

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE LLC,
Petitioner,

v.

VALTRUS INNOVATIONS LIMITED,
Patent Owner.

Case IPR2026-00262
Patent No. 7,057,509

PATENT OWNER'S PRELIMINARY RESPONSE

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TABLE OF CONTENTS

	<u>Page</u>
I. INTRODUCTION	1
II. THE '509 PATENT	3
A. Overview of the Disclosure	3
B. Prosecution History	6
III. GROUND 1: ZANOVITCH DOES NOT ANTICIPATE THE CHALLENGED CLAIMS	6
A. Zanovitch Fails to Disclose the Recited “Tracking Data”	6
B. Petitioner Has Not Shown that Zanovitch Discloses Generating Tracking Data for Objects Within the Monitored Environment	12
IV. GROUND 3: PEDERSON DOES NOT ANTICIPATE THE CHALLENGED CLAIMS	15
V. GROUND 2: ZANOVITCH AND JOHNSON FAIL TO RENDER THE CHALLENGED CLAIMS OBVIOUS.....	20
A. Johnson is Non-Analogous Art	21
B. Petitioner Has Not Shown That A POSA Would Have Been Motivated to Combine Zanovitch and Johnson	25
VI. GROUND 4: PEDERSON AND JOHNSON FAIL TO RENDER THE CHALLENGED CLAIMS OBVIOUS.....	30
VII. GROUNDS 5 AND 6	32
VIII. CONCLUSION.....	32

TABLE OF AUTHORITIES

	<u>Page(s)</u>
Cases	
<i>Airbus S.A.S. v. Firepass Corp.</i> , 941 F.3d 1374 (Fed. Cir. 2019)	23
<i>ATD Corp. v. Lydall, Inc.</i> , 159 F.3d 534 (Fed. Cir. 1998)	20, 30
<i>Belden Inc. v. Berk-Tek LLC</i> , 805 F. 3d 1064 (Fed. Cir. 2015)	27
<i>In re Bigio</i> , 381 F.3d 1320 (Fed. Cir. 2004)	21
<i>Circuit Check, Inc. v. QXQ, Inc.</i> , 795 F.3d 1331 (Fed. Cir. 2015)	23
<i>In re Clay</i> , 966 F.2d 656 (Fed. Cir. 1992)	25
<i>In re ICON Health and Fitness</i> , 496 F.3d 1374 (Fed. Cir. 2007)	25
<i>In re Kahn</i> , 441 F.3d 977 (Fed. Cir. 2006)	26
<i>In re Nat. Alternatives, LLC</i> , 659 F. App'x 608 (Fed. Cir. 2016)	22
<i>In re Nuvasive, Inc.</i> , 842 F.3d 1376 (Fed. Cir. 2016)	29, 31
<i>Polygroup Limited v. Willis Elec. Co.</i> , IPR2016-01609, Paper 16 (PTAB Feb. 26, 2018), <i>aff'd</i> , <i>Polygroup Ltd. MCO v. Willis Elec. Co., Ltd</i> , 759 F. App'x 934 (Fed. Cir. 2019)	21
<i>United Lab'ys Int'l, LLC v. Refined Techs.</i> IPR2019-01544, Paper 9 (PTAB Jan. 22, 2022)	21

	<u>Page</u>
<i>WBIP, LLC v. Kohler Co.</i> , 829 F.3d 1317 (Fed. Cir. 2016)	21, 31
<i>Wyers v. Master Lock Co.</i> , 616 F.3d 1231 (Fed. Cir. 2010)	26
<i>Xerox Corp. v. Bytemark, Inc.</i> , IPR2022-00624, Paper 9 (P.T.A.B., August 24, 2022)	8, 10, 16, 17
 Rules	
37 C.F.R. § 42.65(a).....	8, 29, 31
 Other Authorities	
MPEP § 2141.01(a).....	25

