UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TOYOTA MOTOR CORP.,
Petitioner,

v.

EMERGING AUTOMOTIVE LLC,
Patent Owner.

IPR2024-00786
Patent 9,171,268 B1

Before GEORGIANNA W. BRADEN, FRANCES L. IPPOLITO, and JULIET MITCHELL DIRBA, *Administrative Patent Judges.*

IPPOLITO, *Administrative Patent Judge*.

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

I. INTRODUCTION

Toyota Motor Corp. ("Petitioner") filed a Petition (Paper 1, "Pet.") requesting *inter partes* review of claims 10–20 of U.S. Patent No. 9,171,268 B1 (Ex. 1001, "the '268 patent"). Emerging Automotive LLC ("Patent Owner") filed a Preliminary Response (Paper 6, "Prelim. Resp.").

With our authorization, Petitioner filed a Reply to Patent Owner's Preliminary Response (Paper 7, "Prelim. Reply") and Patent Owner filed a Sur-reply to Petitioner's Reply (Paper 9, "Prelim. Sur-reply") to address whether we should deny institution under 35 U.S.C. § 314(a) and *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020) (precedential) ("*Fintiv*"). For reasons provided below, we decide not to invoke this discretion to deny institution.

Under 35 U.S.C. § 314(a), an *inter partes* review may not be instituted unless the information presented in the Petition and any response thereto shows "there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." Considering the arguments presented, we conclude there is a reasonable likelihood that Petitioner would prevail in challenging at least one of claims 10–20 of the '268 patent as unpatentable under the challenges presented in the Petition. Pursuant to § 314, we hereby institute an *inter partes* review as to these claims of the '268 patent.

A. Real Parties in Interest

Petitioner identifies Toyota Motor Corp., Toyota Motor North America, Inc., and Toyota Motor Sales, U.S.A., Inc. as the real parties-in-interest. Pet. 76. Patent Owner identifies Emerging Automotive LLC as the real party-in-interest. Paper 4 (Patent Owner's Mandatory Disclosures), 2.

B. Related Matters

The parties indicate that the '268 patent has been asserted in the following district court litigation: *Emerging Automotive LLC v. Toyota Motor North America, et al.*, 2:23-cv-00434 (E.D. Tex.). Pet. 76; Paper 4, 2. Petitioner further indicates that this case has been consolidated for pretrial issues with: *Emerging Automotive LLC v. Kia Corp.*, No. 2:23-cv-00437-JRG (E.D. Tex.). Pet. 76.

C. The '268 patent

The '268 patent "relates to systems and methods for managing user profiles for vehicles and exchange of information with cloud-based processing systems." Ex. 1001, 1:32–34. In some embodiments, the '268 patent discloses that a "user profile defines one or more settings that are preferred to be set in vehicles if the vehicles support the settings." *Id.* at 2:61–63. Figure 1, reproduced below, is a diagram illustrating how roles are associated with profiles settings for a vehicle. *Id.* at 5:15–16.

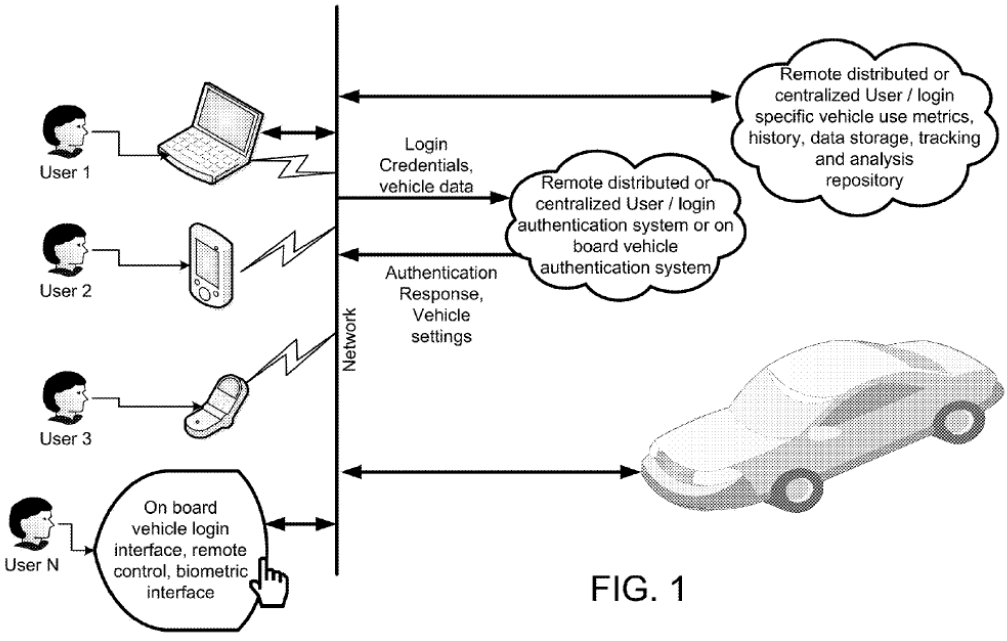


FIG. 1

Figure 1, above, shows that different users can use different methods to interact with a vehicle login system. *Id.* at 14:56–57. After successful authentication or login, the user is allowed to operate the vehicle in which the vehicle "has [the user's] vehicle settings applied to it and the user is allowed to operate the vehicle." *Id.* at 15:1–3.

Figure 10, reproduced below, is a diagram illustrating a validation method, such as a biometric validation, for enabling a profile on a vehicle. *Id.* at 5:26–27.

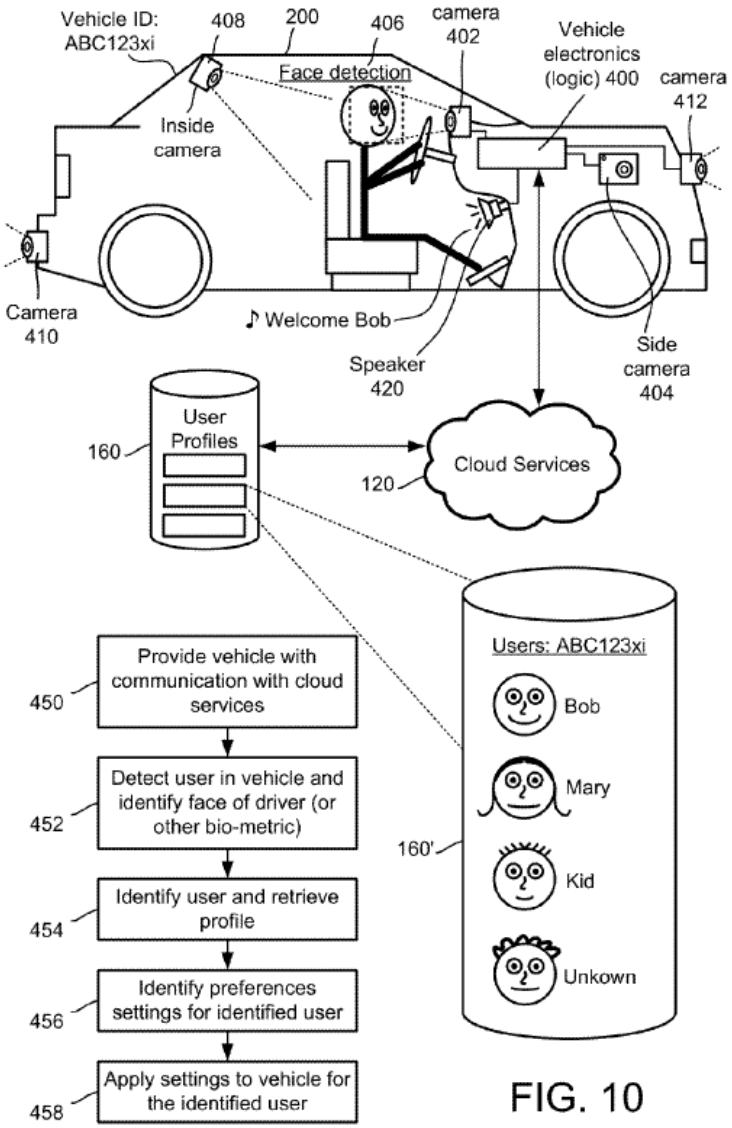


FIG. 10

Figure 10, above, shows user Bob entering shared vehicle 200. *Id.* at 19:22–23. User identification is via camera 402 and with verification of the user to drive vehicle 200 from a shared network. *Id.* at 19:24–27. Once the user has been verified, the user's preferences and settings for the vehicle can be set automatically. *Id.* at 19:27–30. The '268 patent discloses that cloud services 120 allows communication with user profiles 160 which can "include specific profiles for registered users" such as those users belonging to the group ABC123xi in this example. *Id.* at 19:47–53. Figure 10 also shows the process for communicating between vehicles, users, and cloud services which includes operation 450 in which the vehicle communicates with cloud services, operation 452 in which the user is detected, operation 454 in which the user is identified and the user's profile is automatically retrieved from cloud services and user profile 160, operation 456 in which the user's preferences settings is identified from the database, and then operation 458 in which the settings are applied. *Id.* at 19:63–20:11. According to one embodiment in the '268 patent, vehicle settings "can include, for example, temperature, radio settings, seat settings, meter settings, air settings, etc." *Id.* at 18:44–46. The '268 patent further discloses that "[i]n one example, the profile is associated with a plurality of vehicle types and the method includes detecting a violation of a setting or an incompatible setting in the profile that is user defined via the user account." *Id.* at 1:66–2:2.

D. Challenged Claims

Petitioner challenges claims 10–20. Pet. 1. Claims 10 and 20 are independent claims. Claim 10 and 20 are reproduced below with Petitioner's identifiers in brackets, which do not impact our analysis (*id.* at 19–32, 63–72):

10. [10preamble] A method, comprising,

[10a] receiving, at a server, information for a user profile of a user, the user profile defining one or more settings that are preferred to be set in vehicles if the vehicles support the settings;

[10b] identifying a selected vehicle for applying the user profile, the selected vehicle having a plurality of settable settings, the selected vehicle being one of a plurality of vehicles identified as available by the server;

[10c] determining, by the server, applicable settings for the selected vehicle, the applicable settings being settings that are preferred to be set as identified from the user profile and are compatible with settings that are settable in the selected vehicle; and

[10d] sending, by the server, the applicable settings for programming to the selected vehicle, wherein the applicable settings are programmed on the selected vehicle after receipt by the selected vehicle over a wireless connection,

[10e] wherein the method is executed by the server, the server including a processor;

[10f] wherein the selected vehicle includes vehicle electronics for applying the programming to cause the applicable settings to be activated on the selected vehicle and communication circuitry for communicating via the wireless connection.

