

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

**TESLA, INC.,
Petitioner,**

v.

**CHARGE FUSION TECHNOLOGIES, LLC,
Patent Owner.**

**Case IPR2025-00153
Patent 11,631,987**

PATENT OWNER'S PRELIMINARY RESPONSE

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EXHIBIT LIST

Currently Filed – Patent Owner

Ex. No.	Description
2001	Declaration of Steven Goldberg
2002	File History of U.S. Patent No. 10,998,753
2003	U.S. Patent Application Publication No. 2009/0189807A1 to Scalisi et al.
2004	U.S. Patent No. 7,671,567B2 to Eberhard et al.

CLAIM LISTING

Independent Claim 1	
1[pre]	An electrical charging system, comprising:
1[a]	a vehicle sensor;
1[b]	a communication device;
1[c]	a processor in communication with the vehicle sensor and the communication device; and
1[d]	a memory in communication with the processor, the memory storing instructions that when executed by the processor cause the processor to:
1[e]	receive, from the vehicle sensor, information indicative of a presence of a vehicle in a parking space;
1[f]	receive, from the communication device, information indicative of one or more charging preferences corresponding to a desired charging of the vehicle, wherein the one or more charging preferences are defined by an operator of the vehicle;
1[g]	determine, based at least on the one or more charging preferences and at least one current value of a dynamic attribute of an electric charge provider, a charging schedule for the vehicle; and
1[h]	transmit a control signal to a parking space charge device that starts a charging, in accordance with the charging schedule, of the vehicle;
1[i]	wherein at least one of the one or more charging preferences is defined by user input received via a graphical user interface adapted to display a unitary vehicle charge indicator element comprising: (i) a first portion indicative of an amount of charge residing in a battery of the electric vehicle; (ii) a second portion indicative of an uncharged capacity of the battery of the electric vehicle; and (iii) a third portion comprising a slider by which an amount of charge may be specified.

Dependent Claim 2	
Claim 2	The electrical charging system of claim 1, wherein the graphical user interface is adapted to display a web page.

Dependent Claim 3	
Claim 3	The electrical charging system of claim 2, wherein the graphical user interface forms a part of the vehicle.
Dependent Claim 4	
Claim 4	The electrical charging system of claim 1, wherein the graphical user interface is adapted to receive a maintenance notification.
Dependent Claim 5	
Claim 5	The electrical charging system of claim 4, wherein the graphical user interface forms a part of a smartphone.
Dependent Claim 6	
Claim 6	The electrical charging system of claim 1, wherein the determining of the charging schedule for the vehicle is further based upon a factor of safety parameter.
Dependent Claim 7	
Claim 7	The electrical charging system of claim 6, wherein the one or more charging preferences comprise the factor of safety parameter.

Independent Claim 8	
8[pre]	An electrical charging method, comprising:
8[a]	receiving, from a vehicle sensor, information indicative of a presence of an electric vehicle in a parking space;
8[b]	receiving, via a communication device, information indicative of one or more charging preferences corresponding to a desired charging of the electric vehicle, wherein the one or more charging preferences are defined by an operator of the electric vehicle;
8[c]	determining, by a processor, based at least on the one or more charging preferences and at least one current value of a dynamic attribute of an electric charge provider, a charging schedule for the electric vehicle; and
8[d]	transmitting, by the processor, a control signal to a parking space charge device that starts a charging, in accordance with the charging schedule, of the electric vehicle;

8[e]	wherein at least one of the one or more charging preferences is defined by user input received via a graphical user interface adapted to display a unitary vehicle charge indicator element comprising: (i) a first portion indicative of an amount of charge residing in a battery of the electric vehicle; (ii) a second portion indicative of an uncharged capacity of the battery of the electric vehicle; and (iii) a third portion comprising a slider by which an amount of charge may be specified.
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Dependent Claim 9	
Claim 9	The electrical charging method of claim 8, wherein the graphical user interface is adapted to display a web page.
Dependent Claim 10	
Claim 10	The electrical charging method of claim 9, wherein the graphical user interface forms a part of the electric vehicle.
Dependent Claim 11	
Claim 11	The electrical charging method of claim 8, wherein the graphical user interface is adapted to receive a maintenance notification.
Dependent Claim 12	
Claim 12	The electrical charging method of claim 11, wherein the graphical user interface forms a part of a smartphone.
Dependent Claim 13	
Claim 13	The electrical charging method of claim 8, wherein the determining of the charging schedule for the electric vehicle is further based upon a factor of safety parameter.
Dependent Claim 14	
Claim 14	The electrical charging method of claim 13, wherein the one or more charging preferences comprise the factor of safety parameter.

Independent Claim 15	
15[pre]	An electrical charging system, comprising:

15[a]	a vehicle sensor;
15[b]	a communication device;
15[c]	a processor in communication with the vehicle sensor and the communication device; and
15[d]	a memory in communication with the processor, the memory storing instructions that when executed by the processor cause the processor to:
15[e]	(a) receive, from the vehicle sensor, information indicative of a presence of a vehicle in a parking space;
15[f]	(b) receive, from the communication device, information indicative of one or more charging preferences corresponding to a desired charging of the vehicle, wherein the one or more charging preferences are defined by an operator of the vehicle;
15[g]	(c) determine a first value of a dynamic attribute of an electric charge provider;
15[h]	(d) determine, based at least on the one or more charging preferences and the first value of the dynamic attribute, a charging schedule for the vehicle;
15[i]	(e) transmit a control signal to a parking space charge device that starts a charging of the vehicle in accordance with the charging schedule;
15[j]	(f) retrieve a second value of the at least one dynamic attribute; and
15[k]	(g) repeat (d) and (e), utilizing the retrieved second value of the dynamic attribute as the first value of the dynamic attribute;
15[l]	wherein at least one of the one or more charging preferences is defined by user input received via a graphical user interface adapted to display a unitary vehicle charge indicator element comprising: (i) a first portion indicative of an amount of charge residing in a battery of the electric vehicle; (ii) a second portion indicative of an uncharged capacity of the battery of the electric vehicle; and (iii) a third portion comprising a slider by which an amount of charge may be specified.

Dependent Claim 16	
Claim 16	The electrical charging system of claim 15, wherein the graphical user interface is adapted to display a web page.
Dependent Claim 17	
Claim 17	The electrical charging system of claim 16, wherein the graphical user interface forms a part of the vehicle.
Dependent Claim 18	
Claim 18	The electrical charging system of claim 15, wherein the graphical user interface is adapted to receive a maintenance notification.
Dependent Claim 19	
Claim 19	The electrical charging system of claim 18, wherein the graphical user interface forms a part of a smartphone.
Dependent Claim 20	
Claim 20	The electrical charging system of claim 15, wherein the charging schedule for the vehicle is further based upon a factor of safety parameter.
Dependent Claim 21	
Claim 21	The electrical charging system of claim 20, wherein the one or more charging preferences comprise the factor of safety parameter.

Independent Claim 22	
22[pre]	An electrical charging system, comprising:
22[a]	a communication device;
22[b]	a processor in communication with the communication device; and
22[c]	a memory in communication with the processor, the memory storing instructions that when executed by the processor cause the processor to:
22[d]	provide a user interface comprising a unitary combined input/output element comprising: (i) a graphical depiction of an electric vehicle battery capacity, (ii) a graphical depiction of a current charge level of the electric vehicle battery, and (iii) a graphical input slider

	element that permits an operator of the vehicle to provide input defining a desired charge parameter of the electric vehicle;
22[e]	receive, from the communication device and via the user interface, information indicative of one or more charging preferences corresponding to a desired charging of the electric vehicle, wherein the one or more charging preferences are defined by the operator of the vehicle and include an indication of the desired charge parameter of the electric vehicle received via the graphical input element that permits the operator of the vehicle to provide input defining the desired charge parameter of the electric vehicle;
22[f]	determine, based at least on the one or more charging preferences and at least one current value of a dynamic attribute of an electric charge provider, a charging schedule for the vehicle; and
22[g]	transmit a control signal to a parking space charge device that starts a charging, in accordance with the charging schedule, of the electric vehicle.

Dependent Claim 23	
Claim 23	The electrical charging system of claim 22, wherein the desired charge parameter comprises a desired charge limit for the electric vehicle.
Dependent Claim 24	
Claim 24	The electrical charging system of claim 22, wherein the desired charge parameter comprises a time parameter governing charging of the electric vehicle.
Dependent Claim 25	
Claim 25	The electrical charging system of claim 22, wherein the user interface is adapted to display a web page.
Dependent Claim 26	
Claim 26	The electrical charging system of claim 25, wherein the user interface forms a part of the electric vehicle.
Dependent Claim 27	
Claim 27	The electrical charging system of claim 22, wherein the user interface is adapted to receive a maintenance notification.

Dependent Claim 28	
Claim 28	The electrical charging system of claim 27, wherein the user interface forms a part of a smartphone.
Dependent Claim 29	
Claim 29	The electrical charging system of claim 22, wherein the charging schedule for the electric vehicle is further based upon a factor of safety parameter.
Dependent Claim 30	
Claim 30	The electrical charging system of claim 29, wherein the one or more charging preferences comprise the factor of safety parameter.

I. INTRODUCTION

Charge Fusion Technologies, LLC, the owner of U.S. Patent No. 11,631,987 (“’987 Patent”), submits this Patent Owner’s Preliminary Response (“Response”) to the Board’s institution decision based on Tesla, Inc.’s (“Tesla” or “Petitioner”) petition for *inter partes* review (“Petition”) of claims 1-30 the ’987 Patent (“Challenged Claims”).¹

II. SUMMARY OF THE ARGUMENT

The Board should determine that all Challenged Claims are not unpatentable based on the merits and because the Petition has improperly attempted to circumvent the IPR word count limit. In particular, Patent Owner has failed to provide, with particularity, reasoning for combining five asserted references (Ferro in view of Oyobe, Donnelly, Letendre, and Seelig). Upon careful review of these references, it is clear that the person of ordinary skill in the art would not modify Ferro in the many convoluted ways as alleged in the Petition. For example, Oyobe’s output, relied on to teach the “vehicle sensor” claim limitations is not even useable in Ferro’s system.

Were the Petition to provide adequate reasoning, the Petition would be well-beyond the IPR word count. For example, for numerous claim limitations, there is no analysis whatsoever, but instead a listing of another claim element without even

¹ Claims 1, 8, 15, and 22 are independent claims.

incorporating the analysis from that other claim element by reference. Moreover, the Petition fails to cite or even reference dozens (over 37) additional exhibits relied on by the 214-page Expert Declaration, instead improperly incorporating the declaration and analysis therein by reference into the Petition to avoid going beyond the word count.

In short, the Petition is inadequate and should be wholly denied as the gaps in the proffered evidence and substantive content of both the Petition and the cited evidence prove fatal to the Petition. The Challenged Claims should be upheld.

III. RELATED PROCEEDINGS

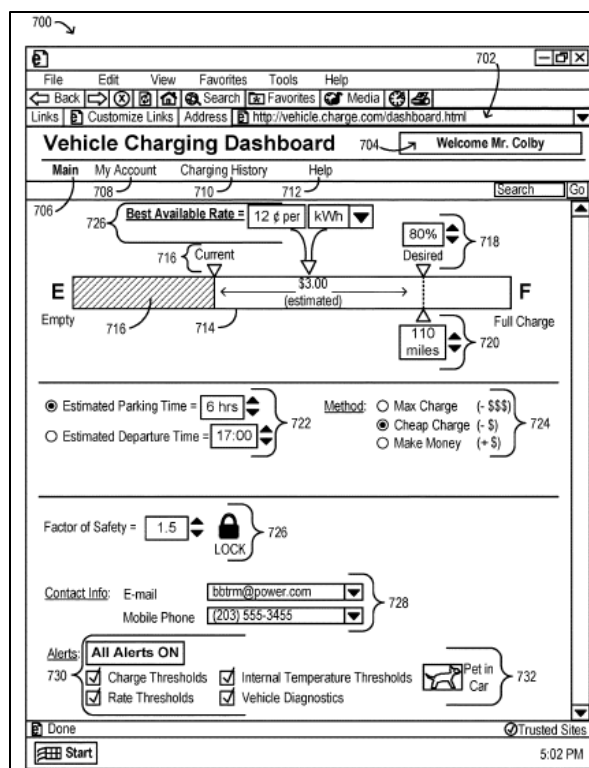
The '987 Patent is involved in *Charge Fusion Technologies, LLC v. Tesla, Inc.*, 1:22-cv-00488 (W.D. Tex.) (“Texas Litigation”).