EXHIBIT LIST

Exhibits	Description
EX2001	Declaration of Angela Quinlan
EX2002	Assignment List for U.S. Patent No. 7,057,509
EX2003	Invention Disclosure dated January 8, 2004
EX2004	Valtrus Letter to Google dated November 15, 2021
EX2005	Salil Pradhan LinkedIn Profiled
EX2006	<i>Valtrus Innovations Ltd., et al. v. TierPoint, LLC</i> , Complaint for Patent Infringement and Jury Demand dated April 1, 2025 in Case No. 2:25-cv-00323 (EDTX)
EX2007	<i>Valtrus Innovations Ltd., et al. v. Lenovo Group Limited, et al.</i> , Complaint for Patent Infringement dated January 27, 2025 in Case No. 2:25-cv-00080 (EDTX)
EX2008	Email correspondence from Google LLC Acknowledging receipt of Valtrus's November 15, 2021 Letter (EX2004)

I. INTRODUCTION¹

The Petition challenges only claims 14-21 and 24-28 of U.S. Patent No. 7,057,509 (“the ’509 patent”), of which claims 14, 17, and 24 are independent. Independent claims 1 and 7 are not challenged.

For Ground 1, the Petition contends that Zanolitch anticipates claims 14-19 and 24-26. The Petition maps the weight of Zanolitch’s carry-on baggage to the claimed “tracking data” of the challenged independent claims. However, the ’509 patent links such physical characters to the separately recited “identification data.” *See, e.g.*, EX1001, 4:29-33. The Petition proposes no construction of the term “tracking data,” and does not explain why an object’s physical characteristics, such as its weight, comprise “tracking data” under a plain and ordinary meaning as opposed to “identification data” in light of the specification of the ’509 patent. Therefore, Zanolitch cannot anticipate the claims. *See infra*, Section III.

Ground 3 presents a second anticipation challenge to claims 14-19 and 24-26, this time based on Pederson. However, Pederson generally discloses comparing images of a given object (e.g., that of a vehicle) to previously stored images of other *similar* vehicles to see if there is a discrepancy from what is expected. *See infra*, Section IV. That is, Pederson is not generally directed to comparing new and prior

¹ All emphases are added unless otherwise noted.

monitoring data for the *same* vehicle. *See infra*, Section IV. Petitioner has not established that Pederson expressly or inherently discloses comparing “new content of monitoring data of *a monitored object* and prior content of said monitoring data of said monitored object,” per Element 14[d]; see *also* Elements [17.c]/[24.c] and [17.d]/[24.d].

In addition, Ground 3 also fails to account for the fact that the recited “monitoring data” consists of merged identification and tracking data, per Element [17.c] or [24.c]. For example, the Petition cites Pederson’s discussion of “activity data” or “observed data” as being compared to “prerecorded and stored data,” but does not engage the issue of how Pederson expressly or inherently discloses that such “activity data” or “observed data” comprises merged identification data and tracking data, as required for anticipation. *See infra*, Section IV.

Ground 2 seeks to combine Zanolitch with Johnson, but Johnson is not relied on for the missing “tracking data” limitations, and therefore cannot cure Zanolitch’s deficiencies. Moreover, Johnson is non-analogous and there has been no showing that a person of ordinary skill in the art (“POSA”) would have combined Zanolitch with Johnson. *See infra*, Section V.

Like Ground 2, Ground 4 relies on the same secondary reference (Johnson). However, here again Johnson is not relied on for the missing limitations of the primary reference, and therefore cannot cure Pederson’s deficiencies. And, as noted

above and explained below, Johnson is non-analogous and there has been no showing that a POSA would have combined Pederson with Johnson. *See infra*, Section VI.

For at least these reasons, the Petition fails on the merits and institution should be denied. Denial is also warranted for discretionary reasons, as described in Patent Owner's Discretionary Denial Brief (Paper 8).