Ex. 1001, 33:1–26.

20. [20preamble] A method for managing a user profile of a vehicle via a cloud processing system being accessible over the Internet and wherein the vehicle is provided with wireless communication logic for connecting to the Internet for accessing the cloud processing system, comprising,

[20a] accessing the cloud processing system by the vehicle, the user profile having user settings for the vehicle, wherein certain of the user settings are determined to be compatible for use with the vehicle;

[20b] communicating to the cloud processing system by the vehicle, changes to user settings, the cloud processing system processing the changes and other changes to the user settings to learn behavior associated with the changes to the user settings; and

[20c] receiving by the vehicle, from time to time, automatic changes to the user settings of the vehicle, wherein a repeat pattern of the changes is qualified as learned behavior before the automatic changes are sent to the vehicle for programming on the vehicle, wherein the user profile is configured to be updated to account for the automatic changes made to the user settings of the vehicle,

[20d] wherein electronics of the vehicle enable connection of the vehicle to the Internet for enabling the accessing of the user profile, the communicating of changes and the receiving of the automatic changes, to and from, the cloud processing system, wherein the cloud processing system is accessible by vehicles having predefined access credentials, the method being executable by a processor;

[20e] wherein user settings for the user profile include one or more of radio settings, or user interface settings, or temperature settings, or air settings, or display settings, or speed settings, or internet settings, or pairing settings, or remote access settings, or home control settings, or audio settings, or entertainment settings, or map data settings, or heating settings, or payment settings, or sub-user settings, or key fob settings, or user ID settings, or biometric settings, or fingerprint settings, or eye scan settings, or role settings, or administrator settings, or login settings, or location based settings, or tracking settings, or calendar settings, or vehicle mode settings, or operational settings, or combinations of two or more settings, or learned settings from user said learned behavior, or seat settings, or automatic payment settings, or combinations of two or more thereof.

Id. at 34:43–35:21.

E. Prior Art and Asserted Challenges to Patentability

Petitioner asserts that claims 10–20 would have been unpatentable on the following challenges:

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
10, 11, 13, 15–19	102	Xiao[1]
10, 11, 13, 15–19	103	Xiao, Hayashi[2, 3]
12	103	Xiao, Patenaude[4]
12	102	Xiao, Hayashi, Patenaude
14	103	Xiao, Singh[5]
14	103	Xiao, Hayashi, Singh
20	103	Xiao, Hayashi, Patenaude

Pet. 3. Petitioner also relies on the Declaration of Kevin C. Almeroth, Ph.D. (Ex. 1009). Patent Owner relies on the Declaration of Sam Malek, Ph.D. (Ex. 2001).

II. PRINCIPLES OF LAW

A. Priority of Filing Date

"[A] patent application is entitled to the benefit of the filing date of an earlier filed application only if the disclosure of the earlier application provides support for the claims of the later application, as required by 35 U.S.C. § 112." *PowerOasis, Inc. v. T-Mobile USA, Inc.*, 522 F.3d 1299,

[1] U.S. Patent Application Publication No. 2012/0164989 A1, published June 28, 2012 (Ex. 1010) ("Xiao").
[2] JP Patent Application Publication No. 2012-076627 A, published Apr. 19, 2012 (Ex. 1013) ("Hayashi").
[3] Petitioner provides an English-language translation preceding the original Japanese-language publication of Hayashi, together as one exhibit. Ex. 1013. We refer to the English-language translation therein.
[4] U.S. Patent Application Publication No. 2006/0136106 A1, published June 22, 2006 (Ex. 1011) ("Patenaude").
[5] U.S. Patent Application Publication No. 2007/0255464 A1, published Nov. 1, 2007 (Ex. 1012) ("Singh").

1306 (Fed. Cir. 2008). "To satisfy the written description requirement [in § 112,] the disclosure of the prior application must 'convey with reasonable clarity to those skilled in the art that, as of the filing date sought, [the inventor] was in possession *of the invention*.'" *Id.* (alteration in original) (quoting *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1563–64 (Fed. Cir. 1991)).

Although the burden of proof for showing unpatentability remains on a petitioner, the patent owner may have a burden of production. A patent owner has the burden for showing it is entitled to priority. *Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.,* 800 F.3d 1375, 1379 (Fed. Cir. 2015) (discussing *Tech. Licensing Corp. v. Videotek, Inc.*, 545 F.3d 1316, 1326–27 (Fed. Cir. 2008)); *see also In re Magnum Oil Tools Int'l, Ltd.*, 829 F.3d 1364, 1376 (Fed. Cir. 2016) ("[A] patentee bears the burden of establishing that its claimed invention is entitled to an earlier priority date than an asserted prior art reference.").

B. Anticipation

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631(Fed. Cir. 1987). The elements must be arranged as required by the claim, but this is not an *ipsissimis verbis* test, i.e., identity of terminology is not required. *In re Bond*, 910 F.2d 831 (Fed. Cir. 1990).

C. Obviousness

In *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1 (1966), the Supreme Court set out a framework for assessing obviousness under § 103 that requires consideration of four factors: (1) the "level of ordinary skill in the pertinent art," (2) the "scope and content of the prior art," (3) the

"differences between the prior art and the claims at issue," and (4) "secondary considerations" of non-obviousness such as "commercial success, long-felt but unsolved needs, failure of others, etc." *Id.* at 17–18. "While the sequence of these questions might be reordered in any particular case," *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 407 (2007), the Federal Circuit has "repeatedly emphasized that an obviousness inquiry requires examination of all four Graham factors and that an obviousness determination can be made only after consideration of each factor." *Nike, Inc. v. Adidas AG*, 812 F.3d 1326, 1335 (Fed. Cir. 2016).

We note that, with respect to the fourth *Graham* factor, the current record in this proceeding does not include any argument or evidence directed to objective indicia of nonobviousness. Therefore, the analysis below addresses the first three *Graham* factors.

III. LEVEL OF ORDINARY SKILL IN THE ART

In determining the level of skill in the art, we consider the type of problems encountered in the art, the prior art solutions to those problems, the rapidity with which innovations are made, the sophistication of the technology, and the educational level of active workers in the field. *Custom Accessories, Inc. v. Jeffrey-Allan Indus. Inc.*, 807 F.2d 955, 962 (Fed. Cir. 1986); *Orthopedic Equip. Co. v. U.S.*, 702 F.2d 1005, 1011 (Fed. Cir. 1983).

Petitioner contends that a person of ordinary skill in the art ("POSITA") at the time of the invention of the '268 patent "would have had at least a Bachelor's degree in electrical engineering, computer science, or closely related field, with at least two-to-four-years-experience in cloud services for settings customization, or a Master's degree in electrical

engineering, computer science, or equivalent." Pet. 12 (citing Ex. 1009 ¶ 82).

Patent Owner does not address the level of ordinary skill in the art at this preliminary stage of the proceeding. *See* Prelim. Resp.

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

IV. CLAIM CONSTRUCTION

We apply the same claim construction standard "used in the federal courts, in other words, the claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. [§] 282(b)," which is articulated in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). 83 Fed. Reg. 51,340, 51,358 (Oct. 11, 2018) (amending 37 C.F.R. § 42.100(b) effective November 13, 2018) (now codified at 37 C.F.R. § 42.100(b) (2019)). Under the *Phillips* standard, the "words of a claim are generally given their ordinary and customary meaning," which is "the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application." *Phillips*, 415 F.3d at 1312–13.

According to Petitioner, "[n]o terms of the '268 patent need construction for the purposes of IPR because the claims read on the prior art identified below under any construction consistent with *Phillips*." Pet. 12.

Patent Owner contends that "the Petition abuses and distorts the plain language of the claims to arrive at its conclusory 'read on the prior art.'" Prelim. Resp. 31. Patent Owner, however, does not proffer an express construction of any claim terms at this stage of the proceeding. *Id.* at 31–33.

We do not need to construe any terms expressly to reach our decision. *See Realtime Data LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) ("The Board is required to construe 'only those terms . . . that are in controversy, and only to the extent necessary to resolve the controversy.'" (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))). Accordingly, no claim construction is rendered at this time.

V. ANALYSIS

A. Summary of References

1. Xiao (Ex. 1010)

Xiao is a U.S. patent application publication titled "Methods and System for Providing a Wireless Automobile Key Service." Ex. 1010, code (54). Xiao's system "enables an operator of an automobile to use the operator's mobile device, such as a cell phone, to lock/unlock the automobile, to power on/off the automobile, or to affect other automobile operations." *Id.* ¶ 23. The system "may also communicate with the automobile, over a network, to apply automobile system settings based on preferences contained in an operator profile." *Id.*

Xiao's Figure 1 is a cloud diagram that "illustrates an exemplary wireless automobile key system" and is reproduced below. *Id.* ¶ 5.

