

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

HYUNDAI MOTOR COMPANY,
Petitioner,

v.

MEL NAVIP LLC,
Patent Owner.

IPR2024-00173
Patent 8,649,971 B2

Before BENJAMIN D. M. WOOD, LYNNE H. BROWNE, AND
RICHARD H. MARSCHALL, *Administrative Patent Judges*.

MARSCHALL, *Administrative Patent Judge*.

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

Petitioner Hyundai Motor Company filed a Petition (Paper 1, “Pet.”) requesting an *inter partes* review of claims 1–4, 7–12, 14, 16–17 and 19 of U.S. Patent No. 8,649,971 B2 (Ex. 1001, “the ’971 patent”). *See* Pet. 1. Patent Owner Mel NavIP LLC filed a Preliminary Response (Paper 6, “Prelim. Resp.”).

We have authority to determine whether to institute an *inter partes* review. *See* 35 U.S.C. § 314; 37 C.F.R. § 42.4(a) (2022). Under 35 U.S.C. § 314(a), we may not authorize an *inter partes* review unless the information in the petition and the preliminary response “shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.”

For the reasons that follow, we determine that Petitioner has not demonstrated a reasonable likelihood of prevailing with respect to any of the challenges in the Petition. Accordingly, we do not institute an *inter partes* review.

BACKGROUND

A. Real Parties-in-Interest and Related Matters

Petitioner identifies itself, Hyundai Motor Company; Hyundai Motor America; Hyundai Capital America; Kia Corporation; and Kia America, Inc., as the real parties-in-interest. Pet. 72–73. Patent Owner identifies itself, Mel NavIP LLC, as the real party-in-interest. Paper 5, 2.

The parties identify the following related matters: *Mel NavIP LLC v. Hyundai Motor Co.*, Case No. 2:23-cv-00176 (E.D. Tex.); *Mel NavIP LLC v. General Motors Co.*, Case No. 2:23-cv-00175 (E.D. Tex.). Pet. 73; Paper 5, 2.

B. The '971 Patent

The '971 patent, titled “Navigation Device,” relates to “a navigation device that carries out route guidance of a route including waypoints acquired through a route search.” Ex. 1001, code (54), 1:5–7. “More particularly, it relates to a technology of providing information suitable for users when a vehicle travels without passing via a waypoint on a route.” *Id.* at 1:7–10.

In its discussion of “Background Art,” the '971 patent describes a situation where a user travels along a route leading, via a “plurality of waypoints,” to a destination, but fails to pass via (i.e, through) one of the waypoints. Ex. 1001, 1:22–27. The '971 patent discloses “a navigation device . . . that enables a user to determine how to handle a waypoint on a route which the user has not passed. *Id.* at 1:59–62.

Figure 2, reproduced below, depicts an example operation of the '971 patent’s navigation device.