II. THE '509 PATENT

A. Overview of the Disclosure

U.S. Patent No. 7,057,509 ("the '509 patent), titled "Monitoring an object with identification data and tracking data," was issued on June 6, 2006, to inventors Giovanni Gualdi, Cyril Brignone, and Salil Pradhan.

The inventors of the '509 patent recognized that prior art monitoring systems "focus on either identifying the objects or tracking what is happening in the monitored environment." EX1001, 1:19-21. Prior art monitoring systems that focus on identifying objects tend to have several deficiencies, including being spatially limited and lacking the ability to provide information relating to the activity of the objects outside the limited scope of the identification sensors. *See id.*, 1:22-34. Alternatively, monitoring systems that focus on object tracking tend to lack accuracy, particularly as the size of the monitored environment increases. *See id.*, 1:35-42.

The invention of the '509 patent, however, improves upon the prior art by disclosing a system and method that merges identification data which can be highly accurate, spatially-limited with tracking data that can be of longer range but of less accuracy to monitor objects within a monitored environment. Thus, in one preferred embodiment, the '509 patent describes a system that includes a monitoring unit 10 as the central processing hub that receives, merges, and stores data. *See e.g.*, EX1001, 4:50-55. As the '509 patent explains, “[t]he monitoring system 100 is able to monitor objects (e.g., persons, vehicles, boxes, pallets, carts, or any other kind of object) in a monitored environment that can range in size from small to large” *Id.*, 3:7-10. The monitoring system 100 achieves the above benefits by including an identification system 20 that is configured to identify objects and generate identification data that tend to have high accuracy but limited location range, and a tracking system 30 that “tracks the position of the object at desired time intervals to obtain a trajectory (e.g., in a coordinate system) for the object within the monitored environment.” *Id.*, 3:42-45.

With reference to FIG. 9, for example, the '509 patent explains how the invention improves monitoring accuracy by merging identification data and tracking data of each monitored object into monitoring data, and then comparing new or updated monitoring data for a given monitored object to its previous monitoring data. For example, as the monitored object 37 passes through the monitored

environment 910, the system merges and compares information about trajectory/position (e.g., trajectory 994) and identification information generated at gateways (e.g., gateway 920B) to improve tracking accuracy. See *id.*, 10:47-12:14.

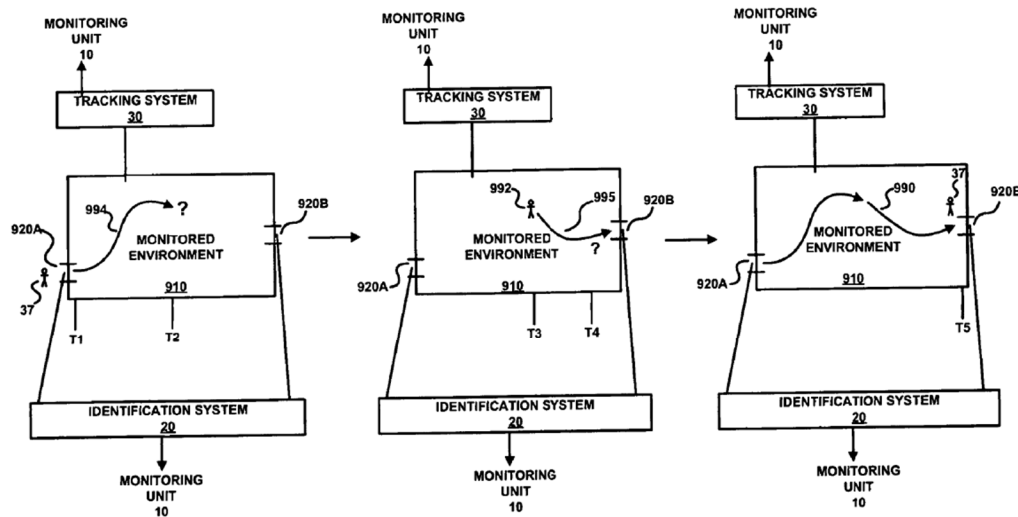


FIG. 9

As one example, cameras can track the movement of servers (*e.g.*, when they are taken offline for maintenance) in a data center. *E.g.*, EX1001, 10:35-46. But the tracking system may get confused when two servers of the same shape cross the same path. *Id.* Thus, by merging the tracking data with identification data (such as the RFID tag ID attached to each server) registered at checkpoints, more accurate monitoring data can be obtained. *Id.*

