

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TESLA, INC.,
Petitioner,

v.

CHARGE FUSION TECHNOLOGIES, LLC,
Patent Owner.

IPR2025-00032
Patent 11,563,338 B1

Before MITCHELL G. WEATHERLY, CARL M. DeFRANCO, and
BRENT M. DOUGAL, *Administrative Patent Judges*.

WEATHERLY, *Administrative Patent Judge*.

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

I. INTRODUCTION

A. Background

Tesla, Inc. (“Petitioner”) filed a petition (Paper 1, “Pet.”) to institute an *inter partes* review of claims 1–29 (the “challenged claims”) of U.S. Patent No. 11,563,338 B1 (Ex. 1001, “the ’338 patent”). 35 U.S.C. § 311. Charge Fusion Technologies, LLC (“Patent Owner”) timely filed a

Preliminary Response. Paper 8 (“Prelim. Resp.”). With our prior authorization, Petitioner filed a Reply to the Patent Owner Preliminary Response (Paper 9, “Reply”), and Patent Owner filed a Surreply in Support of the Patent Owner Preliminary Response (Paper 10, “Surreply”).

Institution of an *inter partes* review is authorized by statute when “the information presented in the petition filed under section 311 and any response filed under section 313 shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a). Based on our review of the record,¹ we conclude that Petitioner is reasonably likely to prevail with respect to at least one of the challenged claims.

¹ The panel strongly prefers that all text within an evidentiary exhibit that is filed in a PDF format should be capable of being searched. Many of Petitioner’s exhibits do not comport with this preference because many of its prior art references were filed without optical character recognition having been performed.

In their papers, the panel also prefers that the parties cite evidence by exhibit number in every instance; a short form name may also be used, but not as a substitute for the exhibit number. Currently, Petitioner’s citations to evidence do not comport with this preference because they do not include the exhibit number.

The panel also prefers that, for every evidentiary exhibit submitted in P-TACTS, the party should assign a short, descriptive name in the “Document name” field. Petitioner’s exhibits comport with this preference, but Patent Owner’s sole exhibit, Exhibit 2001, does not. *See* Ex. 2001 (bearing insufficiently descriptive name of “EX2001” in P-TACTS).

Lastly, all briefing should include page numbering, and direct testimony in a declaration should include paragraph numbering. Future submissions not meeting all the expectations set forth above may be refused.

Petitioner cites the following prior art in support of its challenges to claims:

Exhibit	Reference	Effective Date
1004	U.S. Pub. App. 2009/0313034 A1 (“Ferro”)	Jun. 16, 2008
1005	European App. No. 1,920,968 A1 (“Oyobe”)	Aug. 30, 2006
1006	U.S. Pat. No. 7,124,691 B2 (“Donnelly”)	Oct. 24, 2006
1007	Steven E. Letendre, et al., <i>A New Model for Power</i> , PUBLIC UTILITIES FORTNIGHTLY, Feb. 15, 2002, at 16 (“Letendre”)	Feb. 15, 2002
1008	U.S. Pub. App. 2009/0130965 A1 (“Galvez-Ramos”)	May 21, 2009
1009	U.S. Pat. No. 6,889,762 B2 (“Zeigler”)	May 19, 2005
1010	U.S. Pat. No. 6,662,083 B1 (“Knockeart”)	Sep. 16, 2003
1011	U.S. Pub. App. 2008/0136371 A1 (“Sutardja”)	Jun. 12, 2008

Petitioner challenges the patentability of claims as follows:

Claims challenged	35 U.S.C. §²	References
1–4, 6, 7, 9–13, 15, 16, 18–22, 24, 25, 27	103	Ferro, Oyobe, Donnelly, Letendre, Zeigler, Galvez-Ramos
5, 8, 14, 17, 23, 26	103	Ferro, Oyobe, Donnelly, Letendre, Zeigler, Galvez-Ramos, Knockeart
28, 29	103	Ferro, Donnelly, Letendre, Sutardja

² The Leahy-Smith America Invents Act (“AIA”) included revisions to 35 U.S.C. §§ 102 and 103 that became effective March 16, 2013. The application for the ’338 patent was filed on June 1, 2022. The ’338 patent claims priority to at least one application filed before March 16, 2013. Ex. 1001, code (63). Therefore, we apply the pre-AIA versions of 35 U.S.C. §§ 102 and 103.

B. Related Proceedings

Petitioner identified as a related proceeding the co-pending district court proceeding of *Charge Fusion Technologies, LLC v. Tesla, Inc.*, Case No. 1:22-cv-00488 (W.D. Tex.). Pet. 86; Paper 6, 2. Patent Owner additionally identifies the following *inter partes* review proceedings, which address claims in various patents within the priority chain of the '338 patent:

- *Charge Fusion Technologies, LLC v. Tesla, Inc.*, Case No. 1:22-cv-00488-DAE (W.D. Tex.);
- *Unified Patents, LLC v. Charge Fusion Technologies, LLC*, Case No. IPR2022-00519 (PTAB);
- *Tesla, Inc. v. Charge Fusion Technologies, LLC*, Case No. IPR2022-01217 (PTAB);
- *Tesla, Inc. v. Charge Fusion Technologies, LLC*, Case No. IPR2023-00062 (PTAB);
- *Tesla, Inc. v. Charge Fusion Technologies, LLC*, Case No. IPR2023-00063 (PTAB);
- *Tesla, Inc. v. Charge Fusion Technologies, LLC*, Case No. IPR2025-00152 (PTAB); and
- *Tesla, Inc. v. Charge Fusion Technologies, LLC*, Case No. IPR2025-00153 (PTAB).

Paper 6, 2. Patent Owner also identifies as related the following pending appeals before the United States Court of Appeal for the Federal Circuit:

- *Tesla, Inc. v. Charge Fusion Technologies, LLC*, Case No. 24-2015 (Fed. Cir.) and
- *Tesla, Inc. v. Charge Fusion Technologies, LLC* Case Number: 24-1584 (Fed. Cir.).

Id.

Patent Owner has not identified any pending patent applications as related matters. *See generally* Paper 6. However, Patent Owner may be obligated to do so. Rule 42.8(b)(2) states:

(b) Each of the following notices must be filed:

(2) Related matters. Identify any other judicial or administrative matter that would affect, or be affected by, a decision in the proceeding.

37 C.F.R. § 42.8(b)(2). Under Rule 42.8(b)(2), Patent Owner should consider whether to identify any of its own pending patent applications that share a substantially similar disclosure to the specification of the '338 patent. Related matters may include the patent applications assigned to Patent Owner listed below. The listed applications purport to share an identical specification with the '338 patent by being characterized as a continuing application of a series of intervening applications, all of which claim priority to U.S. Application No. 12/502,041 filed July 13, 2009.

- Application number 17/826,229 filed May 27, 2022;
- Application number 18/825,910 filed September 5, 2024;
- Application number 29/973,718 filed November 18, 2024;
- Application number 19/021,065 filed January 14, 2025;
- Application number 19/021,067 filed January 14, 2025;
- Application number 19/021,069 filed January 14, 2025;
- Application number 19/021,073 filed January 14, 2025; and
- Application number 19/021,077 filed January 14, 2025.

II. DISCRETION UNDER § 325(d)

A. Legal Framework

Section 325(d) provides that, in determining whether to institute *inter partes* review, “the Director may take into account whether, and reject the petition or request because, the same or substantially the same prior art or arguments previously were presented to the Office.” The Board uses a two-part framework in determining whether to exercise its discretion under § 325(d): (1) determining whether the same or substantially the same art previously was presented to the Office or whether the same or substantially the same arguments previously were presented to the Office; and (2) if either condition of the first part of the framework is satisfied, determining whether the petitioner has demonstrated that the Office erred in a manner material to the patentability of challenged claims. *See Advanced Bionics, LLC v. MED-EL Elektromedizinische Geräte GmbH*, IPR2019-01469, Paper 6 at 8 (PTAB Feb. 13, 2020) (precedential). In applying this framework, we consider several non-exclusive factors, including:

(a) the similarities and material differences between the asserted art and the prior art involved during examination; (b) the cumulative nature of the asserted art and the prior art evaluated during examination; (c) the extent to which the asserted art was evaluated during examination, including whether the prior art was the basis for rejection; (d) the extent of the overlap between the arguments made during examination and the manner in which Petitioner relies on the prior art or Patent Owner distinguishes the prior art; (e) whether Petitioner has pointed out sufficiently how the Examiner erred in its evaluation of the asserted prior art; and (f) the extent to which additional evidence and facts presented in the Petition warrant reconsideration of the prior art or arguments.

