

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

LYFT, INC.,
Petitioner,

v.

RIDESHARE DISPLAYS, INC.,
Patent Owner.

IPR2021-01601
Patent 10,559,199 B1

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

GIANNETTI, *Administrative Patent Judge*.

DECISION
Granting Institution of *Inter Partes* Review
37 C.F.R. § 42.108

I. INTRODUCTION

Lyft, Inc. (“Petitioner”) filed a Petition (Paper 1, “Pet.”) requesting *inter partes* review of claims 1 and 2 (the “challenged claims”) of U.S. Patent No. 10,558,199 B1 (Ex. 1001, “the ’199 patent”). Patent Owner, Rideshare Displays, Inc., filed a Preliminary Response (Paper 6, “Prelim. Resp.”).

The Board has authority to determine whether to institute *inter partes* review. *See* 35 U.S.C. § 314; 37 C.F.R. § 42.4(a). Under 35 U.S.C. § 314(a), we may not authorize an *inter partes* review unless the information in the petition and the preliminary 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.”

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 therefore institute *inter partes* review as to all of the challenged claims of the ’199 patent and all of the asserted grounds of unpatentability in the Petition.

II. BACKGROUND

A. Related Matters

The parties identify the following district court proceedings involving the ’199 patent: *Rideshare Displays, Inc. v. Lyft, Inc.*, 20-cv-01629-RGA-JLH (D. Del.). Pet. 1; Paper 5, 2.

The parties also identify several petitions for *inter partes* review of patents related to the ’199 patent: IPR2021-01598, IPR2021-01599, IPR2021-01600, and IPR2021-01602. Pet. 1; Paper 5, 2.

B. Real Parties-in-Interest

Petitioner identifies Lyft, Inc. as the only real party-in-interest. Pet. 1. Patent Owner identifies Rideshare Displays, Inc. as the only real party-in-interest. Paper 5, 2. At this stage, neither party challenges those identifications.

C. The '199 Patent (Ex. 1001)

The '199 patent is titled "Vehicle Identification System." Ex. 1001, (54). The '199 patent is a continuation (through intermediate continuations) of U.S. Patent 9,892,637 ("the '637 patent"). *Id.* at (63). The patent describes a system for providing 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 1:31–35. According to the patent, "[a] continuing need exists for systems and methods adapted for use by transportation services to ensure rider and driver security." *Id.* at 2:1–3.

Two separate embodiments of the invention are shown in Figures 1A and 1B, following:

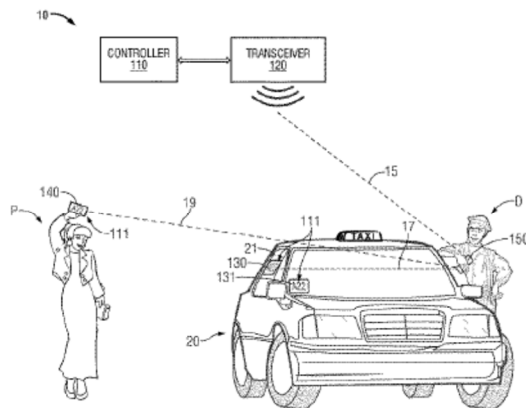


Fig. 1A

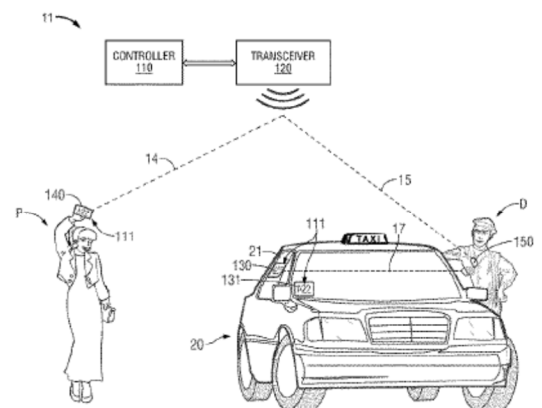


Fig. 1B

Figures 1A and 1B illustrate two embodiments of a vehicle identification system in accordance with the '199 patent. *Id.* at 2:48–53. 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 3:67–4:2. 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 4:2–6. 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 user P to enable the user to identify the vehicle that he or she has requested for a ride service. *Id.* at 4:17–23.

Figure 3 is a flowchart illustrating a method of identifying a vehicle in accordance with the '199 patent. *Id.* at 2:57–59. Figure 3 follows:

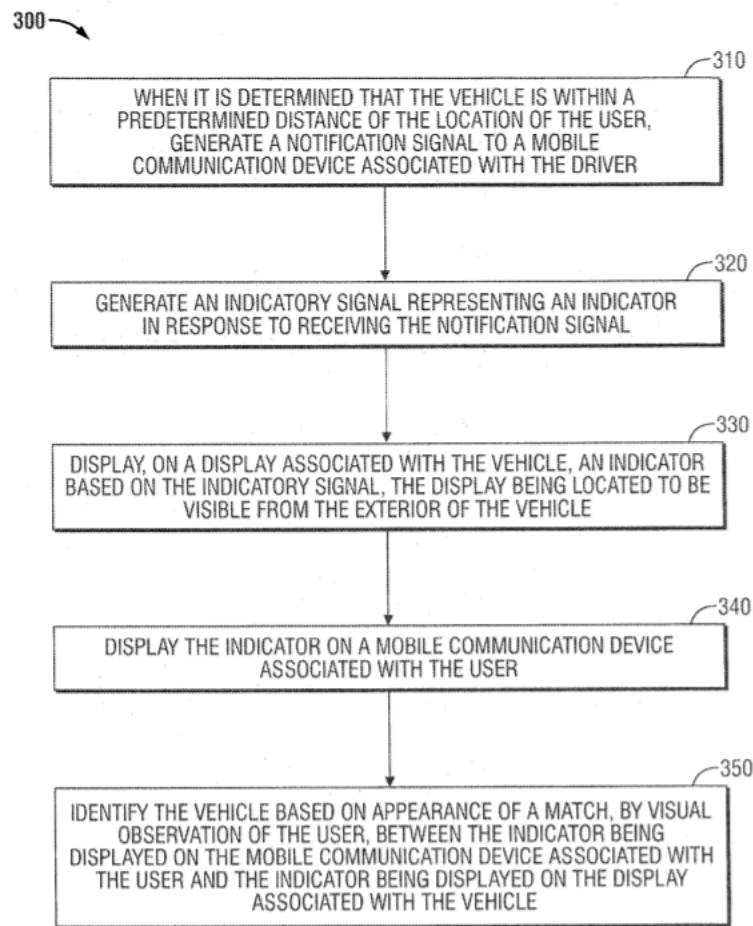


Figure 3 illustrates a method of identifying a vehicle being dispatched to a location of a user having requested a ride from a transportation service. Ex. 1001, 7:8–10. When it is determined that motor vehicle 20 is within a predetermined distance of the location of user P, notification signal 15 is generated to mobile communication device 150 associated with driver D. *Id.*, Fig 3, block 310. Indicatory signal 17 representing indicator 111 is generated in response to receiving notification signal 15. *Id.*, Fig. 3, block 320. Indicator 111 based on indicatory signal 17 is displayed on display 130 associated with vehicle 20. *Id.*, Fig. 3, block 330. Display 130 is located to be visible on the exterior of vehicle 20. *Id.* at 7:21–22.