IV. THE '987 PATENT PRESENTS A NOVEL SYSTEM AND METHOD FOR ELECTRIC VEHICLE CHARGING AND POWER MANAGEMENT

The '987 Patent, entitled “Systems and Methods for Charging Electric Vehicles,” was filed on May 3, 2021, issued on April 18, 2023, and claims priority to Provisional Application No. 61/134,646, which was filed on July 11, 2008. EX1002, 8. According to the '987 Patent, improvements in battery technology provided the potential for “economically viable” electric-powered modes of transportation. EX1001, 1:33-46. However, electric vehicles needed to be plugged in regularly to replenish their electrical charge, which “likely require[d] more time

than is typically required to fill up an automobile with a petroleum based product.” *Id.*, 1:38-40. Because of this, “the owner of an electrical automobile must oftentimes adhere to a schedule of charging that renders the automobile unusable for protracted stretches of time,” and there was “a resistance to performing the act of plugging in an automobile and subsequently unplugging the vehicle in order to maintain a charged vehicle.” *Id.*, 1:41-46. The applicants thus recognized that it would be advantageous to intelligently charge vehicles by creating a charging schedule. *Id.*, 2:16-27. Moreover, the applicants recognized the desire for a user to select the desired charge percent level via a slider on a graphical user interface. *Id.*, 14:62-67; Fig. 7.

Figure 7 is a block diagram which illustrates a graphical user interface slider allowing a user to select the desired charge percent level (718).



EX1001, Fig 7; 14:53-15:8. According to the ‘987 Patent, a user may view and/or change the desired charge range level and thus determine a desired distance to travel and accordingly set the desired charge range to match the desired distance. *Id.*

V. PETITIONER’S PROPOSED OBVIOUSNESS CHALLENGES

Ground	Challenged Claims	35 U.S.C. ²	Reference(s)/Basis
1	1-4, 6-11, 13-18, 20-27, and 29	§ 103	Ferro ³ in view of Oyobe, ⁴ Donnelly, ⁵ Letendre, ⁶ and Seelig ⁷

² The pre-AIA version of 35 U.S.C. § 103 applies.

³ U.S. Patent Pub. No. 2009/0313034 A1 (EX1004).

⁴ European Patent No. 1,920,968 (EX1005).

⁵ U.S. Patent No. 7,124,691 (EX1006).

⁶ *The V2G Concept, A New Model for Power* (EX1007).

⁷ U.S. Patent No. 5,564,621 (EX1078).

2	5, 12, 19, and 28	§ 103	Ferro in view of Oyobe, Donnelly, Letendre, Seelig, and Knockeart ⁸
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VI. OVERVIEW OF THE RELEVANT ALLEGED PRIOR ART

A. Ferro (EX1004)

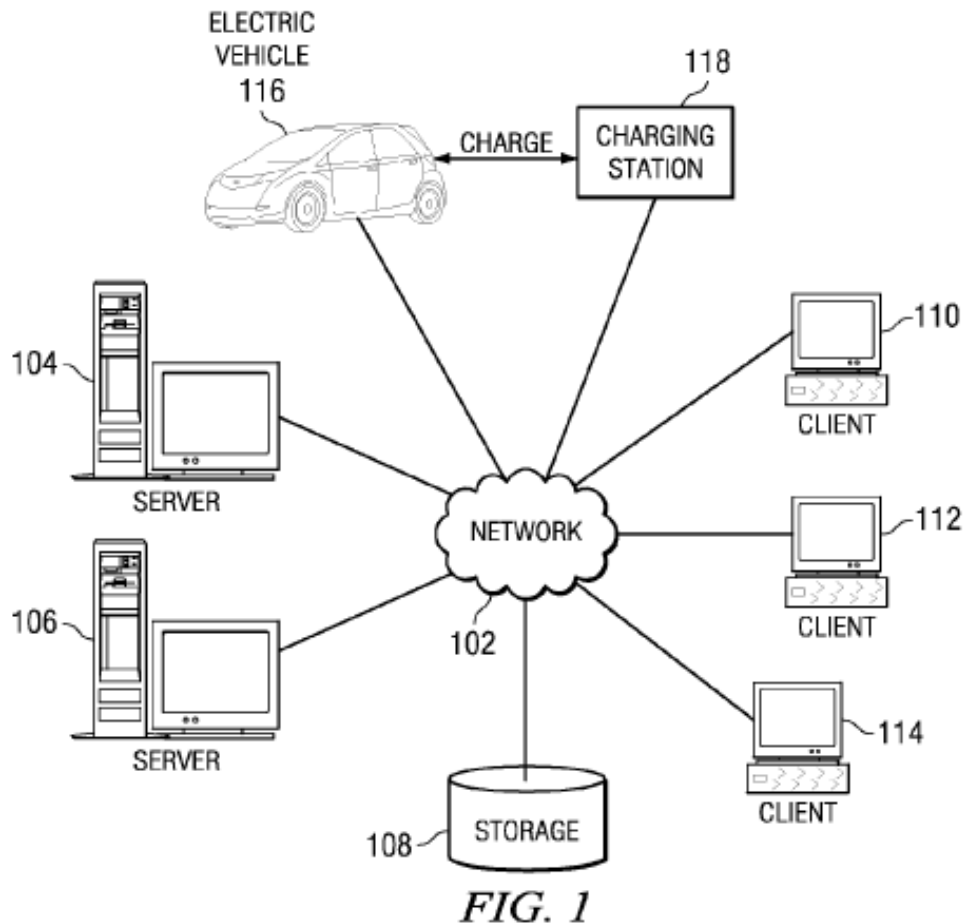
Ferro discloses “[a] computer implemented method, apparatus, and computer program product for generating a dynamic energy transaction plan to manage an electric vehicle charging transaction.” EX1004, Abstract.

The dynamic energy transaction plan “comprises an identification of the electric vehicle, an identification of a principal in the set of principals to pay for the charging transaction, an identification of at least one utility associated with the charging transaction, an owner of the charging station, and a first set of terms of the charging transaction.” *Id.*, [0008]. Ferro’s “process for generating dynamic energy transaction plan 424 *begins when electric vehicle 400 arrives at charging station 403 and indicates an intention to charge*, de-charge, or store electric energy on electric vehicle 400.” *Id.*, [0109]; emphasis added. An “initial portion of the charging transaction is controlled in accordance with the first set of terms of the dynamic energy transaction plan.” *Id.* If updated charging information is received “during execution of the charging transaction,” the “dynamic energy transaction plan” is updated based on the updated charging information “to form an updated dynamic

⁸ U.S. Patent No. 6,622,083 (EX1010).

energy transaction plan.” *Id.* “A second portion of the charging transaction is implemented in accordance with the second set of terms in the updated dynamic energy transaction plan.” *Id.*

Figure 1 “depicts a pictorial representation of a network of data processing system in which illustrative embodiments may be implemented”:



Id., Fig. 1, [0032]. The electric vehicle 116 and charging station 118 send and receive data associated with the charging of electric vehicle, including “the capabilities of electric vehicle, the capabilities of charging station 118, the current charge stored in electric vehicle, the rate of charging electric vehicle, the price of electricity received

from a power grid, identity of the owner and/or operator of electric vehicle 116 and/or any other data relevant to charging or de-charging electric vehicle 116 over network 102.” *Id.*, [0037].

Figure 4 is a block diagram of a dynamic energy transaction planner on-board an electric vehicle 400, “an electric vehicle that relies in whole or in part on electricity to drive the vehicle, such as, without limitation, electric vehicle 116 in FIG. 1”:

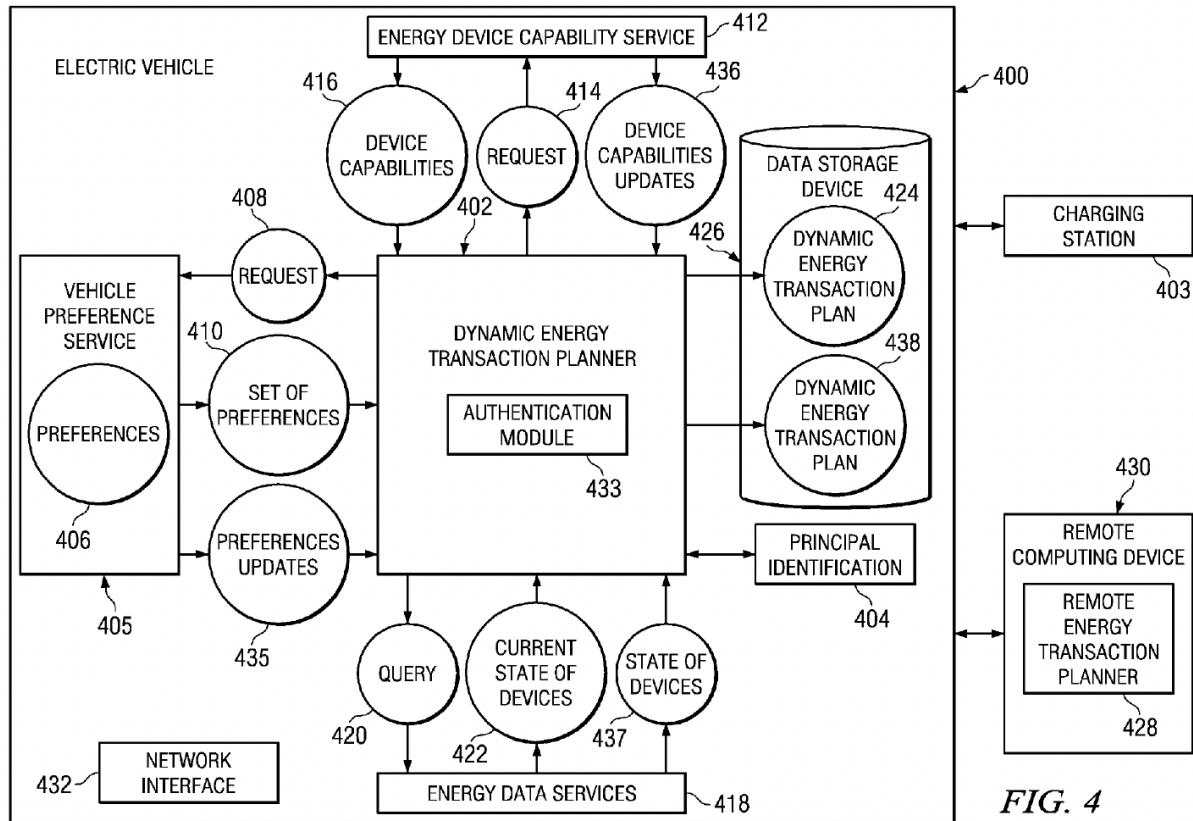


FIG. 4

Id., Fig. 4, [0076]. Dynamic energy transaction planner 402 “is a software component that creates a transaction plan for controlling a charging transaction for

electric vehicle 400 coupled to charging station 403, such as dynamic energy transaction planner 310 in FIG. 3.” *Id.*, [0076].

Vehicle preference service 405 “is a software component for creating, managing, storing, requesting, updating, and/or retrieving preferences 406 for electric vehicle 400” that “is included within or bolted on electric vehicle 400.” *Id.*, [0082]. Principals may also “utilize an energy preference service that is located on a computing device that is remote from electric vehicle 400 to create and/or manage preferences for the given principal.” *Id.*, [0083]. When the energy preference service is located remotely, a set of preferences may be sent to dynamic energy transaction planner 402 by the remote energy preference service using a wired or wireless network connection. *Id.*, [0091]. Ferro discloses that the dynamic energy transaction planner requests preferences from an energy preference service, which it uses to generate terms for a dynamic energy transaction plan. *Id.*, [0143].

B. Oyobe (EX1005)

Oyobe is directed to “an electric-powered vehicle that can effectively inform a user about lowering of the SOC of a battery.” EX1005, [0006]. To inform the user about lowering of the SOC of a battery, as shown in Figure 16, reproduced below, Oyobe’s vehicle 100 includes “informing apparatus 102 ... provided at the exterior of the vehicle for informing the vehicle user outside the vehicle about the necessity of charging main battery.” *Id.*, [0040]. By placing the informing apparatus 102

outside of the vehicle, Oyobe addresses a specific issue – “the vehicle user can more surely be prevented from forgetting to charge the

electric power storage apparatus despite the lowered SOC of the electric power storage apparatus.” *Id.*, [0012].

