

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*.

JUDGMENT
Final Written Decision
Determining All Challenged Claims Unpatentable
35 U.S.C. § 318(a)

ORDER
Granting Motion to Amend
37 C.F.R. § 42.121
Denying Motion to Exclude
37 C.F.R. § 42.64

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.”). We determined that Petitioner had established a reasonable likelihood that it would prevail with respect to at least one claim. We, therefore, instituted *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. Paper 7 (“Institution Dec.”).

Following institution, Patent Owner filed a Response. Paper 13 (“PO Resp.”). Subsequently, Petitioner filed a Reply (Paper 18, “Pet. Reply”), and Patent Owner filed a Sur-reply (Paper 21, “PO Sur-reply”).

After institution, Petitioner filed a contingent Motion to Amend (Paper 12, “Mot. Amend”) and requested that we provide preliminary guidance in accordance with the Board’s pilot program concerning motion to amend practice and procedures. Mot. Amend 1; *see* Notice Regarding a New Pilot Program Concerning Motion to Amend Practice and Procedures in Trial Proceedings under the America Invents Act before the Patent Trial and Appeal Board, 84 Fed. Reg. 9,497 (Mar. 15, 2019) (“Notice”). *See* Section IV, *infra*. In addition, Patent Owner filed a Motion to Exclude Evidence (Paper 26) and Petitioner filed an Opposition (Paper 28). *See* Section V, *infra*. On January 10, 2023, we held a consolidated oral hearing

with four related cases.¹ A transcript of the hearing is included in the record. Paper 31 (“Hearing Tr.”).

We have jurisdiction under 35 U.S.C. § 6. This decision is a Final Written Decision issued pursuant to 35 U.S.C. § 318(a). For the reasons we discuss below, we determine that Petitioner has proven by a preponderance of the evidence that claims 1 and 2 of the ’199 patent are unpatentable.

In addition, because we determine that Petitioner has failed to establish by a preponderance of the evidence that proposed substitute claims 3 and 4 of Patent Owner’s contingent Motion to Amend are unpatentable, we grant the Motion to Amend.

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. 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)

¹ Those cases are IPR2021-01598, IPR2021-01599, IPR2021-01600, and IPR2021-01602.

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:

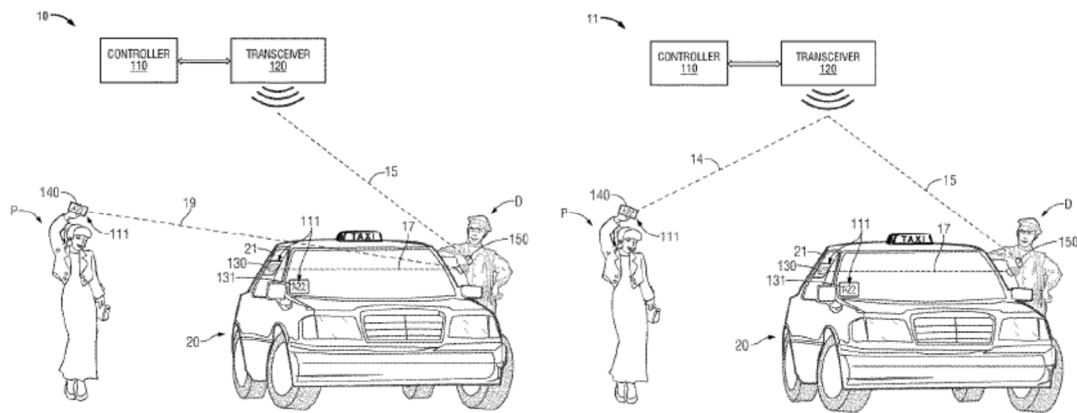


Fig. 1A

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 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:

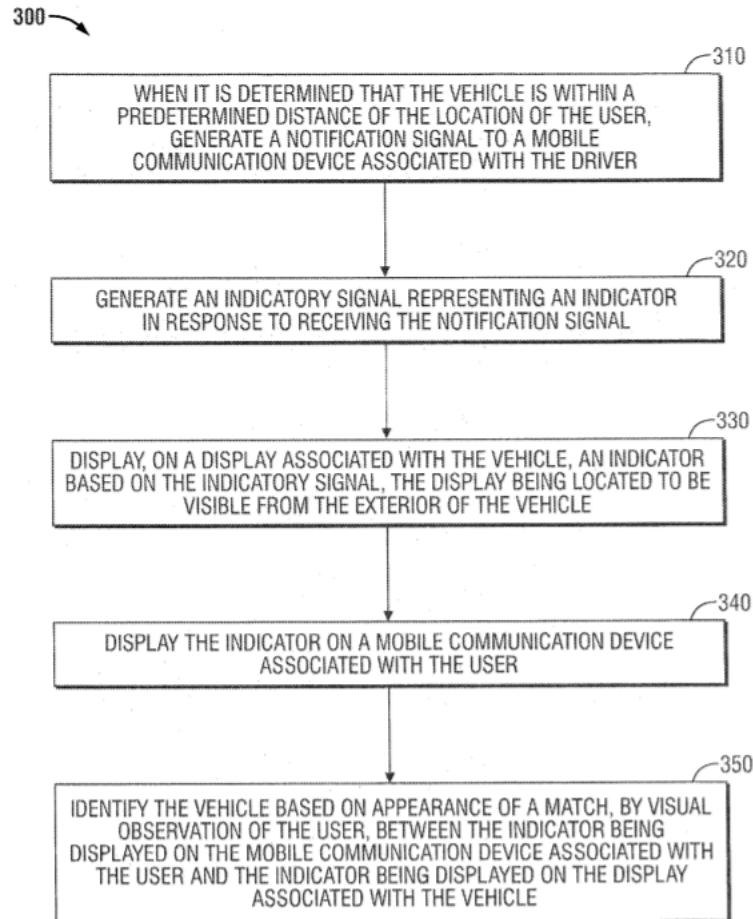


Figure 3 illustrates a method of identifying a vehicle being dispatched to a location of a user having requested a ride from a transportation service. Ex. 1001, 7:8–10. When it is determined that motor vehicle 20 is within a predetermined distance of the location of user P, notification signal 15 is generated to mobile communication device 150 associated with driver D. *Id.* 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 vehicle 20. *Id.* at 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.* 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 vehicle 20. *Id.* at 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:²

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

[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. 4):

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”);

² Paragraph references in brackets were added tracking Petitioner's analysis.

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

In addition to these references, Petitioner relies on three Declarations of David Hilliard Williams. Ex. 1003 (“Williams I Decl.”), Ex. 1027 (“Williams II Decl.”), Ex. 1030 (“Williams III Decl.”). Patent Owner submitted a first Declaration of Dr. Matthew Valenti with the Preliminary Response (Ex. 2001 “Valenti I Decl.”), and thereafter, second and third declarations of Dr. Valenti (Ex. 2021, “Valenti II Decl.”; Ex. 2023, “Valenti III Decl.”). In addition, the parties have submitted deposition transcripts for those witnesses.³

F. The Asserted Grounds of Unpatentability

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

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis ⁴
1	103	Kalanick, Kemler
1, 2	103	Lalancette, Kemler

III. 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

³ Ex. 1029 (“Valenti Dep.”); Ex. 2022 (“Williams Dep.”),

⁴ 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.”).

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). Neither party has presented any evidence on the fourth *Graham* factor. We therefore do not consider this factor in our decision.

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 I Decl. ¶ 44).

Patent Owner provided a slightly different formulation in the Preliminary Response. According to Patent Owner, a person of ordinary skill at the relevant time 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 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 the institution stage, we adopted Petitioner’s more general formulation, with a qualification. We stated 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. Institution Dec. 19. We reasoned that our review of the ’199 patent and the cited prior art did 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. *Id.* at 19–20. However, we observed that the arguments presented by the parties did not depend on the definition of the person or ordinary skill, and therefore, we concluded that our decision would be the same under either formulation. *Id.* at 20.