Indicator 111 is also displayed on mobile communication device 140 associated with user P. *Id.*, 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 vehicle 20. *Id.*, Fig. 3, block 350.

In the embodiment of Figure 1A, the mobile communication device associated with driver D generates a second signal representing an indicator that is transmitted to mobile communication device 140 associated with user P. *Id.* at 5:41–46. 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 5:53–58. In this embodiment, the driver’s mobile communication device does not communicate with the user’s mobile communication device. *Id.* at 5:58–61.

D. Illustrative Claim

The ’199 patent has two claims. As noted, both claims 1 and 2 are challenged in the Petition. Pet. 4. Claim 1 is the only independent claim. Claim 1 is illustrative of the claimed subject matter and is reproduced below:¹

1. [Preamble] A vehicle identification method implemented as an Application on mobile communication devices over a wireless communication network, comprising:

¹ Paragraph references in brackets were added tracking Petitioner’s analysis.

[1A] requesting a ride from a transportation service from a mobile communication device of a user;

[1B] determining that a vehicle is within a predetermined distance of the location of the user;

[1C] generating a notification signal to a mobile communication device associated with a driver of the vehicle;

[1D] generating an indicatory signal representing an indicator;

[1E] displaying the indicator based on the notification signal on a display associated with the vehicle, the mobile communication device associated with the driver, and the user's mobile communication device, wherein the display associated with the vehicle is located to be visible from the exterior of the vehicle; and

[1F] identifying the vehicle based on appearance of a match, by visual observation of the user, between the indicator being displayed on the user's mobile communication device and the indicator being displayed on the display associated with the vehicle.

Ex. 1001, 8:7–27.

E. Prior Art References and Other Evidence

Petitioner relies on the following references (Pet. 7):

1. U.S. Patent Pub. 2015/0332425 A1 (Jan. 23, 2015) (Ex. 1006, “Kalanick”);

2. U.S. Patent No. 9,494,938 B1 (Apr. 3, 2014) (Ex. 1008, “Kemler”);

3. U.S. Patent Pub. 2012/0137256 A1 (May 31, 2012) (Ex. 1009, “Lalancette”).

In addition to these references, Petitioner relies on a Declaration of David Hilliard Williams. Ex. 1003 (“Williams Decl.”). Patent Owner has submitted a Declaration of Dr. Matthew Valenti with the Preliminary Response. Ex. 2001 (“Valenti Decl.”).

F. The Asserted Grounds of Unpatentability

Petitioner asserts the following grounds of unpatentability. Pet. 4.

Claim(s) Challenged	Basis 35 U.S.C. §	Reference(s) ²
1	103	Kalanick, Kemler
1, 2	103	Lalancette, Kemler

III. DISCRETIONARY DENIAL

A. Denial Based on Fintiv

Patent Owner contends the Board should deny the Petition under § 314(a) because “[a]pplying the factors enumerated in *Fintiv*, it would be an appropriate exercise of discretion for the Board not to institute proceedings.” Prelim. Resp. 16.

The Board’s precedential decision in *Apple Inc. v. Fintiv Inc.*, IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020) (precedential) (“*Fintiv*”), identifies a non-exclusive list of factors parties may consider addressing where there is a related, parallel district court action to determine whether such action provides any basis for discretionary denial. *Fintiv*, Paper 11 at 5–16. Those factors include:

² Petitioner’s obviousness challenges additionally refer to the “[k]nowledge of [a person of ordinary skill in the art].” Pet. 4. While we do not list such knowledge separately, we consider it as part of our obviousness analysis. See *Randall Mfg. v. Rea*, 733 F.3d 1355, 1362 (Fed. Cir. 2013) (“As *KSR* established, the knowledge of such an artisan is part of the store of public knowledge that must be consulted when considering whether a claimed invention would have been obvious.”).

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.

In evaluating the *Fintiv* factors, we take “a holistic view of whether efficiency and integrity of the system are best served by denying or instituting review.” *Id.* at 6.

Patent Owner's *Fintiv* analysis focuses on the parallel district court litigation between Patent Owner and Petitioner involving the '199 patent pending in the District of Delaware (“Delaware Litigation”). *Id.* at 16–20. *See infra*, Section II.A. Anticipating Patent Owner's argument, the Petition asserts that “[t]he [Delaware] case is in early discovery with a claim construction hearing scheduled for March 9, 2022, fact discovery cut off on June 15, 2022, and jury trial scheduled for May 1, 2023 (around a month after a Final Written Decision . . . would issue in this IPR).” Pet. 15.

For the reasons that follow, we decline to exercise our discretion to deny the Petition on the basis of *Fintiv*.

1. Factor 1 (Stay)

Petitioner's previously filed request to stay the Delaware Litigation was denied without prejudice after the filing of the Petition. Prelim. Resp.

16 (citing Ex. 2006). But Petitioner asserts that it intends to again seek a stay of the Delaware Litigation “pending the outcome of this proceeding.” Pet. 16.

The district court’s order denying the stay expressly provides that Petitioner may refile a motion to stay after the decision on institution. Ex. 1006. However, whether the presiding judge in the Delaware Litigation would grant a stay if one were requested after institution is speculative. This factor is neutral.

2. *Factor 2 (Proximity of Trial Date)*

If trial in the Delaware Litigation proceeds as scheduled, in May 2023, it would occur approximately one month after the due date for the final written decision. Petitioner argues this factor favors institution. Pet. 17. Patent Owner argues that this factor is “at most” neutral. Prelim. Resp. 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.

3. *Factor 3 (Investment in the Delaware Litigation)*

Referring to the Delaware Litigation, Patent Owner contends that “[t]here has been substantial investment already by the district court and the parties to this point.” Prelim. Resp. 17. Patent Owner points to (1) rulings by the magistrate judge and district judge on the issue of patent eligibility under Section 101; (2) denial of the motion to stay; (3) briefing on claim construction scheduled for completion on February 18, 2022; (4) a *Markman* Hearing scheduled for May 3, 2022; (5) a June 15, 2022, fact discovery cutoff; (6) “multiple” meet-and-confers on discovery; (7) production of documents, discovery supplements and service of requests for admission and

interrogatories; and (8) participation by the parties in court-ordered mediation. *Id.* at 17–18.

Petitioner argues that the Delaware Litigation “is in the early stages of discovery.” Pet. 17. We agree with Petitioner that although some time has been invested in the case by the parties and the district court on preliminary matters, the fact discovery, expert discovery, and dispositive motion deadlines have not yet passed, not to mention the deadlines for pre-trial submissions and trial. *See* Ex. 2005, 3–11 (Scheduling Order). 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 any duplication of work done by the district court.

In the absence of more specific information from Patent Owner about the status of the case and details as to what invalidity-related activity has been completed, we are not persuaded that a “substantial investment” has been made in the invalidity case in the Delaware Litigation.

