of discovery requests; and (viii) participation by the parties in court-ordered mediation. *Id.* at 17–18.

Petitioner argues that the parallel litigation “is in early stages of discovery.” Pet. 24. Petitioner adds that “fact discovery, expert discovery, and dispositive motion deadlines are likely to occur after the expected time of the Board’s institution decision.” *Id.* (citing Ex. 1005).

We agree with Petitioner that although resources have been invested in the parallel litigation by the parties and the district court, the deadlines for

fact discovery, expert discovery, and dispositive motions have not yet passed. *See* Ex. 2005, 3–11. There is still a substantial amount of work to be completed by both the parties and the district court as to issues of unpatentability under Sections 102 and 103. Moreover, we do not give weight to the work done on the issue of patent eligibility under Section 101, as that issue cannot be raised in an *inter partes* review and therefore does not result in a duplication of work on that basis. Further, Petitioner has been reasonably diligent, filing the Petition on October 1, 2021, just over two months after receiving Patent Owner’s initial infringement contentions. Pet. 24. We therefore determine that this factor strongly favors not exercising our discretion to deny the Petition.

D. Factor 4: overlap between issues raised in the petition and in the parallel proceeding

Under the fourth *Fintiv* factor, we consider the “overlap between issues raised in the petition and in the parallel proceeding.” *Fintiv*, Paper 11 at 6. Patent Owner argues that this factor strongly favors discretionary denial. Prelim. Resp. 18. Patent Owner argues that “[a]ll of the invalidity arguments raised in this Petition are repeated in the [parallel] litigation.” *Id.* Petitioner, on the other hand, argues that it “intends to raise different and additional invalidity arguments in the district court action.” Pet. 24. In particular, Petitioner argues that in addition to prior art defenses, it “has raised invalidity arguments under 35 U.S.C. §§ 101 and 112.” *Id.*

We determine that there is at least some potential for issues presented here to overlap with issues in the parallel litigation. Although Petitioner has signaled its intention not to raise the same arguments there as in this proceeding, Petitioner has not provided a stipulation. *See* Prelim. Resp. 19.

This factor weighs at least moderately in favor of exercising our discretion to deny the Petition.

E. Factor 5: whether the petitioner and the defendant in the parallel proceeding are the same party

Under the fifth *Fintiv* factor, we consider “whether the petitioner and the defendant in the parallel proceeding are the same party.” *Fintiv*, Paper 11 at 6. Here, Petitioner is the defendant in the district court proceeding. Pet. 25; Prelim. Resp. 20. However, because the projected statutory deadline for a final written decision in this proceeding precedes the date currently set for trial in the parallel litigation, we are likely to address the challenged claims before the district court in the parallel litigation. This factor, therefore, favors not exercising our discretion to deny institution due to the estoppel provision of 35 U.S.C. § 315(e)(2). *See Google LLC, et al. v. Parus Holdings, Inc.*, IPR2020-00846, Paper 9 at 20–21 (PTAB Oct. 21, 2020) (explaining that a petitioner being a defendant in a parallel proceeding “could weigh either in favor of, or against, exercising discretion to deny institution, depending on which tribunal was likely to address the challenged patent first”).

F. Factor 6: other circumstances that impact the Board’s exercise of discretion, including the merits

Under the sixth *Fintiv* factor, we consider “other circumstances that impact the Board’s exercise of discretion, including the merits.” *Fintiv*, Paper 11 at 6. As discussed below, we have reviewed Petitioner’s unpatentability arguments and Patent Owner’s preliminary responses, and based on the record before us, we disagree with Patent Owner that the merits are weak. Rather, at this stage of the proceeding, we find that Petitioner has shown at least a reasonable likelihood of success on the merits, and, further,

Petitioner’s showing is sufficiently strong so as to weigh against exercising discretion to deny under factor 6. *See Fintiv*, Paper 11 at 14–15 (noting that the merits favor institution under factor 6 “if the merits of a ground raised in the petition seem particularly strong”). For example, as we discuss below, we find that the asserted references teach all of the limitations that Patent Owner disputes are taught, on the record at this stage of the proceeding. *See infra* Sections VII(C)(5), VIII(B). We also find unavailing Patent Owner’s arguments concerning the construction of the term “generated.” *See infra* Section V(C). Accordingly, we determine that this factor weighs against discretionary denial.

G. Balancing of Factors

Because the analysis is fact-driven, no single factor is determinative of whether we exercise our discretion and deny institution under 35 U.S.C. § 314(a). On this record, based on a holistic review of the *Fintiv* factors, we conclude that the factors disfavoring denial outweigh those in favor. We therefore decline to exercise our discretion under 35 U.S.C. § 314(a) to deny institution of an *inter partes* review.

III. DISCRETIONARY DENIAL UNDER 35 U.S.C. § 325(d)

The parties present arguments about exercising discretion under 35 U.S.C. § 325(d). Pet. 25–28; Prelim. Resp. 20–23. For the reasons discussed below, we decline to exercise our discretion to deny institution of *inter partes* review under 35 U.S.C. § 325(d).

A. Legal Framework of 35 U.S.C. § 325(d)

The Director has discretion to institute an *inter partes* review, and has delegated that discretion to the Board. *See* 35 U.S.C. § 314(a); *see also* 37 C.F.R. § 42.4(a). Under § 325(d), in determining whether to institute an *inter partes* review, we “may take into account whether, and reject the

petition . . . because, the same or substantially the same prior art or arguments previously were presented to the Office.” 35 U.S.C. § 325(d).

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 at 8 (PTAB Feb. 13, 2020) (precedential) (addressing in a two part framework the factors presented in *Becton, Dickinson & Co. v. B. Braun Melsungen AG*, IPR2017-01586, Paper 8 at 17–18 (PTAB Dec. 15, 2017) (precedential as to § III(C)(5), first paragraph)).

B. Analysis

As to the first part of the framework, the parties agree that Lalancette was identified on an Information Disclosure Statement (“IDS”) submitted by Patent Owner to the Office during prosecution of the ’417 patent. *See* Prelim. Resp. 20 (citing Ex. 1002, 52–54); Pet. 26. Hence, Lalancette—which is the sole reference for two of the three asserted grounds—was previously presented to the Office. *Advanced Bionics*, Paper 6 at 7–8 (“Previously presented art includes art made of record by the Examiner, and art provided to the Office by an applicant, such as on an [IDS], in the prosecution history of the challenged patent.”).

As to third ground (i.e., Kalanick combined with Kemler), the parties do not dispute that Kemler was not presented previously to the Office.