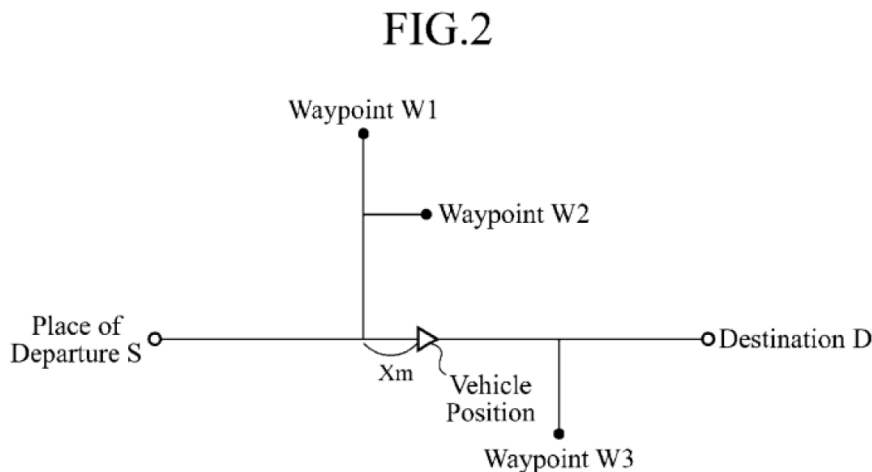
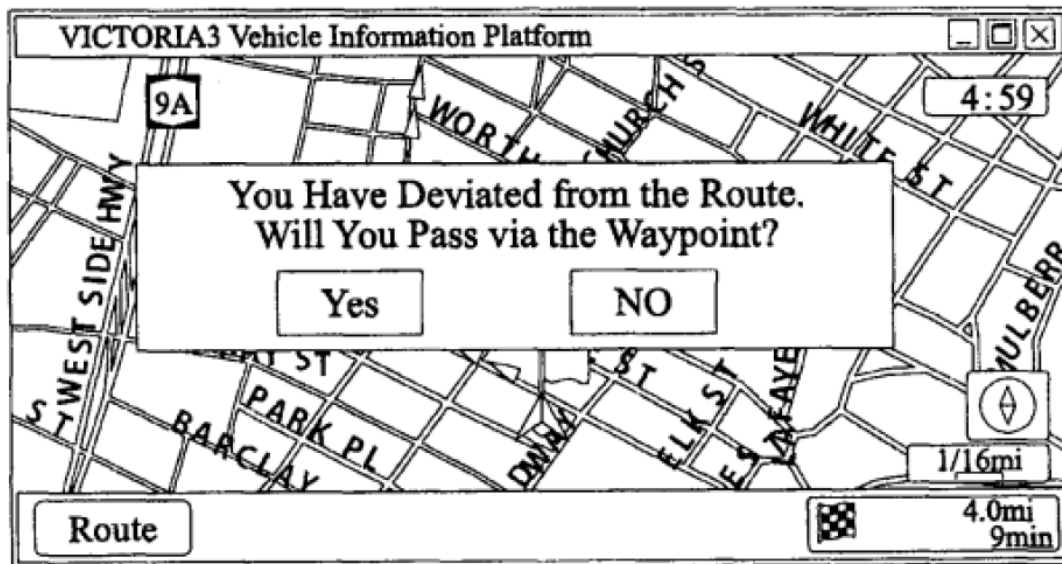


Figure 2 depicts a vehicle “traveling along a route leading from the place of departure S, via a waypoint W1, a waypoint W2, and a waypoint W3, to the destination D.” Ex. 1001, 5:51–54. The vehicle depicted in Figure 2

deviated from the first next waypoint (i.e., Waypoint W1) “toward which the vehicle has been heading . . . and has been at a predetermined distance of X meters . . . from the route.” *Id.* at 5:54–59.

When the navigation device determines that the “vehicle has deviated from the route [by] a distance of X meters or more, the route guidance unit checks to see whether or not the position is on a route after the first next waypoint.” Ex. 1001, 8:36–44. If so, “a waypoint passage selection message is then outputted.” *Id.* at 8:61–62. Figure 7, reproduced below, is an example of the waypoint selection message.



The figure depicts the user interface of a navigation device with the message “You Have Deviated from the Route. Will You Pass via the Waypoint?” overlaying a map. The message “includes a ‘yes’ button and a ‘no’ button.” *Id.* at 9:14, Fig. 7.

If a user selects the “yes” button in response to the message, “the navigation device recognizes that the user has selected to pass via the first next waypoint . . . and re-searches for a route including the . . . first next

waypoint.” Ex. 1001, 9:31–37. If a user selects the “no” button, “the navigation device recognizes that the user has selected not to pass via the first next waypoint” and then searches for a “route including the waypoints existing forward of the first next waypoint,” i.e., a route skipping the first next waypoint. *Id.* at 9:46–67.

C. Challenged Claims

Petitioner challenges claims 1–4, 7–12, 14, 16–17, and 19 of the ’971 patent, with claims 1 and 19 being independent claims and the remaining claims depending from claim 1. Pet. 1; Ex. 1001, claims 1–19. Claim 1, which illustrates the challenged subject matter, is reproduced below.