FIG.16

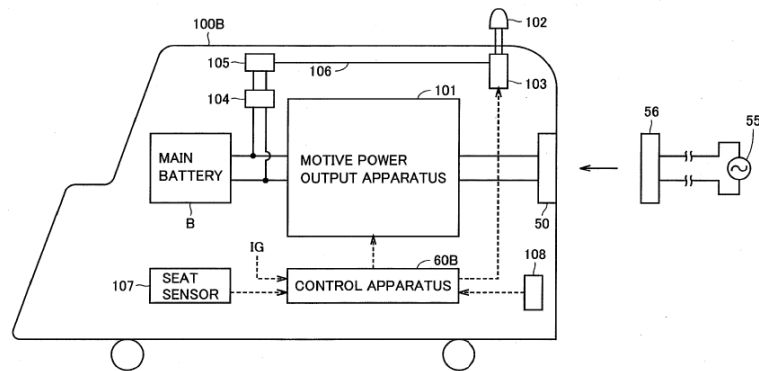


FIG.2

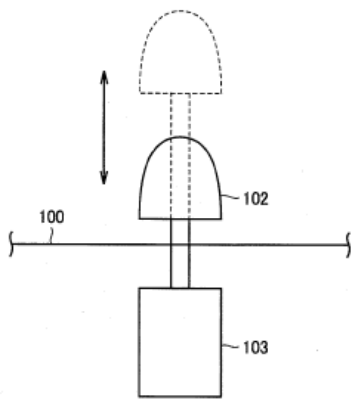
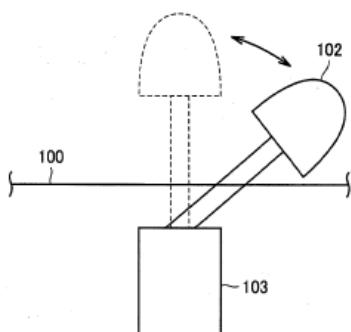


FIG.3



As shown in Oyobe’s Figures 2 and 3, reproduced to the left, Oyobe’s informing apparatus 102 may mechanically change positions “so as to attract the vehicle user’s attention” when the battery power is low. *Id.*, [0047]. This mechanical change includes altering “projection amount” (*Id.*); “the angle of informing apparatus 102 relative to the external surface of the vehicle” (*Id.*, [0047]); by changing the “tilt amount” (*Id.*, [0048]); by changing an information pattern, such as vibrating the informing apparatus 102 (*Id.*,

[0128]); or by using “a light emitting apparatus” or “sound source”. *Id.*, [0152].

Trigger conditions for actuating the informing apparatus 102 include:

1. determining “whether or not the ignition key has been turned to the OFF position” *Id.*, Figs. 1-12, [0051], [0122];
2. “whether or not the SOC of main battery B is smaller than a reference value.” *Id.*, Figs. 1-12, [0046], [0124];
3. determining “whether or not the driver is seated in the driver’s seat” thereby indicating “the driver has exited from the vehicle” using a seat sensor 107. *Id.*, Fig. 14, [0132]- [0133];
4. detection of “whether or not hybrid vehicle 100B is parked at the location where charging equipment is installed” *Id.*, Fig. 16, [0141]- [0145].

Regarding trigger condition 4, above, Oyobe only detects when the vehicle is at an ***unspecified general*** “location where charging equipment is installed.” There is no discussion in Oyobe about what “location” means. E.g., is being at a store with a vehicle charging station somewhere on the premises the same as detecting “location where charging equipment is installed”? Oyobe never discusses detecting that a vehicle is at the specific place needed to initiate charging of the vehicle, but instead just discusses general and unspecified “location” based on “a car navigation apparatus” or “based on the communication with a radio apparatus (not shown) provided at the location where the charging equipment is installed.” *Id.*, [0142].

Oyobe uses these trigger conditions such that “unnecessary power consumption can be prevented” by not activating informing apparatus 102 in situations where the driver doesn’t need indication to charge the vehicle battery. *Id.*, [0020], [0022], [0030], [0145].

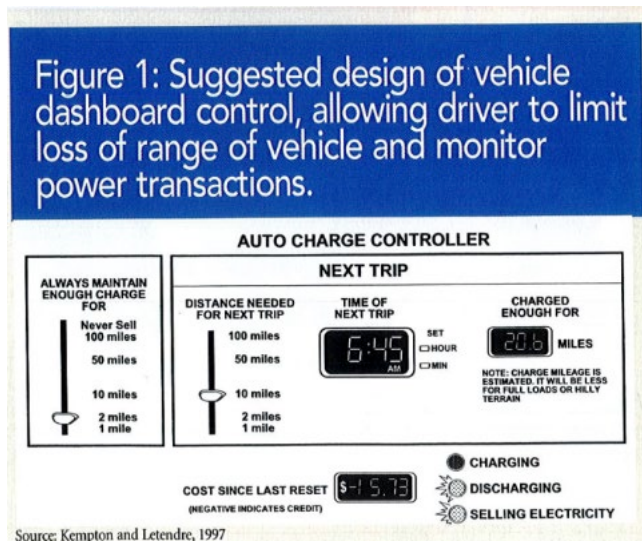
C. Donnelly (EX1006)

Donnelly is directed to railroad, or train locomotives and the use of energy storage batteries and a method for monitoring, controlling and optimizing electrically powered locomotives. EX1006, 1:24-35; 2:1-6. Specifically, Donnelly teaches a controller unit and system of sensors to monitor, synchronize and optimize the operation of the locomotive drive train as well as the individual axles during acceleration and braking. *Id.* at 3:42-50.

Donnelly is not directed at electric cars. Although it does appear to disclose a touch screen (*Id.* at 21:47-58), the screen is not directed at a GUI slider mechanism as presented in the challenged claims, nor relates to any ability for a user to select an amount of charge for the railroad locomotive disclosed.

D. Letendre (EX1007)

Letendre is directed towards electric vehicles and the concept of vehicle to grid power or “V2G.” EX1007, 7. Petitioner cites Letender for its GUI element, reproduced below:



EX1007, 8. However, nothing within Letendre discloses a GUI slider that allows a user to select an amount of charge related to the total amount of battery capacity. Further, Letendre does not disclose a GUI slider, but instead appears to disclose a physical slider. Nothing within Letendre teaches, suggests or discloses a GUI slider directed to selecting the amount of charge related to the capacity of the battery within the electric vehicle.

E. Seelig (EX1078)

Seelig is directed to “a process for contactless energy transmission in charging the battery of a vehicle.” EX1078, Abstract. Seelig teaches a “primary element 1 of an inductive transmitter is brought into an approach position with respect to the secondary element 2 of the transmitter, which is located on the underside of an electric car 3”. EX1078, 2:20-23. In response to primary element and secondary element coupling, a “signal ‘coupling achieved’ KER received on the vehicle ...

switches on the charging initiation signal generator LAG via the setting input S. ... The charging initiation signal LA transmitted to the charging apparatus on the same path as the orientation signal OS now switches on the charging operation memory LBS and thus switches on the inverter.” EX1078, Fig. 6, 6:21-32.

VII. LEVEL OF ORDINARY SKILL IN THE ART

Petitioner defines a person of ordinary skill in the art (“POSITA”) as an individual that “would have had 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 (internal citations omitted). Because it does not affect the ultimate analysis, Patent Owner takes no position with respect to Petitioner’s proposed level of ordinary skill in the art but reserves the right to take a position if instituted.

VIII. CLAIM CONSTRUCTION

In an *inter partes* review filed on or after November 13, 2018, claim terms are construed based on their ordinary and customary meaning. 37 C.F.R. § 42.100(b). For purposes of this Paper, for all claim terms, Patent Owner requests that the Board adopt the ordinary and customary meaning of the claim terms as understood by one of

ordinary skill in the art. If trial is instituted, however, and to the extent deemed necessary to resolve any dispute, Patent Owner reserves the right to propose more specific construction of one or more claim terms. Patent Owner provides its response to Petitioner's proposed claim construction below:

A. “dynamic attribute of an electric charge provider” (Claims 1[g], 8[c], 15[g], 22[f]).

Petitioner's apparent construction improperly imports limitations from the specification, such as the “changing or otherwise fluctuating cost (or price) of electricity for purchase” from a hand-selected portion of the '987 Patent's disclosure, yet provides no argument as to why the “dynamic attribute of an electric charge provider” would be limited to just cost fluctuations. The '987 Patent explicitly states “the various systems described herein are depicted for use in explanation, but not limitation, of described embodiments. Different types, layouts, quantities, and configurations of systems described herein may be utilized without deviating from the scope of some embodiments.” EX1001, 6:24-29.

The Petitioner cites “processor communicating with a power supplying entity (PSE) ‘to determine time-of-day rates for purchasing electrical energy’ ... Ex. 1001[], 8:30-38.” Pet., 4. However, the Petitioner oddly ignores the next sentence after the cited sentence which states: “The ECS **340** may also or alternatively communicate with the PSE to otherwise develop a charging schedule such as to facilitate management of electrical energy generation (e.g., by assisting in flattening

usage peaks or spikes) or making use of available excess capacity.” EX1001 at 8:39-42. Thus, the “dynamic attribute of an electric charge provider” is not just limited to “changing or otherwise fluctuating cost (or price)” as alleged by the Petition. *Pet.* at 4-5. See EX2001, ¶ 29

The Federal Circuit has held “we ‘normally do not interpret claim terms in a way that excludes embodiments disclosed in the specification’ and that ‘[a]t least where claims can reasonably [be] interpreted to include a specific embodiment, it is incorrect to construe the claims to exclude that embodiment, absent probative evidence [to] the contrary.’” *Oatey Co. v. IPS Corp.*, 514 F.3d 1271, 1276-77 (Fed. Cir. 2008). Here, the Petitioner’s proposed construction “interprets dynamic attribute of an electric charge provider” in a way that excludes embodiments disclosed in the specification, and is thus improper.

B. “determine...a charging schedule” (Claims 1[g], 8[c], 15[g], 22[f])

Petitioner submits that the “determine... a charging schedule” should not be construed under §112(6). *Pet.* at 5. Patent Owner agrees that nothing in the claim invokes section 112(6) and that “determine.... a charging schedule” has an understood meaning and is generally viewed by one skilled in the art to connote a particular structure. To the extent the Board determines that the claim invokes §112(6) (given that Petitioner provided an alternative construction), Patent Owner submits that Petitioner failed to identify any structure or function within the asserted

prior art that addresses the Petitioner’s provided alternative construction, which would confirm Petitioner failed to meet its burden of identifying with particularity the grounds of rejection for at least claims 1, 8, 15, and 22 that include the “determine... a charging schedule” terms.

C. “unitary vehicle charge indicator element” (Claims 1[i], 8[e], 15[l], 22[d])

Petitioner’s apparent construction improperly imports limitations from the specification, such as the “bar graph” from the ‘987 Patent’s Figure 7, yet provides no argument as to why the “unitary vehicle charge indicator” would be limited to a bar graph representation. The ‘987 Patent explicitly states “the various systems described herein are depicted for use in explanation, but not limitation, of described embodiments. Different types, layouts, quantities, and configurations of systems described herein may be utilized without deviating from the scope of some embodiments.” EX1001, 6:24-29. The ‘987 Patent further states, “other configurations of systems and devices may also or alternatively be utilized to perform the methods described herein without deviating from the scope of some embodiments.” EX1001, 16:32-35. *See* EX2001, ¶ 30.

Petitioner provides no reasoning or argument as to why the Board should construe “unitary vehicle charge indicator” to require a “bar graph” aside from that it is included within FIG. 7. Pet. at 6. This is improper, and Petitioner’s proposed

construction should be rejected. *Superguide Corp. v. DirecTV Enterprises, Inc.*, 358 F.3d 870, 875 (Fed. Cir. 2004).