Pet. 26; Prelim. Resp. 20–23. Nor does Patent Owner argue that Kemler is cumulative of art that was presented previously the Office.⁶ *See* Prelim. Resp. 20–23. Moreover, Patent Owner’s arguments concerning Berquist are directed to Kalanick and Lalancette, and not to whether Kemler is cumulative of Berquist. *See* Prelim. Resp. 21. Accordingly, Kemler was not presented previously to the Office, and the Examiner did not consider the combination of Kalanick and Kemler.

In sum, two of the three asserted grounds constitute art (i.e., Lalancette) that previously was presented to the Office. Although not all the asserted art is the same or substantially the same, there is still sufficient overlap here to materially implicate § 325(d) concerns. We now thus turn to the second part of the framework for these two grounds, and evaluate whether Petitioner demonstrates that the Office erred with respect to Lalancette in a manner material to the patentability of the challenged claims. *Advanced Bionics*, Paper 6 at 8, 10. In particular, we look to *Becton, Dickinson* “factors (c), (e), and (f)[, which] relate to whether the petitioner has demonstrated a material error by the Office.” *Id.* at 10.

Becton, Dickinson factor (c) considers “the extent to which the asserted art was evaluated during examination, including whether the prior art was the basis for rejection.” *Becton, Dickinson*, Paper 8 at 17. For example, whether a reference was the basis for a rejection is probative of whether the Examiner misapprehended or overlooked a specific teaching contained in the reference. Here, Lalancette was not used, alone or in combination with other references, as a basis for a rejection during

⁶ Patent Owner does not argue that the same or substantially the same arguments were presented to the Office previously. Prelim. Resp. 19–21.

prosecution of the '417 patent. Pet. 21; *see generally* Ex. 1002 (File History of the '417 patent). In fact, Lalancette was not discussed by Patent Owner or the Examiner during the prosecution of the '417 patent. *See generally* Ex. 1002. Thus, we agree with Petitioner that this factor weighs against exercising our discretion to deny institution. *See* Pet. 27.

Becton, Dickinson factor (e) considers “whether Petitioner has pointed out sufficiently how the Examiner erred in its evaluation of the asserted prior art.” *Becton, Dickinson*, Paper 8 at 18. As we discuss below, Petitioner analyzes the challenged claims of the '417 patent in view of Lalancette, and shows that Lalancette teaches claim 1’s limitations, including a display, controller, and notification and indicatory signals. Petitioner’s analysis shows error by the Examiner in overlooking Lalancette’s teachings material to patentability of the challenged claims. Thus, this factor weighs against exercising our discretion to deny institution.

Becton, Dickinson factor (f) asks whether new evidence that was not before the Examiner justifies the Office reconsidering the patentability of the claims. *Becton, Dickinson*, Paper 8 at 18. Petitioner argues that it presents new testimonial evidence in the form of the declaration of Mr. Williams “that attests to the scope and content of *Kalanick* and *Lalancette* rendering obvious the claims of the '417 patent.” Pet. 28 (citing Ex. 1003). Under the circumstances present here, we find that this factor weighs against exercising our discretion to deny institution.

Having considered the parties’ arguments and the evidence of record, we find that Petitioner sufficiently identifies how the Office materially erred. In particular, we conclude that Petitioner shows error by the Examiner in not appreciating that Lalancette discloses the limitations recited in the claims.

Accordingly, we decline to exercise discretion to deny institution under 35 U.S.C. § 325(d).

IV. LEVEL OF ORDINARY SKILL IN THE ART

To determine whether an invention would have been obvious at the time it was made, we consider the level of ordinary skill in the pertinent art at the time of the invention. *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966). 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) (citing *Custom Accessories, Inc. v. Jeffrey-Allan Indus., Inc.*, 807 F.2d 955, 962–63 (Fed. Cir. 1986)). “[O]ne or more factors may predominate.” *Id.*

Petitioner argues that one of ordinary skill in the art “would have had at least a bachelor’s degree in electrical or computer engineering, or a similar field with at least two years of experience in the field of vehicle location and tracking systems or related technologies.” Pet. 16. Petitioner adds that “[a] person with less education but more relevant practical experience may also meet this standard.” *Id.* (citing Ex. 1003 ¶ 47).

Patent Owner argues that one of ordinary skill in the art would have had:

- i) at least a bachelor’s degree in electrical or computer engineering, or a similar field;
- ii) at least two years of experience in wireless cellular network protocols, including location and positioning, and having an understanding of signal timing and reliability issues in such wireless cellular network protocols; and
- iii) knowledge of issues with respect to data privacy and database storage systems. Regarding data privacy, the [person of ordinary

skill] need not have extensive knowledge in, e.g. data encryption methodologies, but would have experience with data privacy policies and protection models.

Prelim. Resp. 5.

The parties' dispute regarding the level of ordinary skill in the art does not substantively impact our analysis for purposes of institution. Rather, we find in applying either parties' definition for what comprises the level of ordinary skill in the art that Petitioner shows that there is a reasonable likelihood that it would prevail in proving the unpatentability of the challenged claims.

At this stage of the proceeding, however, we adopt Petitioner's more general formulation, with the following qualification. We expect that a person of ordinary skill in the art also would have had at least some experience in wireless cellular network protocols, as suggested by Patent Owner. We also note that from our review of the '417 patent and the cited prior art, Patent Owner requiring specific experience with data privacy policies and protection models does not seem warranted, given the focus of the '417 patent on more general principles of cellular communications and signal transmission.

During trial, and in accordance with our Rules, the parties should address what substantive effect, if any, different proposed definitions for the level of ordinary skill in the art have on analyzing what the prior art teaches or in evaluating unpatentability of the challenged claims.

V. CLAIM CONSTRUCTION

Because the Petition was filed after November 13, 2018, we apply the same claim construction standard that would be used in a civil action under 35 U.S.C. § 282(b), following the standard articulated in *Phillips v. AWH*

Corp., 415 F.3d 1303 (Fed. Cir. 2005) (en banc). 37 C.F.R. § 42.100(b); 83 Fed. Reg. 51,340, 51,340–41, 51,343 (Oct. 11, 2018). In applying such standard, claim terms are generally given their ordinary and customary meaning, as would be understood by a person of ordinary skill in the art, at the time of the invention and in the context of the entire patent disclosure. *Phillips*, 415 F.3d at 1312–13. “In determining the meaning of the disputed claim limitation, we look principally to the intrinsic evidence of record, examining the claim language itself, the written description, and the prosecution history, if in evidence.” *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 469 F.3d 1005, 1014 (Fed. Cir. 2006) (citing *Phillips*, 415 F.3d at 1312–17).