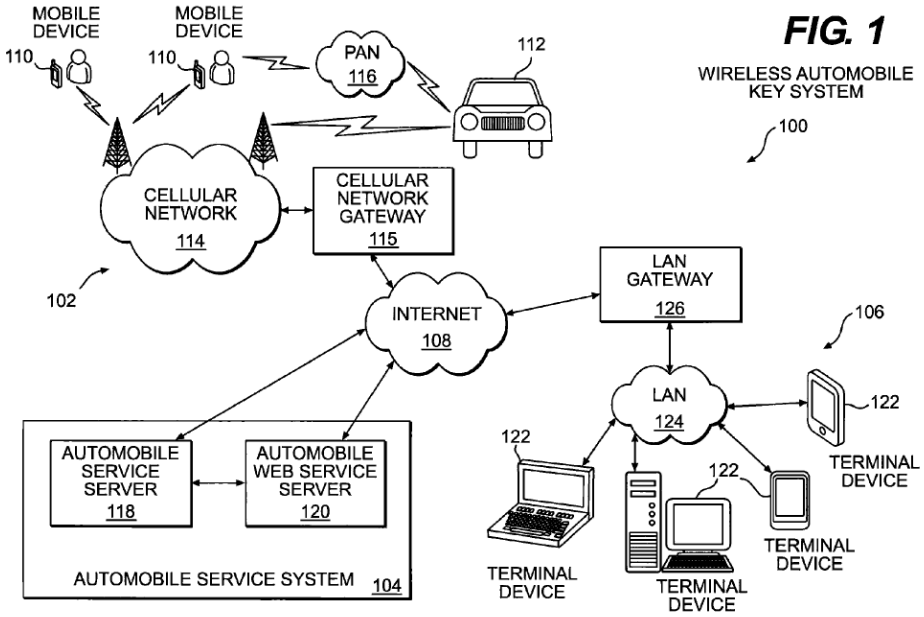


Figure 1, above, shows wireless automotive key system 100 including mobile system 102, automobile service system 104, and local system 106, all in communication over Internet 108. *Id.* ¶ 24. Mobile system 102 includes one or more mobile devices 110 and one or more automobiles 112 configured to communicate on cellular network 114. *Id.* Mobile system 102 also includes cellular network gateway 115 configured to facilitate communications between cellular network 114 and Internet 108. *Id.* Mobile device 110 may "communicate with one or more automobiles 112 over a personal area network (PAN) 116." *Id.* ¶ 25. Mobile device 110 "may download application 302 from automobile service system 104" and "an operator of automobile 112 may register for the . . . wireless automobile key service with automobile service system 104 and create an account for one or more mobile devices 110, automobile operators, and/or automobiles 112." *Id.* ¶ 31.

Automobile service system 104 includes automobile service server 118 and automobile web service server 120. *Id.* ¶ 59. Automobile

service server 118 includes storage device 506 which has wireless automobile key service information 600 having operator information 602, automobile information 604, and/or other account information. *Id.* ¶¶ 61, 65. Operator information 602 includes operator profile information 614. *Id.* ¶ 66. As an example, operator profile information 614 "may contain climate control system preferences for the operator for each automobile 112 on the account" and "[a]s an example, the climate control preferences may include the operator's desired heating or cooling temperature settings, desired air conditioning settings, desired vent settings, desired fan speed settings, desired window or mirror defroster settings, and/or other climate preferences for the automobile(s) 112." *Id.* ¶ 69. "Based on the desired automobile system settings indicated by the operator profile information 614, automobile service server 118 may retrieve appropriate command codes 632 for these systems from automobile command code information 606." *Id.* ¶ 103.

Xiao's Figure 4 is a diagram that "illustrates an exemplary automobile configured for use in the wireless automobile key system" and is reproduced below. *Id.* ¶ 8.

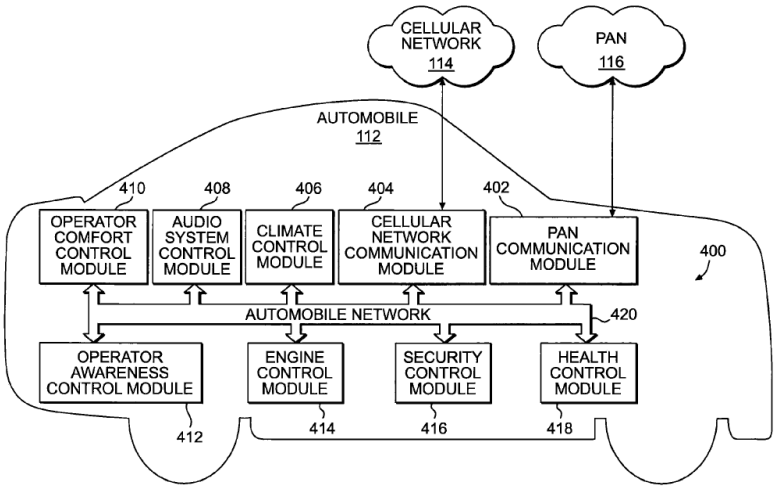


FIG. 4

Figure 4, above, shows onboard automobile system 400 including PAN communication module 402, cellular network communication module 404, climate system control module 406, radio system control module 408, operator comfort system control module 410, operator awareness system control module 412, engine system control module 414, security system control module 416, and health system control module 418, all interconnected via automobile network 420. *Id.* ¶ 38. Xiao's modules 402–418 "may embody one or more computers onboard automobile 112 and configured to perform or control various automotive functions." *Id.* ¶ 39. PAN communication module 402 "may be configured to control one or more communication devices of automobile 112 to communicate with mobile device 110 over PAN 116." *Id.* ¶ 40. Cellular communication module 404 "may be configured to control one or more communication devices of automobile 112 to communicate with over cellular network 114, in connection with the . . . wireless automobile key service." *Id.* ¶ 44.

2. Hayashi (Ex. 1013)

Hayashi is a JP patent application publication titled "Driving Support Apparatus." Ex. 1013, code (54). Hayashi "pertains to a drive support apparatus for communicating operating methods for vehicle functions." *Id.* ¶ 1. Hayashi explains that the functions of a car "depend[] on the vehicle model, model year, etc. of the vehicle, [which] generally differ for each vehicle" and thus, if "a driver driving a car that he/she does not normally use, such as a rental car or car share," the driver would need to "check[] manuals or the like to compare with the car he/she normally uses regarding differing operating methods for functions." *Id.* ¶ 2. Hayashi resolves this problem of different operating methods for functions of different cars by providing a driving support apparatus for a car sharing system. *Id.* Abstract,

¶¶ 4, 6–7, 11; Fig. 17. The apparatus includes a database of vehicle models with "functions according to each model" and corresponding "operating methods" with certain vehicles having "none" relative to certain functions or operating methods. *Id.* ¶ 29. Hayashi discloses, as an example, the car sharing system having a "scene determination portion 212 [that] graphically depicts the positions of a shift lever, a parking brake, or the like on display portion 250 and guides the operating method thereof by voice." *Id.* ¶ 123.

3. Patenaude (Ex. 1011)

Patenaude is a U.S. patent application publication titled "Method of Determining and Predicting Entertainment Selections for Telematics Units." Ex. 1011, code (54). Patenaude "relates to providing entertainment in a vehicle by determining an entertainment selection profile." *Id.* ¶ 1. Patenaude's method includes using telematics unit 120 to monitor entertainment selections in a mobile vehicle communication system (MVCS) 100. *Id.* ¶¶ 18, 42. To do this and as an example, an "algorithm searches the acquired data to determine if the FM radio is tuned to the same received FM frequency signal within a specified time frame each weekday for the specific user." *Id.* ¶ 70.

4. Singh (Ex. 1012)

Singh is a U.S. patent application publication titled "Car Intelligence." Ex. 1012, code (54). Singh explains that there have been concerns "about the security of the vehicle and the use of a single vehicle by different drivers" and that "[t]he preferences used by one driver are not suitable to the other driver." *Id.* ¶ 2. Thus, Singh remedies these concerns by providing a "vehicle with the operating system that allows multiple drivers to use the vehicle by authenticating them with their finger impressions which are saved by means of databases installed in the operating system." *Id.* ¶ 3. Singh

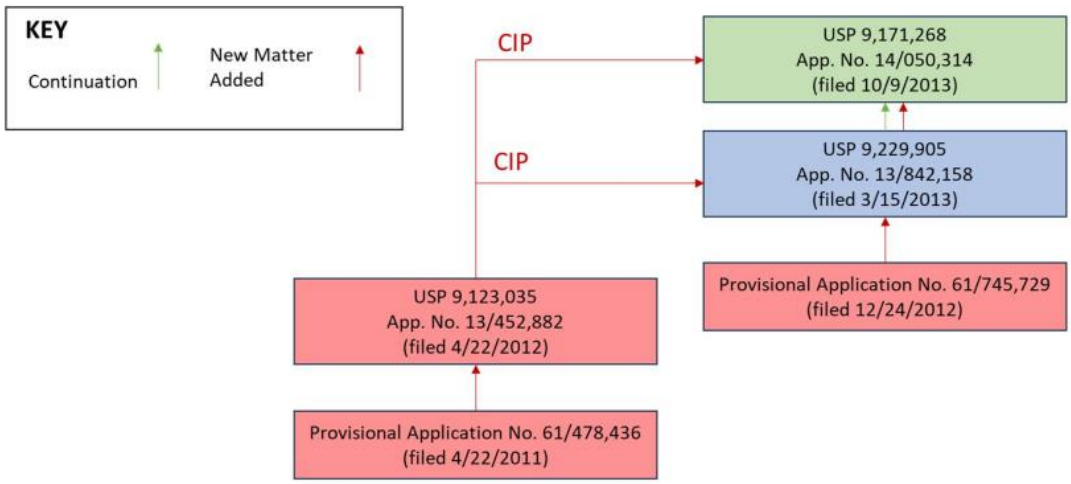
uses a "Controller Unit [that] will act like a central unit which will control the entire process from validating the finger impression of the driver to setting the attributes or preferences of the driver who will be driving the vehicle." *Id.* ¶ 34.

B. Priority of the '268 Patent Claims

The '268 patent was filed on October 9, 2013 as a continuation of U.S. Patent Application No. 13/842,158[6] ("the '158 Application"). The '158 patent application was filed on March 15, 2013, and later issued as U.S. Patent No. 9,229,905 B1. *See* Ex. 1001, code (63), 1:9–14. The '268 patent also claims priority to U.S. Provisional Patent Application No. 61/745,729 ("the '729 Provisional") filed on December 24, 2012. *Id.*

Additionally, the '268 patent claims priority as a continuation-in-part application of U.S. Patent Application No. 13/452/882 ("the '882 Application), filed on April 22, 2012. *Id.* The '882 Application later issued as U.S. Patent No. 9,123,035 B2. The '268 patent further claims priority to U.S. Provisional Patent Application No. 61/478,436 ("the '436 Provisional") filed on April 22, 2011. *Id.* For convenience, Petitioner's priority chart is provided below.