Moreover, 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. 17. We therefore determine that this factor strongly favors not exercising our discretion to deny the Petition.

4. *Factor 4 (Overlap of Issues)*

The Preliminary Response asserts this factor “is strongly in favor of Patent Owner.” Prelim. Resp. 18–19. Patent Owner asserts “[a]ll of the invalidity arguments raised in this Petition are repeated in the Delaware litigation.” *Id.* at 18. Petitioner, on the other hand, asserts that it “intends to raise different and additional invalidity arguments in the district court

action.” Pet. 17. Petitioner asserts that in addition to prior art defenses, it “has raised invalidity arguments under 35 U.S.C. §§ 101 and 112.” *Id.* Patent Owner responds that these additional arguments “do[] not change the fact that this factor strongly favors exercise of discretion.” Prelim. Resp. 18–19.

We determine that while the overlap with issues in the Delaware litigation is not complete, at this stage, there is at least some potential here for overlap with the issues presented here. Although Petitioner has signaled its intention not to raise the same arguments there as in this proceeding, it 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.

5. *Factor 5 (Petitioner and Defendant are Same Party)*

“If a petitioner is unrelated to a defendant in an earlier court proceeding, the Board has weighed this fact against exercising discretion.” *Fintiv* at 13–14. The parties in the Delaware Litigation are the same as those before us here. *See supra*, Section II.B. However, this tribunal is likely to address the challenged patent before the district court in the Delaware 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 the petitioner being the defendant in the 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”).

6. *Factor 6 (Other Circumstances, Including the Merits)*

Patent Owner contends that the Board should exercise its discretion to deny institution because the Petition’s merits are “weak.” Prelim. Resp. 14. We do not agree. We agree, instead, that “Petitioner presents a strong showing on the merits that the challenged claims are obvious.” Pet. 18. *See* Section IV, *infra*. As our analysis of the challenges presented in the Petition shows, we determine that Petitioner demonstrates a reasonable likelihood of prevailing on three separate grounds. In reaching this determination, we examine Patent Owner’s claim construction argument that the claimed invention “actively formulates a new indicator for each rider-driver trip while the driver is in transit.” Prelim. Resp. 31. We are unable to find a basis in the claims or specification for Patent Owner’s contention, and therefore we reject this proposed construction by Patent Owner. *See infra*, Section IV.C. As this claim construction argument is central to this controversy and its resolution favors Petitioner, we determine that the merits of the Petition are strong. Thus, this factor favors not exercising our discretion to deny institution.

7. *Conclusion*

In summary, after weighing the factors and taking a holistic view of whether efficiency and integrity of the system are best served by denying or instituting review, we are not persuaded to exercise our discretion to deny review. The strong showing on the merits in the Petition and relatively small investment in the merits of the validity challenge in district court persuade us that efficiency and integrity of the system would not be served by denying review.

B. Denial Based on 35 U.S.C. § 325(d)

Patent Owner contends that we should exercise our discretion to deny the Petition under 35 U.S.C. § 325(d) because, in connection with the application for the '199 patent, “the patent owner submitted the primary references to the Patent Office for consideration.” Prelim. Resp. 20. Patent Owner’s argument refers to an Information Disclosure Statement (IDS) filed during prosecution of the application for the '987 patent³ citing Kalanick and Lalancette. IPR2021-01599, Ex. 1002, 36.⁴ Further, Patent Owner asserts “[t]his was not a situation where the Examiner was besieged with dozens of references to sort through. The IDS in the applications contained eight references for the Examiner to consider.” Prelim. Resp. 20. Patent Owner continues, “these references were previously considered by the Examiner, as evidenced by the Examiner’s notations of record in the prosecution history.” *Id.* (citing IPR2021-01599, Ex. 1002, 20).

Anticipating Patent Owner’s argument, the Petition states that “[w]hile *Kalanick* and *Lalancette* were cited in an IDS, Petitioner respectfully submits that the Office erred in failing to consider *Kalanick* and *Lalancette* in a manner material to the patentability of the challenged claims of the '199 Patent by overlooking specific teachings in the relevant prior art that impact patentability of the challenged claims.” Pet. 19 (internal quotation marks omitted).

³ Application No. 15/860,939, filed January 3, 2018, issued as U.S Patent No. 10,169,987 (“the '987 patent”).

⁴ Unless otherwise specified, citations to exhibits use the page numbers assigned by the parties and not the original page numbers.

Under § 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 the 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).

We must also consider the non-exclusive factors set forth in *Becton, Dickinson and Co. v. B. Braun Melsungen AG*, IPR2017-01586, Paper 8 (PTAB Dec. 15, 2017) (precedential in relevant part), which “provide useful insight into how to apply the framework” under § 325(d). *Advanced Bionics*, Paper 6 at 9. Those non-exclusive factors include: (a) the similarities and material differences between the asserted art and the prior art involved during examination; (b) the cumulative nature of the asserted art and the prior art evaluated during examination; (c) the extent to which the asserted art was evaluated during examination, including whether the prior art was the basis for rejection; (d) the extent of the overlap between the arguments made during examination and the manner in which Petitioner relies on the prior art or Patent Owner distinguishes the prior art; (e) whether Petitioner has pointed out sufficiently how the Examiner erred in its evaluation of the asserted prior art; and (f) the extent to which additional

evidence and facts presented in the Petition warrant reconsideration of the prior art or arguments. *Becton, Dickinson*, Paper 8 at 17–18. “If, after review of factors (a), (b), and (d), it is determined that the same or substantially the same art or arguments previously were presented to the Office, then factors (c), (e), and (f) relate to whether the petitioner has demonstrated a material error by the Office.” *Advanced Bionics*, Paper 6 at 10. For the reasons given below, we are not persuaded to exercise our discretion deny the Petition based on § 325(d).

At the outset, we note that Kemler was not cited during prosecution of the ’199 patent application. *See* Pet. 20. Thus, for the two grounds in the Petition, relying on Kemler in combination with Kalanick or Lalancette, the combinations of references before us in this proceeding were not before the examiner.

Petitioner points out that neither Kalanick nor Lalancette was used, either alone or in combination with other references, as a basis for a rejection during prosecution of the ’199 patent. Pet. 20. In fact, neither reference was discussed by the patent owner or the examiner during the prosecution, nor did the examiner make any prior art rejections before allowing the application to issue. Thus, we agree with Petitioner that *Becton, Dickinson* factor (c), which considers the extent to which the asserted art was evaluated during examination, points us in the direction of declining to exercise our discretion to deny institution. *See id.*

As we will discuss in more detail *infra*, the Petition analyzes the challenged claims of the ’199 patent in light of the teachings of Kalanick and Lalancette, as well as Kemler, and demonstrates that Kalanick and Lalancette disclose aspects of the claims relied on by the examiner in his

reasons for allowance. *See* Sections IV.F (Kalanick), IV.G (Lalancette); Ex. 1002, 13–14. This analysis further demonstrates error on the part of the examiner in overlooking teachings of those references material to patentability of the challenged claims. Thus, *Becton, Dickinson* factor (e), which asks whether petitioner has demonstrated material error on the part of the examiner, weighs against exercising our discretion to deny institution.