Patent Owner identifies two terms for construction: (i) “indicatory signal” and (ii) “indicator.” *See* Prelim. Resp. 6–10. In addition, certain of Patent Owner’s arguments as to what the prior art fails to teach implicate the construction of the term “generated.” *See* Prelim. Resp. 34–37. We address each of these three terms below.

A. Indicatory Signal

Patent Owner proposes that we construe “indicatory signal” to mean “a signal that represents an indicator to be displayed (but that is not necessarily the indicator itself).” Prelim. Resp. 9 (citing Ex. 1001, Fig. 3 (Block 320)). Petitioner argues that this term should have its ordinary and customary meaning. *See* Pet. 16–17.

At this stage of the proceeding, we agree with Petitioner that this term should be afforded its plain and ordinary meaning. Simply put, Patent Owner’s proposed construction is unhelpful in explaining the meaning of this term. Patent Owner’s proposed construction begins by rewording “indicatory signal” to “a signal,” which simply changes “indicatory” to “a”

without providing any additional meaning. Patent Owner then adds “that represents an indicator” to its proposed construction, but similar language (i.e., “representing a visual indicator”) already appears in the claim language directly following “indicatory signal,” and would be redundant. Patent Owner then adds “to be displayed” to its proposed construction; however, the claims do not recite the actual display of the visual indicator, and a purported intended use for the visual indicator does not add clarity to the meaning of this term which concerns a signal. Lastly, Patent Owner adds “(but that is not necessarily the indicator itself)” to its proposed construction, but this language is (i) redundant because the claim recites that the indicatory signal “represent[s] an indicator,” rather than being the indicator, and (ii) permissive (i.e., “is not necessarily”), which does not serve to limit the claims.

B. Indicator

Patent Owner proposes that we construe “indicator” to mean “any code (e.g., text, alphanumeric, icon, or other symbol), color, etc., or combination thereof, which displays and enables a match between user/rider and driver that preferably is not duplicated in the same pickup location.” Prelim. Resp. 10. In support of its proposed construction, Patent Owner argues that the Specification of the ’417 patent describes “an indicator” as “any code (e.g., text, alphanumeric, icon, or other symbol), color, etc., or combination thereof, which displays and indicates a match between user/passenger and driver.” *Id.* (citing Ex. 1001, 4:8–10, 5:3–5, 5:59–67). Patent Owner adds that the Specification further teaches that “[p]referably, the code would not be duplicated in the same pickup location.” *Id.* (citing Ex. 1001, 6:5–6) (alteration in original).

Petitioner does not provide a proposed construction for this term, and instead submits that it should have its ordinary and customary meaning. *See* Pet. 16–17.

At this stage of the proceeding, and consistent with the '417 patent's Specification, we construe the term “indicator” to mean “a code (e.g., a text string or an alphanumeric string), an icon, or other identifier, for display to enable a match between a user/rider and a driver.” We do not include as part of our construction Patent Owner's proposed language concerning that the indicator “preferably is not duplicated in the same pickup location.” Claim 1 already recites “wherein the visual indicator is not duplicated in the same pickup area.” Ex. 1001, 8:11–13. Thus, Patent Owner's proposed “preferably” phrase, which is permissive, would contradict the requirement that “the visual indicator is not duplicated.”

C. Generated

Based on Patent Owner's arguments regarding what the prior art fails to teach, the term “generated” in the phrase “an indicatory signal representing a visual indicator is generated” requires construction. *See* Ex. 1001, 8:9–10; Prelim. Resp. 34–37. Patent Owner argues, for example, that “the claims require that a new signal be actively formulated each time a ride is dispatched.” Prelim. Resp. 35 (citing Ex. 1001, 3:8–17, 4:7–13). In making this argument, Patent Owner equates the claim term “generated” with “actively formulated,” which does not appear in the '417 patent or its file history, but rather is coined by Patent Owner.

In addition, Patent Owner argues that Kalanick, for example, “does not ‘generate[]’ an indicatory signal” because Kalanick “relies upon a user's predetermined configuration preferences which are then stored in the user's profile.” *Id.* (citing Ex. 1006 ¶ 30). This argument, however, conflates a

“signal” and an “indicator.” Claim 1 recites that a signal representing an indicator is generated, rather than an indicator is generated. Ex. 1001, 8:9–10. And the Specification of the ’417 patent is replete with examples where an indicatory signal that represents an indicator is generated for transmission, which is different than where the indicator itself is generated. *See, e.g.*, Ex. 1001, 2:1–5, 5:4–7, 6:30–37, 6:62–65.

Lastly, because the Specification and file history do not explicitly provide a definition for the term “generated,” we look to a dictionary definition to illustrate its plain meaning for the parties. The Federal Circuit has approved the use of dictionaries for guidance in claim construction, “so long as the extrinsic evidence does not contradict the meaning otherwise apparent from the intrinsic record.” *Helmsderfer v. Bobrick Washroom Equip., Inc.*, 527 F.3d 1379, 1382 (Fed. Cir. 2008); *see also Comaper Corp. v. Antec, Inc.*, 596 F.3d 1343, 1348 (Fed. Cir. 2010) (approving of “consult[ing] a general dictionary definition of [a] word for guidance” in determining ordinary meaning); *Praxair, Inc. v. ATMI, Inc.*, 543 F.3d 1306, 1325 (Fed. Cir. 2008) (“[O]ur decisions, including *Phillips*, do not preclude the use of general dictionary definitions as an aid to claim construction.”) (citation omitted).

A dictionary definition of “generate” is “to bring into existence: such as: . . . to originate by a vital, chemical, or physical process: [produce].” Merriam-webster.com (accessed April 8, 2022), <https://www.merriam-webster.com/dictionary/generate> (Ex. 3001). We therefore construe the term “generated” in reference to a signal in accordance with its plain and ordinary meaning, which is that the signal is originated or produced.

VI. PRINCIPLES OF LAW

A claim is unpatentable under 35 U.S.C. § 102 “if each and every [claim] limitation is found either expressly or inherently in a single prior art reference.” *Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 851 F.3d 1270, 1273 (Fed. Cir. 2017). “A claim limitation is inherent in the prior art if it is necessarily present in the prior art, not merely probably or possibly present.” *Akamai Techs., Inc. v. Cable & Wireless Internet Servs., Inc.*, 344 F.3d 1186, 1192 (Fed. Cir. 2003) (citing *Rosco, Inc. v. Mirror Lite, Co.*, 304 F.3d 1373, 1380 (Fed. Cir. 2002)).