[6] The '158 Application is listed as Patent Application No. 13/8**24**,158 on the face of the '268 patent. Ex. 1001, code (63). However, this appears to be a typo and should refer to 13/8**42**,158. *See* Pet. 8 n.2; Ex. 1104.



Pet. 8. Petitioner's priority chart on page 8 of the Petition shows the priority applications listed on the face of the '268 patent and marks, with a red arrow, applications that Petitioner alleges added new matter. *Id.*

Petitioner argues that claims 10–20 are entitled only to the '268 patent's filing date of October 9, 2013. Pet. 8. Patent Owner contests the substance of Petitioner's arguments (Prelim. Resp. 27–28 n.3), but at this stage, Patent Owner does not assert that any of Petitioner's references (Xiao, Patenaude, Singh, or Hayashi) fail to qualify as prior art.

At this stage, we do not need to resolve this dispute. Petitioner has met its initial burden of production to show that its references are prior art. *See* Pet. 3 (identifying filing and publication dates as well as bases). As such, the burden of production shifted to Patent Owner to refute Petitioner's argument by either showing the prior art does not actually qualify as prior art. *See Dynamic Drinkware*, 800 F.3d at 1380. Because Patent Owner did not do so, we are satisfied that Petitioner has sufficiently shown that its of its asserted references qualify as prior art. Nevertheless, the parties are invited to further develop this record after institution if needed.

C. Claims 10, 11, 13, and 15–19 as Allegedly Anticipated by Xiao

Petitioner contends that Xiao discloses every limitation of claims 10, 11, 13, and 15–19. Pet. 19–44. Patent Owner disagrees. Prelim. Resp. 34–47.

1. Analysis of Independent Claim 10

a) Limitations [10a]–[10b]

Claim 10 recites a method that includes the steps of:

> [10a] receiving, at a server, information for a user profile of a user, the user profile defining one or more settings that are preferred to be set in vehicles if the vehicles support the settings;
>
> [10b] identifying a selected vehicle for applying the user profile, the selected vehicle having a plurality of settable settings, the selected vehicle being one of a plurality of vehicles identified as available by the server[.]

Ex. 1001, 33:1–9.

(1) Petitioner's Contentions

For these limitations, Petitioner refers to Xiao's Figure 11, which is reproduced below:

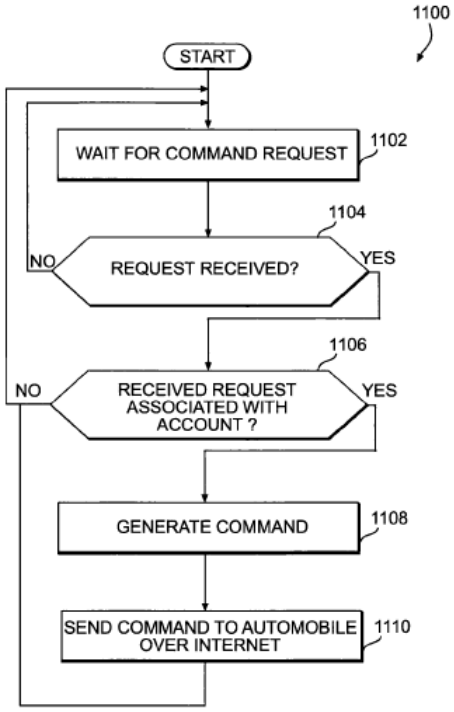


FIG. 11

Ex. 1010, Fig. 11. Figure 11 is a flowchart showing a method for processing wireless automobile key commands as described by Xiao. According to Petitioner, Xiao teaches that at step 1102, server 118 waits for a command request and monitors for a request from mobile device 110 or terminal device 122 to customize the settings of one or more systems of automobile 112 based on an operator profile. Pet. 21 (citing Ex. 1010 ¶ 124). Petitioner asserts that Xiao's "command request" and "command codes" are used to implement an operator's profile. *Id.*

Petitioner explains that Xiao's server may retrieve operator profile information for the operator using an operator ID or mobile ID. *Id.* at 21 (citing Ex. 1010 ¶ 102). Referring to Figure 6, Petitioner contends that the operator's profile information, contained in wireless automobile key service information, is stored in Xiao's server. *Id.* at 21 (citing Ex. 1010 ¶¶ 61, 64–

66, 69). Petitioner adds that the user profile (e.g., profile information 614) "defines one or more settings that are preferred to be set in vehicles if the vehicles support the settings." *Id.* at 22 (citing Ex. 1010 ¶¶ 69–72) ("For example, profile information 614 includes climate control system preferences . . . , audio system preferences. . . , comfort system preferences . . . , and awareness system preferences (e.g., mirror positions)[.])"

In addition, Petitioner contends that Xiao's server may look up a particular command code based on automobile ID 628 and command ID 630 contained in a command request received from the mobile device. Pet. 23 (citing Ex. 1010 ¶ 88). Petitioner asserts Xiao's command codes are used to control automobile systems to achieve the operator's desired settings. *Id.* (citing Ex. 1010 ¶¶ 103–104; Ex. 1009 ¶¶ 108–110).

With respect to limitation [10b], Petitioner asserts Xiao's Figure 9 discloses a wireless automobile key service page 900 that includes automobile key menu 912 with automobile name display 916 indicating the name of the automobile 112 currently selected. Pet. 24 (citing Ex. 1010 ¶ 99, 102). Petitioner further contends that Xiao discloses that vehicles may include settings for climate, audio, comfort, and awareness system settings. *Id.* (citing Ex. 1010 ¶ 102).

(2) Patent Owner's Contentions

Patent Owner contends that Xiao does not disclose "receiving, at a server, information for a user profile of a user" (limitation [10a]) because Xiao's command request is inconsistent with and does not disclose "information for a user profile of a user." *See* Prelim. Resp. 43–44 (citing Ex. 2001 ¶¶ 52–58, 73–80). Patent Owner contends that Xiao's command request is not included within or otherwise information for Xiao's "profile information 614." *Id.* Patent Owner contends that the command request

contains automobile ID 628 and command ID 630. *Id.* at 45. Patent Owner further argues that automobile ID identifies the vehicle the operator wants to issue commands to, and command ID 630 identifies particular automobile commands. *Id.* (citing Ex. 1010 ¶¶ 86, 88). Patent Owner asserts that neither the automobile ID nor the command ID is stored in profile information 614. *Id.* at 45–46.

Patent Owner does not provide arguments specific to limitation [10b]. *See generally*, Prelim. Resp. Nonetheless, the burden remains on Petitioner to demonstrate unpatentability. *See Dynamic Drinkware*, 800 F.3d at 1378.

(3) Discussion

Based on the preliminary record, Petitioner has provided sufficient explanation and supporting evidence that Xiao discloses limitations [10a] and [10b].

To start, Xiao's Figure 9 is provided below:

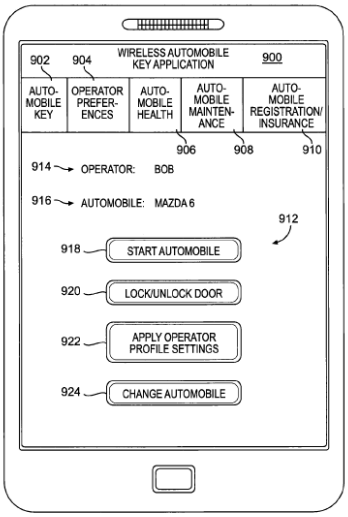


FIG. 9

Xiao's Figure 9 shows an exemplary page of a wireless automobile key application or website. Ex. 1010 ¶ 13. At automobile name display 916,

Figure 9 indicates "MAZDA 6" has been selected by or assigned to the operator. *Id.* ¶ 99. Xiao discloses that an "operator may log in to page 900 by inputting a username, password, biometric data, and/or other authentication information to mobile device 110." *Id.* ¶ 95. "Mobile device 110 may then transmit the authentication information, and optionally the mobile ID 304, to automobile service server 118 over cellular network 114." *Id.* According to Xiao, the server may check

> the provided authentication information against the authentication information 612 corresponding to the mobile ID 610 and/or the operator ID 608 in the stored account information. If server 118 properly authenticates the operator, server 118 may retrieve the operator's profile information 614 and default automobile ID 617 for the operator.

Id.

Additionally, Figure 9 includes "Apply Operator Profile Settings" UI element 922. *Id.* ¶ 102. When selected, Xiao's server may receive the apply operator profile command request from Internet 108. *Id.* Then, "[u]sing the operator ID 608 and/or the mobile ID 610 corresponding to mobile device 110, server 118 may retrieve from operator information 602 the corresponding profile information 614 for the operator." *Id.* Xiao teaches that operator profile information 614 may indicate the operator's desired system settings. *Id.* Furthermore, Xiao teaches that

> [b]ased on the desired automobile system settings indicated by the operator profile information 614, *automobile service server 118 may retrieve appropriate command codes 632 for these systems from automobile command code information 606*. For example, automobile service server 118 may look up appropriate command codes 632 based on the automobile ID 627 and on the command IDs 630 associated with the operator's desired system settings 614. Then, *automobile service server 118 may generate one or more commands based on the retrieved command codes*

> *632 to control the automobile systems to achieve the operator's desired settings.*

Ex. 1010 ¶ 103 (emphases added).

Patent Owner argues that Xiao's receipt of a command request is not the claim's required "receiving, at the server, information for a user profile" because the "automobile ID" and the "command ID" are not information for Xiao's profile information 614. Prelim. Resp. 47. Furthermore, we note that Patent Owner relies on Dr. Malek's testimony in paragraphs 51–58 and 73–78 of his declaration, which are cited in the Preliminary Response on page 44. However, paragraphs 51–58 of Dr. Malek's declaration do not address limitation [10a], but focus on limitation [10c]. *See id.* ¶ 53 ("I reviewed Xiao and it does not disclose a server performing any check for compatibility of settings or any determination by a server of the compatibility between user profile settings with settings that are settable in the selected vehicle. Indeed, Xiao does not discuss 'compatibility' or making any compatibility determination at all."). Separately, in paragraph 73–78, Dr. Malek reiterates Patent Owner's argument that Xiao's server receives a command request, but that the command request is not information for Xiao's profile information. *Id.* ¶¶ 73–78. Dr. Malek testifies that Xiao's automobile ID 628 and command ID 630 are stored in automobile command information 606 table, not in operator profile information 614. *Id.* ¶ 77.