Patent Owner responds that it “disagrees” with our formulation because “the [’199] patent is not directed to a vehicle tracking system.” PO Resp. 4. Patent Owner explains that “[i]t is directed to a communication system between a rider and driver, albeit using location based services in some aspects of this system, and thus a [person of ordinary skill] would be a person who is skilled in the field of communication systems along cellular networks.” *Id.*

We agree that the patented technology involves cellular communications, and this is adequately reflected in our formulation, where we stated “[w]e 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.” Institution Dec. 19. But Patent Owner continues that “a [person of ordinary skill] should have knowledge of wireless communications protocols and some general experience with data privacy issues and protection models, in addition to the education level in electrical or computer engineering identified by the parties.” PO Resp. 4–5. Patent Owner cites no authority for this proposal, which we rejected in our Institution Decision based on our review of the patent and the prior art. Institution Dec. 19. We therefore maintain our formulation of the person of ordinary skill from our Institution Decision.

Patent Owner segues from discussing the scope of knowledge of a person of ordinary skill to an attack on Mr. Williams’s testimony. PO Resp. 5–6. We are not persuaded by Patent Owner’s citations to Mr. Williams’s testimony, or by Patent Owner’s attempt to discredit Mr. Williams’s opinions on the pertinent art as “overreach.” *Id.* None of the testimony cited by Patent Owner relates to the Kalanick, Lalancette, or Kemler references. Nor do we agree that Mr. Williams’s testimony concerning background technology “infects each argument that Petitioner makes with respect to the knowledge of a [person of ordinary skill],” as Patent Owner alleges. *Id.* at 6. Patent Owner does not point to any specific arguments that would be so “infected.” We find, instead, as we stated in our Institution Decision, that “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.” *See* Institution Dec. 20.

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 prefaced 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 proceeded to criticize two constructions proposed by Patent Owner in district court: “indicator” and “indicatory signal.” *Id.* at 10. Petitioner claimed that Patent Owner’s proposed construction of these terms “requires something to be ‘actively formulated’ by the controller.” *Id.* Petitioner disagreed 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 asserted the terms should be given “their ordinary and customary meaning.” *Id.*

Patent Owner responded that two terms, in context, required construction and addressed each in the Preliminary Response. Prelim. Resp. 6–11.

In our Institution Decision, we addressed the parties’ proposed constructions of “indicator” and “indicatory signal” as well as the construction of “generate,” which we identified as an additional term requiring construction. Institution Dec. 20–25. We further address the construction of these terms below.

1. Indicator

For the term “indicator” (as in “indicatory signal representing an indicator”), Patent Owner proposed 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 construed 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.” Institution Dec. 21.

We did 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.” *Id.* at 22 (citing Prelim. Resp. 31).

Patent Owner does not address the construction of “indicator” in its Patent Owner Response. For the foregoing reasons, we maintain our construction of this term. We discuss Patent Owner’s contention that a new indicator must be “actively formulated” further in connection with our consideration of the claim term “generate,” *infra*.

2. *Indicatory Signal*

Patent Owner disagreed 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 asserted 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 continued, “the location signal is very different from the signal that indicates what code should be on the display.” *Id.* at 9. Thus, Patent Owner proposed 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 Ex. 1001, Fig. 3, Block 320).

As in the case of the term “indicator,” we did 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 did not adopt Patent Owner’s construction. Institution Dec. 23.

Patent Owner does not address this construction in its Patent Owner Response. For the foregoing reasons, we maintain our construction of this term.

3. *Generate*

Based on the arguments presented and on Patent Owner’s analysis of the prior art in the Preliminary Response, we identified “generate” as an additional term appearing in the challenged claims that required construction, as it relates to the controller in such phrases as “generating an indicatory signal representing an indicator.” Institution Dec. 23 (citing Ex. 1001, 8:16 (claim element 1D)).

Referring to the specification, Patent Owner explained 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 in the Preliminary Response equated the claim term “generate” a signal with “actively formulate” an indicator. 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 asserted that “[t]he claims require that a new signal [i.e., there is no user profile, no signal stored in a user profile, or stored in a database in advance of a rider’s request for a driver/taxi] be actively formulated each time a ride is dispatched.” *Id.* at 34.

We declined to adopt this implicit construction (and the related construction “actively generate”). Institution Dec. 23. 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 3:6–10. 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, 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 looked to extrinsic sources to determine its plain meaning. Institution Dec. 25. 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). One 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 construed 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.” Institution Dec. 25.

Patent Owner’s Response does not directly respond to this construction. PO Resp. 7. Instead, Patent Owner asserts that “at institution, the Board determined that the term ‘generating should be construed according to its ordinary meaning. . . . Applying ordinary meaning should still lead to the conclusion that the prior art does not render the claims of the patent unpatentable.” *Id.*

For the foregoing reasons, we maintain our construction of “generate” a signal as “to originate or produce the signal.” Institution Dec. 25.

4. *Other Terms*

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:

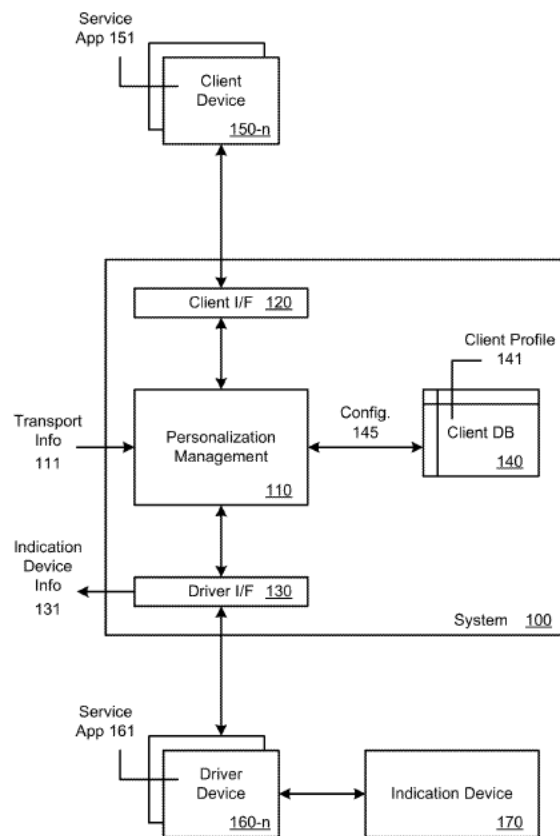


FIG. 1

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. *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.

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

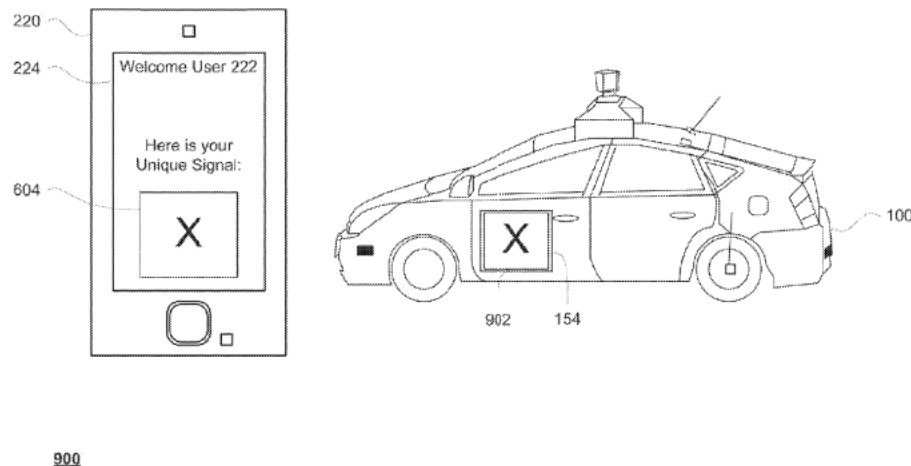


FIGURE 9

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. *Id.* at 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

1. Introduction

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

Similarly, Petitioner contends a person of ordinary skill would have been motivated to combine the teachings of Lalancette and Kemler. Pet. 35–38; Williams I 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.” Pet. 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 “combining *Lalancette* and *Kemler* would have been well within the skill of a [person of ordinary skill in the art] and doing so is a suitable option because it 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.” *Id.* at 38 (citing Williams I Decl. ¶ 158).