Patent Owner points to the examiner’s rejection over Berquist (U.S. Patent Pub. 2005/0012598) in the application for the parent ’637 patent, but stops short of arguing that Kalanick and Lalancette are cumulative of Berquist. Prelim. Resp. 21. Nor would such an argument be tenable, for in its remarks responding to the Berquist rejection, Patent Owner argued that “Berquist fails to disclose a transceiver, a mobile communication device and a signal including a code which functions as an identifier.” IPR2021-01598, Ex. 1002, 38. In the next office action, the examiner indicated that the rejection over Berquist had been overcome and the claims were allowable over the prior art. *Id.* at 27. As discussed *infra*, Patent Owner’s arguments distinguishing Kalanick and Lalancette focus on the identifier, and do not dispute the disclosure in those references of a mobile communication device. *See* discussion in Section IV, *infra*. Thus, the disclosures of those references go beyond Berquist and are not cumulative.

Patent Owner’s response that “[t]he most that can be said based on this record is that the Examiner chose another reference with which to make 103 rejections (Berquist, U.S. Pat. Pub. 2005-0012598) rather than either Kalanick or Lalancette” is unavailing. Prelim. Resp. 20. The record does not support the argument that the examiner “chose” Berquist over Kalanick or Lalancette. In the examination of the ’637 patent, where the examiner

rejected the claims over Berquist, neither Kalanick nor Lalancette was of record. And in examining the application for the '199 patent, which has similar claims, the examiner made no prior art rejections, and therefore “chose” neither Berquist, nor Kalanick or Lalancette.

We conclude that Petitioner has demonstrated error by the examiner in not appreciating that Kalanick and Lalancette disclose features recited in the claims of the '199 patent lacking in the prior art previously considered by the examiner.

Thus, we agree with Petitioner that *Fintiv* and *Becton, Dickinson*, which consider, among other factors, the extent to which the asserted art was evaluated during examination, do not point us in the direction of exercising our discretion to deny institution. *See* Pet. 21.

IV. ANALYSIS OF THE CHALLENGED CLAIMS

A. *Obviousness*

A claim is unpatentable as obvious under 35 U.S.C. § 103 “if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains.” 35 U.S.C. § 103 (2011). 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 skill in the art; and (4) so-called “secondary considerations,” including commercial success, long-felt but unsolved needs, failure of others, and unexpected results. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

At this stage, neither party has presented any evidence on the fourth *Graham* factor.

B. Level of Ordinary Skill in the Art

According to Petitioner, a person of ordinary skill in the pertinent 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. 9. Petitioner adds that “[a] person with less education but more relevant practical experience may also meet this standard. The prior art also evidences the level of skill in the art.” *Id.* (citing Williams Decl. ¶ 44).

Patent Owner provides a slightly different formulation. According to Patent Owner, a person of ordinary skill at the relevant time would have:

- 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 tracking/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. At this stage, we adopt Petitioner’s more general formulation, with the following qualification. We would also expect a person of ordinary skill to also have at least some experience in wireless cellular network protocols, as suggested by Patent Owner. Our review of the ’199 patent and the cited prior art does not suggest that specific experience with data privacy policies and protection models would be required, given

the focus of the '199 patent on more general principles of cellular communications and signaling. However, at this stage, the arguments presented by the parties do not depend on the definition of the person or ordinary skill, and therefore, our decision would be the same under either formulation.

C. Claim Construction

For this *inter partes* review, the Board applies the same claim construction standard as that applied in federal courts. *See* 37 C.F.R. § 42.100(b) (2019). Under this standard, claim terms “are generally given their ordinary and customary meaning” as understood by a person of ordinary skill in the art in question at the time of the invention. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (en banc) (citations omitted). “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). Extrinsic evidence is “less significant than the intrinsic record in determining ‘the legally operative meaning of claim language.’” *Phillips*, 415 F.3d at 1317 (citation omitted).

Petitioner prefaces its claim construction discussion by stating “Petitioner interprets all claim terms in accordance with their ordinary and customary meaning *unless otherwise stated below*.” Pet. 9 (emphasis added). Petitioner then proceeds to criticize two constructions proposed by Patent Owner in district court: “indicator” and “indicatory signal.” *Id.* at 10. Petitioner claims that Patent Owner’s proposed construction of these terms

“requires something to be ‘actively formulated’ by the controller.” *Id.* Petitioner disagrees with these constructions, observing that “[t]he term ‘actively formulated’ is not used anywhere in the patent specification and does not add clarity to the meaning of these claim terms.” *Id.* Instead, Petitioner asserts the terms should be given “their ordinary and customary meaning.” *Id.* Petitioner contends, however, that even under Patent Owner’s proposed constructions, Petitioner has shown a reasonable likelihood of prevailing on its challenge. *Id.*

Patent Owner responds that two terms, in context, require construction and addresses each. Prelim. Resp. 6–10.

1. Indicator

For the term “indicator” (as in “indicatory signal representing an indicator”), Patent Owner proposes the following construction: “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. 11.

The ’199 patent describes an indicator as “a ‘code’ (e.g., a text string or an alphanumeric string), an icon, or other identifier, on the display 130 and on a mobile communication device 140 associated with the user P to enable the user P to identify the vehicle that he/she has requested for a ride service.” Ex. 1001, 4:19–23. Consistent with this description in the specification, we construe the term “indicator” as a code (e.g., a text string or an alphanumeric string), an icon, or other identifier, for display to enable a match between the user and the driver.

We do not see a basis in the claims or specification for Patent Owner's contention that a "new indicator" must be "actively formulate[d] . . . for each rider-driver trip while the driver is in transit." Prelim. Resp. 31. We discuss this contention further in connection with our consideration of the claim term "generate," *infra*.

2. *Indicatory Signal*

Patent Owner disagrees that this term should be afforded its plain and ordinary meaning. Prelim. Resp. 7. According to Patent Owner, "the term 'indicatory signal' is not the "indicator" – they are different and 'indicatory signal' is the signal that tells the display what 'indicator' to display. *Id.* (citing Ex. 1001, Fig. 3, block 320, reproduced *supra*, Section II.C).

Patent Owner asserts that "a controller in a vehicle identification system *actively formulates an indicator* (or code/indicatory symbol which represents an indicator) that is sent to the rider, and driver, which is ultimately displayed for each ride." *Id.* at 8 (emphasis added). The controller "generates a signal sent by the transceiver to the driver's 'mobile communication device' when the driver is within a predetermined distance to a location." *Id.* at 8–9. Patent Owner continues, "the location signal is very different from the signal that indicates what code should be on the display." *Id.* at 9. Thus, Patent Owner proposes the following construction for indicatory signal: "a signal that represents an indicator to be displayed (but that is not necessarily the indicator itself)." *Id.* (citing Block 320, Fig. 3).