Based on the preliminary record, we observe Xiao teaches that the server may receive the "apply operator profile command request" and using "operator ID 608 and/or *mobile ID 610 corresponding to mobile device 110*, server 118 may retrieve from operator information 602 the corresponding profile information 614 for the operator." Ex. 1010 ¶ 102 (emphases added). In this regard, we observe that the server appears to receive information that

is information for a user profile as this information is used to retrieve the profile information. Thus, Xiao's server appears to receive more than just the automobile ID or command ID. Our reading of Xiao is consistent with Dr. Almeroth's testimony, which takes into account this disclosure provided in paragraph 102 of Xiao. *See* Ex. 1009 ¶ 104 ("Using the operator ID 608 and/or the mobile ID 610 corresponding to mobile device 110, server 118 may retrieve from operator information 602 the corresponding profile information 614 for the operator.") (citing Ex. 1010 ¶ 102).

Based on the preliminary record, Petitioner's position is supported by Dr. Almeroth's testimony, which appears consistent with the disclosures in Xiao for the purposes of institution. Nevertheless, the parties may further develop the record on this issue after institution.

b) Limitations [10c]–[10d]

Claim 10 further recites:

> [10c] determining, by the server, applicable settings for the selected vehicle, the applicable settings being settings that are preferred to be set as identified from the user profile and are compatible with settings that are settable in the selected vehicle; and
>
> [10d] sending, by the server, the applicable settings for programming to the selected vehicle, wherein the applicable settings are programmed on the selected vehicle after receipt by the selected vehicle over a wireless connection[.]

Ex. 1001, 33:11–20.

(1) Petitioner's Contentions

Referring to step 1108 of Xiao's Figure 11, Petitioner contends that the server generates a command to customize the automobile systems based on the operator's profile. Pet. 25 (citing Ex. 1009 ¶¶ 117–126). Petitioner asserts that "Xiao explains the applicable settings are settings that are

preferred to be set as identified from the user profile and are compatible with settings that are settable in the selected vehicle." *Id.* at 26 (citing Ex. 1009 ¶¶ 120–125). Petitioner argues that Xiao contemplates different commands for different types of automobiles. *Id.* (citing Ex. 1010 ¶ 85). Petitioner further asserts that Xiao's command codes 632 are used to "control the automobile systems to achieve the operator's desired settings." *Id.* (citing Ex. 1010 ¶¶ 103–104). According to Petitioner, "[t]his setting is compatible with the selected vehicle because it is usable on the vehicle." *Id.* at 27.

For limitation [10d], Petitioner contends that Xiao teaches server 118 may transmit generated commands to the automobile over the Internet. Pet. 28 (citing Ex. 1010 ¶ 104). Referring to step 1110 of Figure 11, Petitioner asserts that Xiao's server 118 sends the command generated in step 1108 to the automobile 112 over the Internet. *Id.* (citing Ex. 1010 ¶ 127).

(2) Patent Owner's Contentions

Patent Owner contends that Xiao does not teach the server determines the user's settings are compatible with settings in the selected vehicle. *See* Prelim. Resp. 37–43. Patent Owner asserts Xiao does not mention compatibility or incapability of settings. *Id.* at 38. Rather, Patent Owner contends that Xiao's server receives a command request from an operator and looks up and retrieves the command codes associated with each command. *Id.* at 37–38 (citing Ex. 1010 ¶¶ 88, 103; Ex. 2001 ¶¶ 52–58, 61–70).

Patent Owner further contends that Xiao's "generate command" step 1108 of Figure 11 does not teach limitation [10c]. Prelim. Resp. 39. According to Patent Owner, the "Petition identifies no disclosure on what 'generat[ing]' a command entails, identifies no disclosure that this step

performs a compatibility check." *Id.* (citing Pet. 25–27, 63–67; Ex. 1010 ¶¶ 88, 103, 126; Ex. 2001 ¶¶ 52–58, 71). Patent Owner also argues that Dr. Almeroth's testimony reads out the required compatibility check. Prelim. Resp. 39–42 (citing Ex. 1009 ¶¶ 124–125).

(3) Discussion

Patent Owner argues that the term "look up" does not mean "determining" and that the term "compatible" or "compatibility" do not appear in Xiao. Prelim. Resp. 37–38.

Even assuming that Xiao does not use the term "compatibility," (*see* Ex. 2001 ¶ 52), Xiao need not satisfy an *ipsissimis verbis* test. "To anticipate a claim, a prior art reference must disclose each and every element of the claim, either explicitly or inherently." *Adasa Inc. v. Avery Dennison Corp.*, 55 F.4th 900, 910 (Fed. Cir. 2022); *Eli Lilly & Co. v. Zenith Goldline Pharms., Inc.*, 471 F.3d 1369, 1375 (Fed. Cir. 2006). "While those elements must be arranged or combined in the same way as in the claim, the reference need not disclose the elements in the very same terms used by the patent." *Id.*; *In re Gleave*, 560 F.3d 1331, 1334 (Fed. Cir. 2009) ("[T]he reference need not satisfy an *ipsissimis verbis* test.). Here, Xiao teaches expressly that server 118 looks up the *appropriate* command codes based on user profile settings and then sends commands to a specific vehicle for implementing the appropriate settings. On this record, we are persuaded preliminarily that this expressly teaches "determining . . . applicable settings," where the applicable settings "are compatible with settings that are settable in the selected vehicle," as required by limitation [10c].

We understand Xiao to teach that "[b]ased on the desired automobile system settings indicated by the operator profile information 614, automobile service server 118 may retrieve *appropriate* command codes 632

for these systems from automobile command code information 606." Ex. 1010 ¶ 103 (emphasis added). To determine the *appropriate* commands, Xiao further discloses that "automobile service server 118 may look up *appropriate* command codes 632 *based on the automobile ID 627 and on the command IDs 630 associated with the operator's desired system settings* 614." *Id.* (emphases added). According to Xiao, "[t]hen, automobile service server 118 may generate one or more commands based on the retrieved command codes 632 to control the automobile systems to achieve the operator's desired settings." *Id.* Xiao also discloses that "[s]erver 118 may then transmit the generated command(s) to the automobile 112 over the Internet 108." *Id.* ¶ 104.

Patent Owner's argument that Xiao fails to "perform a compatibility check" (Prelim. Resp. 37) is unpersuasive at this stage in the proceeding because claim 1 does not appear to require performance of a compatibility check. Rather, it recites "determining applicable settings," where the applicable settings are "compatible with settings that are settable in the selected vehicle." Ex. 1001, 33:10–14. Patent Owner's position appears to be that the plain language of the claims includes the requirement it advocates (*see* Prelim. Resp. 31–33), but we disagree. If Patent Owner believes that this claim language is properly construed to require performance of a particular compatibility check, then Patent Owner should specify its proposed claim construction and identify any support in the intrinsic record. *Cf.* Prelim. Resp. 24–28 (summarizing prosecution history), 41 (providing conclusory assertion that a compatibility check is required based on string cite).

Based on the preliminary record, Petitioner has provided sufficient explanation and supporting evidence that Xiao discloses each of these

limitations [10c] and [10d] for the purposes of institution. The parties may further develop the record on this issue after institution.

c) Limitations [10e] and [10f]

Claim 10 further recites the steps:

> [10e] wherein the method is executed by the server, the server including a processor;
>
> [10f] wherein the selected vehicle includes vehicle electronics for applying the programming to cause the applicable settings to be activated on the selected vehicle and communication circuitry for communicating via the wireless connection.

Ex. 1001, 33:20–26.

For these limitations, Petitioner asserts that Xiao's method is executed by a server (e.g., server 118) that includes a processor (e.g., processor 500). Pet. 29 (citing Ex. 1009 ¶¶ 131–133; Ex. 1010 ¶¶ 59, 61–62). Petitioner further contends that

> Xiao discloses the selected vehicle (e.g., automobile 112) includes vehicle electronics (e.g., modules, including modules 406-418) for applying the programming (e.g., executing commands) to cause the applicable settings (e.g., command codes 632) to be activated on the selected vehicle and communication circuitry (e.g., cellular network communication module 404) for communicating via the wireless connection (e.g., Internet 108).

Id. at 30 (citing Ex. 1009 ¶¶ 134–138). Referring to Xiao's Figure 4, Petitioner further asserts that automobile 112 includes cellular network communication module 404 that may include a radio antenna or transceiver for communicating data over cellular networks. *Id.* at 32 (citing Ex. 1010 ¶ 44, Fig. 4).

Patent Owner does not provide arguments specific to limitations [10e]–[10f]. *See generally*, Prelim. Resp. Nonetheless, the burden remains

on Petitioner to demonstrate unpatentability. *See Dynamic Drinkware*, 800 F.3d at 1378.

Based on the preliminary record, Petitioner has provided sufficient explanation and supporting evidence that Xiao discloses each of these limitations [10e] and [10f] for the purposes of institution. *See* Pet. 29–32.

d) Conclusion

After review of the arguments and evidence, we determine that Petitioner has established a reasonable likelihood that it would prevail in showing that independent claim 10 is anticipated by Xiao.

2. Analysis of Claims 11, 13, and 15–19

Claims 11, 13, and 15–19 depend from claim 10. Ex. 1001, 33:27–34:42. Petitioner asserts that dependent claims 11, 13, and 15–19 of the '268 patent are anticipated by Xiao. Pet. 32–44.

For this challenge, Patent Owner relies on the same arguments presented for claim 10. Prelim. Resp. 34–47. For the reasons discussed above, Petitioner's arguments are better supported at this juncture. Furthermore, in the Petition, Petitioner has provided arguments and supporting evidence sufficient to establish a reasonable likelihood that Petitioner would prevail in showing that Xiao anticipates claims 11, 13, and 15–19. *See* Pet. 32–44. After institution, the parties are may further develop the record on these issues.

D. Claims 10, 11, 13, and 15–19 as Allegedly Obvious over Xiao and Hayashi

Petitioner contends the combination of Xiao and Hayashi renders obvious claims 10, 11, 13, and 15–19. Pet. 44–50. Patent Owner disagrees. Prelim. Resp. 48–61.