1. A navigation device comprising:
 - a setting unit configured to set waypoints and a destination,
 - a route searching unit configured to search for a whole route leading to the destination via the waypoints set by said setting unit;
 - a route guidance unit configured to carry out route guidance according to the whole route which is searched for by said route searching unit;
 - an output unit configured to output a message showing that a vehicle has deviated from a route leading to a first next waypoint toward which the vehicle has been heading when said route guidance unit determines that the vehicle has deviated from the route to a predetermined distance or more and is traveling along a route after said first next waypoint; and
 - an input unit configured to input a command indicating whether or not to travel via said first next waypoint in response to the message outputted by said output unit.

Ex. 1001, claim 1.

D. Asserted Grounds of Unpatentability

Petitioner asserts the following grounds of unpatentability (Pet. 1):

Claim(s) Challenged	35 U.S.C. §	Basis/Reference(s)
1–2, 7–12, 16–17, 19	103	Khavakh, ¹ Lefebvre ²
3–4, 14	103	Khavakh, Lefebvre, RDX ³

Petitioner filed a Declaration of David H. Williams (Ex. 1003) with the Petition.

ANALYSIS

A. Legal Standards

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

B. Level of Ordinary Skill in the Art

The level of skill in the art is “a prism or lens” through which we view the prior art and the claimed invention. *Okajima v. Bourdeau*, 261 F.3d

¹ US 7,054,742 B2, issued May 30, 2006 (Ex. 1005, “Khavakh”).

² US 5,243,528 B2, issued Sept. 7, 1993 (Ex. 1006, “Lefebvre”).

³ Honda Motor Co., Ltd., 2008 RDX Navigation Manual (Honda Motor Co., Ltd. 2007) (Ex. 1007, “RDX”).

1350, 1355 (Fed. Cir. 2001). “This reference point prevents . . . factfinders from using their own insight or, worse yet, hindsight, to gauge obviousness.” *Id.* Factors pertinent to a determination of the level of ordinary skill in the art include: (1) educational level of the inventor; (2) type of problems encountered in the art; (3) prior art solutions to those problems; (4) rapidity with which innovations are made; (5) sophistication of the technology; and (6) educational level of workers active in the field. *Env’t Designs, Ltd. v. Union Oil Co.*, 713 F.2d 693, 696–697 (Fed. Cir. 1983) (citing *Orthopedic Equip. Co. v. All Orthopedic Appliances, Inc.*, 707 F.2d 1376, 1381–82 (Fed. Cir. 1983)). “Not all such factors may be present in every case, and one or more of these or other factors may predominate in a particular case.” *Id.* Moreover, “[t]hese factors are not exhaustive but are merely a guide to determining the level of ordinary skill in the art.” *Daiichi Sankyo Co. v. Apotex, Inc.*, 501 F.3d 1254, 1256 (Fed. Cir. 2007). In determining a level of ordinary skill, we also may look to the prior art, which may reflect an appropriate skill level. *Okajima*, 261 F.3d at 1355.

Petitioner contends that one of ordinary skill in the art “would have had an undergraduate degree in electrical engineering, computer engineering, computer science, or an equivalent degree, as well as at least three years of experience in the design and implementation of navigation systems.” Pet. 4–5 (citing Ex. 1003 ¶ 36). Patent Owner contends that one of ordinary skill in the art:

would have (a) a Bachelor's of Science degree in a technical field and at least four years of experience in the field of geospatial information sciences; (b) a Master's of Science degree in a technical field and at least two years of experience in the field of geospatial information sciences; or (c) a PhD in a technical field relating to the geospatial information sciences.

Additional graduate education could substitute for professional experience, or significant experience in the field could substitute for formal education.

Prelim. Resp. 6 (citing Ex. 2001 ¶ 18).