A 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 of the invention to a person having ordinary skill in the art. *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) objective evidence of non-obviousness, if present.⁷ See *Graham*, 383 U.S. at 17–18. When evaluating a claim for obviousness, we also must “determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” *KSR*, 550 U.S. at 418 (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

⁷ Patent Owner does not present arguments or evidence of such objective evidence of non-obviousness. See generally Prelim. Resp.

VII. ALLEGED OBVIOUSNESS OVER KALANICK AND KEMLER

Petitioner argues that the combination of Kalanick and Kemler renders claims 1–5 of the ’417 patent obvious. Pet. 11, 28–47. For the reasons that follow, we determine that Petitioner establishes a reasonable likelihood that it would prevail in showing that the combination of Kalanick and Kemler renders these claims obvious.

A. Summary of Kalanick

Kalanick discloses a system for arranging an on-demand service to be provided by a transport service provider to a requesting user. Ex. 1006 ¶ 2. Kalanick describes a dynamically configured and personalized display that is positioned on or fastened to a vehicle. *Id.* ¶ 10. The display is easily visible to a user outside of the vehicle and informs the user which vehicle has been assigned to the user for the on-demand service. *Id.*

The on-demand service system can arrange a transport service for a user by receiving a request for transport from the user’s device, selecting a driver from a plurality of available drivers to perform the transport service for that user, sending an invitation to the selected driver’s device, and receiving an acceptance of the invitation by the selected driver. *Id.* ¶ 11. The on-demand service system described by Kalanick can associate an identifier of the user and an identifier of the driver with an entry for that transport service. *Id.* Once the on-demand service system arranges the transport service for the user and the driver, the transport personalization system can access a user database to determine whether that user has specified an output configuration for an indication device (e.g., determine whether the user has personalized at least one aspect of the transport service). *Id.*

This operation is illustrated in Figure 1 of Kalanick, shown below.

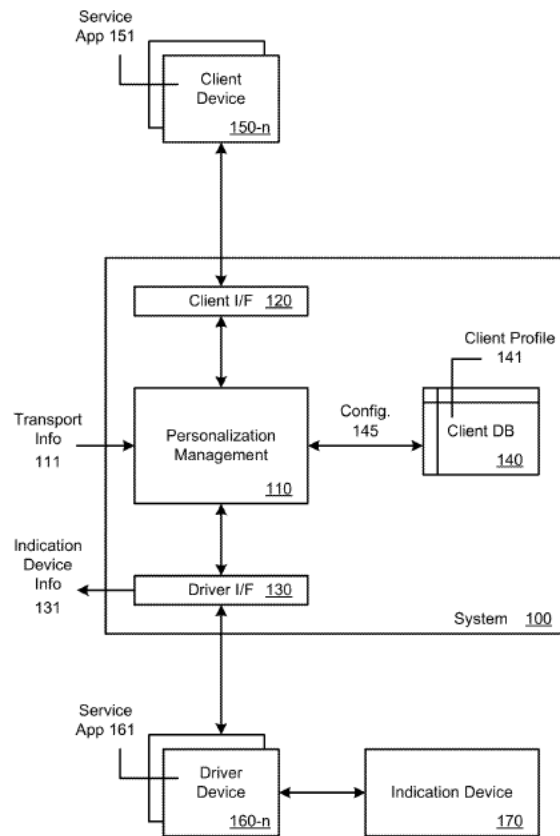


FIG. 1

Figure 1 of Kalanick illustrates a system to provide configuration information for controlling an indication device for use with an on-demand service. *Id.* ¶ 3. System 100 can communicate, over one or more networks via a network interface (e.g., wirelessly or using a wire), with client devices 150 (e.g., mobile computing devices operated by clients or users/riders) and driver devices 160 (e.g., mobile computing devices operated by drivers) using client device interface 120 and driver device interface 130, respectively. *Id.* ¶ 25. System 100 can receive transport information 111 about the transport service from the on-demand service system and

determine whether to transmit user-specified configuration data to the driver device of the driver selected to provide the transport service. *Id.* ¶ 26.

Client database 140 stores a plurality of client profiles 141 for each user that has an account with the on-demand service system. *Id.* ¶ 29. A client profile 141 can include a user identifier. *Id.* When personalization management 110 receives transport information 111, the personalization management can use the user ID to access client database 140. *Id.*

Personalization management 110 can perform a lookup of a client profile 141 (e.g., using the user's ID or user's device ID) and determine if the user has specified an output configuration for an indication device. *Id.* ¶ 30. If the user has specified the output configuration, the personalization management 110 can determine and/or retrieve configuration data 145 corresponding to the specified configuration for that user. *Id.* If the user does not provide indication preferences, however, the personalization management 110 can store or maintain default indication preferences in the user's profile 141. *Id.* The personalization management 110 can transmit the user's configuration data 145 corresponding to the user's indication preferences (or default configuration data if the user has not specified indication preferences) to the driver device. *Id.* ¶ 31.

In one example, the on-demand service system can use location information from driver's device 160 and/or transport information 111 to automatically determine the driver's state, and based on the state of the transport service or the driver, system 100 and/or the service application 161 can control the operation of the indication device 170. *Id.* ¶¶ 35–36.

The state of the transport service can correspond to the driver “arriving now.” *Id.* ¶ 37. When the service application 161 determines that the transport service is to change states from “en route” to “arriving now,”

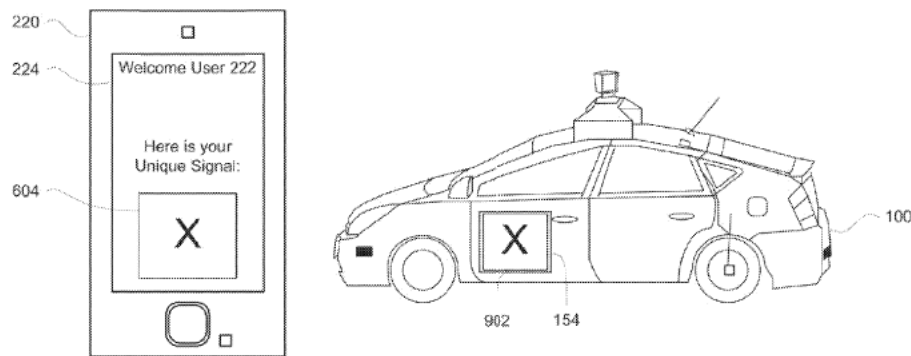
the service application can trigger or control the indication device to output the user's specified color, e.g., blue, (and/or other preferred output content, patterns, or sequences) so that the user can see which vehicle is approaching and will provide the service for the user. *Id.* The service application can also control the indication device to output the user's specified display/output preferences in a specific configuration that is based on the transport state. *Id.*

B. Summary of Kemler

Kemler discloses providing a user with a way to identify or verify a vehicle dispatched to pick up the user. Ex. 1008, 3:38–40. Once the vehicle is within a certain distance of the user, the vehicle may signal to the user in order to identify the vehicle to the user and avoid confusion. *Id.* at 3:43–45. This signaling could include a display or audio including a unique string of text. *Id.* at 3:45–47.