1. Claim 10

a) Petitioner's Contentions

For this challenge, Petitioner relies on Xiao for limitations [10a], [10b], [10d]–[10f] recited in claim 10, as discussed above for Petitioner's anticipation challenge. Pet. 45.

Petitioner further asserts that Xiao combined with Hayashi teaches or suggests limitation [10c]. *Id.* at 45–50. Petitioner argues that Xiao recognizes commands differ between types of automobiles. Pet. 45 (citing Ex. 1010 ¶ 85). According to Petitioner, Xiao's applies "particular profile settings to particular automobiles via such commands." *Id.* Relying on Dr. Almeroth's testimony, Petitioner contends that a POSITA would "account for the heterogeneity of vehicles . . . [and] would have known how to include information regarding compatibility of commands in Xiao's information 600 because Xiao recognizes that various types of information can be included." *Id.* at 45–46 (citing Ex. 1009 ¶¶ 190, 192; Ex. 1010 ¶ 87). Dr. Almeroth testifies that

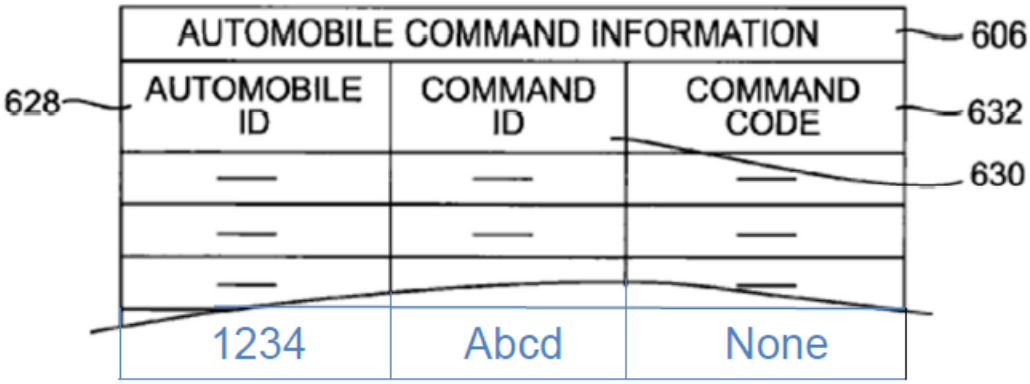
> one would have been motivated to determine applicable settings (e.g., command codes) that are compatible with settings that are settable in the selected vehicle but would avoid determining applicable settings that are incompatible with settings that are settable in the selected vehicle, *ensuring that Xiao's server 118 does not attempt to command vehicles to do things they cannot do, potentially resulting in unexpected and/or undesired vehicle configurations or errors*. Avoiding such undesirable effects would be a predictable result of implementing Hayashi's known method of determining compatibility.

Ex. 1009 ¶ 190 (emphases added).

Petitioner contends that a POSITA would have looked to Hayashi as an example of how a server may determine compatibility. Pet. 46 (citing Ex. 1009 ¶ 196). This is because "Hayashi discloses database 134, which

"stores operating methods for each function of each vehicle model." *Id.* at 46 (citing Ex. 1013 ¶ 29). According to Petitioner, Hayashi teaches that the operating methods for such functions (e.g., shift lever, parking brake, seat adjustment, mirror adjustment, etc.) may be the same or different, from vehicle to vehicle. *Id.* (citing Ex. 1013 ¶¶ 2, 5, 7, 9, 29, Fig. 6). Petitioner directs us to Hayashi's Figure 6 as describing how Hayashi "actively determines certain functions or operating methods are compatible [or incompatible] with certain vehicle models by specifying, e.g., method X, Y, Z, etc., for implementing such functions." *Id.* at 47 (citing Ex. 1013 ¶ 29, Fig. 6).

Petitioner asserts that it would have been obvious for Xiao's database to include compatible and incompatible functions/operating methods as described in Hayashi because a POSITA "would have considered it useful to have a database indicating which vehicles are compatible/incompatible with respective functions/operating methods, as in Hayashi." Pet. 48 (citing Ex. 1009 ¶ 195). Petitioner further provides an annotated version of Xiao's Figure 6, which is a chart, to demonstrate how Hayashi's teaching may be implemented in Xiao's databases. Petitioner's annotated Figure 6 is provided below:



Annotated Excerpt of Fig. 6 of *Xiao*

Annotated Figure 6 appears on page 48 of the Petition with an additional row in blue indicating Automobile ID 1234 has "None" Command Code for Command ID Abcd. Pet. 48–49. For vehicles without a corresponding command code, Petitioner argues a POSITA would have found it obvious to use "none" as taught by Hayashi to check compatibility of settings. *Id.*

b) Patent Owner's Contentions

Patent Owner presents four main arguments: 1) Hayashi and Xiao are not analogous art; 2) POSITA would not consider Hayashi's manually implemented instructions relevant to Xiao's programmable modules; 3) Hayashi never mentions settings, user settings, or compatibility; and 4) adding the manual, driver-implemented operation from Hayashi to Xiao does not satisfy limitation [10c]. Prelim. Resp. 34, 49–60. We address Patent Owner's arguments below.

c) Discussion

Petitioner contends Xiao and Hayashi are analogous art. Pet. 45. Patent Owner disagrees. Prelim. Resp. 34, 51; Ex. 2001 ¶¶ 83–89.

A reference qualifies as prior art for an obviousness determination only when it is analogous to the claimed invention. *See In re Klein*, 647

F.3d 1343, 1348 (Fed. Cir. 2011). The Federal Circuit has laid out two separate tests to determine whether a reference is analogous art to the claimed invention, i.e., whether one of ordinary skill in the art would even look to the teachings of that reference. *In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004). They are: "(1) whether the art is from the same field of [the inventor's] endeavor" and "(2) if the reference is not within the field of the inventor's endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved." *Id.*; *see also In re Klein*, 647 F.3d at 1348.

The title of the '268 patent is "Methods and Systems for Setting and Transferring User profiles to Vehicles and Temporary Sharing of User Profiles to Shared-Use Vehicles." Ex. 1001, (54). The Specification discloses that

> *[t]he purpose of abstracting vehicle operators from the vehicle itself is a shift from the current state of the art in which settings are vehicle specific-each vehicle typically only having the ability to store 1-3 sets of settings, to where vehicle settings are user specific and 1-n logins can be managed through an access management system.* The embodiments defined herein allow each user to apply his or her settings to any vehicle based on their login information in which they provide their login and password. *When a user logs into a vehicle, the vehicle will determine locally on board and/or communicate remotely with a central or distributed access management system to determine the validity of the login presented to the system.* If the user's login is recognized, the system will apply settings and use privileges to the vehicle prescribed by the login.

Id. at 12:31–36 (emphases added). Additionally, the '268 patent discloses that "[t]he present invention relates to systems and methods for managing user profiles for vehicles and exchange of information with cloud-based processing systems." *Id.* at 1:30–34. In this way, we observe the '268

patent's field of endeavor is managing user profiles for vehicles and exchange of information with cloud-based processing systems.

Based on the preliminary record, we determine that Xiao and the '268 patent are in the same field of endeavor. Xiao's wireless automobile key system 100 "enables an operator of an automobile to use the operator's mobile device . . . to lock/unlock the automobile, to power on/off the automobile, or to affect other automobile operations." Ex. 1010 ¶ 23. Xiao's system 100 may communicate with the automobile, over a network, to apply automobile system settings based on preferences contained in an operator profile. *Id.* More particularly, Xiao discloses that

> [b]ased on the desired automobile system settings indicated by the operator profile information 614, automobile service server 118 may retrieve appropriate command codes 632 for these systems from automobile command code information 606. For example, *automobile service server 118 may look up appropriate command codes 632 based on the automobile ID 627 and on the command IDs 630 associated with the operator's desired system settings 614.*

Ex. 1010 ¶ 103 (emphases added). Xiao's server 118 then "generate[s] one or more commands based on the retrieved command codes 632 to control the automobile systems to achieve the operator's desired settings." *Id.*

Additionally, we preliminarily determine that Hayashi is also in this same field of endeavor. Hayashi discloses a "car sharing system . . . can be applied to a general rental car system that lends multiple cars to unspecified users." Ex. 1013 ¶ 13. With reference to Figure 1, Hayashi describes *car sharing system 1* includes a management server 10, a vehicle 20, and a mobile terminal 30. *Id.* ¶ 14. Onboard device 200 is mounted in vehicle 20. *Id.* Management server 10, onboard device 200 of vehicle 20, and mobile terminal 30 can each communicate with one another. *Id.* Hayashi further

discloses that management server 10 performs reservation management of vehicle 20 used by a user in car sharing system 1. *Id.* ¶ 15. To do so, management server 10 includes storage portion 130 that stores user information in user information DB 131. *Id.* ¶ 25. User information DB 131 stores "user ID, password, user's personal car type, etc. for each user." *Id.* ¶ 26. Management server 10 also contains portion 113 "for extracting function differences according to vehicle model extracts functions and operating methods thereof for functions which are the same [but] for which operating methods differ between the vehicle the user has reserved and vehicle[s] frequently used by the user." *Id.* ¶ 23. In other words, for a specific user, Hayashi determines differences in functions between a vehicle the user has reserved versus a vehicle used frequently by the user. Once Hayashi's server determines the differences in functions or methods between vehicles, Hayashi may communicate that information to vehicle 20 for the user's operation of the vehicle. *Id.* ¶ 103 ("Management server 10 transmits extracted information to vehicle 20.").

Patent Owner contends that "Hayashi identifies a problem where a driver 'mis-operates a vehicle he/she does not normally use,' such as a rental car, but it is 'usually not possible for the driver to check the manual while driving.'" Prelim. Resp. 51 (citing Ex. 1013 ¶¶ 2, 4). Patent Owner adds Hayashi does not mention "profiles," "settings," "user preferences," or applying settings. *Id.* at 52; *see id.* at 53 ("Hayashi's provision of guidance to a driver—e.g. how to engage the parking brake of an unfamiliar car—is simply not related to the transfer of user profile settings, or settings at all, to vehicles, nor is it 'applying settings to automobiles based on user preferences,' as Toyota contends.").