In this fashion, the invention of the '509 patent improves accuracy and reduces errors associated with tracking monitored objects.

B. Prosecution History

During prosecution, the Examiner initially rejected certain claims based on Kovach (US 2005/0088320), and further indicated that other claims would be allowable if rewritten in independent form. EX1004, 372-377. In response, the applicant amended the challenged claims to further recite features relating to comparing new content of monitoring data for a monitored object with prior content of the monitoring data for the same monitored object. *Id.*, 276-287. A Notice of Allowance then issued. *See id.*, 261-265.

III. GROUND 1: ZANOVITCH DOES NOT ANTICIPATE THE CHALLENGED CLAIMS

A. Zanovitch Fails to Disclose the Recited “Tracking Data”

Element [14.c] of independent claim 14 recites “tracking data associated with said monitored object [that] is generated when said monitored object is located within said monitored environment.” Similarly, Element [17.b] of independent claim 17 and Element [24.b] of independent claim 24 recite “generating tracking data associated with each monitored object located within said monitored environment.”²

For Ground 1, the Petition reads Zanovitch’s “threat scanning machine 106” and its related operations onto the “tracking system” and the generation of “tracking

² For ease of reference, Patent Owner uses the same element numbering as the Petition.

data” recited in the Elements [14.c], [17.b], and [24.b] of the ’509 patent. *See e.g.*, Pet., 21 (claim 17), 29 (claim 14), 32 (claim 24). Specifically, the Petition argues that Zanolvitch’s threat scanning machines 106 (TSM) “generates ‘tracking data’ (e.g., weight) associated with each ‘monitored object’ (e.g., a passenger’s carry-on) ‘located within said monitored environment’ (the airport).” Pet., 21. The Zanolvitch passage cited by the Petition states that a passenger in an airport places their carry-on on a conveyor for scanning by a threat scanning machine 106, which performs a threat analysis that “obtains the item tracking identification associated with the scanned baggage and forwards the results of the threat scanning to the item tracking module 3912. These results can include, as discussed above, an identification of any threat, as well as any supplemental information regarding the baggage such as, for example, **weight**, contents, dimensions, or the like.” EX1006, 20:44-56 (emphasis from Petition included).

However, the weight, contents, and dimensions of a passenger’s carry-on are physical characteristics of an object, and Petitioner has not explained why such physical characteristics would be “tracking data.” As noted earlier, the ’509 patent associates “weight” with the identification system 20 and identification data, and not with the tracking system 30 or the tracking data. EX1001, 4:27-33 (“For example, if the object is a person, the weight, shape, size, and carried possessions can be described. This description of the identified object and the identity of the identified

object are examples of identification data generated by the identification system 20.”).

This is fatal to the challenge because Petitioner does not propose any construction for “tracking data” or any other term, instead arguing that “the proposed grounds disclose or suggest and render obvious the challenged claims under any reasonable interpretation.” Pet., 18. Thus, the Petitioner’s challenge requires that the Board construe an object’s weight as an example of “tracking data,” under the terms plain and ordinary meaning, without explanation or substantial evidence. In fact, the only citation in the Petition for support is to a single sentence in Mr. William’s declaration which is a verbatim copy of the last sentence on page 21 of the Petition. *Compare* Pet., 21 to EX1002, ¶67. Because Mr. Williams’s testimony merely repeats the Petition, it is not substantial evidence and should be accorded no weight. See 37 C.F.R. §42.65(a) (“Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.”); *see also Xerox Corp. v. Bytemark, Inc.*, IPR2022-00624, Paper 9 (P.T.A.B., August 24, 2022) (precedential) (holding declaration is entitled to little weight when it contains an exact restatement of the petition’s unsupported, conclusory assertions without any additional supporting evidence or reasoning).