2. Patent Owner’s Contentions

Patent Owner responds that the Petition gives “no reason to combine” *Kemler* with either *Kalanick* or *Lalancette*. PO Resp. 8 (*Kemler*), 28 (*Lalancette*). Patent Owner contends that Petitioner’s assertion that *Kalanick* and *Kemler* “teach similar solutions” is insufficient proof of a motivation to combine “as a matter of law.” *Id.* at 10–11. Patent Owner asserts that *Kalanick* “already mitigates” the potential “duplication” problem created when riders from the same area select the same or similar indicators. *Id.* at 11–13. Patent Owner argues that “combining known technologies” is not sufficient to establish a motivation to combine *Kemler* and *Kalanick*. *Id.* at 14–18. And Patent Owner contends there is no “evidence of a reasonable expectation of success in combining *Kemler* to make up the deficiencies of *Kalanick*.” *Id.* at 18–19. Patent Owner asserts that “[t]he immense expense and complexity of operating a server ‘farm’ would be a reason to *avoid* *Kemler*’s teachings.” *Id.* at 18.

Patent Owner makes similar arguments asserting an insufficiency of evidence of a motivation to combine *Kemler* with *Lalancette*. *Id.* at 28–34. For example, in addition to the arguments discussed above in connection

with Kalanick, Patent Owner asserts that “Kemler is no better at protecting privacy than Lalancette.” *Id.* at 30–32. Patent Owner also argues that “Petitioner has failed to substantiate that the combination [of Kemler and Lalancette] would improve efficiency.” *Id.* at 33. Patent Owner expands on this latter argument as follows: “Petitioner provides no support for the claim that combining the system of Kemler to Lalancette would make Lalancette more efficient by virtue of turning the icon indicator light on when the vehicle was in a predetermined distance to the location of the user.” *Id.* at 33.

Patent Owner argues also that “there is no reasonable expectation of success in combining Kemler with Lalancette.” *Id.* at 34–35. Patent Owner explains that “[t]he relative[] simplicity of the configuration of Lalancette – an icon server and icon database in a network, contrasts with the complexity of operating the server farm of Kemler.” *Id.* at 34.

3. Discussion

For the reasons that follow, we find that Petitioner has established a sufficient motivation to combine the teachings of Kemler and Kalanick and of Kemler and Lalancette. We further find, for the reasons given here and in Section III.E.1, *supra*, that Petitioner has demonstrated that there was a reasonable expectation of success in making those combinations. *See id.*

The Federal Circuit has recently reminded us that “[t]he motivation-to-combine analysis is a flexible one. Any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed.” *Intel Corp. v. PACT XPP Schweiz AG*, 61 F.4th 1373, 1379 (Fed. Cir. 2023) (“*Intel Corp.*”) (citing *KSR Int’l Co. v. Teleflex*, 550 U.S. 398, 420 (2007))

(alterations and internal quotation marks omitted). Reversing a decision of the Board finding insufficient motivation to combine references, the Federal Circuit further reminded us that “a person of ordinary skill is also a person of ordinary creativity, not an automaton.” *Id.* (quoting *KSR*, 550 U.S. at 421) (alterations omitted).

The Federal Circuit further observed that “in many cases[,] a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle.” *Id.* at 1379–80 (alteration in original, internal quotation marks omitted). The Court continued, “[t]hat’s why the motivation-to-combine analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *Id.* at 1380 (internal quotation marks omitted).

The Federal Circuit also recognized what it termed “universal motivation,” i.e., motivation “known in a particular field to improve technology,” commenting that such motivations “provide a motivation to combine prior art references *even absent any hint of suggestion* in the references themselves.” *Id.* (citing *Intel Corp. v. Qualcomm Inc.*, 21 F.4th 784, 797–99 (Fed. Cir. 2021) (internal quotation marks omitted).

a) *Kalanick and Kemler*

We find that Petitioner demonstrates that Kalanick and Kemler address “similar problems related to vehicle identification.” Pet. 21–22; Williams I Decl. ¶ 116. Furthermore, as Petitioner asserts, we find 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.” Pet. 22; Williams I Decl. ¶ 116. Further, “[b]oth also utilize vehicle mounted displays which are visible from the outside of the vehicle.” Pet. 22; Williams I Decl. ¶ 116.

We do not agree with Patent Owner that the Petition “fail[s] to establish a motivation” to combine Kemler with Kalanick.” PO Resp. 8. As noted above, the Federal Circuit does not require Petitioner to identify “precise teachings directed to the specific subject matter of the challenged claim.” *See Intel Corp.*, 61 F.4th at 1380.

We find that the Petition and supporting expert testimony sufficiently demonstrate that a person of ordinary skill would have combined the teachings of Kemler and Kalanick with a reasonable expectation of success. Pet. 21–25. In addition to the reasons given *supra*, 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.” *Id.* at 22 (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). Thus, Kalanick’s system can “control the indication device to output the user’s color or other unique distinctive indicator based on the transport state.” *Id.* (citing Ex. 1006, ¶ 38).

Petitioner explains 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. *Id.* (citing Ex. 1008, 10:3–33). Thus, Petitioner explains that Kemler, like Kalanick, “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 demonstrates 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. Petitioner also explains 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 I Decl. ¶ 121).

Petitioner recognizes that although both Kalanick and Kemler “focus on vehicle identification by utilizing indicators, the disclosures approach indicator selection in slightly different ways.” *Id.* Kemler approaches indicator selection through a “centralized dispatching system,” while Kalanick allows the user to specify the “output configuration” of the identification information. *Id.*

We do not find Patent Owner’s responsive arguments persuasive. *See* Section III.E.2, *supra*. For example, we disagree with Patent Owner’s argument that Petitioner’s demonstration that Kalanick and Kemler provide similar solutions is “insufficient as a matter of law.” PO Resp. 10–11. The

assertion that Kalanick and Kemler are analogous art to the '199 patent, which Patent Owner no longer disputes (*see* Hearing Tr. 58:11–15), is entitled to consideration as one factor in Petitioner's argument. *See* Pet. 21–25; Pet. Reply 3–8. Moreover, Patent Owner's argument that it is “insufficient as a matter of law” that Kalanick and Kemler teach similar solutions (PO Resp. 10) is contrary to *Intel*'s approval of the “known-technique” rationale for combining the teachings of references: “[I]f there's a known technique to address a known problem using 'prior art elements according to their established functions,' then there is a motivation to combine.” *Intel Corp.*, 61 F.4th at 1380 (citation omitted).

We disagree, also, with Patent Owner's “duplication” argument. PO Resp. 11–13. The fact that Kalanick may not “disclose any problem” arising from the possibility of two passengers in the same area having the same signal does not prove a problem did not exist or that a person of ordinary would not be motivated to improve upon the solution for it. *See* Pet. Reply 5–6. Similarly, we are not persuaded by Patent Owner's argument that there would be no reasonable expectation of success based on Kemler's disclosure of a server farm. PO Resp. 18 (“The immense expense and complexity of operating a server ‘farm’ would be a reason to avoid Kemler's teachings.”). Testimony from Mr. Williams establishes the advantages of such systems. Pet. Reply 19 (citing Williams Dep. 82:1–88:25, 92:13–93:1; Williams III Decl. ¶ 35)).⁵

⁵ We find Mr. Williams testimony credible on this issue. On cross-examination by Patent Owner's counsel, Mr. Williams testified to his experience in designing, implementing, and setting up server farms. *See* Williams Dep. 82:17–88:7; 91:11–93:1.

Petitioner demonstrates that a person of ordinary skill would have expected success in combining the teachings of the references, because it would require modifications to *Kalanick*'s controller "already in communication with the car and could easily send a signal to activate the display with the unique code." Pet. Reply 8 (citing Williams I Decl. ¶ 123; *see also* Williams III Decl. ¶ 13 (expressing the opinion that the expense of operating a server farm would not lead to unexpected results)). We find that for the reasons given, the necessary modifications to *Kalanick* 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." Pet. Reply 8; Williams III Decl. ¶ 15.