As in the case of the term "indicator," we do not see a basis for construing this term as requiring that the signal be "actively formulated," in

the sense described by Patent Owner. *See* Prelim. Resp. 10. We therefore do not adopt Patent Owner’s construction.

3. *Generate*

Based on the arguments presented so far, and on Patent Owner’s analysis of the prior art, there is an additional term appearing in the challenged claims that requires construction, namely, “generate,” as it relates to the controller in such phrases as “generating an indicatory signal representing an indicator.” Ex. 1001, 8:16 (claim element 1D).

Referring to the specification, Patent Owner explains that “a controller in a vehicle identification system *actively formulates an indicator . . .* that is sent to the rider, and driver, which is ultimately displayed for each ride.” Prelim. Resp. 8 (emphasis added). Patent Owner’s analysis of the claims equates the claim term “generate” with “actively formulate.” For example, in discussing claim limitation 1C, which recites “generating a notification signal to a mobile communication device associated with the driver of the vehicle,” Patent Owner asserts that “[t]he claims require that a new signal [i.e., not ‘pre-associated with a particular rider or a particular driver’] be actively formulated each time a ride is dispatched.” *Id.* at 34.

We decline to adopt this implicit construction (and the related construction “actively generate”). The claims themselves do not require the controller to “actively formulate” a new indicator for the same rider requesting a subsequent trip for that second trip, or that “a new signal be actively formulated each time a ride is dispatched,” as Patent Owner’s analysis asserts. *See infra.*

Nor is it clear how this construction is supported by the ’199 patent specification. The ’199 patent describes the controller as “communicatively

coupled to the transceiver.” Ex. 1001, 2:10–11. Further, “[t]he controller is adapted to generate a first signal to be transmitted by the transceiver to a mobile communication device.” *Id.* at 2:12–14. Elsewhere in the patent, “controller” is defined as “any type of computing device, computational circuit, or any type of processor or processing circuit capable of executing a series of instructions that are stored in a memory associated with a with the controller.” *Id.* at 3:60. The operation of the controller is also described as follows: “The controller 110 may generate a first signal (also referred to herein as a ‘notification signal’) that is transmitted via the transceiver 120 to the mobile communication device 150 associated with the driver D.” *Id.* at 5:14–17.

Still further, “[t]he controller 110 generates four different notification signals, NOTIFICATION-A, NOTIFICATION-B, NOTIFICATION-C, and NOTIFICATION-D, to be transmitted by the transceiver 120 to a first DRIVER'S MOBILE DEVICE 150A, a second DRIVER'S MOBILE DEVICE 150B, a third DRIVER'S MOBILE DEVICE 150C, and a fourth DRIVER'S MOBILE DEVICE 150D, respectively.” *Id.* at 6:39–46. And further, “[i]n other embodiments, wherein the vehicle identification system 11 is utilized, an indicatory signal to the rider's mobile communication device may be generated by the controller 110.” *Id.* at 7:4–7.

In none of these descriptions of the controller’s operation is there mention of “actively formulates,” or a disclosure that the controller “actively formulates” a new indicator for the same rider requesting a subsequent trip for that second trip, or that “a new signal be actively formulated each time a ride is dispatched.” *See infra*. Instead, as discussed *supra*, the specification describes the controller’s operation as generating a signal, and describes the

indicator as “a ‘code’ (e.g., a text string or an alphanumeric string), an icon, or other identifier, on the display 130 and on a mobile communication device 140 associated with the user P to enable the user P to identify the vehicle that he/she has requested for a ride service.” Ex. 1001, 4:19–23.

Because the specification and prosecution history do not explicitly provide a definition for the term “generate,” we may look to extrinsic sources to determine its plain meaning. 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**.” *See* <https://www.merriam-webster.com/dictionary/generate>. We therefore construe the term “generate” as it relates to the controller in reference to a signal in accordance with its plain and ordinary meaning, which is to originate or produce the signal.

To the extent we need to interpret any other terms, we will do so in the context of the analysis of the prior art that follows.

D. Description of the Prior Art References

1. Kalanick (Ex. 1006)

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. 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.* ¶ 10.

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. 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.* ¶ 11.

This operation is illustrated in Figure 1 of Kalanick, following:

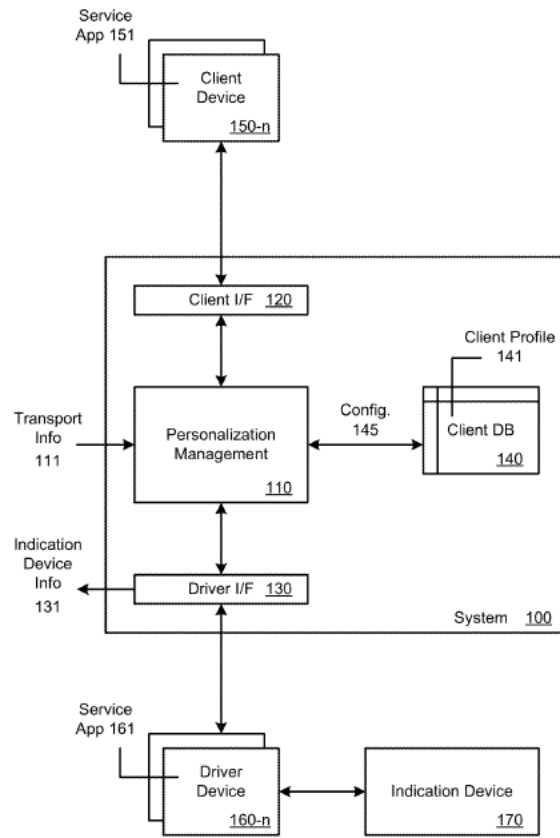


FIG. 1

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/customers) 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. A client profile 141 can include a user identifier. *Id.* ¶ 29. 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 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. If the user has specified the output configuration, the personalization management can determine and/or retrieve configuration data 145 corresponding to the specified configuration for that user. *Id.* ¶ 30. If the user does not provide indication preferences, however, the personalization management can store or maintain default indication preferences in the user's profile 141. *Id.*

The personalization management 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 driver device 160. *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 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.*

2. *Kemler (Ex. 1008)*

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. This signaling could include a display or audio including a unique string of text. *Id.* at 3:43–47.

Kemler describes the dispatched vehicle as having an external electronic display mounted on the vehicle and an internal electronic display. Ex. 1008, 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.