Becton, Dickinson & Co. v. B. Braun Melsungen AG, IPR2017-01586, Paper 8 at 17–18 (PTAB Dec. 15, 2017) (precedential as to Section III.C.5, first paragraph). If, after review of factors (a), (b), and (d), we determine that the same or substantially the same art or arguments previously were presented to the Office, then factors (c), (e), and (f) relate to whether the petitioner demonstrates that the Office erred in a manner material to the patentability of the challenged claims. *Advanced Bionics*, Paper 6 at 10.

B. Prosecution History

The challenged claims were issued with little to no explanation of how the claimed subject matter related to the prior art cited by the Examiner. The Examiner allowed the claims after entering an Examiner’s amendment primarily focusing on the following limitation (the “slider limitation”) that was added to each of the independent claims, which recites:

wherein at least one of the one or more charging preferences is defined by user input received via a graphical user interface and adapted to display a vehicle charge indicator element comprising a first portion indicative of an amount of charge residing in a battery of the electric vehicle and a second portion indicative of an uncharged capacity of the battery of the electric vehicle and wherein the vehicle charge indicator element further comprises a slider by which an amount of charge may be specified.

See Ex. 1002, 364 (limitation 1h), 366 (limitation 10e), 369 (limitation 19l), 371 (limitation 27e). The Applicant authorized the Examiner’s Amendment during the sole telephonic interview, which occurred on September 12, 2022. *Id.* at 363.

The Examiner summarized the substance of that telephonic interview as follows: “Discussed ‘displaying pet indication during charging limitation’; scope of the term ‘cause.’” *Id.* at 93. Later, the Examiner further summarized that interview, as follows:

Potential changes to the claims were discussed in order to clarify patentable subject matter^[3] and avoid 35 USC 101 issues.^[4] The scope of the phrases ‘cause charging’ and ‘initiate charging’ was deliberated in view of paragraphs [0017], [0047], [0072], and [0101] of the Specification as-filed. Finally, the agreement was reached and the inventor gave authorization for the Examiner Amendment to amend the claims and, thereby, place the claims into the condition of allowance.

Id. at 247. Thus, the Examiner never summarized any discussion relating to the scope of the prior art applied in the “pre-interview communication.”

³ In the “pre-interview communication,” the Examiner found that the “scope of the ‘causing’ and ‘initiating’ steps is unclear” under § 112. Ex. 1002, 78. Original independent claim 1 recited “cause a charging,” Ex. 1002, 237, original independent claim 10 recited “causing a charging,” *id.* at 239, and original independent claim 19 recited “initiate a charging,” *id.* at 241. To “clarify patentable subject matter” and overcome the § 112 concerns, and with Applicant’s authorization, the Examiner amended claims 1, 10, and 19 respectively to read: “charge . . . the electric vehicle,” *id.* at 237, “charging . . . the electric vehicle,” *id.* at 239, “charge the vehicle,” *id.* at 241.

⁴In the “pre-interview communication,” the Examiner found that claims 28 and 29 did not recite patentable subject matter under § 101, finding:

There is no ‘charging’ step recited; the limitations ‘receiving’, ‘determining’ and ‘alerting’ could be understood as merely observing and notifying, thereby representing a process that, under its broadest reasonable interpretation, covers performance of the limitation in the mind, and certain methods of organizing human activity but for the recitation of generic computer components. Thus, the claimed invention is directed to an abstract idea without significantly more added.

Ex. 1002, 78. To address the purported rejection of claims 27 and 28 under § 101 and with Applicant’s authorization, the Examiner amended claim 28 to require that the system “charge the electric vehicle in accordance with the at least two charging preferences.” *Id.* at 244.

Only two of the six references that form the basis of Petitioner's challenge to the majority of claims were of record at all during the prosecution of the challenged claims, Galvez-Ramos and Ferro. *See* Ex. 1001, code (56) (listing Galvez-Ramos as "cited by Examiner" and Ferro as of record). And only Galvez-Ramos was discussed or arguably applied by the Examiner.

In the Examiner's Notice of Allowability, the Examiner explained the reasons for allowance as follows:

As per independent claims 1, 10, 19, and 28 the best prior art of record, *Hafner et al.* US 2009/0313174 A1, *Straubel* US 2009/0139781 A1, *Pollack et al.* US 2008/0039989 A1, *Scalisi et al.* US 2009/0189807 A1, *Ross* 5,669,470, *Galvez-Ramos et al.* US 2009/0130965 A1, *Pryor* US 7,402,978 neither anticipates, nor, alone or combined, renders obvious as a whole, the specific combination of the inventive features as currently recited in the Examiner's amendment.

Ex. 1002, 245. This statement provides little meaningful insight into the reasons for allowance, except to imply that the slider limitation distinguished the claims over the listed prior art.

However, before the Examiner allowed the claims in a "pre-interview communication,"⁵ the Examiner commented upon the substance of Galvez-Ramos as follows: "Galvez-Ramos US 2009/0130965 A1 discloses a climate control system for a parked automobile, adapted to automatically control air

⁵ The Acting Director of Technology Center 3600 vacated the "pre-interview communication" as having been "mailed in error" because the Examiner's next communication should have been a "non-final office action or notice of allowance." Ex. 1002, 230. The Examiner wrongly issued his "pre-interview communication" under a program at the USPTO that had been discontinued on January 15, 2021. *Id.* at 230, n.1.

temperature within the vehicle at a level suitable to a pet left in the vehicle.” Ex. 1002, 78. The Examiner also discussed the substance of U.S. Publication No. 2009/0313174 A1 (Ex. 3001, “Hafner ’174”),⁶ which was the primary basis for an obviousness rejection of all original claims 1–30. *Id.* The entirety of the Examiner’s discussion of Hafner ’174 reads: “Hafner et al. US 2009/0313174 discloses receiving . . . , determining . . . ; and causing steps” *Id.* (internal citations omitted). It is unclear what the Examiner meant by “receiving,” “determining,” and “causing”⁷ steps, but the Examiner neither cited nor applied any reference describing the slider limitation.

Ferro, the primary reference relied upon by Petitioner, was cited by Applicant on an Information Disclosure Statement, but the Examiner never discussed Ferro. Ex. 1001, code (56); Ex. 1002, 260. The other four references relied upon by Petitioner in its challenges to claims 1–27, Donnelly, Letendre, Zeigler, and Oyobe, were not of record during the prosecution of the ’338 patent. *See* Ex. 1001, code (56); *see also generally* Ex. 1002.

C. Analysis

We first consider “whether the same or substantially the same art previously was presented to the Office or whether the same or substantially the same arguments previously were presented to the Office.” *Advanced*

⁶ Hafner ’174 is also mentioned in the Examiner’s statement reasons for allowance discussed above. Ex. 1002, 245.

⁷ We find that the Examiner’s reference to “causing” steps refers to phrases in the original independent claims that were amended to recite “charging” or “charge.” *See* n.3 and n.4 *supra*.

Bionics, Paper 6 at 8. Patent Owner argues that: “Because Petitioner has not shown that Ferro is materially different than Hafner,^[8] or that materially different arguments previously were presented to the Office, the first part of the *Advanced Bionics* framework is satisfied.” Prelim. Resp. 69. Patent Owner relies upon the similarities between Ferro and “Hafner” and that Ferro was of record during prosecution of the ’338 patent. *Id.* at 67–69. Petitioner responds that Ferro was never applied by the Examiner and that its challenges rely on portions of Ferro relating to Ferro’s dynamic energy transaction planner as it relates to the claimed “dynamic attribute” of limitation 1g that do not appear in “Hafner.” *See* Pet. 26–29 (citing Ex. 1004 ¶¶ 112, 113, 142, 143, Fig. 9), 74, 68–69 (citing Ex. 1004 ¶ 114), 83; Reply 1. For these reasons, we find Ferro to be materially different from Hafner ’174.⁹

⁸ We infer that the parties intended to discuss Hafner ’174, the reference briefly discussed by the Examiner during prosecution, when referring to Hafner. However, the parties’ references to Hafner are unclear because neither party made Hafner ’174 of record. Rather, we infer that the parties’ references to “Hafner” refer to Exhibit 1024 filed by Petitioner, which is U.S. Publication No. 2009/0312903 A1 to Hafner et al. Ex. 1024 (“Hafner ’903”). *See, e.g.*, Pet. 97; Prelim. Resp. 69. Our analysis of the prosecution history of the ’338 patent reveals that Hafner ’903 appears in the query field of the Examiner’s search of August 5, 2022. Ex. 1002, 89. However, we discern no basis for finding that Hafner ’903 was identified, discussed, or otherwise relied upon during the prosecution of the ’338 patent. We also note considerable overlap in the substance of Hafner ’174 and Hafner ’903, both of which were assigned to IBM Corporation and filed on June 16, 2008, by an almost identical set of named inventors. *Compare* Ex. 3001, codes (22), (75), *with* Ex. 1024, codes (22), (75).