Kemler describes the dispatched vehicle as having an external electronic display mounted on the vehicle and an internal electronic display. *Id.* at 5:22–24. Kemler explains that as the dispatched vehicle approaches the user's client device, a unique signal may be displayed on the vehicle's external display and the user's client device so the user can identify the vehicle without compromising the user's privacy. *Id.* at 4:1–19.

Figure 9, shown below, illustrates this operation.



900
FIGURE 9

Figure 9 is a diagram 900 of a client computing device and a computing device of a vehicle displaying unique signal “X” around the same time. Ex. 1008, 12:45–47. By comparing unique signal 604 of display 224 to unique signal 902 of external electronic display 154, a user may recognize that vehicle 100 was dispatched for that user. *Id.* at 12:47–51. If the signals are the same, the user can easily identify the vehicle, and if not, the user may continue to look for the vehicle dispatched for that user. *Id.* at 12:51–53.

C. Challenged Claim 1

1. A Vehicle Identification System (Preamble)

Petitioner argues that Kalanick teaches “[a] vehicle identification system for mobile communication device users,” as recited in the preamble of claim 1. Pet. 34–35. More specifically, Petitioner argues that Kalanick teaches a “system that can automatically configure an indication device (or a display device) for use with an on-demand service.” *Id.* at 34 (quoting Ex. 1006 ¶ 10). According to Petitioner, the “indication device is a device that is capable of providing illumination, displaying content, and/or outputting audio, and that can be positioned or fastened, for example, on or

within a vehicle operated by a service provider (e.g., a transport service provider, a delivery provider, etc.).” *Id.* Petitioner explains that “*Kalanick* further discloses that the ‘system 100 can provide the user with a personalized on-demand service experience.’” *Id.* (quoting Ex. 1006 ¶ 39). Petitioner adds that, for example, “when the user is at a crowded street corner or area (e.g., an airport) and waiting for the vehicle, the personalized experience can indicate to the user which vehicle is the user’s vehicle for purposes of the transport service.” *Id.*

After reviewing Petitioner’s arguments and evidence, which are not addressed by Patent Owner at this stage of the proceeding, we are persuaded that Petitioner demonstrates, for purposes of this institution decision, that *Kalanick* teaches “[a] vehicle identification system for mobile communication device users.” In light of our finding, we need not, and thus do not, reach whether claim 1’s preamble is limiting.

2. *Display Associated with a Vehicle*

Petitioner argues that *Kalanick* teaches “a display associated with a vehicle, wherein the display is located to be visible from an exterior of the vehicle by mobile communication device users,” as recited in claim 1. Pet. 35–36. More specifically, Petitioner argues that *Kalanick* teaches “an indication device . . . that is capable of providing illumination, displaying content, and/or outputting audio, and that can be positioned or fastened . . . on or within a vehicle operated by a service provider (e.g., a transport service provider, a delivery provider, etc.).” *Id.* at 35 (quoting Ex. 1006 ¶ 10). Petitioner argues that *Kalanick* teaches that “[s]uch an indication device can be positioned to be easily visible to a user.” *Id.* According to Petitioner, *Kalanick* teaches that “[t]he indication device can also include one or more fastening mechanisms to enable the illumination device to

adhere to a surface[,] . . . [s]uch a surface can be an interior surface of a window of a vehicle or a windshield.” *Id.* (quoting Ex. 1006 ¶ 16).

After reviewing Petitioner’s arguments and evidence, which are not addressed by Patent Owner at this stage of the proceeding, we are persuaded that Petitioner demonstrates, for purposes of this institution decision, that Kalanick teaches “a display associated with a vehicle, wherein the display is located to be visible from an exterior of the vehicle by mobile communication device users.”

3. *A Controller Communicatively Coupled*

Petitioner argues that Kalanick teaches “a controller communicatively coupled to a network,” as recited in claim 1. Pet. 36–37. More specifically, Petitioner argues that Kalanick teaches that its “system 100 can be a part of or communicate with an on-demand service system and/or can include other components or databases, such as a configuration database.” *Id.* (quoting Ex. 1006 ¶ 23). Petitioner argues that Kalanick’s “system 100 can communicate, over one or more networks via a network interface (e.g., wirelessly or using a wire), with the client devices 150 (e.g., mobile computing devices operated by clients or users/customers) and the driver devices 160 (e.g., mobile computing devices operated by drivers).” *Id.* (quoting Ex. 1006 ¶ 25); *see also id.* at 37 (providing Ex. 1006, Fig. 1 (illustrating system to provide configuration information for controlling an indication device for use with an on-demand service)).

According to Petitioner, one of ordinary skill in the art “would recognize *Kalanick’s* system 100 to be a ‘controller’ (i.e., a ‘computing device . . . capable of executing a series of instructions’).” *Id.* at 37 (citing Ex. 1003 ¶ 146). Petitioner adds that one of ordinary skill in the art “would further recognize that because *Kalanick’s* ‘system 100 can communicate,

over one or more networks via a network interface (e.g., wirelessly or using a wire), with the client devices . . . and the driver devices,’ the system 100 (i.e., ‘controller’) is ‘communicatively coupled’ to the network.” *Id.*

After reviewing Petitioner’s arguments and evidence, which are not addressed by Patent Owner at this stage of the proceeding, we are persuaded that Petitioner demonstrates, for purposes of this institution decision, that Kalanick teaches “a controller communicatively coupled to a network.”

4. *Configured to Generate and Transmit a Notification Signal*

Petitioner argues that Kalanick teaches a controller that also is “configured to, in response to receipt of a ride request signal from a mobile communication device of a user in a pickup area, generate and transmit a notification signal via the network to a mobile communication device associated with a driver of the vehicle,” as recited in claim 1. Pet. 37–38. More specifically, Petitioner argues that Kalanick teaches that its “on-demand service system can arrange a transport service for a user by receiving a request for transport from the user’s device.” *Id.* at 38 (quoting Ex. 1006 ¶ 11). Petitioner argues that “*Kalanick’s* ‘controller’ (i.e., its ‘system 100’) ‘can communicate, over one or more networks via a network interface[, i.e., transceiver] (e.g., wirelessly or using a wire), with . . . the driver devices 160 (e.g., mobile computing devices operated by drivers) using . . . a driver device interface 130.’” *Id.* (citing Ex. 1006 ¶ 25).