D. “(i) a first portion indicative of an amount of charge residing in a battery of the electric vehicle; (ii) a second portion indicative of an uncharged capacity of the battery of the electric vehicle” (Claims 1[i], 8[e], 15[l], 22[d])

The Petition requests that the first and second portion of the unitary vehicle charge indicator (which Petitioner has also imposed improper limitations to) be essentially written out of the claim and provided no patentable weight. Pet. at 7-9. The printed matter doctrine “prohibits patenting ... printed matter unless it is ‘functionally related’ to its ‘substrate,’ which encompasses the structural elements of the claimed invention.” *C R Bard Inc. v. AngioDynamics, Inc.*, 979 F.3d 1372, 1381 (Fed. Cir. 2020). “In evaluating the existence of a functional relationship, [the Federal Circuit has] considered whether the printed matter merely informs people of the claimed information, or whether it instead interacts with the other elements of the claim to create a new functionality in a claimed device or to cause a specific action in a claimed process.” *Id.* On the latter question, “[o]nly if the answer is ‘no’ is the printed matter owed no patentable weight.”

Contrary to Petitioner’s allegations, the alleged printed matter (amount of current charge and amount of current capacity to charge) does not merely inform people of the claimed invention but interacts with the user’s ability to select an amount of charge via the slider mechanism. Under Petitioner’s assertions, no display

feature would be afforded printable weight, which runs in contrast to established precedent in *Gulack* and *C R Bard Inc.*

In *In re Gulack*, 703 F.2d 1381 (Fed. Cir. 1983), the Federal Circuit held that, while a sequence of digits printed on a wrist band constituted printed matter, the sequence deserved patentable weight because the content of the sequence was functionally related to the endless-band physical structure of the substrate. The Court stated that the “digits are related to the band in two ways: (1) the band supports the digits; and (2) there is an endless sequence of digits—each digit residing in a unique position with respect to every other digit in an endless loop. Thus, the digits exploit the endless nature of the band.” 703 F.2d at 1386-87.

Just as in *Gulack*, the first and second portions of the charge indicator, which represent the current amount the electric vehicle is charged and the amount of uncharged capacity in the vehicle, interact with the slider. For example, if the battery is currently charged at 40% as displayed by the first portion of the unitary vehicle indicator and the uncharged capacity is the remaining 60% represented by the second portion of the unitary vehicle indicator, then a user is guided in selecting a desired charge amount using the current charged and uncharged capacities such as between 40% (adding no charge) and 100%.

As claimed, it is clear the first and second portion do not merely inform people of information but instead define the scope of the charge indicator and the amount

of charge that may be logically desired by the user via the slider, as the current charged and uncharged amount displayed by the “first portion” and the “second portion” may impact the user’s decision of where to place the slider. Further, the first and second portion operate as dynamic outputs of information that constantly change based upon the amount of charge within the battery of the electric vehicle, while the third portion interacts to allow the input of dynamic data that allows a user to select a desired amount of charge potentially based on an informed decision as indicated by the first and second portions. *See* EX2001, ¶ 31.

Petitioner all but admits this in its motivation to combine, stating: “A POSITA would have recognized providing combined, “unitary” GUI elements would have desirably improved display space utilization, concisely *provided a user with all relevant battery information at a single glance, and improved the user’s ability to discern the difference between the battery’s current amount of charge and the user-entered desired amount of charge.*” Pet. at 62-63. The first and second portion, by Tesla’s admission, interact with the slider as the claimed third portion of the indicator element.

IX. LEGAL STANDARD

Under 35 U.S.C. § 314(a), Petitioner carries the burden of showing a reasonable likelihood that it would prevail with respect to at least one of the claims

challenged in the Petition. Petitioner must prove unpatentability by a preponderance of the evidence. 35 U.S.C. § 316(e).

A patent claim is unpatentable for obviousness 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). In *Graham v. John Deere Co.*, 383 U.S. 1 (1966), the Supreme Court set out a framework for assessing obviousness that requires consideration of four factors: (1) the “level of ordinary skill in the pertinent art,” (2) the “scope and content of the prior art,” (3) the “differences between the prior art and the claims at issue,” and (4) “secondary considerations” of no obviousness such as “commercial success, long felt but unsolved needs, failure of others, etc.” 383 U.S. at 17–18; *KSR*, 550 U.S. at 407.

X. GROUNDS 1 AND 2: PETITIONER FAILED TO IDENTIFY THE GROUNDS OF REJECTION WITH PARTICULARITY

The Petition does not identify the grounds on which the claims are challenged with particularity and thus the petition is wholly deficient as to the Petitioner’s burden of proof. A petition for *inter partes* review (“IPR”) must identify “***with particularity***, each claim challenged, the grounds on which the challenge to each claim is based, and the evidence that supports the grounds for the challenge to each

claim.” 35 U.S.C. § 312(a)(3); *emphasis added*; *see also* 37 C.F.R. § 42.104(b) (specifying necessary elements of a petition). As the Federal Circuit has explained, “[i]n an IPR, the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable.” *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (*emphasis added*) (citing 35 U.S.C. § 312(a)(3)); *see also* *Intelligent Bio-Sys., Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1369 (Fed. Cir. 2016) (“It is of the utmost importance that petitioners in the IPR proceedings adhere to the requirement that the initial petition identify ‘with particularity’ the ‘evidence that supports the grounds for the challenge to each claim.’” (quoting 35 U.S.C. § 312(a)(3))).

The Petition does not identify with particularity the differences in the claim language between claims of the '987 Patent, nor does it provide particularity as to which sections of the Petition it relies on when referencing other parts of the Petition. For example, the *entire* analysis provided for limitation 8[a] in Ground 1 is “2. 8[a] *See* Claims 1[a], 1[e].” *Pet.*, 69. There is no analysis of how limitations 1[a], 1[e] map to limitation 8[a]. In fact, the language of limitation 8[a] recites “electric vehicle” while the language of limitation 1[a] only recites “vehicle.” The section on page 69 of the Petition discussing limitation 8[a] does not acknowledge this language difference, or identify *with particularity* that there is a difference.

Patent Owner acknowledges that the Petition states “For purposes of this IPR, Petitioner interprets the *electric vehicle* as the *vehicle* recited in Claim 1[e]. ’987 Patent, 29:40.” Pet. 48. This, however, is in section of the Petition addressing limitation 1[i]. Claim 1[i] is not referenced in “2. 8[a] See Claims 1[a], 1[e].” Pet., 69. Therefore, the claim language of claim 8[a] is not addressed. At best, the Petition requires the reader to jump from section to section making the analysis of claim 8[a] for Petitioner. This is the antithesis of identifying with particularity the grounds of rejection.

Patent Owner acknowledges that Footnote 4 of the Petition states “[a]ll citations to a claim are to the section in this Petition mapping the claim.” Pet., at 25. This blanket statement, however, is not clear. For example, the phrase “section in this Petition mapping the claim” *could* mean the claim listing section which *maps* claim language to a given claim designation. By simply stating “see Claims 1[a], 1[e]”, instead of referencing the specific section of the Petition, and discussing how that section of the petition applies to the current claim language, the Petition requires the Board and Patent Owner to comb through the record and piece together the Petitioner’s case for them. Again, this is the antithesis of identifying with particularity the grounds of rejection.

Further yet, the Petition fails to provide a statement of incorporation by reference of the analysis of limitations 1[a], 1[e] into the analysis of limitation 8[a].

The Petition's lack of any substantive analysis is fundamentally the opposite of an analysis provided *with particularity* as required by 35 U.S.C. § 312(a)(3). Similar statements devoid of *any* analysis, mapping, or incorporation by reference are provided for each of: claim 8[c], 8[d], 8[e], 9, 10, 11, 13, 14, 15[Pre], 15[a], 15[b], 15[c], 15[d], 15[e], 15[f], 15[h], 15[i], 15[l], 16, 17, 18, 20, 21, 22[Pre], 22[a], 22[b], 22[c], 22[f], 22[g], 25, 26, 27, 29, and 30. *Pet.*, 69-71, 75-76, and 78-79. Ground 2 suffers from similar lack of particularity due to dependency on Ground 1.

The Petitioner, however, clearly understands that, to provide a full analysis *with particularity*, Petitioner should incorporate analysis from another section and explain how it applies. For example, in Addressing limitation 1[e], the Petition states: “The combination’s motivation provided for Claim 1[a] and 1[c]’s mappings are incorporated.” *Pet.*, 29. However, a similar “incorporated” analysis is not provided for many limitations, as listed above.

The Board made precedential that “[t]he statutory requirement for particularity in a petition for IPR takes on heightened importance when considered in conjunction with *SAS*’s “all-or-nothing” approach. Because the Board’s practice, in light of *SAS*, is to institute on all grounds asserted in a petition, the Board may consider whether a lack of particularly as to one or more of the asserted grounds justifies denial of an entire petition.” *Adaptics Limited v. Perfect Company*, IPR2018-01596, Paper 20 at 17 (P.T.A.B. March 6, 2019). The Board should

exercise this discretion and deny the entire petition for numerous instances of failure to provide analysis with particularity.

The Petitioner's deficient analysis is fatal to the Petition and cause for denial of the Petition as a whole. Review of the word count exacerbates the Petition's deficiency as the Petition is only 249 words short of the Petition word limit. *See Pet.*, 98. Were the Petition to provide the required analysis with particularity, the Petition would be well beyond the 14,000-word limit. Petitioner should not be rewarded for circumvention of the requirements.

Accordingly, denial of the Petition is respectfully requested because the Petitioner has failed to satisfy its burden of providing analysis of the Grounds challenged with particularity.

XI. GROUND 1: PETITIONER FAILED TO ESTABLISH THAT FERRO IN VIEW OF OYOBÉ, DONNELLY, LETENDRE, AND SEELIG RENDERS OBVIOUS CLAIMS 1-4, 6-11, 13-18, 20-27, AND 29-30

Petitioner has failed to show that Ferro in view of Oyobe, Donnelly, Letendre, and Seelig renders obvious independent Claims 1, 8, 15, and 22 (and dependent claims 2-4, 6-7, 9-11, 13-14, 16-18, 20-21, 23-27, and 29-30) and has not articulated any meaningful motivation to combine or a reasonable expectation of success. For the reasons stated below, Ground 1 fails, and institution should be denied.

A. Ferro in view of Oyobe, Donnelly, Letendre, and Seelig fails to render obvious limitations 1[a], 1[e], 8[a], 15[a], 15[e], 22[a], and 22[e] of claims 1, 8, 15, and 22 respectively.

Claim 1 and 15 and respective dependent claims require a “vehicle sensor” and “receive, from the vehicle sensor, information indicative of a presence of a vehicle in a parking space” in limitation 1[a] and 1[e] of Claim 1 and limitation 15[a] and 15[e] of claim 15; and claim 8 requires “receiving, from a vehicle sensor, information indicative of a presence of an electric vehicle in a parking space”. The Petition alleges “[a] POSITA would have found it obvious and been motivated to incorporate Oyobe’s vehicle position detecting apparatus 108 into Ferro’s electric vehicle 116/400 to detect when the vehicle is parked at a charging station.” Pet. at 20. However, upon careful review of Ferro and Oyobe, it is clear that these references would not be combined. *See* EX2001, ¶¶53-67. The below remarks apply to each of claims 1, 8 and 15.

1. One of ordinary skill in the art would not be motivated to combine Ferro with Oyobe, nor does the Petition provide adequate reasoning for why Ferro would be combined with Oyobe.

One of skill in the art would not combine Ferro with Oyobe to render obvious the vehicle sensor limitations, which require “a vehicle sensor” and “receive, from the vehicle sensor, information indicative of a presence of a vehicle in a parking space”, respectively.

Addressing the “vehicle sensor” limitation 1[a], the Petition states:

A POSITA would have found it obvious and been motivated to incorporate Oyobe's detecting apparatus 108 into Ferro's electric vehicle 116/400 to detect when the vehicle is parked at a charging station, per Oyobe. *Dec.*, 128. ... Providing Oyobe's wireless detecting to detect the vehicle parked at the charging station advantageously allows a user to instruct charging without exiting the vehicle and physically interacting with a charging station. *Dec.*, 129-130.

Petitioner's proposed motivation to add Oyobe to Ferro to "detect a vehicle parked *at the charging station*" is misguided. Oyobe, although directed towards an electric powered vehicle, does not teach or suggest any charging station. EX2001, ¶54. Instead, Oyobe is directed towards alerting the user when Oyobe's battery is low. EX1005, at [0046]. Accordingly, as explained in further detail below, there would be no motivation to add Oyobe's vehicle sensor (detection apparatus 108) as it does not detect a vehicle at a specific location (i.e., in a specific parking space such that the vehicle is ready to charge) as required by Ferro. *See* EX2001, ¶¶57-59.