In contrast, the ’509 patent describes a monitoring system 100 that “is able to monitor objects (e.g., persons, vehicles, boxes, pallets, carts, or any other kind of

object) in a monitored environment that can range in size from small to large (e.g., room, aisle, floor, building, parking lot, etc.),” where “the monitoring system 100 is aware of the position of the object at desired time intervals via the tracking sensors of the tracking system 30.” EX1001, 3:4-14. To achieve this, the ’509 patent discloses a tracking system 30 that “tracks the position of the object at desired time intervals to obtain a trajectory (e.g., in a coordinate system) for the object within the monitored environment.” EX1001, 3:38-44. To do so, the tracking system 30 generates the recited “tracking data,” which includes data relating to the object’s trajectory/position. FIG. 7 describes an example of how the tracking system 30 monitors object 770 over a period of time from $t=T1$ to $T3$ via trajectories 780 and 790. See below.

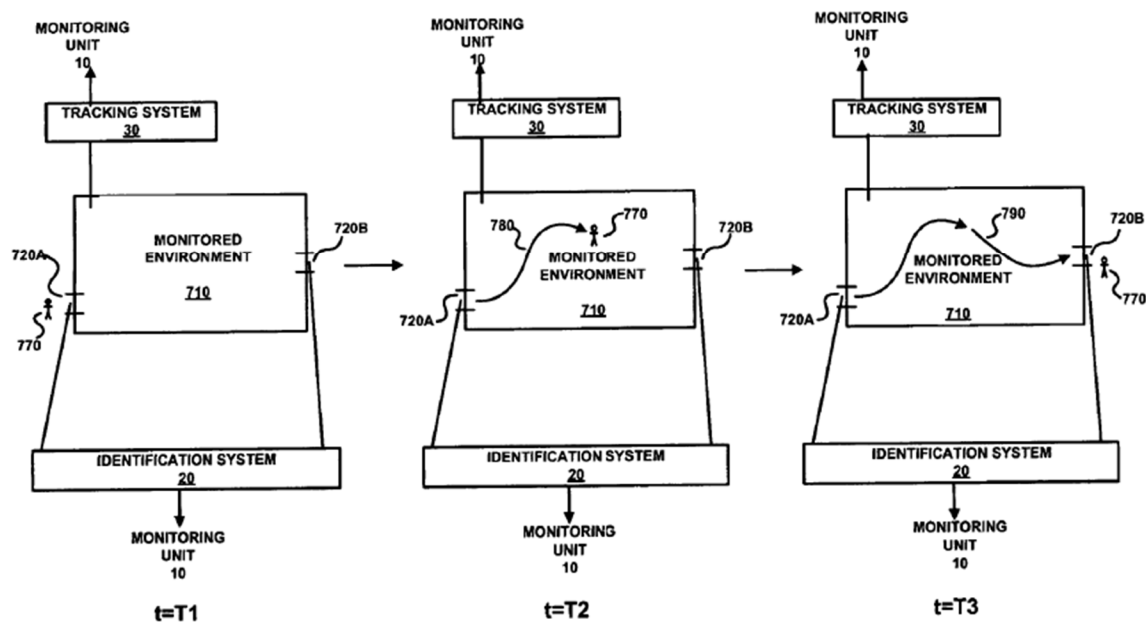


FIG. 7

With reference to FIG. 7 above, the '509 patent describes how, at time T2, “the tracking system 30 continues to track the monitored object” and the “monitoring unit 10 receives the tracking data (e.g., object assigned unique tracking code Y is positioned at P2 at t=T2) from the tracking system 30,” where “the tracking data in the monitoring data group would indicate the monitored object 770 has the trajectory 780 in the monitored environment 710.” EX1001, 8:25-39. Then later at time T3, “the tracking system 30 continues to track the monitored object 770” and the “the monitoring unit 10 receives the tracking data (e.g., object assigned unique tracking code Y is positioned at P3 at t=T3, where P3 represents the identification gateway 720B) from the tracking system 30,” where “the tracking data in the monitoring data group would indicate the monitored object 770 has the trajectory 790 in the monitored environment 710.” *Id.*, 8:40-67.