After reviewing Petitioner’s arguments and evidence, which are not addressed by Patent Owner at this stage of the proceeding, we are persuaded that Petitioner demonstrates, for purposes of this institution decision, that Kalanick teaches this limitation.

5. *Indicatory Signal is Generated and Transmitted*

Petitioner argues that the combination of Kalanick and Kemler teaches “and in response to the mobile communication device associated with the driver of the vehicle receiving the notification signal an indicatory signal representing a visual indicator is generated and transmitted to the display and the mobile communication device of the user,” as recited in claim 1. Pet. 38–42. First, Petitioner argues that the combination of Kalanick and Kemler teaches that an indicatory signal representing a visual indicator is generated and transmitted to the display. *Id.* at 40–41. More specifically, Petitioner argues that Kalanick teaches that “[t]he indication device can communicate with the driver’s device using a communication interface (e.g., wireless and/or a wire/cable) . . . [to] receive data from the driver’s device in order to control the one or more light sources.” *Id.* at 40 (alterations in original) (quoting Ex. 1006 ¶ 16); *see also id.* (citing Ex. 1006 ¶ 37) (making similar argument). According to Petitioner, Kalanick explains that “control data [] can be provided by the driver device in order to control the illumination and/or display of the indication device” based on the user’s specified output configuration information, and that “[f]or example, the control data [] can cause the controller [] to illuminate the light source(s) [] in a particular color, in a particular pattern, and/or operate the light source(s) in different states.” *Id.* at 40 (first and third to fifth alterations in original) (quoting Ex. 1006 ¶ 90; citing *id.* ¶ 36, claim 5).

In addition, Petitioner argues that Kemler also teaches “an identifier in the form of a signal that is displayed on the display.” *Id.* at 41 (citing Ex. 1008, 3:60–63); *see also* Ex. 1008, 1:60–63 (“The signal may include a unique, distinct, and/or easily distinguishable string of text or image rather than the user’s name, destination, etc.”). According to Petitioner, “[i]n the

combination with *Kemler*, the driver device of *Kalanick* would cause the display device to present the unique indicator signal that had been generated by the system controller so that the rider could identify the vehicle at the beginning of the ride.” Pet. 40 (citing Ex. 1003 ¶ 154).

Second, Petitioner argues that the combination of *Kalanick* and *Kemler* teaches that an indicatory signal representing a visual indicator is generated and transmitted to the mobile communication device of the user. *Id.* at 40–42. More specifically, Petitioner argues that *Kalanick*’s Figures 4A and 4B illustrate “example user interfaces depicting a service application on a computing device, which can be provided using, e.g., components described with the on-demand service.” *Id.* at 40 (citing Ex. 1006 ¶ 75, Figs. 4A–4B (depicting user interface 400, 420)). According to Petitioner, *Kalanick* teaches that “[t]he user interface[s] 400[and] 420 can each correspond to a user interface that is displayed on a mobile computing device of a client device as part of a designated service application.” *Id.* at 40–41 (citing Ex. 1006 ¶¶ 75–76).

As to *Kemler*, Petitioner argues that *Kemler* teaches that “[f]or confirmation, the [identifier] signal may also be provided to the user’s client device.” *Id.* at 41 (first alteration in original) (quoting Ex. 1008, 4:12–13). More specifically, *Kemler* teaches that “the centralized dispatching system may send the signal when the vehicle is dispatched” so that “the user also receives information which may be used to identify the vehicle to the user without compromising the user’s privacy,” according to Petitioner. *Id.* (quoting Ex. 1008, 4:12–19, Fig. 6). Petitioner adds that *Kemler*’s Figure 9 illustrates “a client computing device and a computing device of a vehicle displaying a unique signal at the same, or nearly the same time.” *Id.* at 42 (quoting Ex. 1008, 12:45–53; citing *id.* at Fig. 9).

According to Petitioner, one of ordinary skill in the art would have found it obvious to modify Kalanick's vehicle identification system with Kemler's teachings "to send and display the indicatory signal to the user's mobile device as well as the display." *Id.* (citing Ex. 1003 ¶ 157). Petitioner argues that one of ordinary skill in the art "may be motivated to do so to assist the rider with ensuring it has located the correct vehicle." *Id.* Moreover, one of ordinary skill in the art would have been "motivated to implement *Kemler's* indicator selection system, which provides for automatic selection of the indicator, in *Kalanick* because it would eliminate instances where riders within a similar area select the same or similar indicators, or are provided the same default indicator, making them less unique," according to Petitioner. *Id.* at 32 (citing Ex. 1003 ¶ 131). Petitioner adds that Kemler "teaches the benefits of using rules to 'require that the signal actually be unique.'" *Id.* at 32–33 (citing Ex. 1008, 8:54–57).

In addition, Petitioner argues that "[b]oth *Kalanick* and *Kemler* address similar problems related to vehicle identification." Pet. 29 (citing Ex. 1003 ¶ 120). According to Petitioner, "[b]oth teach similar solutions involving generating transmitting, and displaying unique, easily distinguishable visual indicators on multiple displays such that users can visually match the unique indicators to efficiently identify their assigned vehicle." *Id.* More specifically, Petitioner argues that Kalanick teaches "an on-demand service system that can arrange a transport service for a user by receiving a request for transport from the user's device and selecting a driver from a plurality of available drivers to perform the transport service for that user." *Id.* (citing Ex. 1006 ¶ 12). As to Kemler, Petitioner argues that Kemler teaches "a centralized dispatching system for dispatching driverless vehicles." *Id.* at 30 (citing Ex. 1008, code (57)).

In addition, Petitioner argues that one of ordinary skill in the art would have had a reasonable expectation of success in combining the relevant teachings of Kalanick and Kemler “as this would require nothing more than modifying the software of *Kalanick*’s system to permit the central controller to create and assign unique indicators, using the technique taught in *Kemler*.” *Id.* at 33 (citing Ex. 1003 ¶ 132); *see also* Ex. 1003 ¶¶ 133–134 (opining that combining Kalanick with Kemler “is nothing more than combining known display technologies and visual identification techniques described in these references to perform their intended functions with described benefits and predictable results”).