⁹ Petitioner apparently cites Hafner ’903 when comparing Ferro’s disclosure to “Hafner” in the Petition or Reply. Pet. 93 (defining Hafner ’03 as “Hafner”). When comparing Ferro to “Hafner,” Patent Owner also cites

Petitioner's challenges rely upon Galvez-Ramos, which was discussed by the Examiner, for the same reasons that the Examiner cited Galvez-Ramos, describing a climate control system that maintains the interior temperature of a vehicle as suitable for a pet (e.g., limitation 11). *See* Pet. 51 (citing Ex. 1008 ¶¶ 36, 37, 43, 44); Ex. 1002, 78 (citing Ex. 1008 ¶¶ 36, 37, 41–45). Patent Owner does not dispute that Galvez-Ramos describes portions of each independent claim. *See generally* Prelim. Resp.

Petitioner also correctly points out, and Patent Owner does not contest, that none of Donnelly, Oyobe, Letendre, or Zeigler was of record during prosecution of the '338 patent. Pet. 82–83; Reply 1. Among these references, Petitioner relies upon Donnelly and Letendre as describing the slider limitation, which was added by Examiner's amendment to distinguish the prior art cited and briefly described by the Examiner. Pet. 30–41.

At least because of the material differences in Ferro compared to Hafner '174 and the reliance on Donnelly and Letendre, which were not before the Office, we find that the same or substantially the same art was not previously presented to the Office.

Based on our review of the prosecution history as set forth in Part II.B above, we cannot discern any argument for patentability that Applicant presented during the prosecution of the '338 patent because the Application never responded to an Office Action setting forth a rejection. At best, we, and the public, are left to infer that Applicant, as a representative of Patent

Hafner '903. Prelim. Resp. 69 (citing Ex. 1024). However, we have compared the portions of Ferro that Petitioner identifies as distinguishing Ferro from "Hafner" and find that those cited portions of Ferro appear in neither Hafner '903 nor Hafner '174.

Owner, discussed the proposed Examiner’s Amendment adding the slider limitation, which placed the independent claims in condition for allowance. Even assuming that Patent Owner “argued” for patentability during prosecution, we have virtually no information about the substance of those arguments. Accordingly, we find that Petitioner’s arguments were not previously presented to the Office.

For all these reasons, we find that the first prong of the *Advanced Bionics* framework is not met and we need not address whether the Examiner made material error in allowing the claims. Accordingly, we do not exercise discretion to deny institution of *inter partes* review under 35 U.S.C. § 325(d) for this reason alone.

III. ANALYSIS

A. Claim Interpretation

We interpret claims in the same manner used in a civil action under 35 U.S.C. § 282(b) “including construing the claim in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.” 37 C.F.R. § 42.100(b). When applying that standard, we interpret the claim language as it would have been understood by one of ordinary skill in the art in light of the specification. *Wasica Fin. GmbH v. Cont’l Auto. Sys., Inc.*, 853 F.3d 1272, 1279–80 (Fed. Cir. 2017). Thus, we give claim terms their ordinary and customary meaning as understood by an ordinarily skilled artisan. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (en banc). Only terms that are in controversy need to be construed, and then only to the extent necessary to resolve the controversy. *Nidec*

Motor Corp. v. Zhongshan Broad Ocean Motor Co., 868 F.3d 1013, 1017 (Fed. Cir. 2017).

Petitioner proposes that we interpret a “dynamic attribute of an electric charge provider” (recited in limitations 1g, 10c, and 19g) as referring to a “changing or otherwise fluctuating cost (or price) of electricity for purchase from an electric charge provider.” Pet. 3. Patent Owner does not contest Petitioner’s proposed interpretation. *See* Prelim. Resp. 31–32 (proposing only that the Board apply the “ordinary and customary meaning” of claim language). Although we consider Petitioner’s proposed interpretation to identify an exemplary “dynamic attribute of an electric charge provider,” we see no need to limit the meaning of the phrase as proposed by Petitioner at this stage of the proceeding.

Petitioner contends that “determine . . . a charging schedule” (recited in limitations 1g, 10c, and 19h) is not presumed to recite a limitation subject to interpretation under 35 U.S.C. § 112, ¶ 6. Pet. 3. In the event that Patent Owner contends otherwise, which it has not, Petitioner identifies portions of the Specification describing structure for “determining” a charging schedule. Because we discern no evidence of record that would overcome the presumption against interpreting this phrase as a means-plus-function limitation, we do not rule on this issue.

As required to resolve disputes about the implied scope of certain claim language raised by the parties in their respective comparisons of the claims to the prior art, we address those issues below.

B. Legal Standards

The Supreme Court in *KSR International Co. v. Teleflex Inc.*, 550 U.S. 398 (2007), reaffirmed the framework for determining obviousness as

set forth in *Graham v. John Deere Co.*, 383 U.S. 1 (1966). The *KSR* Court summarized the four factual inquiries set forth in *Graham* that we apply in determining whether a claim is reasonably likely to be unpatentable as obvious under 35 U.S.C. § 103(a) as follows: (1) determining the scope and content of the prior art, (2) ascertaining the differences between the prior art and the claims at issue, (3) resolving the level of ordinary skill in the pertinent art, and (4) considering objective evidence indicating obviousness or nonobviousness. *KSR*, 550 U.S. at 406. With these standards in mind, we address each challenge below.

C. Level of Ordinary Skill in the Art

We review the grounds of unpatentability in view of the understanding of a person of ordinary skill in the art at the time of the invention. *Graham*, 383 U.S. at 17. Petitioner submits that the ordinarily skilled artisan would have

at least a bachelor's degree in electrical or mechanical engineering (or an equivalent field) and at least two years of work experience involving automotive systems, including electric vehicle power management. Additional industry experience or technical training may offset less formal education, while advanced degrees or additional formal education may offset lesser levels of industry experience.

Pet. 2 (citing Ex. 1003 ¶¶ 30–32). At this stage, Patent Owner neither takes a position on the level of ordinary skill nor proposes a different description of such skill. For the purposes of our analysis below, we apply Petitioner's proposed level of ordinary skill.

D. Claims 1–4, 6, 7, 9–13, 15, 16, 18–22, 24, 25, and 27: Obviousness in View of Ferro, Oyobe, Donnelly, Letendre, Zeigler, and Galvez-Ramos

Petitioner argues that the combined teachings of Ferro, Oyobe, Donnelly, Letendre, Zeigler, and Galvez-Ramos render claims 1–4, 6, 7, 9–

13, 15, 16, 18–22, 24, 25, and 27 unpatentable as obvious. Pet. 9–72.

Petitioner relies upon Ferro as describing most of the limitations recited in the independent claims and cites various features described in the other five references as describing certain specific aspects recited throughout the claim. *See id.* All six references relied upon by Petitioner relate to vehicles having batteries that supply significant levels of power to either propel the vehicle (Ferro, Oyobe, Donnelly, Letendre) or power a heating, ventilation, and air conditioning system while the vehicle is parked (Galvez-Ramos, Zeigler).

For the reasons set forth below, we find that Petitioner has demonstrated a reasonable likelihood of proving that at least independent claims 1, 10, and 19 are unpatentable as obvious.

1. Summary of Asserted Prior Art

Ferro relates to a “dynamic energy transaction plan to manage an electric vehicle charging transaction.” Ex. 1004, code (57), ¶¶ 2, 55, Figs. 5–8. Ferro’s transaction plan “manages every aspect of charging electric vehicle” and is configured via an “input/output device located on-board the electric vehicle to create the preferences.” *Id.* ¶¶ 93, 139.

Oyobe relates to “electric-powered” vehicles and describes various ways of informing the user of the state of charge of the battery used as a “motive power source.” Ex. 1005 ¶¶ 1, 7–9. An embodiment of Oyobe’s vehicle includes hardware that “detects whether or not the hybrid vehicle 100B is parked at the location where charging equipment is installed.” *Id.* ¶¶ 141–143, Fig. 16.

Donnelly and Letendre relate to battery-powered vehicles incorporating various graphical user interfaces. Ex. 1006, 21:47–58, 26:6–8, 1:36–38, 6:64–7:1, 8:22–27; Ex. 1007, 18–20, Fig. 1.