We find for the reasons given that "[a person of ordinary skill] 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." Pet. 25. Williams I Decl. ¶ 120. Petitioner explains also that *Kemler* teaches the benefits of using rules requiring "unique" signals. Pet. 25 (citing Ex. 1008, 8:54–9:2). Petitioner demonstrates also that "[a person of ordinary skill] would have a reasonable expectation of success 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.*

b) *Lalancette and Kemler*

Similarly, we find that Petitioner demonstrates that a person of ordinary skill would have combined the teachings of *Lalancette* and *Kemler* with a reasonable expectation of success. Pet. 35–38; Pet. Reply 15–19. Petitioner explains 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.” Pet. 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 explains 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 I Decl. ¶ 153). Petitioner also relies on the disclosure in *Kemler* that “[t]he signal may include a unique, distinct, and/or easily distinguishable string of text or image, and may further include, for example, a series of nonsensical letters, a sequence of colors, and/or a barcode.” *Id.* (citing Ex. 1008, 3:60–67, 10:62–11:14).

Petitioner shows 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 explains “[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 I Decl. ¶ 155). Petitioner reasons that “[t]his is so at least because the system is more efficient by only displaying the signal once the vehicle [is] within a threshold distance of the rider and thus conserves energy.” *Id.*

Finally, as Petitioner explains, we find 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 I Decl. ¶ 157). Furthermore, as Petitioner explains, “combining *Lalancette* and *Kemler* would have been well within the skill of a [person of ordinary skill in the art] and doing so is a suitable option because it 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.” *Id.* (citing Williams I Decl. ¶ 158).

We do not agree with Patent Owner’s arguments in response. *See supra*, Section III.E.2. For example, Patent Owner reprises the argument that “showing the references are analogous art” is insufficient to show a

motivation to combine references, which is similar to the argument discussed *infra* in connection with Kalanick and Kemler, and is unavailing for similar reasons. PO Resp. 30; *see supra*, Section III.E.3.a. Similarly unavailing is Patent Owner’s argument that “Lalancette is a complete and finished method of facilitating the connection of users and drivers, allowing users to select icons that do not allow an association with the user, thus protecting privacy.” PO Resp. 31. This argument is similar to the “duplication” argument discussed *supra* in connection with Kalanick, and is unavailing for similar reasons. The fact that Lalancette is allegedly “complete” does not prevent a person of ordinary skill from being motivated to improve upon it.

Finally, we credit Petitioner’s argument that combining Kemler and Lalancette would make Lalancette more efficient. Pet. 37 (“This is so at least because the system is more efficient by only displaying the signal once the vehicle within a threshold distance of the rider and thus conserves energy.”) *Id.* (citing Williams I Decl. ¶ 155). This argument is persuasive because it is supported by the testimony of Mr. Williams and by common sense. *See* Pet. Reply 19. Mr. Williams testified credibly that a person of ordinary skill would understand that by virtue of turning Lalancette’s indicator light on only when the vehicle was in a predetermined distance to the location of the user as disclosed in Kemler, the vehicle indicator display system would conserve energy and thus be more energy efficient. *Id.* (citing Williams I Decl. ¶¶ 155, 170–171; Williams III Decl. ¶ 36; Williams Dep. 97:5–21). Moreover, Mr. Williams backed up his testimony on the power requirements of server farms with several years of experience designing, implementing, and operating a server farm. *See* discussion *supra*. We find

that this experience lends credibility to his testimony that the server farm in Kemler would improve efficiency of the system, even without specific test data. Pet. Reply 19 (citing Williams III Decl. ¶ 35; Williams Dep. 82:1–88:25, 92:13–93:1).

c) Conclusion

We are persuaded and find for the reasons given that a person of ordinary skill would have combined the teachings of the references as proposed by Petitioner with a reasonable expectation of success. 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 I 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 I Decl. ¶¶ 130–149. Patent Owner disputes Petitioner’s analysis for several of the claim element, as is discussed *infra*. See PO Resp. 19–27.

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 I 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). Patent Owner does not address this contention.

We find for the reasons given that Kalnick teaches or suggests the preamble of claim 1.⁶

(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 I Decl. ¶ 130). Patent Owner does not address this contention.

We find for the reasons given that Kalanick teaches or suggests claim element 1A.

(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).

Patent Owner responds that Kalanick fails to disclose this step. PO Resp. 19. Patent Owner asserts that “Kalanick’s cited portions merely disclose that the system determines that the driver’s current location is within a predetermined distance. It does not disclose that the system sends a

⁶ We do not express an opinion on whether the preamble is limiting.

signal to the mobile device of the driver when the driver is a predetermined distance from a specific location.” *Id.* (citation omitted).

We disagree with this argument by Patent Owner. The claim limitation does not call for sending a signal to the driver. As Petitioner points out, the parties appear to agree that Kalanick performs the “determining” step called for in this claim element. Pet. Reply 9 (citing PO Resp. 9). The dispute, therefore, is not over the “determining” step, but the next following “generating” step. *Id.* We agree with Petitioner and, for the reasons given, we find that Kalanick teaches or suggests claim element 1B.

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

Petitioner contends that 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 in Kalanick, “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 I Decl. ¶ 134).

Patent Owner contends that Kalanick does not disclose this step. PO Resp. 20–22. Patent Owner contends that “the determining step [1B] must be read in connection with the generating step [1C] for the notification signal.” *Id.* at 21. According to Patent Owner, Kalanick “merely discloses that the system 100 can communicate with the driver devices 160. It does not, however, indicate when the communication occurs.” *Id.* (internal quotation marks and citations omitted). Patent Owner further contends that Kalanick “merely disclose[s] that the system can determine the driver’s

current location and status, but it does not disclose that the system sends a signal to the mobile device of the driver when the driver is a predetermined distance from a specific location.” *Id.*

We do not agree with Patent Owner’s arguments. As Petitioner points out, “nowhere does the claim language recite this limitation of sending the notification signal when it is determined that the vehicle is within a predetermined distance of a specific location.” Pet. Reply 10. We agree with Petitioner that Patent Owner is attempting to introduce a limitation not present in the language of the claim. *Id.* We agree also that a person of ordinary skill “would understand that the communications sent from Kalanick’s controller (‘system 100’) via a transceiver to the driver’s mobile communication device was a notification signal and satisfies the limitation.” *Id.* (citing Pet. 28; Williams III Decl. ¶ 19).

We find for the reasons given that Kalanick teaches or suggests claim element 1C.

(1D) generating an indicatory signal representing an indicator

Petitioner demonstrates that this limitation is met by the combination of Kalanick and Kemler. Pet. 29 (citing Williams I 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 id.* at. 30; Ex. 1008, 3:60–63 (“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.” Pet. 30 (citing *Williams I* Decl. ¶ 137); *see also* Section III.E.3, *supra* (finding sufficient motivation to combine *Kalanick* and *Kemler*).

Patent Owner responds that “[t]he claims require that a new signal be generated each time a ride is dispatched.” PO Resp. 22. Further, Patent Owner argues that “*Kalanick* by contrast does not generate an indicator signal. Instead, it transmits a signal that was stored in the user’s profile based on the user’s predetermined configuration preferences.” *Id.* (citation omitted).

We disagree that the claims “require that a new signal be generated each time a ride is dispatched.” As Petitioner points out, this is a variation on the “active formulation” claim construction argument advanced by Patent Owner which we have rejected previously. Pet. Reply 11 (“[Patent Owner] continues to confuse generating a unique icon or symbol for the first time with the claim requirement that simply requires that the controller generate or produce a first signal.”); *see supra*, Section III.C.3 (discussing construction of “generate” as not including active formulation). Moreover,

Petitioner relies on the combination of Kalanick and Kemler for this limitation, including the indicator signal. Pet. Reply 12. This combination would disclose having “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 Pet. 30; Williams I Decl. ¶ 137; Williams III Decl. ¶ 24). Patent Owner’s argument that Kalanick and Kemler “should not be combined” (PO Resp. 25) is discussed *supra*, in Section III.E.

We find for the reasons given that Kalanick and Kemler teach or suggest claim element 1D.