Patent Owner does not identify any deficiencies in Petitioner’s proposal, and we view the parties’ proposals as overlapping to a large extent. *See* Pet. 4–5; Prelim. Resp. 6. For purposes of this Decision, we adopt and apply Petitioner’s proposed level of ordinary skill in the art, which we view as consistent with the level of skill reflected in the ’971 patent and the asserted prior art. None of our determinations in this Decision would have been different if we applied Patent Owner’s proposal.

C. Claim Construction

We construe each claim “using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. [§] 282(b).” 37 C.F.R. § 42.100(b). Under this standard, claim terms are generally given their ordinary and customary meaning as would have been understood by a person of ordinary skill in the art at the time of the invention and in the context of the entire patent disclosure. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–14 (Fed. Cir. 2005) (en banc) (“We have frequently stated that the words of a claim ‘are generally given their ordinary and customary meaning.’” (citations omitted)). “The Board is required to construe ‘only those terms . . . that are in controversy, and only to the extent necessary to resolve the controversy.’” *Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

Here, both parties contend that no claim construction is required for us to reach a decision on institution. Pet. 5; Prelim. Resp. 6–7. We agree, and apply the plain and ordinary meanings of the claim limitations before us.

D. Obviousness Based on Khavakh and Lefebvre

Petitioner argues that the combination of Khavakh and Lefebvre renders obvious claims 1–2, 7–12, 16–17, and 19. See Pet. 5–57. Patent Owner raises several arguments against this challenge. See Prelim. Resp. 11–16. We first provide a brief overview of the prior art, and then address the parties’ arguments.

1. Khavakh

Khavakh relates to a system and “method for route calculation using real time traffic conditions.” Ex. 1005, code (57). Khavakh discloses navigation system 10, which may be installed in a vehicle. *Id.* at 3:36–41. Navigation system 10 includes display 27 for displaying user interface 31 and hardware to run a navigation software program 18. *Id.* at 4:19–22, 3:47–53. Navigation software program 18 contains route calculation tool 40, which calculates a route from a specified origin to a specified destination, through any specified intermediate waypoints. *Id.* at 5:35–43, 6:15–18, 13:56–61, 22:55–23:3, 29:41–43, 32:35–54.

Khavakh discloses an “improved routing feature” that “may be used when the vehicle in which the navigation system is installed departs from the originally calculated solution route as the vehicle is traveling.” Ex. 1005, 29:37–40. “The rerouting feature of the route calculation tool 40 is implemented upon detection by the navigation system that the vehicle is no longer traveling on any of the roads represented by the solution route.” *Id.* at 29:57–62. This detection can be made through the use of a map matching

program. *Id.* at 29:63–64. Upon such a deviation, Khavakh discloses that “a rerouting function in the navigation application 47 prompts the end user to indicate whether he or she wants a new route (e.g., a re-route) to be calculated.” *Id.* at 30:17–20.

2. Lefebvre

Lefebvre relates to a “land vehicle navigation apparatus which has an improved visual display that assists the vehicle operator in implementing a vehicle navigation route.” Ex. 1006, 2:27–30. Lefebvre discloses land vehicle navigation apparatus 10, which includes navigation computer 11 and color display 16. *Id.* at 2:58–59. The navigation computer can detect “an off route condition” when “the estimated current vehicle position differ[s] by more than a predetermined amount of distance from the desired navigation route.” *Id.* at 4:25–33. And upon detection of the off route condition, off route display 20 is produced on color display 16. *Id.* at 4:62–5:4.

Figure 2, reproduced below, is an example of Lefebvre’s off route display 20.

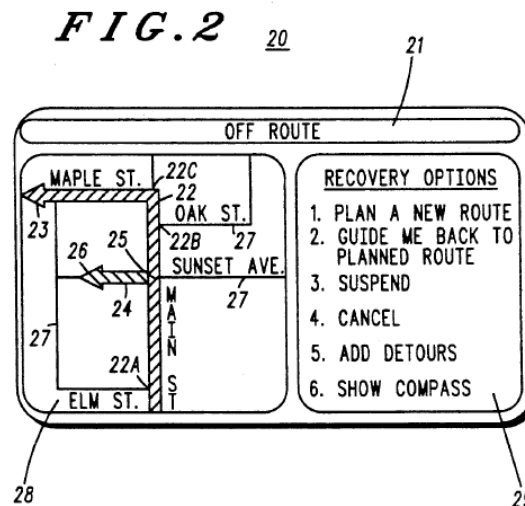


Figure 2 depicts a display containing an “OFF ROUTE” text heading, a comparison of the calculated navigation route with the route the vehicle has