Zeigler describes an automotive heating ventilation and air conditioning system that can operate when the vehicle is parked using power drawn from a high capacity battery. Ex. 1009, code (57), 1:63–2:6, 2:53–57, 7:19–8:20, Fig. 4.

Galvez-Ramos describes an automotive climate control system that provides a safe temperature environment for occupants left in a parked automobile. Ex. 1008 ¶¶ 5–8.

2. Independent Claim 1

Petitioner argues that the combined teachings of Ferro, Oyobe, Donnelly, Letendre, Zeigler, and Galvez-Ramos render claim 1 unpatentable as obvious. Pet. 9–59. For its analysis, Petitioner subdivides claim 1 into a preamble (labeled 1pre) and fourteen other limitations (labeled 1a–1n). Patent Owner does not contest Petitioner’s showing that the combined teachings of the prior art describe or suggest the subject matter of limitations 1pre, 1a–1d, 1f, 1g, and 1i–1n. *See* Prelim. Resp. 35–55. Based on our review of Petitioner’s argument and the evidence mustered in support, we find that Petitioner establishes at least a reasonable likelihood that the prior art describes or suggests the subject matter recited in these limitations.

However, Patent Owner argues that Petitioner’s challenge to claim 1 fails for two types of reasons, including:

1. the alleged combination of prior art fails to teach limitations 1e and 1h, Prelim. Resp. 36–50; and

2. an ordinarily skilled artisan would not have been motivated to combine the teachings of the references or expect success in combining those references, *id.* at 50–56.

For the reasons explained below, we find that Petitioner demonstrates a reasonable likelihood of proving that claim 1 is unpatentable as obvious.

a. Limitation 1e

Limitation 1e refers to an instruction stored in memory that, when executed, will cause the processor to “receive, from the vehicle sensor, information indicative of a presence of an electric vehicle in a parking space.” Ex. 1001, 29:39–41.

Petitioner contends that Ferro describes an electric vehicle arriving at a charging station and indicating “an intention to charge.” Pet. 10 (citing Ex. 1004 ¶ 109). The vehicle connects to the charging station and both receives and transmits data via a network. *Id.* (citing Ex. 1004 ¶ 37). Petitioner argues that Ferro suggests detecting a vehicle at a charging station because, in Ferro, a user specifies, that “any time the electric vehicle is parked at a charging station that is at a specified location, the electric vehicle is . . . to be fully charged.” *Id.* (citing Ex. 1004 ¶ 121; Ex. 1003 ¶ 146).

Petitioner cites Oyobe’s teaching of the vehicle sensor introduced in limitation 1a in the form of Oyobe’s “vehicle position detecting apparatus 108” that “detects whether or not hybrid vehicle 100B is parked at the location where charging equipment is installed.” One of the ways in which Oyobe’s apparatus 108 detects the presence of a vehicle at the charging location is via “communication with a radio apparatus” at the charging location. *Id.* at 11 (citing Ex. 1005 ¶¶ 142, 143, Fig. 16). Petitioner argues that such radio communication is akin to the wireless interrogation vehicle

sensor example. *Id.*; *see also* Ex. 1001, 9:58–10:4 (using “wireless interrogation” to “detect an arrival, proximity, and/or presence of the vehicle”), 16:39–44 (describing the vehicle sensor detecting a proximity of the vehicle via “wireless electronic transmission sensing”). Oyobe’s control apparatus 60B (vehicle processor of limitation 1d) receives a “detection signal from vehicle position detecting apparatus 108” that “the vehicle is parked at a location where charging equipment is installed.” *Id.* at 19 (citing Ex. 1005 ¶¶ 143, 144; Ex. 1003 ¶ 178).

Petitioner argues that an ordinarily skilled artisan would have been motivated to incorporate Oyobe’s wireless vehicle detecting apparatus into Ferro because doing so “advantageously allows a user to instruct charging without exiting the vehicle and physically interacting with a charging station.” Pet. 11–12 (citing Ex. 1003 ¶¶ 150–152). Petitioner also contends that this combination would be made “according to known methods to yield predictable results of enabling ‘an intention to charge’ without the operator leaving the vehicle. *Id.* (citing Ex. 1004 ¶ 36; Ex. 1004 ¶ 151). Petitioner relies on Mr. Andrews testimony as proving that an ordinarily skilled artisan would have understood Oyobe to suggest using its sensor to determine the presence of its vehicle “in a parking space” proximate to the charging apparatus because charging equipment is commonly installed next to a parking space. *Id.* at 19–20 (citing Ex. 1003 ¶¶ 178–181).

Patent Owner argues that an ordinarily skilled artisan would not have been motivated to incorporate Oyobe’s position detecting apparatus into Ferro to meet limitation 1e. Prelim. Resp. 36–42. First, Patent Owner argues that the Petition “does not provide any motivation . . . nor does it refer to previous motivation . . . by incorporation.” *Id.* at 36. This argument

fails because Petitioner plainly incorporates its stated reasons for combining Ferro and Oyobe from its discussion of limitations 1a and 1c (the vehicle sensor and the processor communicating with the sensor). Pet. 19.

Second, Patent Owner argues that Petitioner’s proposed motivation “to detect a vehicle parked at the charging station” is “misguided” because Oyobe is directed to alerting a user when the state of charge in the vehicle battery is low without regard for whether the vehicle is near a charging station. Prelim. Resp. 37 (citing Ex. 1005 ¶¶ 6, 47). Patent Owner goes further in arguing that Oyobe’s position “detecting apparatus 108 is irrelevant to detecting whether a vehicle is parked at a position where it can initiate a charge” and therefore output from Oyobe’s sensor 108 “is unusable in Ferro’s system.” *Id.* at 40.

We disagree with Patent Owner. It is true that Oyobe focuses on alerting a vehicle user to a low state of charge by raising a physical indicator on the exterior of the vehicle (i.e., the “informing apparatus 102) when the battery is low. Ex. 1005 ¶ 40. Oyobe explains:

even in such a case where the vehicle user exit from the vehicle without checking the SOC of main battery B on the console panel, informing apparatus 102 disposed at a location where it can easily be seen outside the vehicle by the vehicle user allows the vehicle user to easily recognize the necessity of charging main battery B.

Id. However, Oyobe’s focus on raising a physical indicator on the vehicle as a reminder does not detract from Oyobe’s unambiguous disclosure that its vehicle also includes position detecting apparatus 108 that uses wireless communication to “sense that the vehicle is parked at the location where charging equipment is installed.” *Id.* ¶ 142. Oyobe’s ability to sense whether a vehicle is parked next to a charger allows Oyobe’s system to

remind the user to charge the battery by raising low battery indicator 102 while the vehicle is located next to a charger but not “where charging cannot be performed.” *Id.* ¶¶ 143–145. Accordingly, regardless of the reason that Oyobe provides for including its vehicle position detecting apparatus, Oyobe undeniably describes a vehicle sensor that can provide “information indicative of a presence of an electric vehicle in a parking space” near a charging station. And, we find that Petitioner has sufficiently explained why an ordinarily skilled artisan would have been motivated to use Oyobe’s sensor in Ferro’s electric vehicle to “advantageously allows a user to instruct charging without exiting the vehicle and physically interacting with a charging station.” Pet. 11–12 (citing Ex. 1003 ¶¶ 150–152).

Third, Patent Owner argues that Petitioner violates Rule 42.6(a)(3) by improperly incorporating arguments from Mr. Andrews’s Declaration into the Petition to establish that Oyobe teaches sensing the presence of a vehicle in a “parking space” as recited in limitation 1e. Prelim. Resp. 42–43 (citing Pet. 19–20 (citing Ex. 1003 ¶¶ 178–181)). Patent Owner contends that Mr. Andrews’s citation of four references that are not expressly cited in the Petition, Exhibits 1018, 1053, 1057, and 1059, implicitly demonstrates that the Petition incorporates arguments by reference. *Id.* Not only do we find Petitioner’s reliance on Mr. Andrews’s testimony to be persuasive, but we also find that Mr. Andrews’s citations to Exhibits 1018, 1053, 1057, and 1059 provide strong support for his testimony that an ordinarily skilled artisan would understand that Oyobe teaches that its vehicle is in a parking space when Oyobe’s apparatus 108 detects that “the vehicle is parked” near charging equipment. Far from improperly incorporating arguments by reference, we find Mr. Andrews’s citation to objective evidence to support

his opinions on how an ordinarily skilled artisan would read Oyobe's disclosure to be preferred and highly persuasive.