(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,

Petitioner relies on Kalanick and Kemler to meet this limitation. Pet. 30–33. Petitioner demonstrates that “a [person of ordinary skill] would find it obvious to modify *Kalanick’s* vehicle identification system in view of the teachings of *Kemler* to display the indicator on a display associated with the vehicle, the mobile communication device associated with the driver, and the user’s mobile communication device.” *Id.* at 32 (citing Williams I Decl. ¶ 142). Petitioner continues that “a [person or ordinary skill] would be motivated to do so to ensure that the user can accurately locate their assigned vehicle, which also serves to ensure the user’s safety by avoiding entering the wrong vehicle.” *Id.*

Patent Owner’s response consists mainly of arguments previously addressed, such as the alleged failure of Kalanick to teach or suggest a

notification signal or a signal containing an indicator. PO Resp. 26. In addition, Patent Owner contends Kemler does not “fill the gap” it alleges exists in Kalanick, e.g., because “Kemler’s system is ‘driverless . . . and its computing device is ‘incorporated in the vehicle.’” *Id.* One cannot show non-obviousness by attacking references individually where the assertions of obviousness are based on combinations of references. *See In re Keller*, 642 F.2d 413, 426 (CCPA 1981); *In re Merck & Co., Inc.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986). This argument is unavailing because it ignores the fact that while Kemler’s vehicle may be driverless, Kalanick’s is not. The proper test for obviousness is what the combined teachings of the references would have suggested to those having ordinary skill in the art. *In re Mouttet*, 686 F.3d 1322, 1333 (Fed. Cir. 2012).

We find for the reasons given that Kalanick teaches or suggests claim element 1E.

(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. 33–35; Williams I Decl. ¶¶ 145–149. Patent Owner does not challenge these contentions.

We find that for the reasons given, Petitioner has demonstrated by a preponderance of the evidence that the Kalanick and Kemler teach or suggest each limitation of claim 1 and that it would have been obvious to combine the references with a reasonable expectation of success. We

therefore determine that Petitioner has shown by a preponderance of the evidence that claim 1 would have been obvious over Kalanick and Kemler.

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 I 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 I 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 demonstrates that Lalancette and Kemler meet the “predetermined distance” requirement of claim element 1B. *Id.* at 41–44; Williams I 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 I 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.” PO Resp. 35. This argument is unavailing, among other reasons, because the claim does not require generation of a notification signal when the vehicle is within a predetermined distance from the driver. *See* Section III.E.1, *supra*; *see also* Pet. Reply 9. Furthermore, the argument fails 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.’” (alteration in original)).

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*.” *Id.* at 43 (citing Williams I Decl. ¶ 171). We do not agree with Patent Owner’s argument that the teachings of *Lalancette* and *Kemler* “should not be combined.” PO Resp. 35. Our reasoning is discussed in Section III.E.3, *supra*. We find that for the reasons given, Petitioner demonstrates that the “determining” limitation 1B is met by *Lalancette* combined with *Kemler*.

Petitioner demonstrates that the “generating” steps of limitations 1C and 1D are met by *Lalancette* or by *Lalancette* combined with *Kemler*. Pet.

43–45; Williams I Decl. ¶¶ 172–177. Petitioner explains that Lalancette meets the generating requirement 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 I Decl. ¶ 174). Similarly, for limitation 1D, Petitioner asserts that “even applying [Patent Owner’s] construction, 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 I Decl. ¶ 176).

Patent Owner responds that “[t]he claims of the invention require that a new signal be generated each time there is a ride dispatched. No signal is pre-associated with a particular rider or a particular driver.” PO Resp. 37. 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 did not adopt. *See supra*, Section III.C.3; Williams I Decl. ¶¶ 175–177. Furthermore, as Petitioner points out, the argument fails to address the combination of Kalanick and Kemler that Petitioner relies on to meet this limitation. Pet. Reply 12. For the reasons given, we find that Petitioner demonstrates that Lalancette and Kemler meet limitations 1C, calling for “generating a notification signal,” and 1D, calling for “generating an indicatory signal.” Pet. 43–45.

For claim element 1E (“displaying the indicator based on the notification signal on the display associated with the vehicle, the mobile communication device associated with the driver, and the user’s mobile device”), the Petition demonstrates that Lalancette discloses this step. *Id.* at 45–47. In Lalancette, as part of the dispatch procedure, service provider 108 transmits the dispatch information and the user’s icon to a mobile computer in taxi car 118 and the mobile computer manages the taxi roof-top electronic display 122. *Id.* at 44–46; Williams I Decl. ¶¶ 178–179; Ex. 1009 ¶ 32. Petitioner explains that “*Lalancette* discloses that the user 102 can show the driver the copy of the icon on the user device 104 which the driver can compare to the copy of the icon displayed on the driver’s dashboard display 124.” Pet. 47 (citing Ex. 1009 ¶ 33) (internal quotation marks omitted).

Patent Owner responds that “Lalancette does not disclose a mobile device associated with a driver at all.” PO Resp. 39 (citing Valenti III Decl. ¶ 94). Patent Owner continues, “Petitioner’s expert acknowledges that Lalancette does not disclose the use of a mobile communication device associated with the driver.” *Id.* (citing Williams Dep. 128:14–129:25, 132:1–8). This is a misrepresentation of Mr. Williams’s testimony. He was not asked whether Lalancette “discloses” a mobile communication device; he was asked to agree whether Lalancette “identi[fies] the mobile computer as a mobile communication device.” Williams Dep 129:10–13. He explained his response later in his testimony: “In the passage where [Lalancette] references mobile computer, it doesn’t have a specific form factor discussion such as referencing Smartphones.” *Id.* at 132:5–8.

We do not agree with Patent Owner’s argument that this limitation is not met by Lalancette and we do not find the testimony of its expert, Dr.

Valenti, credible or helpful. *See* Valenti III Decl. ¶¶ 94 (“Lalancette does not disclose a mobile device associated with a driver at all.”). As Petitioner points out, the argument supported by Dr. Valenti is an “attempt to improperly narrow the definition of a mobile device to only mean a smartphone of the driver.” Pet. Reply 24. We find that this argument and the supporting expert testimony are contradicted by the ’199 patent specification. *See id.*, at 24–25 (quoting Ex. 1001, 3:10–11, defining mobile communication device broadly). We, therefore, find that the mobile computer disclosed in Lalancette meets the requirement of this claim limitation for a “mobile communication device associated with the driver.” We find for the reasons given that Petitioner demonstrates that Lalancette and Kemler meet limitation 1E.

Patent Owner does not challenge Petitioner’s showing that 1F, the one remaining limitation of claim 1, is met by Lalancette and Kemler. We determine for the reasons given that claim limitation 1E is met by Lalancette and Kemler.

We find that for the reasons given, Petitioner has demonstrated by a preponderance of the evidence that the Lalancette and Kemler teach or suggest each limitation of claim 1 and that it would have been obvious to combine the references with a reasonable expectation of success. We therefore determine that Petitioner has demonstrated by a preponderance of the evidence that claim 1 would have been obvious over Lalancette and Kemler.

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

demonstrates that this step is taught by Lalancette in view of Kemler. Pet. 48 (citing Ex. 1009 ¶ 33).

Patent Owner does not separately challenge this contention., relying on its contentions for claim 1. PO Resp. 40 n.1.

We determine that for the reasons given for claim 1, Petitioner has demonstrated by a preponderance of the evidence that claim 2 would have been obvious over Lalancette and Kemler.

H. Conclusion

For the foregoing reasons, we determine that Petitioner has demonstrated by a preponderance of the evidence that claims 1 and 2 of the '199 patent would have been obvious (1) over Kalanick and Kemler, and (2) over Lalancette and Kemler.

IV. MOTION TO AMEND

A. Introduction

As discussed *supra*, after institution, Petitioner filed a contingent Motion to Amend. The Motion requests that, if we find in a final written decision that “original independent claim 1 [is] unpatentable,” we amend the '199 patent to “grant entry of corresponding substitute claims 3–4” presented in the Motion. Mot. Amend 1.