- i. Oyobe's system does not provide the signal/data required to initiate Ferro's dynamic energy transaction plan.

Careful inspection of Ferro and Oyobe establishes that one of skill in the art would not combine Ferro with Oyobe. In analyzing motivation to combine, one must look at "the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art." *In re Kahn*, 441 F.3d 977, 987-988, (Fed. Cir.

2006). Analysis of Ferro and Oyobe as a whole, and the nature of the problem each reference is solving, evidences that Ferro would not be combined with Oyobe.

Ferro discloses “[a] computer implemented method, apparatus, and computer program product for generating a dynamic energy transaction plan to manage an electric vehicle charging transaction.” EX1004, Abstract. The Petition paraphrases, *incorrectly*, a key portion of the Ferro reference by alleging Ferro combined with Oyobe “combines prior art elements (wireless interrogation, EV charging stations) according to known methods to yield predictable results of enabling “an intention to charge” without an operator leaving the vehicle.” *Pet.*, at 12. This paraphrase is telling of the flaw in the Petition’s analysis. Ferro actually teaches that

the process for generating dynamic energy transaction plan 424 ***begins when electric vehicle 400 arrives at charging station 403 and indicates an intention to charge, de-charge, or store electric energy on electric vehicle 400.*** Electric vehicle 400 may indicate an intention to begin a charging transaction by plugging into an electric outlet for charging/discharging electric power, selecting an option for charging/discharging electric power at an input/output device associated with charging station 403, informing an operator or attendant of charging station 403, or otherwise indicating a desire to begin a charging transaction.

EX1004, [0109]; emphasis added. Therefore, reading Ferro, the POSITA would understand that the nature of the problem solved by Ferro is creating a dynamic energy transaction plane that is initiated when (i) the vehicle is actually at a charging

station 403, and (ii) the operator has “indicat[ed] an intention to charge, de-charge, or store electric energy on electric vehicle 400.” *See* EX2001, ¶55.

Accordingly, in order to use Oyobe’s signal in Ferro’s system, the Oyobe signal must actually determine that the vehicle is at a charging station in a position ready to charge. *Id.* at 56-57. This is not the case as Oyobe’s vehicle sensor cannot and does not detect that the vehicle is actually in position to charge. *Id.* at 58.

As discussed above, Oyobe describes that Oyobe’s vehicle is at an *unspecified* general “location where charging equipment is installed.” EX1005, [0145]. Oyobe’s disclosure does not identify if the Oyobe vehicle is in position where Oyobe’s charging equipment can actually charge the Oyobe vehicle. *Id.* The purpose of identifying this unspecified general location is to trigger “Informing apparatus 102 ... provided at the exterior of the vehicle for informing the vehicle user outside the vehicle about the necessity of charging main battery B.” EX1005, [0040].

The nature of the problem solved by Oyobe addresses “if the driver forgets to charge the battery in the first place when he exits the vehicle despite the lowered SOC of the battery, the charging work itself will not be performed.” EX1005, [0005]. The solution provided by Oyobe allows “the vehicle user can more surely *be prevented from forgetting to charge the electric power storage apparatus* despite the lowered SOC of the electric power storage apparatus.” *Id.*, [0012]; emphasis

added; *see also* EX2001, ¶60. As discussed below, were Petitioner’s erroneous assertion that Oyobe discloses detecting when a vehicle is parked at a charging station to be true (which it is not), Oyobe would in fact utilize the vehicle sensor so as to never remind the driver to charge the vehicle. The proposed modification of Ferro and Oyobe is nonsensical. *See* EX2001, ¶¶61-63.

The Petition (paraphrasing Oyobe yet again) incorrectly alleges “A POSITA would have found it obvious and been motivated to incorporate *Oyobe*’s detecting apparatus 108 into Ferro’s electric vehicle 116/400 to detect when the vehicle is parked at a charging station, per *Oyobe. Dec.*, 128.” *Pet.*, 20. Review of the problem solved by Oyobe establishes the Petition is mischaracterizing Oyobe in this allegation. *See* EX2001, ¶61-64. If the Oyobe driver is expressly pulling into a space dedicated for charging the vehicle, the driver would not be “forgetting to charge the vehicle” as described as a problem by Oyobe, but instead would be purposefully carrying out a determination to charge the vehicle. *Id.*

Indeed, the problem solved by the Oyobe disclosure (e.g., a driver forgetting to charge) is informative to the capability of Oyobe’s “vehicle position detecting apparatus 108”. Oyobe reminds the driver of a potential desire to charge the vehicle by triggering “an operation command of informing apparatus 102 to actuator 103”. EX1005, [0144]; EX2001, ¶61. Thus, the informing apparatus 102 signals to the driver that a charge is needed (not an *intention* to charge as required by Ferro’s

system). Were the Oyobe vehicle in the parking space next to a charging station, the Oyobe operator would need no reminder because that parking space is dedicated to a vehicle using the charging station and the driver is intentionally pulling into said parking space to charge the vehicle. Oyobe's desire to "not unnecessarily operate" (see EX1005, [0020], [0022], [0030], [0145]) indicates that Oyobe would not desire to inform the driver of need to charge (and thus output a signal from detecting apparatus 108 to operate informing apparatus 102) when the Oyobe "vehicle is parked at a charging station" as incorrectly stated by the Petition (*Pet.*, 20). See EX2001, ¶62.

According to the plain language of the disclosure of Oyobe and consonant with the purpose of Oyobe to remind a driver of the need to charge an electric vehicle, Oyobe actuates an informing device if it senses that the driver has left the vehicle (so as to be able to see the informing device) and it is determined that the vehicle is parked at *a location where charging equipment is installed*. By so doing, Oyobe informs the driver to seek charge only in instances when there is charging equipment installed at the driver's location that the driver may make use of, such as by seeking out the charging equipment. When such is not the case, Oyobe does not inform the driver in order to conserve electricity. As a result, the driver is consistently and helpfully reminded to charge the vehicle when it is necessary and possible to do so.

Were the Petitioner's fabricated and paraphrased interpretation correct (which it is not) Oyobe would only remind the driver to charge the vehicle only in the instance when the driver needs no reminding, specifically, when the driver has pulled up to a parking space incorporating a charge station. Most importantly, according to the Petitioner, Oyobe would specifically not inform a driver of the need to charge the vehicle when charge is needed, and the vehicle is parked in a space in useful proximity to charging equipment but not in a space with accessible charging equipment. This is the precise opposite of the teachings and purpose of Oyobe.

The alleged combination and motivation to combine Ferro and Oyobe is analogous to a low fuel indicator (e.g. Oyobe's information apparatus 102) on a gas vehicle that only illuminates once the driver has pulled up to a gas pump. A low fuel indicator operates to inform a driver to seek fuel from a gas station. Were the indicator to operate only once a driver has already pulled up to a gas pump, it would be useless for its intended purpose. Likewise, in the present instance, it is nonsensical as the Oyobe detecting apparatus 108 is of no use to trigger when the vehicle is in a position ready to charge. EX2001, ¶63.

Accordingly, because Oyobe's detecting apparatus 108 is not relevant to detecting whether a vehicle is parked at a position where it can initiate charge with a charging station, the signal output from Oyobe's detecting apparatus 108 *is unusable in Ferro's system*. EX2001, ¶57-63. Further, as the actuation of the

informing apparatus does not express an intention to do anything, the output from Oyobe cannot satisfy the additional necessary information needed by Ferro – namely an express indication of “an intention to charge, de-charge, or store electric energy on electric vehicle 400” so that the generation of the Ferro dynamic energy transaction plan can be initiated. EX1004, [0109]. As such, a POSITA would not be led, after reading Oyobe and Ferro, to include the output of Oyobe’s detecting apparatus, or any other portion of Oyobe, in Ferro’s system. EX2001., ¶57-63.

ii. Oyobe’s system only operates when the user exits the vehicle.

Furthermore, the paraphrasing of the Petition alleges that the Ferro-Oyobe combination would “yield predictable results of enabling ‘an intention to charge’ *without an operator leaving a vehicle.*” Pet., 20. However, nothing in Ferro discusses “without an operator leaving a vehicle.” Moreover, the only use of *Oyobe*’s detecting apparatus is as “disposed at a location where it can easily be seen by the driver ***when the driver has exited from the vehicle.***” EX1005, Fig. 14, [0132]- [0133]; emphasis added.

Oyobe describes four embodiments of Oyobe’s system that trigger the informing apparatus 102. The first embodiment triggers determining “whether or not the ignition key has been turned to the OFF position” *Id.*, Figs. 1-12, [0051], [0122]. The second embodiment further triggers “based on the signal IG, that the ignition key has been turned to the OFF position, it determines, based on the signal from seat

sensor 107, whether or not the driver has exited from the vehicle.” *Id.* [0133]. The third and fourth embodiments differ in that a “charging lid 52” is included in the fourth embodiment, but not the third embodiment. *Id.* [0146]. However, both the third and fourth embodiment trigger the informing apparatus 102 “based on [(1)] signal IG, that ignition key has been turned to the OFF position, it determines, [(2)] based on the signal from seat sensor 107, whether the driver has exited from the vehicle. ... [and (3)] only when vehicle position detecting apparatus 108 detects that hybrid vehicle 100B is parked at the location where charging equipment is installed.” *Id.* [0144]- [0145]. Thus, all of Oyobe’s embodiments only output a signal *when the driver has exited the vehicle* – directly contrary to the allegation of “predictable results of allowing the vehicle to indicate “an intention to charge” ***without an operator having to leave the vehicle.***” Pet., 20. See EX2001, ¶65.

Therefore, the Petition mischaracterizes both Ferro and Oyobe, and presents a factually incorrect and conclusory motivation to combine statement by alleging the PHOSTIA would combine Ferro with Oyobe, and the combination would “yield predictable results of enabling ‘an intention to charge’ *without an operator leaving a vehicle.*” Pet., 20. See EX2001, ¶65-66.

In sum, Oyobe’s system (i) indicates that Oyobe’s vehicle is an unspecified general location with respect to charging equipment and (ii) actuates an informing apparatus to inform the driver of the need to charge the vehicle in certain

circumstances but does not ever signal any intention on behalf of the driver to do anything. Ferro, on the other hand, only initiates Ferro's dynamic transaction planner when the when the vehicle is actually at a charging station 403, and the operator has "an intention to charge, de-charge, or store electric energy on electric vehicle 400." EX1004, [0109]. Oyobe's output from detecting apparatus 108 does not actually specify that the Oyobe vehicle is located at charging equipment in a position where there is an intention to charge, but instead only informs to prevent to the Oyobe operator from forgetting to charge the vehicle while being at an unspecified location with respect to charging equipment. The Oyobe output from Oyobe's detecting apparatus 108 *is unusable* in Ferro's system because it cannot, and does not, provide the necessary information to initiate generation of Ferro's dynamic energy transaction plan. A POSITA would not, after reading Oyobe and Ferro, include the output of Oyobe's detecting apparatus, or any other portion of Oyobe, in Ferro's system. EX2001, 57-68.

Notably, there is zero discussion in the Petition of how the express or implicit disclosure of Ferro and Oyobe individually changes when the references are combined. Thus, the lack of motivation to combine Ferro with Oyobe as discussed above is itself fatal to Ground 1, including when Ferro and Oyobe (and Donnelly, Letendre, and Seelig), are combined. Therefore, denial of institution on Ground 1 is respectfully requested for at least these reasons.

2. The Petition improperly incorporates by reference material from the Andrews Declaration in addressing claims 1[a] and 1[e]

The Board has held the “practice of citing the Declaration to support conclusory statements that are not otherwise supported in the Petition also amounts to incorporation by reference.” *Cisco Systems, Inc. v. C-Cation Technologies, LLC*, IPR2014-00454, Paper 12, 9 (P.T.A.B. Aug. 29, 2014). Regarding the limitation 1[a] and 1[e], the Petition cites to paragraphs 124, 127, 129-132, and 156-159 of the Andrews Declaration. *Pet.*, p. 18-21, 29-30. The Petition addresses claim 1[a] using 476 words, and claim 1[e] using 290 words, resulting in a total of 766 total combined words. However, the Andrews Declaration uses almost twice as many words in the cited sections, where paragraphs 124, 127, 129-132, and 156-159 of the Andrews Declaration amounts to 1507 words (741 more than the Petition). This 741 words is well over the 249 left-over words in the word count, evidencing that the Petition is incorporating by reference from the Andrews Declaration to avoid the word-count.