For all the reasons expressed above, we find that Petitioner has demonstrated a reasonable likelihood of proving that the combined teachings of Ferro and Oyobe suggest the subject matter of limitation 1e.

b. Limitation 1h

Limitation 1h refers to the following text from claim 1:

wherein at least one of the one or more charging preferences is defined by user input received via a graphical user interface and adapted to display a vehicle charge indicator element comprising a first portion indicative of an amount of charge residing in a battery of the electric vehicle and a second portion indicative of an uncharged capacity of the battery of the electric vehicle and wherein the vehicle charge indicator element further comprises a slider by which an amount of charge may be specified.

Ex. 1001, 29:52–61. This limitation primarily defines a graphical user interface (“GUI”) for setting charging preferences using a “slider” to specify “an amount of charge.” The slider is part of a “vehicle charge indicator” has two portions to provide information about the battery, a “first portion indicative of an amount of charge” and a “second portion indicative of an uncharged capacity.”

Petitioner relies upon Ferro as describing the basic aspects of the claimed GUI with Donnelly and Letendre describing certain details.

Pet. 30–41. Patent Owner counters that Petitioner cobbles together three references in ways that (1) demonstrate an improper hindsight bias and (2) an ordinarily skilled artisan would not reasonably expect to succeed.

Prelim. Resp. 44–50. Patent Owner also contends that the proposed combination of prior art fails to teach or suggest a GUI that allows a user to specify “an amount of charge.” *Id.*

For the reasons that follow, we find that Petitioner demonstrates a reasonable likelihood that the combined teachings of Ferro as modified by Oyobe with Donnelly and Letendre suggest the subject matter of limitation 1h. We also find that Petitioner establishes that an ordinarily skilled artisan would have been motivated to combine teachings of Ferro as modified by Oyobe, Donnelly, and Letendre and would have reasonably expected success in doing so. We address the individual aspects of limitation 1h in the order set forth in the Petition.

i. Charging Preferences Defined by User Input

Limitation 1h requires that user input defines “one or more charging preferences.” Petitioner contends that Ferro describes a user providing charging preferences via input/output devices such as “keyboards, displays, pointing devices, etc.” Pet. 30 (citing Ex. 1004 ¶¶ 43, 162; Ex. 1003 ¶ 211). Patent Owner does not contest Petitioner’s showing, and we find it to be persuasive on this aspect of limitation 1h.

ii. GUI for Receiving User Input

Limitation 1h requires that user input is “received via a graphical user interface.” Petitioner contends that Donnelly describes a hybrid vehicle having a touch screen display that presents a GUI to allow the user to provide commands to control aspects of the vehicle. Pet. 31 (citing Ex. 1006, 21:47–58, 26:6–9, 1:36–38; Ex. 1003 ¶¶ 212–214). Ferro describes an “input/output unit 212” and “display 214” that communicate with processor 204 via “communications fabric 202.” Pet. 31–32 (citing Ex. 1004 ¶¶ 40, 43, 161, 162, Fig. 2). Ferro also describes a user inputting charging preferences via input/output unit 212. *Id.* at 32 (citing Ex. 1004 ¶¶ 84, 93). However, Ferro’s display 214 is not described as a touchscreen,

so Ferro does not describe using a touchscreen GUI to specify charging preferences. *Id.* at 32–33.

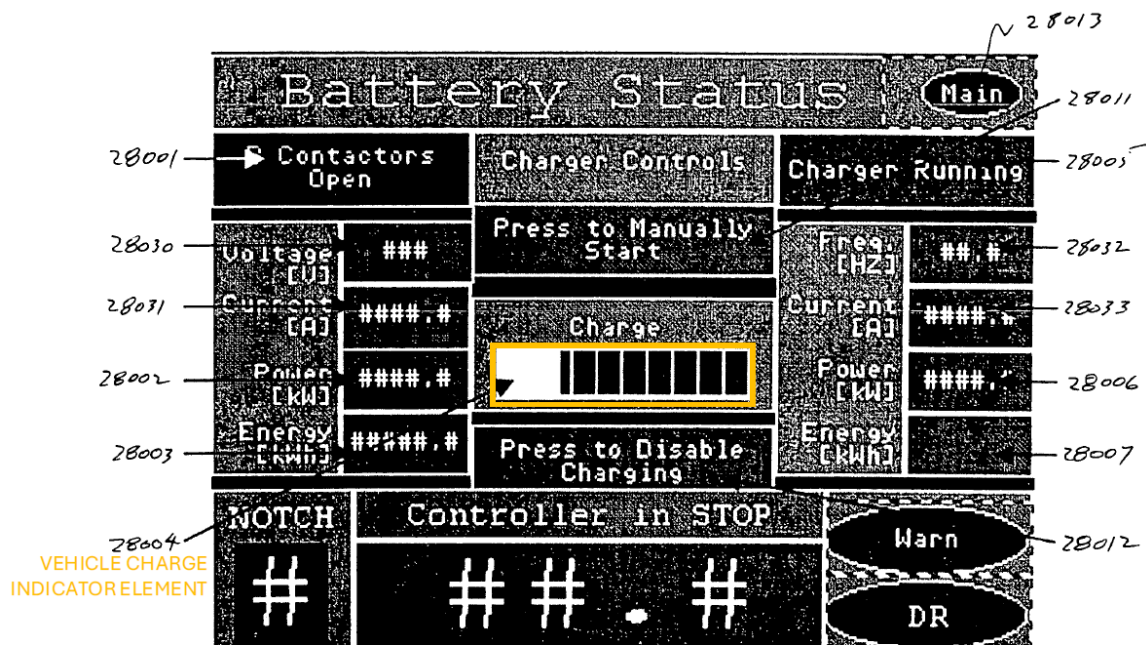
Nevertheless, Petitioner contends that an ordinarily skilled artisan would have been motivated to incorporate Donnelly’s touchscreen GUI into Ferro’s system in which a user inputs charging preferences because touchscreens were “well-known GUIs” that made “an application easy, practical, and efficient to use” and “allow the user to concentrate on the task at hand.” *Id.* at 32 (citing Ex. 1003 ¶ 216 (citing Ex. 1038)). Moreover, GUIs presented on touchscreens in vehicles were ubiquitous at the time of the ’338 patent and were commonly used to view and control various functions in an automobile. Ex. 1003 ¶ 218 (citing Ex. 1041, 2:52–55, 3:55–58, Figs. 15A, 15B; Ex. 1061, 2:14–17; Ex. 1062, 3). An ordinarily skilled artisan would have been found it advantageous to use a touchscreen to control charging parameters and incorporation of Donnelly’s known GUI as an improvement of Ferro’s non-touchscreen display 214 would have streamlined the entry of charging parameters and been accomplished with a reasonable expectation of success. *Id.* (citing Ex. 1003 ¶¶ 219–221).

Patent Owner does not contest Petitioner’s showing on the issues discussed above, and we find that showing to be persuasive on these aspects of limitation 1h.

iii. First and Second Portions of the Vehicle Charge Indicator

Limitation 1h further requires a “vehicle charge indicator element comprising a first portion indicative of an amount of charge residing in a battery of the electric vehicle and a second portion indicative of an uncharged capacity of the battery of the electric vehicle.”

Petitioner contends that Ferro describes its user can specify an “amount of charge 514 preference” including a minimum and/or maximum level of charge. Pet. 33 (citing Ex. 1003 ¶ 112–113). Petitioner relies on Donnelly as describing a GUI that displays the charged and uncharged capacity of a vehicle battery. *Id.* at 34–35 (citing Ex. 1006, 21:47–58, 23:16–20, 23:31–33, Fig. 28). Donnelly illustrates its GUI with the charge indicator in Petitioner’s annotated version of Fig. 28 reproduced below.



Donnelly’s touchscreen GUI is depicted in Fig. 28, which is entitled “Battery Status,” and Petitioner highlights in orange an area labeled “Battery State of Charge 28004” that is configured as a bar graph indicating “the state of charge” of the vehicle battery. *Id.* at 35 (citing Ex. 1006, 14:59–61, 23:31–33; Ex. 1003 ¶¶ 224–226). Petitioner contends that an ordinarily skilled artisan would understand Donnelly’s bar graph 28004 to illustrate both the “amount of charge residing in the battery” as black bars filling a

portion of the bar graph and the uncharged capacity of the battery as the white space in the bar graph. *Id.* at 35–36 (citing Ex. 1003 ¶¶ 227–234).