Even assuming Patent Owner's reading of Hayashi is correct, we are not persuaded at this point in the proceeding that Hayashi is non-analogous art on this basis. As discussed, in Hayashi, user information, such as a user's personal car type, is maintained in the user information DB 131 of management server 10 and used for the comparison of functionality between vehicles the user operates. *See* Ex. 1013 ¶¶ 23, 26. Management server 10 further transmits extracted information to the reserved vehicle. *Id.* ¶ 103. Based on at least this disclosure, we preliminarily determine that Hayashi's field of endeavor is also the managing of user profiles for vehicles and exchange of information with cloud-based processing systems.

Next, at this stage, we are not persuaded by Patent Owner's arguments that a POSITA would not consider Hayashi's teachings for Xiao's programmable modules. *See* Prelim. Resp. 57. In particular, Patent Owner contends "a POSITA looking at Xiao's programmable modules would immediately view the manually implemented instructions of Hayashi as completely irrelevant." *Id.*; Ex. 2001 ¶¶ 92–96. Patent Owner also argues that

> the Petition modifies Xiao's command information table with Hayashi's operating methods to instruct a human driver how to manually operate the vehicle. . . . Adding the manual, driver-implemented operation from Hayashi to Xiao does not somehow transform Xiao into a method capable of automatically transferring user profile settings to vehicles that are confirmed to be compatible with settings that are settable on the vehicle.

Id. at 60.

We understand Hayashi to disclose more than manually implemented instructions. Hayashi describes a car sharing system with a *management server 10* that communicates with a user's mobile terminal 30 (e.g., mobile

phone) to receive and manage reservations from a user to use a vehicle. Ex. 1013 ¶¶ 15, 17. The management server's storage portion 130 stores user information in user information DB 131 to be used to identify the user and user information, such as the user's personal car type. *Id.* ¶¶ 25–26. Within management server 10, portion 113 "extracts functions and operating methods thereof for functions which are the same [but] for which operating methods differ between the vehicle the user has reserved and vehicle[s] frequently used by the user." *Id.* ¶ 23. For a specific user, Hayashi's management server determines differences in functions between a vehicle the user has reserved versus a vehicle used frequently by the user. *Id.* Once Hayashi's server determines these differences, "[m]anagement server 10 transmits extracted information to vehicle 20." *Id.* ¶ 103.

With at least this disclosure in mind, the preliminary record better supports Petitioner's position that Hayashi teaches how a server may determine compatibility by using a database, as shown Hayashi's Figure 6, to store information for comparison. *See* Pet. 47 ("[Hayashi] actively determines certain functions or operating methods are compatible [or incompatible] with certain vehicle models by specifying, e.g., method X, Y, Z, etc., for implementing such functions."). Furthermore, we do not agree with Patent Owner that Petitioner seeks to incorporate "*all of the components from Hayashi"* (manual or otherwise) with the "knowledge of the automatic implementation of commands in Xiao." Prelim. Resp. 49. Petitioner appears to rely on specific teachings in Hayashi regarding how the management server compares the functionality of different vehicles used by the same user. Petitioner explains that a POSITA "would have considered it useful to have a database [in Xiao] indicating which vehicles are

compatible/incompatible with respective functions/operating methods, as in Hayashi." Pet. 48 (citing Ex. 1009 ¶ 195).

Patent Owner further argues that even if considered, the asserted combination of Xiao and Hayashi does not teach or suggest limitation [10c]. Patent Owner asserts that Hayashi does not mention "user settings," any settings, or compatibility. *See* Prelim. Resp. 55–56. Patent Owner argues that "Hayashi's database 134 is entirely devoid of any user settings—showing, instead, how a driver can engage a parking brake according to vehicle model α, β or γ, or where on the car a driver can find the shift lever in vehicle model α, β or γ." *Id.* at 58. Patent Owner further contends that "Hayashi leaves it to the driver to implement vehicle functions; there is no determination—by a server or otherwise—of what settings are 'settable' in a given vehicle." *Id.* at 59.

Based on the preliminary record, Petitioner's arguments are better supported. First, Petitioner does not appear to rely upon Hayashi to teach user profiles or settings. Rather, Petitioner asserts that Xiao's server generates a command to customize the automobile systems based on the settings in an operator's profile. Pet. 25 (citing Ex. 1010 ¶ 126). Petitioner argues that Xiao contemplates different commands for different types of automobiles. *Id.* (citing Ex. 1010 ¶ 85). Petitioner further explains that Xiao's command codes 632 are used to "control the automobile systems to achieve the operator's desired settings." *Id.* (citing Ex. 1010 ¶¶ 103–104) ("The appropriate onboard modules 406–418 may then execute the commands by controlling the onboard systems to achieve the operator's desired settings indicated by the profile information 614."). Petitioner then relies on Hayashi for its teaching on how a server would use a database to compare the compatibility or incompatibility of functions (e.g., commands)

for different types of vehicles. *Id.* at 46 (citing Ex. 1009 ¶ 196) ("One would have looked to Hayashi as an example of how a server may determine compatibility."). Petitioner explains that a POSITA would have added "none" to the database shown in Xiao's Figure 6 for command codes where a vehicle does not have a command ID. *Id.* at 48–49. We understand Petitioner's position to be that when Xiao's server is directed to "control the automobile systems to achieve the operator's desired settings" such as by adjusting climate control, audio settings, seat position, etc., Xiao's server may determine compatibility of preferred user settings and vehicle settings by checking Xiao's database as modified by Hayashi's teachings. *See* Pet. 49 ("For example, there may be an automobile having an automobile ID 628 for which a certain command ID 630 has no corresponding command code 632. It would have been an obvious and straightforward modification of Xiao to use an indicator such as 'none,' for example, for commands having no corresponding command code on a vehicle, based on Hayashi.").

Regarding the reasons to combine Xiao and Hayashi, Petitioner explains sufficiently, for the purposes of institution, that

> recognizing the heterogeneity of vehicles, one would have been motivated to determine applicable settings (e.g., command codes) that are compatible with settings that are settable in the selected vehicle but would avoid determining applicable settings that are incompatible with settings that are settable in the selected vehicle, ensuring that Xiao's server 118 does not attempt to command vehicles to do things they cannot do, potentially resulting in unexpected and/or undesired vehicle configurations or errors.

Pet. 49; Ex. 1009 ¶ 191. Petitioner adds that "[a]voiding such undesirable effects would be a predictable result of implementing Hayashi's known method of determining compatibility." *Id.* For the purposes of institution,

Petitioner's arguments and Dr. Almeroth's testimony are better supported by the Xiao and Hayashi. Nevertheless, the parties are encouraged to further develop the record on this issue after institution.

After review of the arguments and evidence currently of record, we determine that Petitioner has established a reasonable likelihood that it would prevail in showing that Xiao in combination with Hayashi renders independent claim 10 obvious.

2. Claims 11, 13, and 15–19

Claims 11, 13, and 15–19 depend from claim 10. Ex. 1001, 33:27–34:42. Petitioner asserts that Xiao in combination with Hayashi teach or suggest dependent claims 11, 13, and 15–19 would have been obvious over Xiao. Pet. 44–50.

For this challenge, Patent Owner relies on the same arguments presented for claim 10. Prelim. Resp. 48–61. For the reasons discussed above, Petitioner's arguments are better supported at this juncture. *See* Pet. 44–50. After institution, the parties are may further develop the record on these issues.

E. Claim 20 as Allegedly Obvious over Xiao, Hayashi, and Patenaude

Petitioner contends that the combination of Xiao, Hayashi, and Patenaude renders obvious claim 20. Pet. 63–72.

Claim 20 is generally directed to a "method for managing a user profile of a vehicle via a cloud processing system," that includes limitation "[20a] accessing the cloud processing system by the vehicle, the user profile having user settings for the vehicle, *wherein certain of the user settings are determined to be compatible for use with the vehicle[.]*" Ex. 1001, 34:43–51 (emphasis added).

For limitation [20a], Petitioner relies on arguments presented for claim 10, particularly those presented for limitation [10c]. Pet. 64–67. For example, Petitioner argues that "it would have been obvious to substitute/add to Xiao's determination of appropriate command codes Hayashi's method of determining compatibility, with a reasonable expectation of success, to yield the predictable result of ensuring only compatible commands are processed." *Id.* at 66. Patent Owner relies on the arguments discussed above for limitation [10c]. Prelim. Resp. 48–61. Based on the reasons discussed above for limitation [10c], Petitioner's position is the better one at this stage for institution.

In addition, we note Petitioner acknowledges, in connection with limitation [20b], that Xiao "does not explicitly disclose that changes to user settings are processed to learn behavior associated with the changes." Pet. 68. Petitioner argues that

> Patenaude discloses a method of determining a user's entertainment selection profile in a vehicle. *Id.*, ¶[0051]. As in Fig. 4, a telematics unit "determines patterns in the entertainment selections." *Id.*, ¶[0055]. These are based on setting selections. *See id.*, ¶[0056].

Id. at 69. Petitioner contends that "it would have been obvious to combine Xiao and Hayashi with Patenaude to further improve the user experience by providing predictions of user selections, and one would have had a reasonable expectation of success in doing so." *Id.* at 68. Patent Owner has not addressed these arguments in the preliminary record. We question, however, whether Petitioner has sufficiently shown that limitation [20b] is taught, suggested, or rendered obvious by the proposed combination of Xiao, Hayashi, and Patenaude.

"When instituting *inter partes* review, the Board will authorize the review to proceed on all of the challenged claims and on all grounds of unpatentability asserted for each claim." 37 C.F.R. § 42.108(a). We must "either (1) institute as to all claims challenged in the petition and on all grounds in the petition, or (2) institute on no claims and deny institution." Patent Trial and Appeal Board Consolidated Trial Practice Guide (Nov. 2019), 5–6, 64 ("Consolidated Trial Practice Guide");[7] *see also* 37 C.F.R. § 42.108(a), *PGS Geophysical AS v. Iancu*, 891 F.3d 1354, 1359–60 (Fed. Cir. 2018) (stating a decision to institute is "a simple yes-or-no institution choice respecting a petition, embracing all challenges included in the petition"). Because we have instituted review based on claims 10, 11, 13, and 15–19 based on Xiao and Xiao in combination with Hayashi, we also institute review on all challenges for all challenged claims.