This operation is illustrated in Figure 9 of Kemler, following:

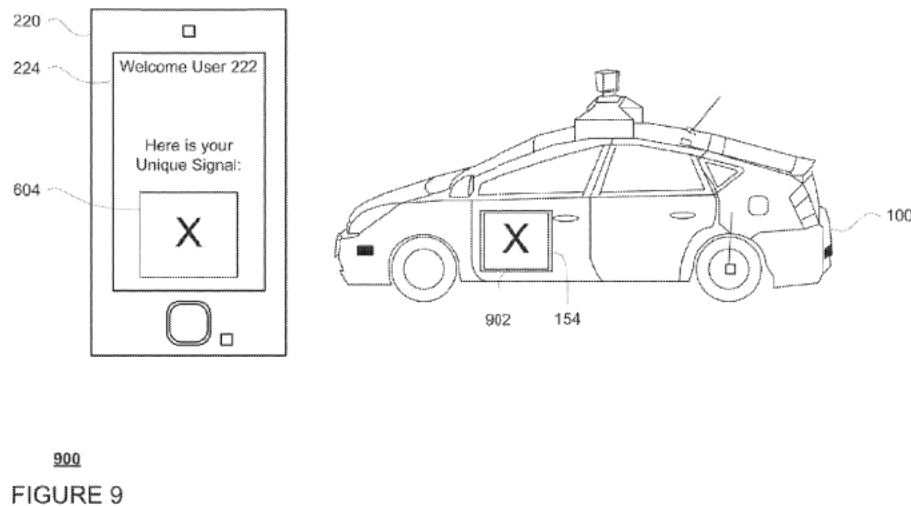


Figure 9 is a diagram 900 of a client computing device and a computing device of a vehicle displaying unique signal “X” around the same time. Ex. 1008, 12:45–47. By comparing unique signal 604 of display 224 to unique signal 902 of external electronic display 154, a user may recognize that vehicle 100 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.

3. *Lalancette (Ex. 1009)*

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

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. The icon server uses the user ID to retrieve a personal icon corresponding to the user from an icon database. *Id.* ¶ 31.

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

E. Motivation to Combine Kemler with Kalanick and Lalancette

Petitioner asserts that a person of ordinary skill would have been motivated to combine the teachings of Kalanick and Kemler with a reasonable expectation of success. Pet. 21–25; Williams Decl. ¶¶ 116–124. Petitioner asserts that both Kalanick and Kemler address similar problems related to vehicle identification. *Id.* at 21–22. Furthermore, Petitioner asserts that “[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.* at 22. Further, “[b]oth also utilize vehicle mounted displays which are visible from the outside of the vehicle.” *Id.*

Petitioner contends further that Kalanick’s “on-demand service system can also use location information from the driver’s device and/or transport information . . . to automatically determine the driver’s state or state of the transport service.” *Id.* (citing Ex. 1006 ¶¶ 29, 35). Petitioner explains that in Kalanick, “[w]hen a service application on the driver’s device determines that the transport service is to change state, such as to ‘arriving now,’ based on a determination that the driver is within a predetermined distance, the service application can trigger the indication device to output the user’s specific color.” *Id.* at 23 (citing Ex. 1006 ¶ 37)

Petitioner asserts that Kemler describes a central dispatching system in which one or more server computing devices of the centralized dispatching system may select a vehicle to be dispatched based upon the location of the client computing device. Pet. 23 (citing Ex. 1008, 10:3–33). Thus, Petitioner explains that Kemler “discloses ride-matching based on

proximity and distance to match requesting riders with drivers based at least in part on the proximity of their respective locations.” *Id.* Petitioner argues that “a [person of ordinary skill] would find it obvious to modify *Kalanick*’s vehicle identification system in view of *Kemler*, at least because both systems disclose substantially similar ride-matching techniques based on proximity and distance to match requesting riders with drivers based at least in part on the proximity of their respective locations.” *Id.* at 23–24; Williams Decl. ¶ 120.

Petitioner also argues that a person of ordinary skill would “anticipate success of such a modification.” *Id.* at 24. Petitioner explains that “the controller in *Kalanick* is already in communication with the car and could easily send a signal to activate the display with the unique code.” *Id.* (citing Williams Decl. ¶ 121). Petitioner asserts also that *Kemler* teaches the benefits of using rules requiring “unique” signals. *Id.* at 25 (citing Ex. 1008, 8:54–9:2).

Similarly, Petitioner contends a person of ordinary skill would have been motivated to combine the teachings of *Lalancette* and *Kemler*. Pet. 35–38; Williams Decl. ¶¶ 151–158. Petitioner asserts that “*Lalancette* and *Kemler* address similar problems related to vehicle identification and share the common objective of enabling riders to visually locate a requested vehicle while protecting the rider’s privacy.” *Id.* at 35. Further, “[b]oth teach similar solutions involving generating, transmitting, and displaying unique visual indicators on multiple displays such that users can visually match the unique indicators to efficiently identify their assigned vehicle.” *Id.*

Petitioner contends that “*Lalancette* discloses a system, which includes a vehicle dispatch controller to generate and transmit unique, personalized, privacy-protected indicators, to provide more efficient and effective identification of dispatched vehicles. *Id.* at 36 (citing Williams Decl. ¶ 153). Petitioner asserts also that “*Kemler* explains that a centralized dispatching system may generate a signal to identify [a] vehicle to the user, and that [o]nce the vehicle is within a certain distance of the user’s client device, the vehicle’s computing device may display the signal on an external display of the vehicle such that the signal should be visible to the user as the vehicle approaches the user’s client device.” *Id.* at 35–36 (quoting Ex. 1008, 3:48–4:11 (alterations in original, internal quotation marks omitted)).

Still further, Petitioner argues “[r]eceiving and displaying signal as disclosed in *Kemler* provides a more efficient and effective system for identifying dispatched vehicles.” *Id.* at 37 (citing Williams Decl. ¶ 155).

Finally, Petitioner explains that a person of ordinary skill would have had a reasonable expectation of success in making the combination. *Id.* at 38. “Because both of the systems utilize the same basic display technologies and similar techniques for generating, transmitting, and displaying unique privacy-protected visual indicators, it would have been well within a [person of ordinary skill’s] level of skill to implement *Lalancette*’s taxi identification system with the additional technical details taught for *Kemler*’s substantially similar vehicle identification system.” *Id.* (citing Williams Decl. ¶ 157).

Patent Owner responds that the Petition gives “no reason to combine” *Kemler* with *Kalanick* or *Lalancette*. Prelim. Resp. 22–26. Referring to *Kemler*’s disclosure of driverless vehicles, Patent Owner contends that a person of ordinary skill “would simply not look to driverless vehicle

technology to seek ways to improve security, or rider privacy.” *Id.* at 23. For similar reasons, Patent Owner contends that Kemler is not “analogous art.” *Id.* at 26–29. We do not agree with these arguments.

As Patent Owner acknowledges, one objective of the ’199 patent is to “ensure” rider security. Prelim. Resp. 22 (citing Ex. 1001, 1:56–58). The fact that driver security is an additional objective of the ’199 patent would not discourage a person of ordinary skill from considering prior art having the objective of ensuring rider security, such as Kemler.

In addition, we do not agree with Patent Owner’s assertion that Kemler is not analogous art to Kalanick or Lalancette. *Id.* at 26–29. We first note a fundamental error in Patent Owner’s analysis. The issue is not whether Kemler is analogous art to Kalanick or Lalancette, but whether it is analogous art to the disclosure of the ’199 patent. *See, e.g., In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004) (cited by Patent Owner) (“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 ’199 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 is discussed *supra*, both Kemler and the ’199 patent are directed to on-demand transport systems, and thus are in the same “field of endeavor.” *See* Section IV.D, *supra*. Moreover, both are directed to the

same problem of providing security to riders by identifying vehicles in such systems.