Petitioner argues that an ordinarily skilled artisan would have found it obvious to combine Donnelly’s GUI with its bar graph depicting the charged and uncharged capacity of a vehicle battery into Ferro according to well-known methods that would have yielded predictable results. Pet. 37 (citing Ex. 1003 ¶ 238). Petitioner also contends that an ordinarily skilled artisan would have reasonably expected to successfully combine Donnelly’s GUI as it relates to the state of charge into Ferro’s vehicle, which already processed information about the state of charge of its battery and included a display showing charging parameters. *Id.* (citing Ex. 1004 ¶¶ 40, 93, 112, 162, Ex. 1003 ¶ 239).

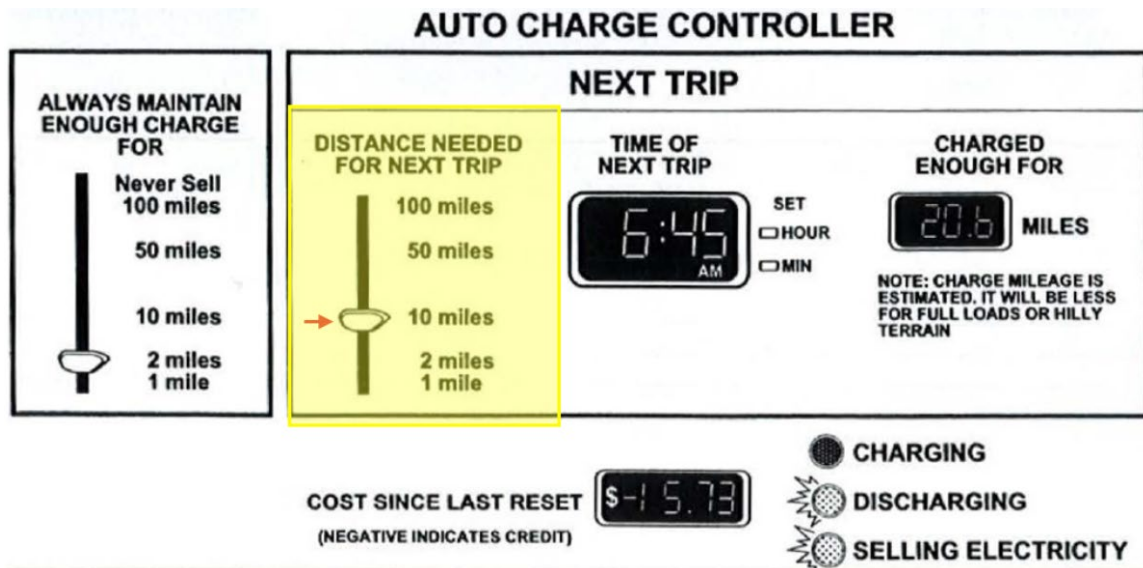
Patent Owner does not contest Petitioner’s showing on the issues discussed above, and we find that showing to be persuasive on these aspects of limitation 1h.

iv. Slider for Specifying an Amount of Charge

Limitation 1h further requires: “wherein the vehicle charge indicator element further comprises a slider by which an amount of charge may be specified.” Ferro already describes that its user can input a preference for an amount of charge and/or maximum amount of charge. *Id.* at 38 (citing Ex. 1003 ¶ 123; Ex. 1004 ¶ 241).

Petitioner relies upon Letendre as describing the slider aspect of the vehicle charge indicator and argues that an ordinarily skilled artisan would have found it obvious to incorporate Letendre’s slider interface into Ferro’s display as modified by Donnelly’s GUI. Pet. 38–41. More specifically,

Petitioner relies upon the annotated version of the pertinent portion of Letendre's Figure 1, which we reproduce below.



The portion of Letendre's Figure 1 depicts a control panel labeled "auto charge controller" that includes a slider that Petitioner highlights in yellow that allows a user to set a desired amount of charge expressed in miles of range. Ex. 1007, 18,¹⁰ Fig. 1. In the figure, the desired amount of charge is set to "10 miles." *Id.* at 20, Fig. 1. Letendre refers to its control for setting desired amount of charge as "a control that the driver sets according to driving needs" and identifies the source of its Figure 1 as "Kempton and Letendre, 1997" which Petitioner filed as Exhibit 1073. Ex. 1007, 18, 19; Ex. 1003 ¶¶ 242–244 (citing Ex. 1073, 162¹¹). The control illustrated in Letendre's Figure 1 may be "physical, on the dash, or on a

¹⁰ Petitioner's citations to Letendre refer to internal page numbers rather than the Exhibit page number affixed by Petitioner. Unless otherwise noted, we also refer to Letendre's internal page numbers.

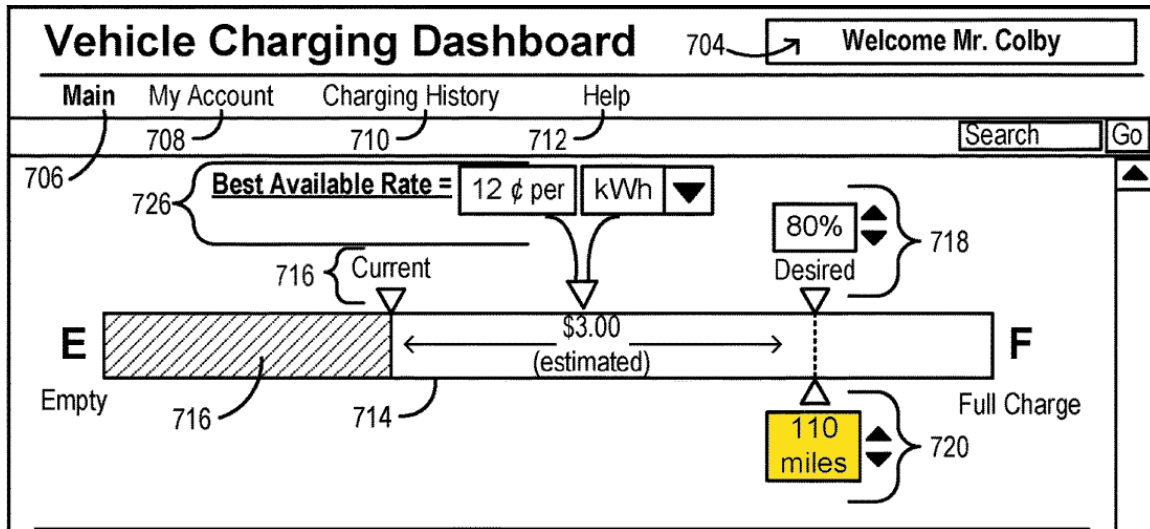
¹¹ The citation to page 162 refers to the internal page numbering in the Exhibit rather than the page numbering applied by Petitioner.

Webpage.” Ex. 1007, 19–20. Petitioner contends that an ordinarily skilled artisan would have understood or found it obvious that Letendre’s selectable control on a webpage is an element of a GUI. Pet. 39 (citing Ex. 1003 ¶ 245).

Patent Owner argues that Letendre’s disclosure of setting an amount of charge in miles of range is insufficient because Letendre describes setting a parameter “measured in units [miles] that cannot inform a user as to the *amount of charge*.” Prelim. Resp. 48–49 (citing Ex. 2001 ¶ 68). Patent Owner contends that Letendre’s user does not specify an amount of charge because “Letendre operates to take a user specified mileage condition and then *estimate* a corresponding charge amount that will likely meet the condition.” *Id.* at 48. Patent Owner contends that Letendre’s users cannot specify an amount of charge because, for example, they “would be unable to specify a 70% charge amount.” *Id.* Essentially, Patent Owner implicitly interprets “an amount of charge” as recited in limitation 1h in a manner that requires a user to be able to specify an amount of charge in percentage terms.

Petitioner responds that Patent Owner’s implied interpretation of “amount of charge” as referring only to a percentage is improperly narrow. Reply 2. Petitioner points out that the Specification describes that a user may specify an amount of charge by specifying a desired travel distance as follows: “the user may indicate a desired charging level (and/or a desired charging level may be automatically calculated) based on a desired **distance of travel**.” Ex. 1001, 19:49–57. Therefore, “amount of charge” may also refer to a desired mileage. Our annotated version of Figure 7 of the ’338 patent, the pertinent portion of which we reproduce below, illustrates

the ability of the system described in the '338 patent to set “amount of charge” in percentage or mileage terms.



The portion of Figure 7 from the '338 patent illustrates a GUI 700 called the “Vehicle Charging Dashboard” that includes a slider for selecting desired charge range level 720. We have highlighted in yellow the portion of the figure illustrating an ability to slide a marker on “vehicle charge indicator 714” to a value specified in miles (e.g., 110 miles). The Specification explains:

The user may also or alternatively view and/or change the desired charge range level 720. An estimate of how far the vehicle can travel on a given charge amount (which may be a general average and/or may be computed based on a specific itinerary and/or past driving habits) can be determined, for example, and utilized to express the desired charge level in terms of distance capable of being traveled. In such a manner, for example, a user may determine a desired distance to travel (e.g., how far it is from home to work or vice versa) and may set the desired charge range level 720 to match the desired distance.