Nonetheless, the parties may continue to develop the record on these issues after institution.

F. Remaining Obviousness Challenges – Claims 12 and 14

Petitioner contends that the combination of Xiao and Patenaude, and/or the combination of Xiao, Hayashi, and Patenaude renders obvious claim 12. Pet. 50–57. Petitioner further contends that the combination of Xiao and Singh, and/or the combination of Xiao, Hayashi, and Singh renders obvious claim 14. Pet. 57–62.

For these challenges, Patent Owner relies on the same arguments presented for claim 10. Prelim. Resp. 34–61; *see id.* at 47 ("While Petitioner adds Patenaude (Ground 3a) and Singh (Ground 4a), they do not cure deficiencies of Xiao, and Petitioner makes no argument to the contrary.").

[7] Available at https://www.uspto.gov/TrialPracticeGuideConsolidated.

Because we institute an *inter partes* review based on the Xiao and Xiao and Hayashi challenges, we institute as to all claims and all challenges, including those based on Xiao, Hayashi, and Singh or Patenaude.

The parties are encouraged to develop the record on these issues after institution.

VI. 35 U.S.C. § 314(A) DISCRETION

In deciding whether to exercise discretion under § 314(a), the Board may consider events in other proceedings related to the same patent, either at the U.S. Patent and Trademark Office or in federal district courts. Consolidated Trial Practice Guide 58. Additionally, the Board's precedential order in *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11, 5—6 (PTAB Mar. 20, 2020) (precedential) ("the *Fintiv* Order") identifies several factors for analyzing issues related to the Director's discretion to deny institution in view of related litigation, with the goal of balancing efficiency, fairness, and patent quality.

When considering related litigation, the Board evaluates the following factors ("*Fintiv* factors"):

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

2. proximity of the court's trial date to the Board's projected statutory deadline for a final written decision;

3. investment in the parallel proceeding by the court and the parties;

4. overlap between issues raised in the petition and in the parallel proceeding;

5. whether the petitioner and the defendant in the parallel proceeding are the same party; and

6. other circumstances that impact the Board's exercise of discretion, including the merits.

Fintiv Order at 5–6. In considering these factors, we apply the guidance set forth in a Memorandum regarding the "Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation" issued by the Director of the United States Patent and Trademark Office (hereinafter, "Guidance Memo").[8]

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

The parties indicate that *Emerging Automotive LLC v. Toyota Motor North America, et al.*, 2:23-cv-00434 (E.D. Tex.) has been consolidated for pretrial issues with: *Emerging Automotive LLC v. Kia Corp.*, No. 2:23-cv-00437-JRG (E.D. Tex.). Pet. 76.

Petitioner and Patent Owner represent that a motion to stay has not been filed in the district court proceeding. Pet. 72; Prelim. Resp. 7; Prelim. Reply 1.

We decline to speculate on the likelihood of a stay if one were requested. Thus, we find this factor is neutral.

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

The trial date for the consolidated district court proceeding is July 21, 2025, which will be three months before the projected statutory deadline for the entry of a final written decision here. Pet. 73; Prelim. Resp. 8–10; Prelim. Reply 1; Prelim. Sur-reply 4–5.

[8] Available at https://www.uspto.gov/sites/default/files/documents/interim_proc_discretionary_denials_aia_parallel_district_court_litigation_memo_20220621_.pdf.

This factor weighs in favor of discretionary denial. *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 15, 13 (PTAB May 13, 2020) (informative) ("Because the currently scheduled District Court trial is scheduled to begin two months before our deadline to reach a final decision, this factor weighs somewhat in favor of discretionary denial in this case.").

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

Under this factor, we consider "the amount and type of work already completed in the parallel litigation by the court and the parties at the time of the institution decision." *Fintiv* Order at 9.

Petitioner contends that it "moved with speed and diligence" in filing the Petition within three months of receiving Patent Owner's infringement contentions. Pet. 73. Petitioner further contends that the district court's investment regarding the '268 patent is minimal because the deadlines for the Markman hearing, discovery, and dispositive motions are after institution. *Id.* (citing Ex. 1014); Prelim. Reply 2 ("By time of institution, the district court case will still not have advanced beyond fact discovery and claim construction will be ongoing (Markman hearing scheduled for January 16, 2025).") (citing Ex. 1014, 4).

Patent Owner contends that there has been significant investment in the Eastern District of Texas. Prelim. Resp. 28. Patent Owner contends that infringement contentions and invalidity contentions have been served. Prelim. Resp. 11 (citing Ex. 2004). Patent Owner further contends that Petitioner's invalidity contentions contain arguments based on Xiao. *Id.* (citing Ex. 2005). Patent Owner further contends that "[b]y the time of the Board's institution decision, Judge Gilstrap will have issued a decision on at least four now-pending motions pertaining to technical aspects of the

asserted patents – a motion to compel documents and discovery responses from Toyota, Toyota's motion to compel documents from Emerging Auto, Toyota's motion to amend its invalidity contentions, and Toyota's motion to strike Emerging Automotive' s Infringement Contentions—a motion that argues both claim construction and the merits of infringement allegations." *Id.* (citing Ex. 2007) Patent Owner argues that the parties will have also exchanged proposed claim terms and proposed constructions. *Id.* at 12 (citing Ex. 1014). In its preliminary sur-reply, Patent Owner adds that the investment of resources is substantial because of "completed hearing on five motions, completed depositions, and a validity challenge to the '268 Patent[.]" Prelim. Sur-reply 5.

The record before us indicates that the related district court proceeding is still in relatively early stages. Fact and expert discovery are ongoing until March 3, 2025 and April 7, 2025, respectively. Ex. 1014, 4. Claim construction briefs have not been filed and the Markman Hearing is scheduled for January 16, 2025. *Id.* at 4–5. This factor weighs against discretionary denial.

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

Patent Owner contends there is substantial overlap between the Petition and the Eastern District of Texas litigation because Petitioner's invalidity contentions there include the same claims and references at issue here. Prelim. Resp. 14 (citing Ex. 2004, 15–16; Ex. 2005).

In the instant proceeding, the Petition challenges claims 10–20, and relies on Xiao, Hayashi, Patenaude, and Singh. Pet. 3. Petitioner's invalidity contentions in the Eastern District Court of Texas Litigation

address claims 10–20 and rely on Xiao, Hayashi, Patenaude, and Singh. Ex. 2004, 15–16; Ex. 2005.

Petitioner, however, stipulates "that if this IPR is instituted, it will not pursue in the related litigation the grounds raised in this Petition.". Pet. 74. (citing *Sand Revolution II, LLC v. Continental Intermodal Grp. – Trucking LLC*, IPR2019-01393, Paper 24 at 12 (PTAB June 16, 2020) (informative)). In the Preliminary Reply, Petitioner adds, "[i]f the Board institutes this IPR, Toyota will not pursue any invalidity ground that includes Xiao, Hayashi, Patenaude, or Singh against the '268 patent in the related litigation." Prelim. Reply 2.

Patent Owner contends that this "stipulation is inconsistent with *Sotera* and the Interim *Fintiv* Procedure, both of which demonstrate the need for a broad stipulation under this factor[.]" Prelim. Resp. 15. In the preliminary sur-reply, Patent Owner adds "there is substantial overlap between invalidity contentions and the Petition." Prelim. Sur-reply 5.

Nonetheless, Petitioner's stipulation mitigates to a great degree the concerns regarding duplicative efforts and potentially conflicting decisions. Thus, we determine that the fourth *Fintiv* factor weighs against discretionary denial of institution.

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

The parties do not dispute that the same parties involved in the present proceeding also are involved in the parallel district court proceeding regarding the '268 patent. *See* Pet. 74–75; Prelim. Resp. 17–18; Prelim. Reply 2–3. This factor weighs in favor of exercising discretion to deny institution.

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

Patent Owner argues that the Petition "not only fails to meet the statutory institution threshold, but also on its face, each Ground of the Petition suffers fatal flaws of proof[.]" Prelim. Resp. 18. Petitioner disagrees and argues the merits are strong. Pet. 75; Prelim. Reply 3–5; Prelim. Sur-reply 1–4.

As discussed above, we determine that the merits of the Petition meet the standard for institution. *See infra* § V. Board precedent provides that we should only consider the compelling merits standard if the first five *Fintiv* factors favor discretionary denial. *CommScope Techs. LLC. v. Dali Wireless, Inc.*, IPR2022-01242, Paper 23 at 4–5 (PTAB Feb. 27, 2023) (precedential). Because we determine that the first five factors do not favor discretionary denial, we do not address whether the merits are compelling.

G. Balancing the Factors

Because the analysis is fact-driven, no single factor is determinative of whether we exercise our discretion and deny institution under 35 U.S.C. § 314(a). After weighing the *Fintiv* factors together, we decline to exercise discretion to deny the Petition under 35 U.S.C. § 314.

VII. CONCLUSION

After considering the Petition, Preliminary Response, Preliminary Reply, Preliminary Sur-reply, and accompanying exhibits and testimony, we determine that there is a reasonable likelihood that Petitioner would prevail in challenging at least one of claims 10–20 of the '268 patent as unpatentable under the challenges presented in the Petition. Accordingly, we institute an *inter partes* review of claims 10–20 on all challenges

presented in the Petition with respect to these claims. *See* 37 C.F.R. § 42.108(a); Consolidated Trial Practice Guide 64.

At this preliminary stage, the Board has not made a final determination with respect to the patentability of the challenged claims or any underlying factual or legal issue. The Board's final determination will be based on the record as developed during the *inter partes* review.

VIII. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that, pursuant to 35 U.S.C. §314(a), an *inter partes* review of claims 10–20 of the '268 patent is instituted with respect to all challenges set forth in the Petition; and

FURTHER ORDERED that, pursuant to 35 U.S.C. §314(c) and 37 C.F.R. § 42.4(b), *inter partes* review of the '268 patent shall commence on the entry date of this Order, and notice is hereby given of the institution of a trial.

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