actually traveled, and recovery option table 29 that lists different options that a user may select in response to the off route condition. *Id.* at 4:65–67, 5:8–15, 45–52. These options include planning a new route, guiding the vehicle back to the current navigation route, suspending the current trip, or cancelling the trip. *Id.* at 9:67–10:59.

3. Discussion

We begin by addressing Petitioner’s argument that independent claims 1 and 19 would have been obvious over Khavakh and Lefebvre. *See* Pet. 19–41. For each limitation in claims 1 and 19, Petitioner points to specific portions of the references that support its position and declarant testimony addressing each limitation. *See id.* (citing Ex. 1003). Patent Owner argues that Petitioner fails to establish that Khavakh and Lefebvre disclose the output unit and input unit limitations. *See* Prelim. Resp. 12–16 (citing Ex. 2005). Patent Owner additionally argues that an ordinary artisan “viewing the navigation system of Khavakh would not review or consider the Lefebvre reference at all as the combination would not include each element of claims 1 and 19.” *Id.* at 16.

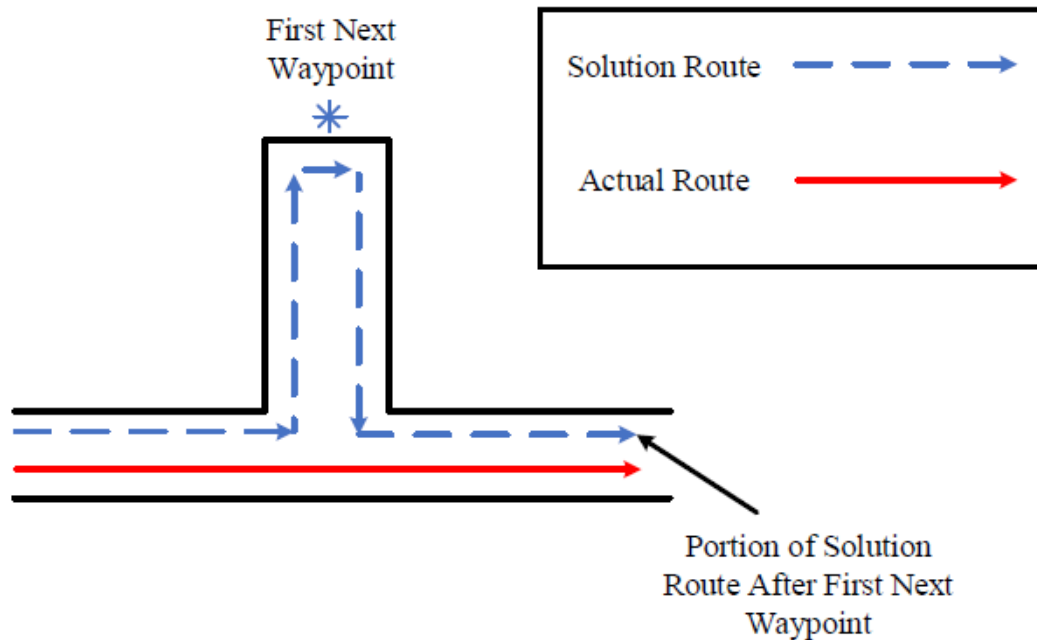
Claim 1 includes an “output unit limitation” that requires “an output unit configured to output a message showing that a vehicle has deviated from a route leading to a first next waypoint toward which the vehicle has been heading *when* said route guidance unit *determines* that the vehicle has deviated from the route to a predetermined distance or more *and is traveling along a route after said first next waypoint.*” Ex. 1001, claim 1 (emphasis added). Claim 19 includes a substantively similar “outputting” limitation. *Id.* at claim 19 (“outputting . . . a message . . . when . . . it is determined that the vehicle has deviated from the route . . . and is traveling along a route

after said first next waypoint”). We focus our analysis on the output unit limitation because we find it dispositive with respect to all challenged claims.