Patent Owner submitted the second Declaration of Dr. Matthew Valenti (“Valenti II Decl.”) in support of the Motion. *See supra*, Section I. Petitioner filed an Opposition to the Motion to Amend. Paper 16 (“Pet. MTA Opp.”). Petitioner submitted the second Declaration of David Williams (“Williams II Decl.”) in support of the Opposition.

Patent Owner requested that we provide preliminary guidance in accordance with the Board’s pilot program concerning motion to amend

practice and procedures. Mot. Amend 1. After considering Patent Owner's Motion to Amend and Petitioner's Opposition, we provided Preliminary Guidance. Paper 20 ("Prelim. Guidance").

In this Preliminary Guidance, we provided information indicating our initial, preliminary, and non-binding views on whether Patent Owner had shown a reasonable likelihood that it had satisfied the statutory and regulatory requirements associated with filing a motion to amend in an *inter partes* review and whether Petitioner (or the record) established a reasonable likelihood that the substitute claims are unpatentable. *See* Notice, 84 Fed. Reg. at 9,497; *see also* 35 U.S.C. § 316(d) (providing statutory requirements for a motion to amend); 37 C.F.R. § 42.121 (providing regulatory requirements and burdens for a motion to amend); *Lectrosonics, Inc. v Zaxcom, Inc.*, IPR2018-01129, Paper 15 (PTAB Feb. 25, 2019) (precedential) (providing information and guidance regarding motions to amend). In our Preliminary Guidance, we concluded that at the preliminary stage of the proceeding, and based on the record at that time, Patent Owner had shown a reasonable likelihood that it has satisfied the statutory and regulatory requirements associated with filing a motion to amend with respect to proposed substitute claims 3 and 4. Prelim. Guidance 4.

Subsequently, Petitioner filed a Reply to the Board's Preliminary Guidance (Paper 24, "Pet. MTA Reply") and Patent Owner filed a Sur-reply in support of its Motion to Amend (Paper 27, "PO MTA Sur-reply").

For the reasons that follow, we grant Patent Owner's Motion to Amend.

B. Legal Standard

In an *inter partes* review, amended claims are not added to a patent as a matter of right, but rather must be proposed as a part of a motion to amend. 35 U.S.C. § 316(d). “Before considering the patentability of any substitute claims, . . . the Board first must determine whether the motion to amend meets the statutory and regulatory requirements set forth in 35 U.S.C. § 316(d) and 37 C.F.R. § 42.121.” *Lectrosonics, Inc.*, Paper 15 at 4. Accordingly, we consider whether: (1) the amendment proposes a reasonable number of substitute claims; (2) the proposed claims are supported in the original disclosure (and any earlier filed disclosure for which the benefit of filing date is sought); (3) the amendment responds to a ground of unpatentability involved in the trial; and (4) the amendment does not seek to enlarge the scope of the claims of the patent or introduce new subject matter. *See* 35 U.S.C. § 316(d); 37 C.F.R. § 42.121.

The Board assesses the patentability of proposed substitute claims “without placing the burden of persuasion on the patent owner” for issues of patentability. *Aqua Prods., Inc. v. Matal*, 872 F.3d 1290, 1328 (Fed. Cir. 2017) (en banc); *see also Lectrosonics, Inc.*, Paper 15 at 3–4.

In accordance with *Aqua Products* and *Lectrosonics*, Patent Owner does not bear the burden of persuasion to demonstrate the patentability of the substitute claims presented in the motion to amend. To the contrary, ordinarily, “the petitioner bears the burden of proving that the proposed amended claims are unpatentable by a preponderance of the evidence.” *Bosch Auto. Serv. Sols., LLC v. Matal*, 878 F.3d 1027, 1040 (Fed. Cir. 2017), *as amended on reh'g in part* (Mar. 15, 2018); *see Lectrosonics*, Paper 15 at 3–4. In determining whether a petitioner has proven unpatentability of

the substitute claims, the Board focuses on “arguments and theories raised by the petitioner in its petition or opposition to the motion to amend.” *Nike, Inc. v. Adidas AG*, 955 F.3d 45, 51 (Fed. Cir. 2020).

C. Patent Owner’s Proposed Substitute Claims

Patent Owner proposes to substitute claims 3 and 4 for claims 1 and 2, respectively. Proposed substitute claim 3⁷ provides:

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

[3(a)] requesting a ride from a transportation service from a mobile communication device of a user;

[3(b)] determining that a vehicle is within a predetermined distance of the location of the user;

[3(c)] generating a notification signal to a mobile communication device associated with a driver of the vehicle;

[3(d)] generating, by creating an indicator that is specific to a user and driver match, an indicatory signal representing ~~an~~ the indicator;

[3(e)] 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,

[3(f)] wherein the display associated with the vehicle is located to be visible from the exterior of the vehicle; and

[3(g)] 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.

⁷ Material added to claim 1 is indicated by underlining. Material deleted is stricken through.

Mot. Amend App. A, 1.⁸ Proposed claim 4 modifies claim 2 to change its dependency from claim 1 to claim 3. *Id.* at 2.

D. Requirements for Amendment

1. Claim Listing

Patent Owner provides a claim listing showing the proposed changes. *See* Mot. Amend 2, App. A (Claim Listing) (proposing substitute claims 3 and 4).

2. Reasonable Number of Substitute Claims

Patent Owner proposes two substitute claims. We determine that the requirement for a reasonable number of substitute claims has been met.

3. Responsive to Ground of Patentability

The proposed substitute claims recite a new limitation that is responsive to a ground of unpatentability on which we instituted trial, namely, the timing of the generation of an indicator that is unique to a user and driver. *See supra*, Sections III.F, III.G.

4. Scope of Amended Claims

The proposed substitute claims do not broaden the scope of the amended claims. Proposed substitute independent claim 3 includes narrowing limitations as compared to corresponding original claim 1. Proposed substitute claim 4 depends from a narrowed claim.

5. New Matter

Petitioner contends that “there is no support in the written description for at least the requirement that “(iii) a new indicator is generated for the new user, by the driver’s mobile device in communication with the vehicle identification system, after the notification signal is generated (i.e., after it

⁸ Paragraph references in brackets were added to track Petitioner’s analysis.

has been determined that the vehicle is within a predetermined distance of the user's location)." Pet. MTA Reply 6. Petitioner asserts that "[t]he '492 Application simply does not disclose creating *an indicator* once the vehicle is determined to be within a predetermined distance of the user's location." *Id.* (citing Williams II Decl. ¶¶ 113–117). Patent Owner responds that Petitioner "reargues its position" already addressed in the Preliminary Guidance. PO MTA Sur-reply 6.

We agree with Patent Owner. In the Preliminary Guidance, we determined that "[b]ecause the '492 application [which became the '199 patent] discloses that (i) a notification signal is generated for a new rider/user, (ii) the notification signal is generated when it is determined that the vehicle is within a predetermined distance of the user's location, and (iii) a new indicator is generated for the new user, by the driver's mobile device in communication with the vehicle identification system, after the notification signal is generated (i.e., after it has been determined that the vehicle is within a predetermined distance of the user's location), we agree with Patent Owner that the '492 application (and the '199 patent) provides written description support for creating an indicator specific to a user and driver match after determining that the vehicle is within a predetermined distance of the location of the user." Prelim. Guidance 8 (emphasis omitted).

We addressed Petitioner's arguments in the Preliminary Guidance and did not find them persuasive "because the original disclosure of the '199 patent, i.e., U.S. Application No. 16/514,492 ("the '492 application"), which became the '199 patent, explicitly discloses creating an indicator that is specific to a user and driver match, after it is determined that the vehicle is

within a predetermined distance of the location of the user, as recited in proposed substitute claim 3.” *Id.* at 6.