Not only do paragraphs 124, 127, 129-132, and 156-159 of the Andrews Declaration use 741 more words than the Petition but these paragraphs also rely on eight additional references which are *never* cited in the Petition: Tseng (Ex. 1050), Hyogo (Ex. 1051), Matsuo (Ex. 1052), Sutardja (Ex. 1011), Taylor-Haw (Ex. 1053), and Hoelzl (Ex. 1054) are cited in the Andrews Declaration addressing limitation 1[a]. EX1003 at 129, 131, 132. Fukuda (Ex. 1057), and Fukuda (EX1057), Taylor-

Haw (Ex. 1053), Ambrozio (Ex. 1059), and Kressner (Ex. 1018) are cited are cited in the Andrews Declaration addressing limitation 1[e]. EX1003 at 158-159. These references, however, are *never even mentioned/cited* in the Petition.

As such, the Petition is conclusory, and/or otherwise improperly incorporates by reference at least the analysis of the Andrews Declaration associated with limitations 1[a] and 1[e].

3. The improperly incorporated-by-reference material does not remedy the deficiency of Ferro-Oyobe combination

Even if the Andrews Declaration's reliance on non-Petition-cited material was proper, which Patent Owner does not concede, these four references do not remedy the deficiencies of Ferro-Oyobe combination discussed above. Tseng is relied on by the Andrews Declaration as allegedly teaching "utilizing wireless charging"; Hyogo is relied on as allegedly teaching "an 'inductive charger'"; Matsuo is relied on as allegedly teaching inductive charging as being safe; Sutardja is relied on as allegedly teaching using network connections to allow components on vehicles to communicate; Taylor-Haw is relied on as allegedly teaching communication of a charging station; Hoelzl is relied on as allegedly teaching bi-directional wireless information exchange between a charging station and vehicle; Fukuda is relied on as allegedly teaching "'battery chargers' as being at 'EV parking stations'"; Ambrozio is relied on as allegedly teaching "a 'charging station' charging an electric vehicle if the vehicle is 'parked at the charging station'"; and Kressner is relied on

as allegedly teaching “a ‘plug in’ hybrid (PIH) vehicle being pulled not a ‘recharging space in a parking lot’”. *See* EX1003, ¶ 129, 131, 132, 158, 159.

The knowledge that parking spaces are located next to EV charging stations (allegedly according to Fukuda and Taylor-Haw per EX1003, ¶ 180), or that vehicles park next to an EV charging station to charge (allegedly according to Ambrosio and Kressner per EX1003, ¶ 181) does not change the fact that the data output from Oyobe’s detecting apparatus 108 is not useable in Ferro’s system to initiate the Ferro dynamic charge transaction plan.

Accordingly, denial of institution on Ground 1 is respectfully requested for at least these additional reasons.

B. Petitioner’s “modified” Ferro in combination with Donnelly and Letendre failed to teach or disclose the “unitary vehicle charge indicator element” in Claim 1[i], 8[e], 15[l], or 22[d] of independent claims 1, 8, 15, or 24, respectively.

Each of independent claims 1[i], 8[e], and 15[l] recite “wherein at least one of the one or more charging preferences is defined by user input received via a graphical user interface adapted to display a unitary vehicle charge indicator element comprising: (i) a first portion indicative of an amount of charge residing in a battery of the electric vehicle; (ii) a second portion indicative of an uncharged capacity of the battery of the electric vehicle; and (iii) a third portion comprising a slider by which an amount of charge may be specified.” Independent claim 22[d] recites “provide a user interface comprising a unitary combined input/output element

comprising: (i) a graphical depiction of an electric vehicle battery capacity, (ii) a graphical depiction of a current charge level of the electric vehicle battery, and (iii) a graphical input slider element that permits an operator of the vehicle to provide input defining a desired charge parameter of the electric vehicle.” For purposes of this Patent Owner Preliminary Response, the analysis below applies to each of Claim 1[i], 8[e], 15[l], or 22[d], even where the language of claim 22[d] differs from the language of claims Claim 1[i], 8[e], 15[l].

Despite the many granted patents from Patent Owner with similar limitations, including but not limited to the patents Tesla previously challenged in the ‘135 and ‘753 Patents, Petitioner again fails to find any anticipatory art and instead is forced to implement hindsight bias to create an attempt to challenge the validity of the ‘987 Patent. Petitioner’s attempt to cobble together five disparate references (three with respect to these limitations) to arrive at the claimed invention is misguided, fails to disclose all of the elements, and is undermined by hindsight bias. Even assuming that a POSITA would be motivated to combine Ferro (as modified by Petitioner), Donnelly, and Letendre, which they wouldn’t, the combination still does not teach or suggest all of the elements of the claim. And Petitioner fails to describe how the system would achieve the claimed system with reasonable success. Even with the impracticable combination of modified Ferro, Donnelly, and Letendre an amount of

charge is unable to be specified as required by the unitary vehicle charge indicator element of claims 1, 8, 15, and 22.

All independent and respective dependent claims require a user interface that contains a unitary vehicle charge indicator element comprising: (1) a first portion indicating the amount of charge left in the battery of an electric vehicle, (2) a second portion indicating the uncharged capacity of the battery of the electric vehicle, and (3) a slider element which allows a user to select, via the graphical user interface, the amount of charge for a particular single charge amount for the electric vehicle. As shown in the figure below, the Vehicle Charging Dashboard of the '987 Patent disclose where a user can select the desired amount of charge for a single charge amount:

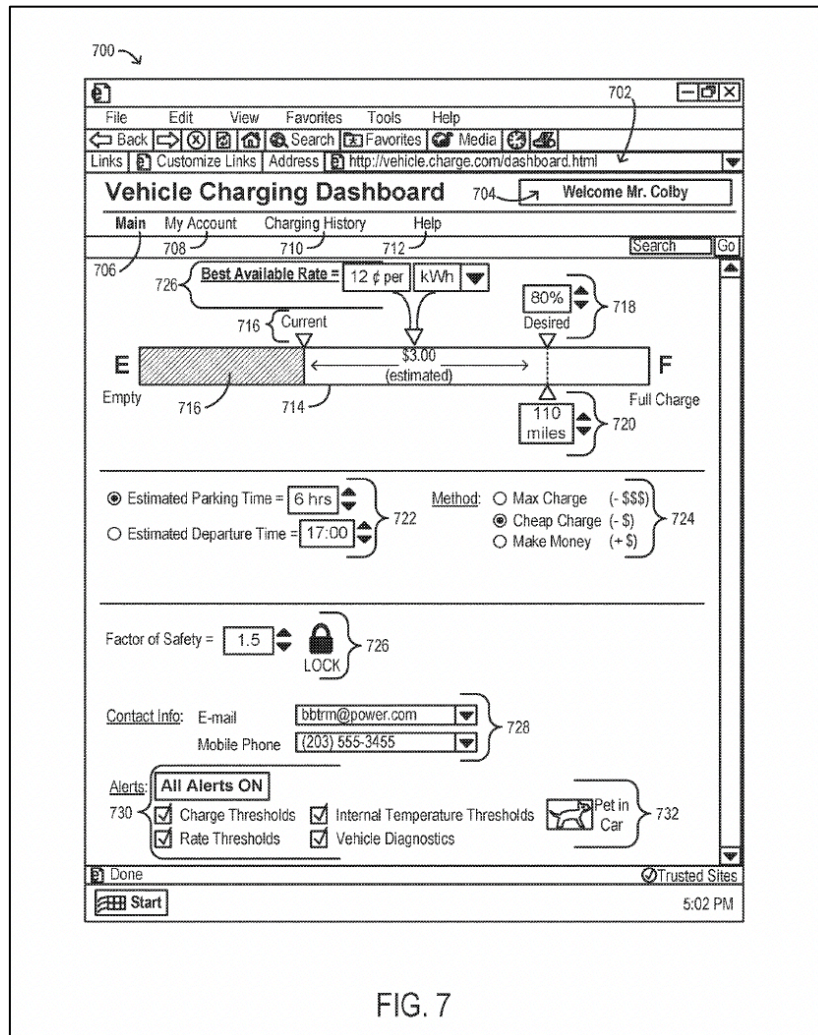


FIG. 7

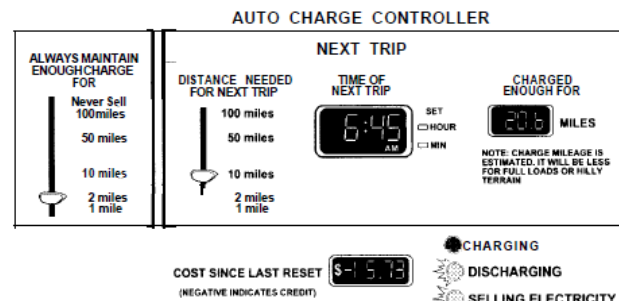
EX1001, Figure 7.

A POSITA would recognize after reading the claims and specification that the challenged claims require “a unitary vehicle charge indicator element” that allows a user to specify, via a graphical user interface, the desired amount of charge for the current charge event. *See* EX1001, 14:53-64; *See also* EX2001, at ¶ 30. As the patent discloses, a user may select, via the vehicle charge indicator element, a “desired charge percent level.” *Id.* The patent further teaches that the user interface displays

a “current charge level” further disclosing to a POSITA that the desired charge selected via the touch screen slider is to select an amount of charge to change the current charge level. EX2001, ¶70. As the ‘987 Patent further discloses, the desired charge level is selected based on a single charge amount, and the vehicle determines an estimate of how far the vehicle can travel based on the amount of charge selected by the user. EX1001, 14:66-15:4.

The claimed invention provides the novel ability to display the battery charge level together with the slider that can indicate the amount of charge needed. Putting together the input and output mechanisms is an important feature of the ‘987 patent. Petitioner’s case as set forth ignores these specifics of the vehicle charge indicator element and instead relies upon a combination of Ferro (as modified by Petitioner), Donnelly, and Letendre for allegedly teaching only the individual portions of this limitation. Pet. at 48-62. With respect to the “third portion comprising a slider by which an amount of charge may be specified” (also applied to limitation 22[d](iii)), Petitioner solely relies upon Letendre. Pet. at 58-62. Letendre’s disclosure is insufficient. *See* EX2001, ¶71.

Figure 1: Suggested design of vehicle dashboard control, allowing driver to limit loss of range of vehicle and monitor power transactions.



Source: Kempton and Letendre, 1997

When first describing the teachings of Letendre (page 11-13 of IPR), Petitioner describes the teachings of Letendre stating “Letendre teaches a user interface comprising a slider by which a user specifies parameters managing the charge of an electric vehicle’s battery.” Pet. at 12. As shown herein, Letendre teaches away from a user specifying an amount of charge. It is precisely because the user does not know a desired amount of charge that the user is unable to specify it, but instead Letendre allows for only a distance needed for next trip and minimum mileage to maintain to be specified. Any “amount of charge” is calculated *by the system* in the background in response to a desired driving condition specified by the user. In fact, the desired amount of charge is never presented to the Letendre user; only a desired distance travelled is shown to the user. EX2001, ¶72.

Letendre operates to take a user specified mileage condition and then *estimate* a corresponding charge amount that will likely meet the condition. Were the user to actually wish to specify a charge amount, the GUI interface of Letendre *would*

actually prevent the user from doing so. Id. For example, nothing in Letendre allows a user to specify a 70% charge amount. As such, Letendre does not teach “a slider by which an amount of charge may be specified” as required by the “unitary vehicle charge indicator element” of claims 1, 8, 15, and 22. Rather, Letendre explicitly teaches parameters measured in units (e.g., desired mileage) that cannot inform a user as to the *amount of charge. Id. at 73*

Describing the above figure, Letendre clearly states:

An example control panel is shown in Figure 1. Whether the control is physical, on the dash, or on a Web page, the idea is basically the same. The driver has two parameters to set—the length of the expected next trip (in the case shown in Figure 1, 10 miles at 6:45 the next morning), and the minimum range that must always be maintained, e.g. for an emergency room trip, two miles.