At this stage of the proceeding, and based on the current record, we agree with Petitioner and find that the combination of Kalanick and Kemler teaches an indicatory signal representing a visual indicator (i.e., Kalanick’s signal containing the user’s output configuration information or Kemler’s unique signal) is generated and transmitted to the display and the user’s mobile communication device. *See* Ex. 1006 ¶¶ 16, 36–37, 75–76, 90, Figs. 4A–4B, claim 5; Ex. 1008, 1:60–63, 3:60–63, 4:12–19, 12:45–53, Figs. 6, 9. We also find, at this stage of the proceeding, that Petitioner has provided sufficiently articulated reasoning with rational underpinning (e.g., assisting the rider with ensuring it has located the correct vehicle, and eliminating riders having the same or similar indicators) to support Petitioner’s modifying Kalanick with Kemler’s teachings. *See Kahn*, 441 F.3d at 988 (citations omitted), *cited with approval in KSR*, 550 U.S. at 418.

Moreover, we are persuaded at this stage of the proceeding by Petitioner’s showing that combining the teachings of Kalanick and Kemler would have been within the ordinary level of skill with a reasonable expectation of success. As Mr. Williams testifies, the necessary

modifications to Kalanick are “nothing more than” (i) “modifying the software of Kalanick’s system to permit the central controller to create and assign unique indicators, using the technique taught in Kemler”; and (ii) “combining known display technologies and visual identification techniques described in these references to perform their intended functions with described benefits and predictable results.” *See* Ex. 1003 ¶¶ 132–134.

At this stage of the proceeding, we find unavailing Patent Owner’s argument that Petitioner gives “no reason to combine” Kemler with Kalanick. Prelim. Resp. 24–27. Rather, as we discuss above, Petitioner provides specific reasoning for combining the relevant teachings. *See* Pet. 32 (citing Ex. 1003 ¶ 131) (eliminating instances where riders have the same or similar indicators), 42 (citing Ex. 1003 ¶ 157) (“assist[ing] the rider with ensuring it has located the correct vehicle”). Moreover, Petitioner’s reasoning of eliminating riders having similar indicators and ensuring the rider locates the correct vehicle explains why one of ordinary skill in the art would have sent Kemler’s unique signal to the rider in Kalanick’s system, contrary to Patent Owner’s argument. *See* Ex. 1003 ¶¶ 131, 157; Prelim. Resp. 24 (arguing that “under Kalanick the user already has defined the indicatory signal so there would be no need to send (a duplicative) one”). As Petitioner argues, Kemler teaches using a rule to “require that the signal actually be unique,” and transmitting the unique signal to the rider. *See* Ex. 1008, 4:12–19, 8:54–57, Figs. 6, 9.

At this stage of the proceeding, we also find unavailing Patent Owner’s arguments that Kemler is not “analogous art,” and that one of ordinary skill in the art “would simply not look to [Kemler’s] driverless vehicle technology to seek ways to improve security, or rider privacy.” Prelim. Resp. 24, 27–30.

We first note a fundamental error in Patent Owner’s analysis. The issue is not whether Kemler is analogous art to Kalanick, but whether Kemler is analogous art to the disclosure of the ’417 patent. *See, e.g., In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004) (“This test for analogous art requires the PTO to determine the appropriate field of endeavor by reference to explanations of the invention’s subject matter *in the patent application*, including the embodiments, function, and structure of the claimed invention.”) (emphasis added).

Applying the proper standard, we do not agree with Patent Owner’s principal argument that because Kemler describes autonomous vehicles, Kemler is not analogous art to the ’417 patent. Prelim. Resp. 27 (“Achieving a successful driverless dispatch system is an entirely different endeavor than ensuring security for drivers and riders on a ridesharing platform.”). As we discuss above, both Kemler and the ’417 patent are directed to on-demand transport systems, and thus are in the same “field of endeavor.” *See supra* Sections I(C) (providing summary of the ’417 patent), VII(B) (providing summary of Kemler).

Moreover, Kemler and the ’417 patent are directed to the same problem of providing security to riders by identifying vehicles in their systems. As Patent Owner acknowledges, one objective of the ’417 patent is to “ensure” rider security. Prelim. Resp. 24 (citing Ex. 1001, 1:60–61). The fact that driver security is an additional objective of the ’417 patent would not have discouraged a person of ordinary skill from considering art having the objective of ensuring rider security, such as Kemler.

We have considered Patent Owner’s other arguments on these issues and are not persuaded by them. *Id.* at 27–30. For example, we do not see the relevance of the state of capital investment in 2014 to the question of

whether Kemler is analogous art. *Id.* at 28. Similarly, the question is not whether bodily incorporating features of Kemler into Kalanick is or is not “simple,” as Patent Owner’s argument suggests. *Id.* (“Kemler’s is a complex system, so picking and choosing which elements to import into a conventional taxi dispatch system as Kalanick is not as simple as plugging a Kemler feature into Kalanick.”). As we discuss above, the issue is whether Kemler is analogous art to the ’417 patent such that the teachings of Kemler are relevant to the issue of obviousness. *See In re Sneed*, 710 F.2d 1544, 1550 (Fed. Cir. 1983) (“[I]t is not necessary that the inventions of the references be physically combinable to render obvious the invention under review.”). At this stage of the proceeding, we are persuaded that Kemler is analogous art for the reasons given by Petitioner.

In sum, we find, at this stage of the proceeding, that Petitioner demonstrates that the combination of Kalanick and Kemler teaches this limitation.

6. *Visual Indicator is not Duplicated*

Petitioner argues that Kalanick, as well as the combination of Kalanick and Kemler, teaches “wherein the visual indicator is not duplicated in the same pickup area,” as recited in claim 1. Pet. 43–44. According to Petitioner, Kalanick teaches that “‘user preferences . . . can include indication (or sign) preferences, such as color, text, pattern, illumination sequence, media content, etc., related to the output of an indication device’ and that . . . ‘the indication device can be dynamically configured and personalized’ to output (i.e., display) ‘color(s), a pattern(s), an illumination sequence(s), text, visual content, video, and/or audio.’” *See* Ex. 1003 ¶ 158 (citing Ex. 1006 ¶¶ 10, 29); Pet. 43 (citing Ex. 1003 ¶ 158, Pet. 38–42); *see also* Pet. 40 (citing Ex. 1006 ¶ 90).

As to Kemler, Petitioner argues that Kemler teaches “an identifier in the form of a signal that is displayed on the display.” *Id.* at 43 (citing Ex. 1008, 3:60–63); *see also* Ex. 1008, 1:60–63 (“The signal may include a unique, distinct, and/or easily distinguishable string of text or image rather than the user’s name, destination, etc.”). Kemler also teaches that the “unique signal may include a unique string of text or alphanumeric characters or an image such as an icon or photograph,” according to Petitioner. Pet. 43 (quoting Ex. 1008, 11:1–3). Petitioner adds that Kemler explains that “the set of choices would be large enough so that the unique signal would not repeat for a given user or trip location such that it would be difficult to impossible to understand the trip patterns for a particular user (e.g. 59007, FLADSOR or the blue boat icon).” *Id.* (quoting Ex. 1008, 11:5–10).