We noted that that “Petitioner’s analysis of paragraph 30 of the specification of the ’492 application ignores most of the disclosure in this paragraph.” *Id.* at 6–7. We concluded that this paragraph “explicitly discloses that *a new indicator is generated (by the driver’s mobile device in communication with the vehicle identification system) for a new rider, with previously-used indicators being ‘deleted’ and ‘not . . . duplicated.’*” *Id.* at 7 (alteration in original). We also determined that “Paragraph 30 also discloses that when a new rider is scheduled to be picked up and ‘the driver D approaches the second location [of the new rider] (or third location, etc.), the vehicle identification system 10 may *generate another notification signal.*”” *Id.* We concluded that “[f]urther, paragraph 34 of the ’492 application discloses that the notification signal is generated ‘when it is determined that the vehicle 20 is *within a predetermined distance of the location of the user P.*’” *Id.*

We agree that the arguments in Petitioner’s MTA Reply focus on Paragraph 30 and are duplicative of and do not adequately address our preliminary findings. *See* Pet. MTA Reply 7. For the reasons summarized above and stated in our Preliminary Guidance, we find that there is written description support for the proposed amendments.

6. Patentability of the Proposed Claims

a) Obviousness

Petitioner contends the proposed substitute claims would have been obvious over: (1) Kalanick and Kemler, (2) Kalanick, Kemler, and

Stanfield⁹; (3) Lalancette and Kemler; and (4) Lalancette, Kemler, and Stanfield. Pet. MTA Opp. 11–25.

The Preliminary Guidance concluded that “each of Petitioner’s challenges (or the record) fails to show a reasonable likelihood that the respective proposed substitute claims are unpatentable.” Prelim. Guidance 9. The basis for this determination in each of the challenges was the failure of the references to teach or suggest “creating an indicator after determining that the vehicle is within a predetermined distance of the location of the user as recited in proposed substitute claim 3.” *Id.* at 16 (Kalanick and Kemler, with or without Stanfield), 18–19 (Lalancette and Kemler, with or without Stanfield) (emphasis omitted).

Petitioner asserts in its Reply that “the Preliminary Guidance limits Kemler’s disclosure to that the unique signal is created when the user requests a vehicle from a dispatching service, as opposed to ‘after it is determined that the vehicle is within a predetermined distance of the location of the user.’” Pet. MTA Reply. 2. Petitioner disagrees with this conclusion, asserting that “a [person of ordinary skill] would understand Kemler to also disclose that the unique signal may be generated *after* the user requests a vehicle from a dispatching service.” *Id.* Petitioner relies on an “alternative” embodiment of Kemler, depicted in Figures 7 and 8. *Id.* According to Petitioner, in Figures 7 and 8, “the vehicle is already assigned to the user but the unique signal is not yet generated or sent.” *Id.*

Alternatively, Petitioner asserts that “it would also have been an obvious implementation choice to only create and send the indicator to the

⁹ U.S. Patent No. 9,442,888 (Ex. 1026).

vehicle once the vehicle and the user were within a certain distance to efficiently allocate resources and protect the user’s privacy.” *Id.* at 3 (citing Williams II Decl. ¶¶ 26–28).

We do not find these arguments persuasive. As Patent Owner points out, Petitioner’s argument is contradicted by Figure 10 of Kemler, a flowchart showing the relationship of the signal generation step to dispatch. PO MTA Sur-reply 2. Further, it is inconsistent with the Kemler specification. *See* Ex. 1008, 3:52–59 (“The request [for a vehicle] may be sent to a centralized dispatching system which selects or assigns a vehicle to the requesting user. At the same time, the centralized dispatching system may generate a signal to identify the vehicle to the user.”). For the reasons summarized above and given in the Preliminary Guidance, we find that the prior art relied on by Petitioner fails to teach or suggest the limitation of “creating an indicator after determining that the vehicle is within a predetermined distance of the location of the user” as recited in proposed substitute claim 3.

In a similar way, the Preliminary Guidance concluded that “Lalancette . . . discloses that an icon is generated by the user in advance of using a taxi service, such that the taxi service (service provider 108) merely retrieves (e.g., from a server) the user’s existing icon at the time the user requests a taxi. Lalancette’s taxi service provider 108 generates a user’s icon after the user requests a taxi.” Prelim. Guidance 16. “Thus, Lalancette does not teach creating an icon after it is determined that the requested car is within a predetermined distance of the location of the user (as required by claim 3).” *Id.* at 16–17 (emphasis omitted).

b) Stanfield

In the Preliminary Guidance, we did not find supported Petitioner’s contention that Stanfield “discloses the indicator creation features in contingent claim 3.” Prelim. Guidance 13. We concluded that “Petitioner’s contentions do not establish that Stanfield *creates* the indicator *after* it is determined that the vehicle is *within a predetermined distance of the location of the user* (as required by claim 3).” *Id.* We reasoned that “[i]n Stanfield, creation of the signal (indicator) is not prompted by a determination that the vehicle is within a predetermined distance of the user.” *Id.* at 14 (emphasis omitted). We explained that “[b]ecause Stanfield’s indicator is *created* when the vehicle’s availability becomes known to the fleet manager (or is set by the fleet manager), and *not when a potential customer approaches* (or is within a certain distance of) a vehicle, we are unpersuaded by Petitioner’s contentions that ‘Stanfield discloses the indicator creation features in contingent claim 3,’ or that ‘a [person of ordinary skill] would have considered the creation of an indicator for the first time when a vehicle reaches a certain distance obvious.’” *Id.* (second alteration in original)

We found also that Petitioner’s arguments and evidence were “insufficient to demonstrate that a skilled artisan would have been prompted by Stanfield to modify Kalanick and/or Kemler to create an indicator after it is determined that a vehicle is within a predetermined distance of the location of the user (as required by claim 3).” *Id.*

In reaching these preliminary conclusions we considered and discussed Petitioner’s arguments. *See id.* at 14–16. The arguments Petitioner presents in its Reply are repetitive and no more persuasive than

those already considered. *See* Pet. MTA Reply 5–6. For example, the argument that “Stanfield along with the other references address similar problems as the ’199 Patent involving vehicle identification in an on-demand transport system” was previously considered and was rejected. *See* Prelim. Guidance 14 (“We are unpersuaded by Petitioner’s argument because Stanfield does not address the same problem as the ’199 patent.”).

Petitioner does not convince us that Stanfield addresses a “security problem,” as opposed to an information retrieving problem. *See* Prelim. Guidance 14–15. For the reasons given in our Preliminary Guidance and summarized *supra*, we find that Stanfield does not teach or suggest the indicator creation limitation, nor would a person of ordinary skill have combined Stanfield with the other references relied on by Petitioner.

c) Patent Eligibility

The Preliminary Guidance concluded that Petitioner failed to show “a reasonable likelihood that proposed substitute claims 3 and 4 are patent-ineligible” under 35 U.S.C. § 101. Prelim. Guidance 19. We first determined, under the 2019 Revised Patent Subject Matter Eligibility Guidance and the October 2019 Update,¹⁰ that the proposed claims recite a judicial exception in Revised Step 2A, Prong One. *See* 2019 Revised Patent Subject Matter Eligibility Guidance, 84 Fed. Reg. 50, 54 (Jan. 7, 2019) (hereinafter “Guidance”) updated by USPTO, October 2019 Update: Subject Matter Eligibility (“October 2019 Guidance Update”). Prelim. Guidance 19.

¹⁰ Available at https://www.uspto.gov/sites/default/files/documents/peg_oct_2019_update.pdf.

We next determined that in accordance with Prong Two of Step 2A of the Guidance, “proposed substitute claim 3 (and its dependent claim 4) recites technological features that enable communication and coordination between multiple devices that are not co-located and are moving with respect to each other (i.e., a customer’s/user’s mobile communication device, a vehicle’s display, and a driver’s mobile communication device and a controller of a vehicle identification system communicating therebetween and generating notifications and indicators based on the vehicle’s location and the distance to the user).” *Id.* at 21. We concluded that “[t]hus, proposed substitute claim 3 provides a technological solution rooted in computer and network technologies.” *Id.* (citing *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1257–58 (Fed. Cir. 2014); *Visual Memory LLC v. NVIDIA Corp.*, 867 F.3d 1253, 1259–60 (Fed. Cir. 2017)).

We concluded, therefore, that Petitioner had not shown a reasonable likelihood that proposed substitute claims 3 and 4 are patent-ineligible. *Id.* at 22.