We have considered Patent Owner's other arguments on these issues and are not persuaded by them. Prelim. Resp. 27–29. 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 27. Similarly, the question is not whether bodily incorporating features of Kemler into Kalanick or Lalancette 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/Lalancette is not as simple as plugging a Kemler feature into Kalanick or Lalancette.”). As discussed *supra*, the issue is whether Kemler is analogous art to the '199 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, we are convinced that Kemler is analogous art for the reasons given by Petitioner and summarized above. Moreover, at this stage, we determine that Petitioner has demonstrated a sufficient motivation to combine Kemler with Kalanick and Lalancette, for the reasons given by Petitioner and those summarized above.

Moreover, we are persuaded at this stage that Petitioner's showing that combining the teachings of the references would have been within the ordinary level of skill with a reasonable expectation of success is sufficient. As Mr. Williams testifies, the necessary modifications to Kalanick and Lalancette are “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.”

Williams Decl. ¶¶ 124, 158.

F. Obviousness Based on Kalanick and Kemler

Petitioner asserts that claim 1 would have been obvious in light of Kalanick and Kemler. Pet. 21–35. Petitioner provides an element-by-element claim analysis, supported by expert testimony. *Id.* at 26–35; Williams Decl. ¶¶ 130–149.

1. Claim 1

(Preamble) A vehicle identification method implemented as an Application on mobile communication devices over a wireless communication network, comprising:

Petitioner contends the preamble of claim 1 is disclosed by Kalanick. Pet. 26–27; Williams Decl. ¶¶ 126–129. Petitioner explains that Kalanick discloses a “system that can automatically configure an indication device (or a display device) for use with an on-demand service.” Pet. 27 (quoting Ex. 1006 ¶ 10). At this stage, Patent Owner does not challenge this contention.

We determine that at this stage, Petitioner demonstrates sufficiently that the preamble of claim 1 is met by Kalanick.

(1A) requesting a ride from a transportation service from a mobile communication device of a user

Petitioner contends Kalanick meets this limitation by disclosing 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.” *Id.* (citing Ex. 1006 ¶ 1; Williams Decl. ¶ 130). At this stage, Patent Owner does not challenge this contention.

We determine that at this stage, Petitioner demonstrates sufficiently that this element of claim 1 is met by Kalanick.

(1B) determining that a vehicle is within a predetermined distance of the location of the user

Petitioner contends Kalanick discloses this limitation. Pet. 27–28. Petitioner contends that “*Kalanick* discloses that the system can determine if the driver’s position is within a predetermined distance of the user’s current location or the pickup location.” *Id.* at 38 (citing Ex. 1006 ¶ 35) (internal quotation marks omitted).

(1C) generating a notification signal to a mobile communication device associated with a driver of the vehicle

Petitioner contends Kalanick discloses this limitation. Pet. 28. Petitioner contends that in Kalanick, “service application 161 can receive the configuration data 145 from the system 100 and control the indication device 170.” *Id.* (citing Ex. 1006 ¶ 32). Petitioner further explains that “when the controller detects the driver is close to the rider, it generates a signal

- 1) notifying the driver’s device of the appropriate identifier and
- 2) notif[ying] the driver’s device that it is time to display that identifier.” *Id.* (citing Williams Decl. ¶ 134).

Patent Owner responds that Kalanick, “alone or in combination with Kemler” does not meet the “determining” or “generating” steps of claim elements 1B or 1C. Prelim. Resp. 33–38.

Patent Owner contends that Kalanick does not meet the step of “determining . . . a predetermined distance” limitation of the claim. *Id.* at 37. Patent Owner contends that “Kalanick does not describe any embodiments that generate or transmit a signal when a driver is within a predetermined distance of the location.” *Id.* We do not agree with this

argument. Petitioner demonstrates sufficiently that Kalanick meets the “determining” step. As discussed *supra*, in Section IV.D.1, Petitioner explains that Kalanick’s “on-demand service system can also use location information from the driver’s device and/or transport information . . . to automatically determine the driver’s state or state of the transport service.” Pet. 22 (citing Ex. 1006 ¶¶ 29, 35). Petitioner explains further that in Kalanick, “[w]hen a service application on the driver’s device determines the transport service is to change state, such as to ‘arriving now,’ based on a determination that the driver is within a predetermined distance, the service application can trigger the indication device to output the user’s specific color.” *Id.* at 23 (citing Ex. 1006 ¶37).

In addition, Petitioner explains that Kalanick meets the “generate” step because “[w]hen the controller detects the driver is close to the rider, it generates a signal 1) notifying the driver’s device of the appropriate identifier and 2) notif[ying] the driver’s device that it is time to display that identifier.” Pet. 28 (citing Williams Decl. ¶ 134).

Patent Owner contends that Kalanick does not meet the generate step because “[t]he claims require that a new signal be *actively formulated* each time a ride is dispatched.” Prelim. Resp. 34 (emphasis added). Patent Owner’s argument fails because it is based on Patent Owner’s implicit claim construction contention for “generates,” which we have rejected, for the reasons given in Section IV.C, *supra*. We determine that for the reasons given, Petitioner has demonstrated sufficiently that Kalanick meets the “generate” step.

Patent Owner also reprises its argument that there no reasonable expectation of success in combining Kemler to make up “the deficiencies in

Kalanick.” Prelim. Resp. 30–33. We disagree with this argument for the reasons given in Section IV.E. Moreover, we disagree with Patent Owner’s argument that “there is nothing in the disclosure of Kemler to suggest that any signal transmission to the driverless vehicle is triggered as the vehicle approaches within a predetermined distance of the specific location.” *Id.* at 38. As discussed *supra*, in Section IV.D.2, Kemler discloses 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. *See* Ex. 1008, 4:1–19.

In sum, we determine that Petitioner has demonstrated sufficiently that Kalanick meets claim elements 1B and 1C, with or without Kemler.

(1D) generating an indicatory signal representing an indicator

Petitioner contends this limitation is met by the combination of Kalanick and Kemler. Pet. 29 (citing Williams Decl. ¶¶ 135–137).

Petitioner contends 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 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) using a client device interface 120 and a driver device interface 130, respectively.” *Id.* at 32–33 (alteration in original) (citing Ex. 1006 ¶ 25).

Petitioner explains that Kemler discloses an identifier in the form of a signal that is displayed on the display. *See* Pet. 30 (citing 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. This

protects the user’s privacy.”)). Petitioner contends that “[a person of ordinary skill] would be motivated to combine the controller generated signal/indicator of Kemler’s driverless vehicle identification system with Kalanick’s driver oriented vehicle identification system to permit the driver’s device to send the signal to the display on the vehicle after the driver’s device receives the signal from the controller.” *Id.* (citing Williams Decl. ¶ 137).