According to Petitioner, one of ordinary skill in the art would have found “it obvious to modify *Kalanick* to not duplicate the visual indicator in the same pickup area, as disclosed in *Kemler*, to assist the rider with ensuring it has located the correct vehicle.” *Id.* at 44 (citing Ex. 1003 ¶ 160).

After reviewing Petitioner’s arguments and evidence, which are not addressed by Patent Owner at this stage of the proceeding, we are persuaded that Petitioner demonstrates, for purposes of this institution decision, that *Kalanick*, as well as the combination of *Kalanick* and *Kemler*, teaches this limitation, and that one of ordinary skill would have been motivated to combine *Kalanick* and *Kemler* in the manner Petitioner does.

7. Summary

In summary, based on the current record, and for purposes of this institution decision, we determine that Petitioner shows a reasonable

likelihood that it would prevail in showing that claim 1 would have been obvious to one of ordinary skill in the art in view of Kalanick and Kemler.

D. Challenged Claims 2–5

At this stage in the proceeding, Patent Owner does not address separately Petitioner’s arguments and evidence as to how the combination of Kalanick and Kemler teaches the limitations of claims 2–5. *See generally* Prelim. Resp. We have reviewed Petitioner’s arguments and evidence regarding these claims, and, on the current record, we find them persuasive for purposes of institution.

VIII. GROUNDS ASSERTING LALANCETTE

Petitioner argues that Lalancette anticipates and renders obvious the challenged claims of the ’417 patent. Pet. 11, 47–62. Petitioner already has demonstrated a reasonable likelihood of success in proving that the challenged claims of the ’417 patent are unpatentable. In order to provide guidance to the parties, we address Patent Owner’s arguments regarding Lalancette. Consolidated Trial Practice Guide (November 2019)⁸ (“CTPG”) 6 (“If a trial is instituted, the Board generally will provide analysis of the strengths and weaknesses of all challenges in the petition in order to provide guidance to the parties for the upcoming trial.”).

A. Summary of Lalancette

In its most relevant embodiment, Lalancette describes an electronic display mounted to be visible from outside a taxi, a mobile computing device in the taxi that manages a dash-mounted driver display and the mounted electronic display, and a smart phone of a user. Ex. 1009 ¶¶ 27–33. The taxi is equipped with an electronic display mounted outside of the taxi

⁸ Available at <https://www.uspto.gov/TrialPracticeGuideConsolidated>.

car or at least visible from outside the taxi car as well as a dash-mounted driver display. *Id.* ¶ 27. The displays are configured to display information received from the taxi dispatch service. *Id.*

In one scenario described by Lalancette, a user orders a taxi using a handset to request taxi service from a taxi dispatch service. *Id.* ¶ 29. The user device (the handset) conveys user identification (user ID) to the service provider. *Id.* The service provider validates the request to ensure the request can be accommodated. *Id.* ¶ 30. An automated dispatch system uses the user's location to select the most suitable taxi car to respond to the request for service from the user. *Id.*

The service provider then requests a personal human-readable icon for the user from an icon server by sending a message carrying a user ID for the user. *Id.* ¶ 31. The icon server uses the user ID to retrieve a personal icon corresponding to the user from an icon database. *Id.*

The icon server sends the retrieved icon to the service provider. *Id.* ¶ 32. The service provider dispatches the selected taxi car to the location of user and displays the user's icon on the taxi's roof-top electronic display and the driver's dashboard display. *Id.* The service provider also transmits a copy of the icon to the user device for confirmation to the user. *Id.*

In one embodiment, as part of the dispatch procedure, the service provider transmits the dispatch information and the user's icon to a mobile computer in the taxi car and the mobile computer manages the taxi roof-top electronic display 122 and the driver's dashboard display. *Id.*

When then taxi car approaches the user's location, the user can view the rooftop display to identify the taxi car as the taxi responding to the user's request. *Id.* ¶ 33. The user can compare the display of the icon on the

rooftop display to the copy of the icon on the user's device 104 to confirm the identity of the taxi. *Id.*

B. Generated

Patent Owner argues that Lalancette fails to “meet the indicatory signal ‘is generated’ requirement.” Prelim. Resp. 39–41. More specifically, Patent Owner argues that “[t]he claims of the invention require that a new signal be actively formulated each time there is a ride dispatched.” *Id.* at 39. Patent Owner argues that “Lalancette, in contrast, relies on pre-selection – a permanent signal icon stored in a server 112 associated with a user – in a manner similar to Kalanick.” *Id.* (citing Ex. 1009 ¶ 31). Patent Owner adds that Lalancette teaches designing the icon, which must be done in advance, and submitting the icon design for validation. *Id.* at 39–40 (citing Ex. 1009 ¶ 42). According to Patent Owner, “[e]ither of these requirements eliminates the possibility that icons can be generated on a per-ride basis.” *Id.* at 40.

At this stage of the proceeding, we find unavailing Patent Owner's arguments regarding this limitation. As we discuss above, the term “is generated” does not require that a signal is actively formulated in the manner Patent Owner argues. *See supra* Section V(C) (construing “generated”). Thus, Patent Owner's arguments that are premised on its construction for this term are inapposite. In addition, Patent Owner's arguments that conflate a signal that is generated with an indicator that is generated are unavailing because, as we discuss above, the claims do not require having an indicator generated, but rather having a signal generated that represents an indicator. *See id.*; *see also Hiniker*, 150 F.3d at 1369.

C. Summary

We have reviewed the evidence and the parties' arguments regarding Lalancette anticipating and rendering obvious the challenged claims. Based on the current record, and for purposes of this institution decision, we determine that Petitioner shows a reasonable likelihood that it would prevail in showing that the challenged claims are unpatentable on these bases.

IX. CONCLUSION

For the foregoing reasons, we determine that Petitioner has demonstrated that there is a reasonable likelihood that it would prevail in proving the unpatentability of the challenged claims of the '417 patent. We thus institute an *inter partes* review of the challenged claims of the '417 patent on all grounds asserted in the Petition. *See* 37 C.F.R. § 42.108(a).

Any findings or conclusions in this Decision are made only for the purposes of institution and are not dispositive of any issue. We have not made a final determination with respect to the construction of any term, or the patentability of any challenged claim. Our final determination will be based on the record as fully developed during trial, including any evidence or argument timely presented by the parties under our Rules.

X. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review of the '417 patent is instituted on all of the challenged claims and all grounds asserted 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 commences on the entry date of this Decision.

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