Ex. 1001, 15:1–11. This passage demonstrates that the GUI described in the '338 patent allows a user to specify an amount of charge in miles of range as well as in percentage terms.

Patent Owner responds that the Specification describes “many different embodiments” but wishes that we focus on the user’s ability to “increase or decrease the desired charge percent level” to define an “amount of charge.” Surreply 1–2 (citing Ex. 1001, 14:63–67). The passage cited by Patent Owner states: “A user may select the desired charge percent level 718, for example, and may slide the marker on the vehicle charge indicator 714 to a new described location and/or may utilize the exemplary up/down arrow controls to increase or decrease the desired charge percent level 718.” Ex. 1001, 14:63–67.

At this stage of the proceeding, we disagree with Patent Owner’s interpretation of “amount of charge” as requiring that the user set this “amount” in percentage terms. The Specification clearly describes a vehicle charge indicator with a slider that can be selected based upon a desired percentage charge level or a desired range. We discern no persuasive reason to limit the claims in a manner that covers one alternative but excludes the other.

Patent Owner does not otherwise contest Petitioner’s showing that Letendre describes setting an “amount of charge” using a slider moved to a desired range. We currently find Petitioner’s showing on this issue to be sufficiently persuasive.

v. Motivation to Combine Ferro with Donnelly and Letendre

Petitioner argues that an ordinarily skilled artisan “would have been motivated and found it obvious to modify Ferro-Oyobe-Donnelly to include Letendre’s graphical slider on the charge level bar presented on the GUI, where the operator moves the slider to specify desired charge.” Pet. 40 (citing Ex. 1003 ¶ 247). Petitioner contends that Ferro-Donnelly already

reflects a system with a GUI on a touchscreen for depicting state of charge and modifying that GUI to add a slider for specifying the state of charge is expressly motivated by Letendre's indication that "it is essential that the driver be able to limit any draw down so travel is not affected." *Id.* (citing Ex. 1007, 19). Letendre also describes its GUI with the slider as "a control that the driver sets according to driving needs." *Id.* (citing Ex. 1007, 19). Ferro's express description of an input/output device for managing charging preferences and Letendre's express description of a GUI for setting charging parameters suggest using Letendre's GUI with Ferro's system. *Id.* at 40–41 (citing Ex. 1003 ¶ 248). Petitioner also argues that its proposed combination constitutes "applying a known technique ([Letendre's] slider . . .) to a known device ([Donnelly's] vehicle GUI showing a charge bar graphic) ready for improvement to yield predictable results of easily allowing a user to choose a desired level of charge." *Id.* at 41 (citing Ex. 1003 ¶ 249). Petitioner also contends that "[s]liders on GUIs were known to make inputting information easier, and thus [an ordinarily skilled artisan] would have been motivated to include a slider on the bar graph." *Id.* An ordinarily skilled artisan would have reasonably expected to successfully combine Letendre's slider in the GUI suggested by Ferro-Donnelly because that GUI already enabled setting charging preferences including "amount of charge" (i.e., minimum and maximum). *Id.*

Patent Owner argues that Petitioner's motivation to combine Letendre with Ferro-Donnelly fails because Letendre's slider for specifying range is incompatible with Donnelly's bar graph illustrating ratio of charge and Ferro. Prelim. Resp. 51–53. Patent Owner relies upon testimony from Dr. Goldberg in which he speculates about the motives behind Letendre's

use of mileage as the charge parameter being set by its user. *See id.* (citing Ex. 2001 ¶¶ 72–75). Dr. Goldberg testifies that “[i]f the [Letendre] user knew the desired charge, a slider would be provided to specify such a charge but even Letendre doesn’t want that parameter to be set because charge mileage ‘WILL BE LESS FOR FULL LOADS OR HILLY TERRAIN.’” Ex. 2001 ¶ 72 (citing Ex. 1007, 9,¹² Fig. 1). Patent Owner ignores its own Specification, which allows a user to specify an amount of charge using either percentage or miles as if they are interchangeable for a user interested in setting that charging parameter. *See* Ex. 1001, Fig. 7 (showing 80% charge and “110 miles” as equivalent levels of charge). Accordingly, we reject Patent Owner’s argument that Letendre’s method of specifying an amount of charge is incompatible with the methods described by Donnelly and Ferro. Rather, we find that Petitioner has sufficiently demonstrated that an ordinarily skilled artisan would have been motivated to combine teachings from Ferro, Donnelly, and Letendre to incorporate a slider into a GUI that allows a user to specify an amount of charge.

c. Motivation to Combine Ferro with Zeigler

Petitioner relies upon Zeigler as describing the subject matter of limitations 1j–1m that generally require an HVAC system that can maintain a user-specified temperature in a vehicle interior. Pet. 44–53. Petitioner relies upon Galvez-Ramos as describing the requirement in limitation 1l that the temperature be “suitable for a pet” and limitation 1m that the HVAC operate for a selected “duration of time.” *Id.* at 51–53. Petitioner also cites evidence supporting its arguments that an ordinarily skilled artisan would

¹² This citation refers to the exhibit page number affixed by Petitioner.

have been motivated to incorporate Zeigler's HVAC system into Ferro's vehicle as modified to include the sensor of Oyobe, the GUI of Donnelly and the slider control of Letendre. Pet. 44–52. Petitioner also cites evidence supporting its argument that an ordinarily skilled artisan would have been motivated to incorporate Galvez-Ramos undisputed teachings (1) to maintain the temperature of vehicle cabin to be suitable for a pet, *id.* at 51, and (2) to operate an HVAC system for a selected duration of time (e.g., 1 hour), *id.* at 52–53.

Patent Owner does not dispute that Zeigler and Galvez-Ramos collectively describe the subject matter of limitations 1j–1m. Prelim. Resp. 35–56. Rather, Patent Owner argues that “Petitioner fails to show how the Ferro-Oyobe-Donnelly-Letendre vehicle would incorporate, for example, Zeigler's off-state HVAC system along with duration time as described by Galvez-Ramos.” Prelim. Resp. 55–56 (citing only Pet. 53). However, Patent Owner fails to identify any specific shortcoming in the extensive citations to evidence provided by Petitioner throughout its discussion of why and how an ordinarily skilled artisan would have found it obvious to incorporate Zeigler's description of an HVAC system in a battery-powered vehicle that is designed to maintain temperature in the cabin even while the vehicle is parked with its motive power off or Galvez-Ramos description of maintaining temperatures suitable for a pet or for a selected duration of time. *See* Pet. 44–53. Likewise, our review of Petitioner's argument and supporting evidence reveals no shortcomings, and we find Petitioner's showing to be persuasive at this stage of the proceeding.

d. Conclusion for Claim 1

For all the reasons expressed above, we find that Petitioner has demonstrated a reasonable likelihood of proving that the combined teachings of Ferro, Oyobe, Donnelly, Letendre, Zeigler, and Galvez-Ramos render claim 1 unpatentable as obvious.

3. Independent Claims 10 and 19

Petitioner cross-references its showing for claim 1 when arguing that independent claims 10 and 19 are unpatentable as obvious. Pet. 41–44 (claim 10), 67–71 (claim 19). For all but limitations 10h, 10i, and 19h, Patent Owner addressed Petitioner’s showing for claims 10 and 19 in detail while addressing parallel claim language appearing in independent claim 1. See Prelim. Resp. 35–43. For all limitations other than limitations 10h, 10i, and 19h, which we address specifically below, we find Petitioner’s showing for claims 10 and 19 to be equally persuasive for the reasons expressed in Part III.C.2 above.

a. Arguments Unique to Claim 10

Patent Owner also argues that Petitioner “fails to provide any analysis of claim limitation 10[h]” and makes a similar argument relating to limitation 10i. However, as noted by Petitioner, Patent Owner’s argument is fatally predicated on its incorrect mapping of limitations because Patent Owner labels different language as 10h and 10i than the language that Petitioner labels as 10h and 10i. Reply 3. Petitioner cross references its showing for limitation 10h to its showing for limitations 1h and 1l. Pet. 66. Petitioner cross-references its showing for limitation 10i to its showings for limitations 1c, 1d, and 1m. Based on our review of the claim language in claim 10 and the cross-referenced language in claim 1, we find that

Petitioner's showing for limitations 10h and 10i is sufficient to support its challenge to claim 10.

b. Arguments Unique to Claim 19

Patent Owner argues that Petitioner fails to demonstrate that the prior art teaches or suggest limitation 19h. For that limitation, Petitioner cross-references its showing for limitation 1g, which recites similar claim language. Pet. 68. Petitioner argues that the “current price of electricity at a given time is a first value of the dynamic attribute and is determine[d] by Ferro's processor 204.” *Id.* (citing Ex. 1003 ¶¶ 363–363).