Petitioner responds that “[t]he limitations in steps 3b-3e of determining that a dispatched vehicle is within a predetermined distance of the location of a user, generating a notification signal, creating an indicator that is specific to a user and driver match, and displaying the indicator based on the notification signal on an external display are merely computer implementations of the abstract idea of enabling a user to identify a dispatched cab.” Pet. MTA Reply 9. Petitioner continues, “[s]uch limitations do not result in an improvement in the functioning of a computer or other technical improvement.” *Id.*

We disagree with Petitioner. As Patent Owner points out, Petitioner has not addressed the rationale of our preliminary decision, only expressing its disagreement with the outcome. PO MTA Sur-reply 7. Petitioner does not persuasively address our conclusion that the proposed substitute claims “recite[] technological features that enable communication and coordination between multiple devices that are not co-located and are moving with respect to each other.” Prelim. Guidance 21,

Therefore, for the reasons set forth in our Preliminary Guidance and summarized above, we find that Petitioner fails to prove that the proposed substitute claims are not patent-eligible.

7. *Conclusion*

For the reasons given, we find that Patent Owner’s Motion to Amend has met the regulatory requirements and Petitioner has failed to demonstrate that proposed substitute claims 3 and 4 are unpatentable. Therefore, Patent Owner’s Motion to Amend is *granted*.

V. PATENT OWNER’S MOTION TO EXCLUDE

Patent Owners Motion to Exclude seeks to exclude three categories of evidence relating to Petitioner’s expert, David Williams: (1) certain paragraphs of Mr. Williams’s second declaration (Ex. 1027)¹¹ for allegedly expressing “legal opinions”; (2) Exhibits 1027 and 1030 (Mr. Williams’s third declaration) as “[n]on-expert and unreliable under FRE 702” and “[p]rejudicial under FRE 703”; and (3) Exhibit 1030 under 37 C.F.R for presenting “new evidence or argument that could have been presented in the

¹¹ The Motion incorrectly identifies this declaration as Exhibit 2027.

Petition.” Paper 26, 1–2. Petitioner opposes the motion. Paper 28. For the reasons that follow, Patent Owner’s Motion is *denied*.

A. Mr. Williams’s Second Declaration (Exhibit 1027)

Patent Owner moves to exclude paragraphs 5–20, 22, 23, 25, 27–31, 39–40, 42, 44–49, and 51–56 of Exhibit 1027, the Second Declaration of Mr. Williams.¹² Paper 26, 1. Patent Owner complains that Mr. Williams’s testimony is “[n]on expert and unreliable under FRE 702” and “[p]rejudicial under FRE 703.” *Id.* at 2. Patent Owner contrasts Mr. Williams’s qualifications to those of its own expert, Dr. Valenti. *Id.* Patent Owner refers specifically to the discussion of “server farms” in connection with Kemler. *See supra*, Section III.E.3.

Patent Owner’s attack on Mr. Williams’s qualifications and credibility are unfounded. As discussed *supra*, in Section III.E.3, we found Mr. Williams’s testimony on server farms and other matters reliable and highly credible, especially in his responses to Patent Owner’s counsel on cross-examination. *See, e.g.*, Williams Dep. 82:17–94:22. As we noted, Mr. Williams backed up his testimony on the power requirements of server farms with several years of experience designing, implementing, and operating a server farm. We found this experience lends credibility to his testimony that the server farm in Kemler would improve efficiency of the system, even without specific test data. *See id.*

We found the declaration testimony in Mr. Williams’s Second Declaration in connection with the Motion to Amend to be helpful. Patent Owner had the opportunity to challenge that testimony on cross-

¹² The Motion incorrectly identifies this declaration as Exhibit 2027.

examination, but did not take up that opportunity. We find that these challenges to Mr. Williams’s Second Declaration, at most, go to the credibility, and not to the admissibility of the testimony. We agree with Petitioner that the challenged testimony provided by Mr. Williams relates to technical matters commonly addressed by experts testifying in patent cases, and not to conclusions of law. Paper 28, 2–4. We, therefore, deny the Motion as to Mr. Williams’s Second Declaration.

B. Mr. Williams’s Third Declaration (Ex. 1030)

Patent Owner moves to exclude paragraphs 4–49 (i.e., essentially all) of Mr. Williams’s Third Declaration (Ex. 1030). Paper 26, 2. Again, Patent Owner alleges that the declaration is “unreliable” and “[p]rejudicial.” Paper 26, 2.

Petitioner responds that Petitioner had a chance to challenge the testimony on cross-examination, but failed to do so. Paper 28, 1. Petitioner asserts that Patent Owner’s arguments go to the weight of the testimony, not its admissibility, and that the Board is “well positioned” to assess the weight. *Id.* Petitioner argues that the testimony should not be excluded under Federal Rule of Evidence 703. We agree with these arguments by Petitioner. As Petitioner points out, Patent Owner ignores the testimony of Mr. Williams demonstrating the basis for his opinions that meets the reliability standard of Rule 703. *See* Paper 28, 5–7. This would include the “server farm” testimony cited by Patent Owner as an example. *See id.* at 6. As discussed *infra*, we found Mr. Williams’s testimony helpful on that and other issues.

For the reasons given, including those summarized above, we deny the Motion as to Mr. Williams’s Third Declaration.

C. Alleged New Evidence or Argument (Exhibit 1030)

Patent Owner alleges that “Exhibit 1030 is inadmissible under 37 CFR 42.23 because it is new evidence that could have been provided in the Petition.” Paper 26, 8–9. Patent Owner gives, as an example, testimony presented by Mr. Williams that Patent Owner itself characterizes as “*in response to* Patent Owner pointing out that Kalanick does not disclose the ‘notification signal’ of Claim 1[C].” *Id.* at 8 (emphasis added).

Petitioner asserts that “[t]he Federal Circuit has repeatedly made clear that Petitioners may introduce new evidence after the petition stage, when such evidence responds to arguments made and evidence introduced by patent owner.” Paper 28, 8–9 (citing *Apple Inc. v. Andrea Elecs. Corp.*, 949 F. 3d 697, 705–07 (Fed. Cir. 2020); *Chamberlain Grp., Inc. v. One World Techs., Inc.*, 944 F.3d 919, 925 (Fed. Cir. 2019)). We agree with Petitioner that Patent Owner seeks to exclude testimony that admittedly was properly presented by Petitioner “in response to” Patent Owner’s arguments, such as in the examples cited by Patent Owner. *Id.* at 9–11. Furthermore, we see no undue prejudice to Patent Owner, who passed up the opportunity to cross-examine Mr. Williams on this testimony.

For the reasons given, including those summarized above, we deny the Motion to Exclude Mr. Williams’s Third Declaration as untimely.

VI. CONCLUSION

For the foregoing reasons we determine that Petitioner has demonstrated by a preponderance of the evidence that claims 1 and 2 of the ’199 patent are unpatentable.

In summary:

Claim(s)	35 U.S.C. §	Reference(s)/Basis	Claim(s) Shown Unpatentable	Claim(s) Not shown Unpatentable
1	103	Kalanick, Kemler	1	
1, 2	103	Lalancette, Kemler	1, 2	
Overall Outcome			1, 2	

Furthermore, we grant Patent Owner's contingent Motion to Amend, cancelling original claims 1 and 2 and replacing them with substitute claims 3 and 4.

In summary:

Motion to Amend Outcome	Claim(s)
Original Claims Cancelled by Amendment	1, 2
Substitute Claims Proposed in the Amendment	3, 4
Substitute Claims: Motion to Amend Granted	3, 4
Substitute Claims: Motion to Amend Denied	
Substitute Claims: Not Reached	

VII. ORDER

Upon consideration of the record before us, it is:

ORDERED that claims 1 and 2 of the '199 patent are not patentable;

ORDERED that Patent Owner's Motion to Amend is *granted*;

ORDERED that claims 1 and 2 of the '199 patent are *cancelled* and replaced by substitute claims 3 and 4, respectively;

ORDERED that Patent Owner's Motion to Exclude is *denied*; and

FURTHER ORDERED that because this is a Final Written Decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

IPR2021-01601
Patent 10,559,199 B1

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