(EX1007, 19-20).

As Letendre makes clear, the two parameters are to be set. i.e., “specified,” are length (measured in miles) and minimum range (again, measured in miles). EX2001, ¶ 74. Letendre’s figure 1, used by Petitioner and reproduced above, makes clear that “Charge mileage is estimated. It may well be less for full loads or hilly terrain.” *Id.* Because the distance one can travel on a given charge is highly variable based, for example, on loads, terrain characteristics, age of battery, battery cycles, temperature, etc., it is not possible to specifically equate an expected charge range with an amount of charge. *Id.* Petitioner’s logic is flawed by stating that setting a “length”, comprising “10 miles”, is adequate to disclose specifying an *amount of*

charge. See Pet. at 59. And Petitioner offers no explanation as to how a POSITA would derive this information.

As a result, the user can specify a parameter/condition to be met, such as miles to travel, and let the system try to approximate a charge amount that will meet the condition. *Id.*, 75. But this is inapposite to specifying an amount of charge. The system may be accurate or not in attempting to charge to a level meeting the user conditions, hence, “Charge mileage is estimated.” *Id.*

In short, Letendre teaches the diametric opposite of “a slider by which an amount of charge may be specified.” It is precisely because the Letendre user does not know how much charge is needed that the user cannot specify the amount of charge and, as a result, specifies a distance travelled.

It is therefore inaccurate when Tesla asserts:

Letendre teaches *a slider by which an amount of charge may be specified*, namely an “auto charge controller” “control panel” including a movable slider to “set [] the length of the expected next trip” (here, 10 miles) (the specified *amount of charge*). (Pet., 59).

It is precisely because the user of Letendre’s interface is fundamentally incapable of knowing what charge amount they need that Letendre’s interface exists and operates to allow the user to specify something other than a charge amount. And Petitioner fails to explain how specifying the number of miles equates to specifying an amount of charge, or how to reconcile the two scales (battery charge level vs. non-linear mileage).

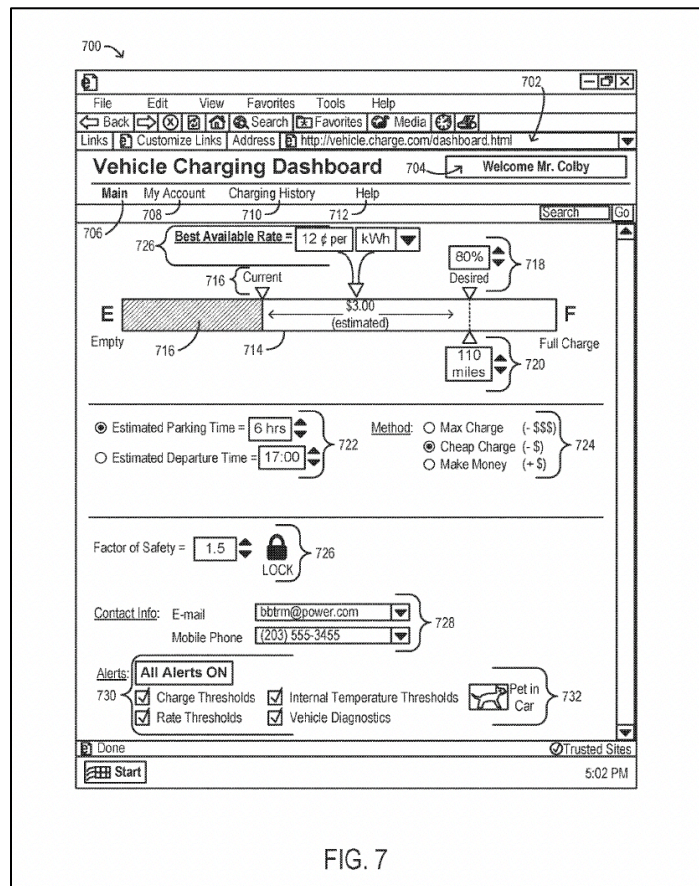
As a result, the combination of modified Ferro, Donnelly and Letendre fails to teach the element of *a slider by which an amount of charge may be specified*.

1. One of skill in the art would not combine Ferro with Donnelly and Letendre

Petitioner's stated motivations to combine use the claims as a roadmap without establishing how or why the POSITA would actually combine these references. A POSITA would not have been motivated to combine modified Ferro (Ferro-Oyobe) with Donnelly and Letendre. As explained above, Letendre teaches away from combining its slider for specifying a desired distance to travel with any art, such as Donnelly's picture of a battery, that is measured in units of charge. Therefore, a POSITA would not be motivated to combine these references. In *Chemours Company FC, LLC v. Daikin Industries, Ltd.*, the Federal Circuit reversed an obviousness determination by the PTAB ("Board"), holding that the Board improperly found motivation to modify a prior art reference, where the "inventive concept" of the prior art reference taught away from that modification. 4 F.4th 1370 (Fed. Cir. 2021). *see* EX2001, ¶¶76-79.

The claimed GUI element, an example shown in Figure 7 reproduced below, provides a unitary vehicle charge indicator using the same scale via, i.e. charge, for the two visual output elements showing charge and unused charge capacity are the same scale for specifying a desired battery charge. In both instances, the scale is a ratio or percent of charge. In other words, the first two portions/elements show a

percentage of charge in a battery while the slider allows one to set a desired charge level as a percentage of the battery capacity. It is therefore helpful to have the same scale utilized to show (1) a present battery charge, (2) present uncharged capacity, and (3) desired future battery charge (as implemented by Claim 1[i], 8[e], 15[l], or 22[d] of independent claims 1, 8, 15, or 24, respectively).

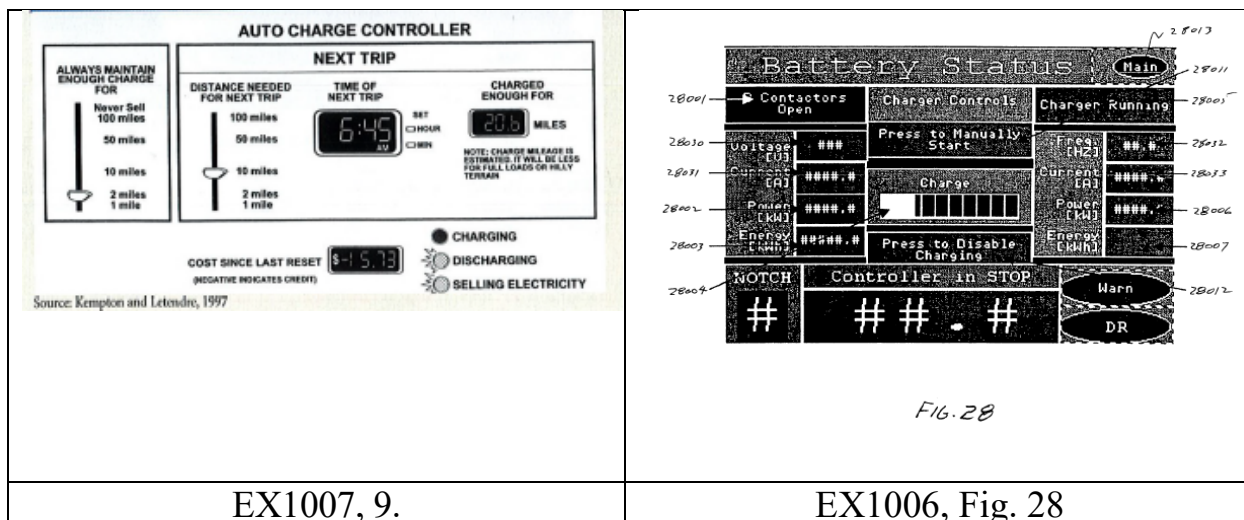


EX1001, Fig 7; 14:53-15:8.

In contrast, Letendre teaches allowing the user to specify a desired condition to be met precisely because the user does not know the relationship between battery charge and desired distance to be able to drive. EX2001, ¶76. If the user knew the

desired charge, a slider would be provided to specify such a charge. As a result, in the disclosure of Letendre knowing the present battery charge status is of no use to a user when selecting an amount of miles desired to travel. *Id.* As a result, combining Letendre's slider for specifying a desired distance to travel with any art, such as Donnelly's picture of a battery, which is measured in units of charge, is an unusable modification. *Id.*

Furthermore, Donnelly uses a ratio of battery charge, and Letendre uses a different scale (i.e., desired miles of travel). This difference in scale between Donnelly and Letendre presents an incompatibility of the combination to use a single scale to output/input data having the same units. *See* EX2001, ¶¶ 77-78. This incompatibility is further exacerbated as Donnelly requires units of charge while Letendre requires units of distance. *Id.* Furthermore, Letendre's scale, shown in Figure 1 below, of miles is non-linear (e.g., the 50-mile indicator is well over the halfway mark between 0 and 100 miles), as shown below, while the picture of the battery in Donnelly uses a linear scale (e.g., if half the battery is shaded, the battery is 50% charged). EX1006, Fig. 28.



As a result, Letendre teaches away from the proffered combination of Donnelly and Letendre and, regardless, such a combination fails to teach the fundamental recited element of *a slider by which an amount of charge may be specified*.

C. Petitioner Has Not Shown that a POSITA Would Have Been Motivated to Combine Ferro with the other cited references

To satisfy its burden of proving obviousness, a petitioner must articulate specific reasoning why a person of ordinary skill in the art would have combined or modified prior art references. *In re NuVasive, Inc.*, 842 F.3d 1376, 1382 (Fed. Cir. 2016); *In re Magnum Oil Tools Int'l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016) Petitioner provides only general declarations that a POSITA would be motivated to combine the references.

1. Petitioner uses the '987 Patent as a Roadmap to Combine Modified Ferro, Donnelly, and Letendre

Petitioner's stated motivations to combine use the claims as a roadmap without establishing how or why the POSITA would actually combine these references. A POSITA would not look to combine Donnelly, a locomotive invention, with Ferro's computer implemented method, apparatus, and computer program product for generating a dynamic energy transaction plan to manage an electric vehicle charging transaction which is modified by Petitioner to include a touchscreen, and then combine it with a vehicle sensor of Oyobe, and then further combine it with Letendre, a public utilities article that describes vehicle to grid parameters. This smattering of prior art references is a classic example of impermissible "hindsight reconstruction," using "the patent in suit as a guide through the maze of prior art references, combining the right references in the right way so as to achieve the result of the claims in suit." *TriVascular, Inc. v Samuels*, 812 F.3d 1056, 1066 (Fed. Cir. 2016); *see also In re NTP, Inc.*, 654 F.3d 1279, 1299 (Fed. Cir. 2011). The Petition's allegation that "Letendre expressly teaches, suggests, and motivates the combination," relying on Letendre's statement that "it is essential that the driver be able to limit any draw down so travel is not affected." is insufficient. *Pet.*, 60. The Petition's follow-on sentence alleging that Letendre discusses "a control the driver sets according to driving needs" and provides the exemplary slider display discussed above" is insufficient and fails to explain how Letendre is actually capable of being combined with Ferro and/or Donnelly. As a matter of law, the Petition must articulate

“why a POSITA would modify the teachings of the references to arrive at the claimed invention.” *Personal Web Techs., LLC v. Apple, Inc.*, 848 F.3d 987, 994 (Fed. Cir. 2017).

Letendre’s logarithmic scale in its dashboard illustrates that the user has selected the need to travel 10 miles. Note, however, that the text field to the right makes clear, that there is charge to go 20.6 miles. This seeming inconsistency results from the fact that the “distance needed for next trip” is not indicative of the present “charged for [blank] miles” value while neither of the two values are enhanced by knowing the percentage of the battery that is charged.

Therefore, adding Letendre’s “slider” to Donnelly’s battery status screen doesn’t make sense and demonstrates Petitioner’s cherry-picking strategy from various disclosures. *See Advanced Display Sys., Inc. v. Kent State University*, 212 F.3d 1272, 1280 (Fed. Cir. 2000); *see also Ex parte Carlucci*, Appeal No. 2010-006603, 2012 WL 4718549, at *2-3 (P.T.A.B. Sept. 28, 2012).