Petitioner contends that Khavakh teaches “outputting, using display 27, a prompt when, by the route guidance step, it is determined that the vehicle has deviated from a route leading to a next first waypoint toward which the vehicle has been heading and is traveling along a route after said first next waypoint.” Pet. 38 (citing Ex. 1003 ¶ 172); *see also id.* at 30–38 (addressing further aspects of the output unit limitation). Petitioner further argues that an ordinary artisan would have been motivated to modify Khavakh in view of Lefebvre, which Petitioner contends “teaches the claimed ‘message showing that a vehicle has deviated from a route leading to a first next waypoint which the vehicle has been heading.’” *Id.* at 38; *see also id.* at 38–41 (addressing motivation to combine and Lefebvre’s teachings).

As to the aspect of the output unit limitation requiring a determination of “traveling along a route after said first next waypoint,” Petitioner relies on Khavakh. *See* Pet. 34. According to Petitioner, Khavakh’s system prompts a driver when it detects a deviation from a desired route and that “Khavakh’s prompt would also be output when it is determined that the vehicle has deviated from the route leading to the first next waypoint toward which the vehicle has been heading and is traveling along a route after said first next waypoint.” *Id.* (citing Ex. 1003 ¶ 164). Petitioner provides an illustrated example, reproduced below, created by its Declarant, Mr. Williams, where a “driver was supposed to make a left turn to travel towards the first next waypoint, but instead continued straight and bypassed the first next

waypoint[, and] by continuing straight, is traveling along a portion of the solution route after said first next waypoint.” *Id.* at 34–35 (quoting Ex. 1003 ¶ 165).



Id. at 35 (citing Ex. 1003 ¶ 165). “In this scenario,” per Petitioner, “Khavakh teaches that a prompt is output because the vehicle has deviated from the originally calculated solution route” *Id.* at 35 (citing Ex. 1003 ¶ 165; Ex. 1005, 8:21–26, 10:8–15 29:35–40, 29:54–62, 30:7–14, claim 9). Petitioner further argues that “[i]t would have been obvious to use Khavakh’s navigation system 10 in such a scenario.” *Id.* (citing Ex. 1003 ¶¶ 166–67).

Patent Owner argues that Petitioner fails to establish that the combination of Khavakh and Lefebvre renders obvious outputting a message “when said route guidance unit determines that the vehicle has deviated from the route to a predetermined distance or more *and is traveling along a route*

after said first next waypoint.” Prelim. Resp. 12 (emphasis original). Patent Owner does not dispute that the combination of Khavakh and Lefebvre disclose or suggest the remaining elements of the output unit.

We first address the claim language of the output unit limitation, which requires that the route guidance unit output a message “when” the unit “determines” that two conditions are satisfied: (1) the vehicle has deviated from the route to a predetermined distance or more, and (2) the vehicle is traveling along a route after said first next waypoint. *See* Ex. 1001, claim 1. We agree with Patent Owner that Petitioner has not demonstrated that the combination of Khavakh or Lefebvre renders obvious the second aspect of the limitation—i.e., outputting a message when the “route guidance unit *determines* that the vehicle . . . is traveling along a route after said first next waypoint,” as required by claims 1 and 19. Prelim. Resp. 12.