Patent Owner responds that “Kalanick does not actively formulate an indicatory signal representing an indicator. Kalanick instead uses already stored user indicator preferences, and riders set the output configuration to be associated with their future rides.” Prelim. Resp. 38. We do not agree with this argument because it is based on Patent Owner’s implicit construction of “generate” as “actively formulate,” which we have not adopted. *See* Section IV.C, *supra*. Moreover, in asserting that Kalanick “uses already stored user indicator preferences,” the argument fails to address the language of the claim, which calls for generating a signal, not an indicator. *Id.*

Moreover, we do not agree with Patent Owner’s argument that Kemler does not “fill Kalanick’s gaps.” Prelim. Resp. 38. This argument is unavailing because it is based on the premise that Kemler’s signal transmissions “would be irrelevant in a driver-operated vehicle environment.” *Id.* at 39. For reasons previously discussed, we do not agree that sufficient proof of a motivation to combine Kalanick and Kemler is lacking. *See* Section IV.E, *supra*.

(1E) displaying the indicator based on the notification signal on a display associated with the vehicle, the mobile communication device associated with the driver, and the user's mobile communication device,

(1F) wherein the display associated with the vehicle is located to be visible from the exterior of the vehicle; and

(1G) identifying the vehicle based on the appearance of a match, by visual observation of the user, between the indicator being displayed on the user's mobile communication device and the indicator being displayed on the display associated with the vehicle.

Petitioner demonstrates that these claim limitations relating to the display are disclosed by Kalanick and Kemler. Pet. 30–35; Williams Decl. ¶¶ 138–149. At this stage, Patent Owner does not challenge these contentions.

We determine that at this stage, Petitioner demonstrates sufficiently that these elements of claim 1 are met by Kalanick.

In sum, we determine that for the reasons given, including those summarized above, Petitioner has demonstrated a reasonable likelihood of prevailing on this challenge to claim 1.

G. Obviousness Based on Lalancette and Kemler

Petitioner contends also that claim 1 and 2 would have been obvious in light of Lalancette and Kemler and provides an element-by-element analysis. Pet. 38–48. Petitioner provides supporting testimony from Mr. Williams. Williams Decl. ¶¶ 159–186.

1. Claim 1

Petitioner's analysis for claim 1 demonstrates that each element of the claim is met by Lalancette and Kemler. Pet. 38–66; Williams Decl. ¶¶ 159–182. For example, Petitioner demonstrates that the preamble is met by

Lalancette’s disclosure of “a cross-platform target identification system” for use with a taxi dispatch service. Pet. 39. Similarly, the step of requesting a ride (1A) is met by Lalancette’s disclosure of “a user 102 ordering a taxi by using handset/smartphone 104 to request taxi service from a taxi dispatch service (service provider 1 108) via communication link 109.” *Id.* at 41 (quoting Ex. 1009 ¶ 29) (internal quotation marks omitted).

Petitioner contends that Lalancette and Kemler meet the “predetermined distance” requirement of claim element 1B. Pet. 41–44; Williams Decl. ¶¶ 167–171. Petitioner explains “*Kemler* teaches that ‘the centralized dispatching system may send the signal . . . when the vehicle is within the certain distance or time relative to the user.’” Pet. 42–43 (alteration in original) (citing Ex. 1008, 4:12–19). Petitioner asserts “[a person of ordinary skill] would find it obvious to modify *Lalancette*’s taxi identification system to determine that a vehicle is within a predetermined distance of the location of the user, as disclosed in *Kemler*.” *Id.* at 43 (citing Williams Decl. ¶ 171).

Patent Owner responds that “Lalancette does not describe any embodiments that generate a notification signal when a driver is within a predetermined distance of the location.” Prelim. Resp. 42. This argument is unavailing among other reasons for its failure to address the combination of Kemler with Lalancette. *See* Pet. 42–43 (“*Kemler* teaches that . . . ‘the centralized dispatching system may send the signal . . . when the vehicle is within the certain distance or time relative to the user.’”).

Petitioner asserts that “to the extent that Lalancette does not explicitly discuss determining that a vehicle is within a predetermined distance of the location of the user, a [person of ordinary skill] would find it obvious to

modify Lalancette’s taxi identification system to determine that a vehicle is within a predetermined distance of the location of the user, as disclosed in Kemler.” Pet. 43 (citing Williams Decl. ¶ 171). We do not agree with Patent Owner’s argument that combining the teachings of Lalancette and Kemler is “impermissible hindsight.” Prelim. Resp. 43. Our reasoning is discussed in Section IV.E, *supra*. We determine that for the reasons given, Petitioner demonstrates sufficiently that limitation 1B is met by Lalancette, alone or combined with Kemler.

Petitioner contends that the “generating” steps of limitations 1C and 1D are met by Lalancette and Lalancette with Kemler. Pet. 43–45; Williams Decl. ¶¶ 172–177. Petitioner contends that Lalancette meets the generating requirements of limitation 1C for a “notification signal” because “Lalancette discloses that the taxi service provider server generates a notification signal including the icon to the driver’s mobile computer which is displayed on the roof-top display of the taxi.” Pet. 44 (citing Williams Decl. ¶ 174). Similarly, for limitation 1D, Petitioner asserts that “the combination of Lalancette and Kemler . . . discloses that the controller actively formulates a signal that represents the indicator for each ride in a vehicle identification system.” *Id.* at 45 (citing Williams Decl. ¶ 176).

Patent Owner responds that “[t]he claims of the invention require that a new signal be actively formulated each time there is a ride dispatched. No signal is pre-associated with a particular rider or a particular driver.” Prelim. Resp. 40. Patent Owner continues, “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.*

As in the case of Patent Owner’s argument directed to Kalanick, we do not agree with its argument because it is based on Patent Owner’s proposed construction of “generate,” which we do not adopt. *See supra*, Section IV.C. For the reasons given, Petitioner demonstrates sufficiently that Lalancette meets limitations 1C, calling for “generating a notification signal,” and 1D, calling for “generating an indicative signal.” Pet. 43–45; Williams Decl. ¶¶ 172–177.

At this stage, Patent Owner does not challenge Petitioner’s contentions that the remaining limitations of claim 1 are met by Lalancette and Kemler. We determine that Petitioner’s contentions are sufficient at this stage. We therefore determine that for the reasons given, Petitioner has sufficiently demonstrated a reasonable likelihood of prevailing on this obviousness challenge to claim 1.

2. *Claim 2*

Claim 2 depends from claim 1 and adds the step of “identifying the user based on appearance of a match” Ex. 1001, 8:28–33. Petitioner contends that this step is taught by Lalancette in view of Kemler. Pet. 48 (citing Ex. 1009 ¶ 33). At this stage, Patent Owner does not challenge this contention. We determine that Petitioner’s contention is sufficient at this stage.

We determine that at this stage, Petitioner demonstrates sufficiently that this additional element is met by Lalancette, alone or combined with Kemler.

V. CONCLUSION

For the foregoing reasons, we have determined that there is a reasonable likelihood that Petitioner would prevail with respect to at least

one of the claims challenged in the Petition. We therefore institute trial as to all challenged claims on all grounds stated in the Petition.

VI. ORDER

Upon consideration of the record before us, it is:

ORDERED that *inter partes* review of claims 1 and 2 of the '199 patent is instituted on all grounds in the Petition;

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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