Further, there is no possible use to have the battery charge, possessing a linear scale of charge, displayed in combination with a desired distance selector having a nonlinear scale of miles as neither the scales nor the attendant units align, and, as discussed above, displaying a current battery charge level is meaningless to a user who desires to select a distance of travel. Moreover, Petitioner does not explain why

such combination would be used. *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1143 (Fed. Cir. 1985) ("[T]here must be some reason for the combination other than the hindsight gleaned from the invention itself.").

In short, Petitioner's analysis is infected with hindsight reasoning based on the roadmap provided by the claimed invention. *See Cheese Sys. v. Tetra Pak Cheese & Powder Sys.*, 725 F.3d 1341, 1352 (Fed. Cir. 2013) ("Among the difficult challenges of applying the doctrine of obviousness is avoidance of even a hint of hindsight. Obviousness cannot be based on the hindsight combination of components selectively culled from the prior art to fit the parameters of the patented invention.") (internal quotation marks omitted). Accordingly, the Petition does not provide the requisite motivation to combine the five references cited and the Petition should be denied as such.

XII. GROUND 2: THE PETITION FAILED TO ESTABLISH THAT CLAIMS 5, 12, 19, AND 28 ARE UNPATENTABLE AS OBVIOUS OVER FERRO IN VIEW OF OYOBE, DONNELLY, LETENDRE, SEELIG, AND KNOCKEART

A. Ground 2 should be denied for similar reasons presented for Ground 1.

As stated in sections XI.A - XI.C above, which are incorporated by reference here in their entirety, Petitioner has failed to show that Ferro in view of Oyobe, Donnelly, Letendre, and Seelig renders obvious at least limitations 1[a], 1[e], 8[a], 15[a], 15[e], 22[a], and 22[e] of claims 1, 8, 15, and 22. For the same reasons, and

because claims 5, 12, 19, and 28 depend, directly or indirectly, from one of claims 1, 8, 15, and 22, Petitioner has also not shown that any of claims 5, 12, 19, and 28 unpatentable as obvious over Ferro in view of Oyobe, Donnelly, Letendre, Seelig and Knockeart. Accordingly, denial of institution of Ground 2 by the Board is respectfully requested for at least this reason.

B. Petitioner has not established a motivation to combine Knockeart with the other cited references for Ground 2.

For Ground 2, Petitioner adds Knockeart's removable personal device to the five references already listed in Ground 1 without describing how a POSITA could be motivated to configure this additional piece in addition to the other four references used to alter the Ferro vehicle. *See Pet.*, 79-80. Petitioner only notes that "[a] POSITA would have appreciated displaying the GUI on a removable device would allow the user to view charging information when they are away from the vehicle," while again relying on their expert to carry Petitioner's burden.

Indeed, the Petition uses just 173 words in its analysis of Ground 2, while citing paragraphs 323-328 of the Andrews Declaration which uses 1093 words (a staggering 6X multiplier of words). Further, the Andrews Declaration again relies on six additional references that aren't even mentioned/cited in the Petition. *Compare* Pet. 79-80 to EX1003 at 323-328 (*citing Pervasive Computing: The Smart Phone* (Ex. 1080); *Zheng* (Ex. 1081); *Krakov* (Ex. 1090); *PALM Treo 700P Manual* (Ex. 1091); *Sunyama* (Ex. 1092); *Lowrey* (Ex. 1067)). This is tantamount to

improper incorporation by reference and using the Andrews Declaration to improperly avoid the Petition word count.

The Petition's recitation of the limitation in the claim as a problem to be solved is a hindsight motivation. *Monarch Knitting Mach. Corp. v. Sulzer Morat GmbH*, 139 F.3d 877, 881 (Fed. Cir. 1998). "Defining the problem in terms of its solution reveals improper hindsight in the selection of the prior art relevant to obviousness." *Id.* Additionally, Petitioner only relies on the fact that Knockeart describes a PDA and does not specify how a POSITA would utilize Knockeart's PDA to monitor or input selected modes of operation as claimed in the '338 Patent. Knockeart's PDA does not control any mode of operation of the vehicle remotely. Thus, Petitioner has not met its burden in establishing a motivation to combine. *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007) ("[A] patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was independently known in the prior art.").

Accordingly, denial of institution of Ground 2 by the Board is respectfully requested for at least this additional reason.

XIII. GROUNDS 1 AND 2: PETITIONER HAS NOT ARTICULATED ANY MEANINGFUL MOTIVATION TO COMBINE OR A REASONABLE EXPECTATION OF SUCCESS

Moreover, the fact that Petitioner asserts several references for each Ground demonstrates that Petitioner is improperly relying on hindsight, further confirming

that Petitioner has not met its burden. *See Grain Processing Corp. v. Am.-Maize Prods. Co.*, 840 F.2d 902, 907 (Fed. Cir. 1988) (“Care must be taken to avoid hindsight reconstruction by using ‘the patent in suit as a guide through the maze of prior art references, combining the right references in the right way so as to achieve the result of the claims in suit.’” (quoting *Orthopedic Equip. Co. v. United States*, 702 F.2d 1005, 1012 (Fed. Cir. 1983))). The Federal Circuit has established that “claims cannot be “treated ... as mere catalogs of separate parts, in disregard of the part-to-part relationships set forth in the claims and that give the claims their meaning” *Microsoft Corp. v. Biscotti, Inc.*, 878 F.3d 1052 (Fed. Cir. 2017)(citing *Lindemann Maschinenfabrik GMBH v. Am. Hoist & Derrick Co.*, 730 F.2d 1452, 1458, 1459 (Fed. Cir. 1984)). For reasons established above, each of Grounds 1 and 2 are wrought with conclusory statements on motivation to combine without actual support, and rely on incorporating by reference whole portions of the Andrews Declaration. The alleged motivations to combine are simply using the claims as a roadmap without establishing how or why the POSITA would actually combine these references.

A. Petitioner Has Not Shown a Reasonable Expectation of Success in Reconfiguring Ferro in view of Oyobe, Donnelly, Letendre, and Seelig

As the Federal Circuit and the Board have repeatedly confirmed, to assert obviousness by combining prior art references, a petitioner must prove that: (1) a

motivation to combine the references exists; and (2) a POSITA would have had a reasonable expectation of success in combining the references. *See, e.g., Samsung Elecs. Co., Ltd. v. Elm 3DS Innovations, LLC*, 925 F.3d 1373, 1380–81 (Fed. Cir. 2019) (upholding Board’s finding of nonobviousness when Petitioner failed to present reasonable expectation of success). The requirement for proving reasonable expectation of success refers to achieving what is claimed in the patent-at-issue. *Intelligent Bio-Systems, Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1367 (Fed. Cir. 2016).

XIV. THE PETITION’S RELIANCE ON THE ANDREWS DECLARATION VIOLATES THE BOARD’S RULES AGAINST IMPROPER INCORPORATION BY REFERENCE AND IMPROPERLY CIRCUMVENTS THE WORD LIMIT FOR IPR PETITIONS.

Section XI.A.2 above discusses improper incorporation by reference from the Andrews Declaration regarding claim 1[a]-1[e], which is incorporated by reference here. However, the entire Petition suffers from this flaw. The Petition is deficient because it improperly utilizes the Declaration of Scott Andrews to improperly incorporate by reference analysis and improperly circumvent the word limit for IPR Petitions. The Board’s rules provide that “[a]rguments must not be incorporated by reference from one document into another document.” 37 C.F.R. § 42.6(a)(3). The Federal Circuit has held that “the ‘prohibition against incorporation of arguments from other documents serves various policy goals, including to ‘minimize the chance that an argument may be overlooked’ and to ‘eliminate[] abuses that arise from incorporation and combination.’” *Parus Holdings, Inc. v. Google LLC*, 70 F.4th 1365, 1372 (Fed. Cir. 2023) (citing *General Access Solutions, Ltd. v. Sprint Spectrum L.P.*, 811 F. App’x 654, 657 (Fed. Cir. 2020)). Importantly, as the Supreme Court has noted, “the petitioner is master of its complaint.” *SAS Inst., Inc. v. Iancu*, 584 U.S. 357, 363 (2018). It is neither the Patent Owner’s nor the Board’s responsibility to weave together the Petitioner’s evidence into a cohesive case.

The Petition repeatedly cites to the Andrews Declaration in lieu of including substantive analysis within the Petition itself, resulting in a clear attempt to bypass

the Petition word limit. The Petition is 100 pages (including required certifications) and certifies that it uses 13,751 words, a mere 249 words short of the 14,000-word limit. *Pet.*, at 98. The Andrews Declaration, excluding the Andrews Curriculum Vitae, is over twice as long as the Petition at 214 pages. As to the word count, even considering only the substantive portion of the Andrews Declaration, starting at page 79 from the section headered “VII. SUMMARY OF THE PRIOR ART REFERENCES”, through and excluding the “CONCLUSION” at page 214 uses an incredible **29,831 words**. Given the conclusory analysis in the Petition, as discussed herein, the only way to potentially understand the Petitioner’s proposed unpatentability challenges is to wade through the **29,831 words** of the Andrews Declaration.

Not only is the word count telling of the amount of improper incorporation by reference, but so are the exhibits relied on in the Andrews Declaration that *are not even cited or referenced in the Petition*, even when the Petition is citing the paragraphs of the Andrews Declaration that rely on additional evidence for support. For example, regarding Ground 1 alone, the Petition cites five (5) references (Ferro, Oyobe, Donnelly, Letendre, and Seelig), the Andrews Declaration, and two additional references (EX1038 (*Pet.* at 51) and EX1073 (*Pet.* at 59)). However, for Ground 1, the Andrews Declaration cites ***thirty-seven*** (37) additional references in addition to Ferro, Oyobe, Donnelly, Letendre, and Seelig. These 37 references cited

by the Andrews Declaration include: Exhibits 1011, 1018, 1019, 1020, 1031, 1034-38, 1041, 1050-57, 1059-1066, 1068-1076 and 1079. *Pet.* 121-321. Only *two* of the 37 references are cited in the Petition: “*citing Jansen* (Ex. 1038)” and “*citing Kempton* (Ex. 1073)”. *Pet.* at 51, 59.

This improper incorporation by reference is tantamount to the “practice of citing the Declaration to support conclusory statements that are not otherwise supported in the Petition” which “amounts to incorporation by reference.” *Cisco Systems, Inc. v. C-Cation Technologies, LLC*, IPR2014-00454, Paper 12, 9 (P.T.A.B. Aug. 29, 2014). The petition in *C-Cation* relied on a 250-page expert declaration to present its arguments, which the Board found “amount[ed] to a self-help increase in the length of the brief and [was] a pointless imposition on the court’s time.” *Id.* at 10.

The Federal Circuit recently affirmed the Board’s decision to reject evidence presented only in an expert declaration and incorporated by reference into a brief “in violation of Rule 42.6(a)(3).” *Parus*, 70 F.4th at 1369. The Federal Circuit explained that “[t]he burden of production cannot be met simply by throwing mountains of evidence at the Board without explanation or identification of the relevant portions of that evidence.” *Id.* at 1371. This the exact path the Petitioner has followed – to bury the record with numerous Exhibits that are not actually relied on in the Petition, but instead incorporated by reference via citations to the Petitioner’s Expert

Declaration. The improper incorporation by reference exacerbates and further evidences the Petition's failure to provide an analysis with particularity as discussed above in section X.

To the extent Petitioner is attempting to rely on substantive explanations found in the cited portions of Andrews Declaration to fill the holes in the Petition, such an approach is a violation of Rule 42.6(a)(3) regarding incorporation by reference and improperly avoids the 14,000-word limit for IPR petitions. Accordingly, the Board should deny institution for this reason even without analysis of the merits of the presented Grounds of Rejection.

XV. CONCLUSION

For the reasons stated above, Patent Owner respectfully asks the Board to deny institution of the Petition.

Dated: April 15, 2025

Respectfully submitted,

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CERTIFICATE OF WORD COUNT UNDER 37 C.F.R. § 42.24(b)(1)

I, the undersigned, do hereby certify that the foregoing Patent Owner Preliminary Response, including footnotes, contains no more than 14,000 words, as measured by the Word Count function of Microsoft Word as specified by 37 C.F.R. § 42.24(b)(1).

/s/ Bradley Liddle
Bradley Liddle

CERTIFICATE OF SERVICE

I hereby certify that on April 15, 2025, a true and correct copy of the foregoing PATENT OWNER'S PRELIMINARY RESPONSE was served by electronic mail upon the following counsel of record for Petitioner:

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