Petitioner’s assertions on this point have some support in Khavakh. For example, we agree with Petitioner in part that “Khavakh’s prompt would also be output” in the situation in Petitioner’s illustrated example, where a driver has missed a turn and deviates from a desired route after a first next waypoint. Pet. 34–35 (citing Ex. 1003 ¶¶ 164–166). These assertions, however, fail to track the claim language, which does not merely require a system that outputs a message when a driver misses a required turn or otherwise deviates from a chosen path. Instead, the limitation requires, in pertinent part, outputting the message “when” a specific determination has been made by the system—that the vehicle “is traveling along a route *after* said first next waypoint.” Ex. 1001, claim 1. Petitioner fails to point to any disclosure in Khavakh (or Lefebvre) that makes this determination and outputs a message when it occurs. *See* Pet. 30–41. Based on our review of

the current record, it appears that Khavakh outputs a message indicating a driver has deviated from a desired route regardless of whether the driver is traveling along a route *before or after* the first next waypoint. Because Khavakh's system appears to output messages to the driver without making a separate determination as to the relationship of the driver to the first next waypoint (whether it is "after" that waypoint as the claim requires), Petitioner has not persuaded us that it is reasonably likely to prevail on this issue.

Consideration of the related declarant testimony does not aid Petitioner. Petitioner's declarant testimony largely mirrors the statements in the Petition without adding additional explanation or support. *See* Ex. 1003 ¶¶ 164 (opining in a single sentence that Khavakh prompts a driver when it determines that the vehicle is traveling along a route after said first next waypoint, but not citing any support), 165 (opining that "Khavakh's system would prompt the driver because the vehicle has deviated from the originally calculated solution route," which does not address the claim limitation). Moreover, Patent Owner's expert more persuasively testifies that neither Khavakh nor Lefebvre considers whether the vehicle is before or after a waypoint along the route. *See* Prelim. Resp. 12–13 (citing Ex. 2001 ¶¶ 60–64); Ex. 2001 ¶ 62 ("The navigation device of Khavakh determines that the user is 'off route' by simply applying a map matching system with no regard to whether or not the user is on the first or second segments of the whole route, i.e., before or after the waypoint along the route."). Again, although Khavakh's navigation system may output a prompt when the vehicle travels along a route after a skipped waypoint, it does not teach or suggest actually determining that the vehicle has passed the waypoint (as opposed to simply

deviating from the route) before doing so. Accordingly, Khavakh does not disclose a system that sometimes meets the claim requirements (e.g., after the vehicle has passed a waypoint), and instead discloses a system that never outputs a message after the unit “determines that the vehicle . . . is traveling along a route after said first next waypoint.”

Because Petitioner does not present any evidence that the combination of Khavakh and Lefebvre discloses or suggests outputting a message when the “route guidance unit determines that the vehicle . . . is traveling along a route after said first next waypoint,” Petitioner has not demonstrated a reasonable likelihood of establishing that the combination of Khavakh and Lefebvre renders obvious either of independent claims 1 or 19. For the same reasons, Petitioner has not demonstrated that the combination of Khavakh and Lefebvre renders any of dependent claims 2, 7–12, and 16–17 obvious.

E. Obviousness Based on Khavakh, Lefebvre, and RDX

Petitioner argues that the combination of Khavakh, Lefebvre, RDX, and the knowledge of a person of ordinary skill in the art renders obvious dependent claims 3, 4 and 14. *See* Pet. 57–68. Claims 3, 4, and 14 ultimately depend from independent claim 1. Ex. 1001, claims 3, 4, 14. Petitioner’s arguments as to these dependent claims build on Petitioner’s challenge to claim 1, addressed above. *See* Pet. 63–68 (addressing only the “additional limitations” in these dependent claims).

Because we find that the combination of Khavakh and Lefebvre does not render obvious the output unit limitation of independent claim 1, and Petitioner does not separately argue that RDX discloses that limitation, we determine that Petitioner has failed to demonstrate a reasonable likelihood of

success in proving that the combination of Khavakh, Lefebvre, and RDX renders obvious claims 3–4 and 14.

CONCLUSION

After considering the evidence and arguments presented in the current record, we determine that Petitioner has not demonstrated a reasonable likelihood that it would prevail with respect to at least one claim of the '971 patent challenged in the Petition. Therefore, we do not institute *inter partes* review.

ORDER

Accordingly, it is

ORDERED that the Petition is denied and no *inter partes* review is instituted.

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