Patent Owner points out that limitation 1g recites “a current value of the dynamic attribute” while limitation 19h recites “a first value of the dynamic attribute” and argues that the language differs. Prelim. Resp. 57. Without further explanation, Patent Owner states: “As such, the Petition doesn't the language of limitation 19[h].” *Id.* We cannot discern a coherent argument in Patent Owner's statement. Without further explanation, which Patent Owner is free to advance at trial, we currently discern no dispute regarding Petitioner's showing for limitation 19h that requires resolution.

c. Conclusion

For all the reasons expressed above, we find that Petitioner has demonstrated a reasonable likelihood of proving that the combined teachings of Ferro, Oyobe, Donnelly, Letendre, Zeigler, and Galvez-Ramos render claims 10 and 19 unpatentable as obvious.

E. Claims 28 and 29: Obviousness in View of Ferro, Donnelly, Letendre, and Sutardja

Like independent claim 1 addressed above, independent claim 28 is directed to an electrical charging system that receives charging preferences from the user through a GUI that includes a slider to specify “an amount of

charge.” *Compare* Ex. 1001, 32:56–34:12 (claim 28), *with id.* at 29:31–30:17 (claim 1). Claim 28 is broader than claim 1 in the sense that claim 28 does not require the HVAC system that maintains a selected temperature recited in limitations 1j–1n recited claim 1. *Id.* For this reason, Petitioner need not rely on Zeigler or Galvez-Ramos in its challenge to claim 28. Claim 28 is also broader than claim 1 in the sense that claim 28 does not require a vehicle sensor that can indicate the presence of the vehicle in a parking space as recited in limitations 1a and 1e. *Id.* Therefore, Petitioner need to rely on Oyobe in its challenge to claim 28. Claim 28 does, however, recite limitations not found in claim 1, e.g., limitations 28d, 28f–28j, for which Petitioner cites Sutardja. *Id.*

Petitioner argues that the combined teachings of Ferro, Donnelly, Letendre, and Sutardja render claims 28 and 29 unpatentable as obvious. Pet. 73–82. Petitioner relies primarily upon Ferro and, for limitations 28pre, 28a, 28b, and 28c, Petitioner cross-references its showing for limitations 1pre, 1b, 1c, and 1d. *Id.* at 73–74. Patent Owner does not dispute Petitioner’s showing that Ferro describes limitations 28pre, 28a, 28b, and 28c, and we find Petitioner’s showing to be persuasive that Ferro alone describes the subject matter recited in those limitations.

Limitations 28d and 28e, for which Petitioner relies on Ferro as modified by Sutardja collectively require that the user be able to input two charging preferences including “a time by which an electric vehicle is to be charged to a predetermined amount,” and that the charging of the vehicle is “based, at least in part, on a cost of providing electrical charge.” Ex. 1001, 32:63–33:14. Petitioner relies on Sutardja’s disclosure that a user can specify charging parameters based on “charge completion time, cost of

electricity, and charging priority.” Pet. 74 (citing Ex. 1011 ¶¶ 235–237; Ex. 1003 ¶¶ 397, 398). “For example, in the default charging parameters, users may indicate that the utility company may choose the time to charge the batteries when the cost is lowest.” Ex. 1011 ¶ 235; *see also id.* ¶ 236 (discussing user and utility company negotiating costs). A user of Sutardja’s vehicle may also request “a full charge between 9pm and 6 am.” Ex. 1011 ¶ 262. If the user changes the time to complete the full charge to, e.g., Sutardja’s system informs the user of an extra cost for supplying power at the requested time. *Id.* ¶¶ 236, 264, 270; Ex. 1003 ¶ 399.

Patent Owner argues that Petitioner’s showing fails for limitation 28e, which recites materially the same subject matter as limitation 1h relating to a slider component of a GUI for specifying charging preferences. Prelim. Resp. 59–60. Patent Owner cross-references its arguments for limitation 1h when addressing Petitioner’s arguments for limitation 28e. *Id.* at 60. We find Petitioner’s argument and supporting evidence for limitation 28e to be persuasive for the reasons set forth in our discussion of limitation 1h in Part III.C.2.b above.

Patent Owner does not contest Petitioner’s showing that Sutardja describes the aspects of limitations 28d and 28f–28j for which Petitioner cites Sutardja. Prelim. Resp. 59–61. Based on our review of Petitioner’s reliance on Sutardja, we are persuaded that the combined teachings of Ferro and Sutardja describe the subject matter recited in limitations 28d and 28f–28j.

Patent Owner does, however, argue that Petitioner fails to demonstrate that an ordinarily skilled artisan would have been motivated to combine teachings from Sutardja into Ferro. Prelim. Resp. 60–61. We disagree.

Based primarily upon testimony by Mr. Andrews, Petitioner contends that its proposed modification to Ferro based on additional teachings in Sutardja involves using known methods to yield predictable results of determining whether “charging can be accomplished via previously-input charging parameters of completion charge time and cost, and determining alternate charging parameters that are acceptable to both the user and the utility company.” Pet. 81 (citing Ex. 1003 ¶¶ 421–425). Petitioner argues that an ordinarily skilled artisan would have been motivated to incorporate Sutardja’s ability for users to preferred and alternative schedules for charging so that a user can reliably specify the most acceptable charging parameters and ensure that a surprise failure to charge the vehicle is avoided. *Id.* at 81–82 (citing Ex. 1003 ¶¶ 421–425).

Patent Owner provides no testimony from Dr. Goldberg addressing whether an ordinarily skilled artisan would have been motivated to incorporate teachings from Sutardja into Ferro as Mr. Andrews opines. *See generally* Ex. 2001. Accordingly, Mr. Andrews testimony on the issue of whether an ordinarily skilled artisan would have been motivated to combine Ferro and Sutardja and reasonably expect success in doing so is unrebutted. Based on our review of Mr. Andrews’s testimony, we are persuaded that Petitioner has demonstrated a reasonable likelihood of proving such a motivation and expectation of success. We also find that Petitioner has demonstrated a reasonable likelihood of proving that the combined teachings of Ferro, Sutardja, Donnelly, and Letendre render claim 28 unpatentable as obvious.

F. Petitioner's Alleged Violation of Rule 42.6(a)(3) Prohibiting Incorporation by Reference

Patent Owner argues that Petitioner violates Rule 42.6(a)(3) by impermissibly incorporating arguments from Mr. Andrews's Declaration into the Petition to avoid the word count limit. Prelim. Resp. 62–65. Patent Owner contends that the Andrews declaration is “twice as long as the Petition at 278 pages” with a substantive portion containing 42,329 words. *Id.* at 63. Patent Owner contends that the “only way to potentially understand the Petitioner's . . . challenges is to wade through the 42,329 words.” *Id.* Patent Owner also complains that Andrews supports his testimony relating to Petitioner's challenge to claim 1 by citing forty-three references that are not expressly identified as a basis for that challenge. *Id.* at 64.

We discern no violation of Rule 42.6(a)(3). To the contrary, that Mr. Andrews's supports his extensive explanations of his opinions with citations to dozens of pieces of objective evidence, is a feature, not a bug of his testimony. Mr. Andrews, and Petitioner by extension, leave virtually none of the substance of his testimony unsupported by objective evidence, a practice that we applaud.

IV. CONCLUSION

For the reasons expressed above, we determine that Petitioner has demonstrated a reasonable likelihood of showing that claims 1, 10, 19, and 28 of the '338 patent are unpatentable as obvious. In accordance with the Court's decision in *SAS Institute, Inc. v. Iancu*, 138 S. Ct. 1348, 1359–60 (2018) and 37 C.F.R. § 42.108(a), we institute an *inter partes* review of all challenged claims of the '338 patent on all grounds alleged by Petitioner.

V. ORDER

For the reasons given, it is:

ORDERED that *inter partes* review of claims 1–20 of U.S. Patent No. 11,563,338 B1 is *instituted* with respect to all grounds of unpatentability set forth in the Petition; and

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(a), *inter partes* review of U.S. Patent No. 11,563,338 B1 is instituted commencing on the entry date of this Order, and pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is given of the institution of a trial.

IPR2025-00032
Patent 11,563,338 B1

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