The '509 patent's disclosure is replete with descriptions of tracking data which includes trajectory/position information. *See id.*, FIG. 8 (trajectory 890), FIG. 9 (trajectories 990, 994, 995), FIG. 10A (trajectories 1091, 1092, 1093, 1094), FIG. 10B (trajectories 1098, 1099). However, the '509 patent does not mention or suggest “weight” (or any similar physical characteristic) as an example of “tracking data.” The Petition thus fails to mention, let alone address how “weight,” or any other physical characteristic of the carry-on baggage in Zanolitch, comprises the recited “tracking data.” Rather, as noted above, the '509 patent associates “weight” with the

identification system 20 and identification data, and not the tracking system 30 or the tracking data. EX1001, 4:27-33. Thus, even if tracking data generated by a tracking system includes more than “the trajectory of the tracked object, and the unique tracking identifier,” (EX1001, 3:64-4:1), there is a complete failure of evidence that “weight” is “tracking data.” This is fatal to the challenges under at least Grounds 1 and 2, both of which rely on Zanolitch.

Indeed, the plain meaning of “tracking” in light of the ’509 patent’s specification would indicate to a POSA that the recited “tracking data” would include information—such as trajectory and/or positional information—for tracking the movement of a monitored object in a monitored environment. *See* EX1001, 8:64-67 (“Moreover, the tracking data in the monitoring data group would indicate the monitored object 770 has the trajectory 790 in the monitored environment 710.”), 10:4-7 (“Moreover, the tracking data in the monitoring data group would indicate the monitored object 37 has the trajectory 890 in the monitored environment 810.”). The Petition does not explain how “weight” allows a system to track an object as opposed to it being a potential parameter to identify an object and/or its abnormality. *E.g.*, EX1001, 4:27-33.

Because the Petitioner fails to establish that physical characteristics of Zanolitch’s carry-on baggage, such as weight—a characteristic that the ’509 patent associates with the separately recited “identification data”—is expressly or

inherently an example of “tracking data” in the context of the ‘509 patent, Petitioner has not shown that Zanolitch anticipates the challenged claims. Ground 1 thus fails.

B. Petitioner Has Not Shown that Zanolitch Discloses Generating Tracking Data for Objects Within the Monitored Environment

Element [14.c] recites that “tracking data” associated with the same monitored object “is generated when said monitored object is located within said monitored environment.” Similarly, while [17.b] and Element [24.b] recite “generating tracking data associated with each monitored object located within said monitored environment.” As such, the claims indicate that the “tracking data” is to be generated when the object to be monitored is located within the monitored environment. This is consistent with the specification which discloses that the “monitoring system 100 allows users to be aware of what is happening in the monitored environment (or event) and who are the objects involved.” EX1001, 3:1-3; 3:42-45 (“Furthermore, the tracking system 30 tracks the position of the object at desired time intervals to obtain a trajectory (e.g., in a coordinate system) for the object within the monitored environment.”); 5:53-55 (“The tracking data 360A–360C is generated when the monitored object 342, 344, and 346 is located within the monitored environment.”),

In contrast, Zanolitch discloses that the threat scanning machines 106 (TSM), which the Petition alleges generates the claimed “tracking data,” are located at a security checkpoint. For example, the same passage from Zanolitch that the Petition

cites states that “[u]pon arrival at the security checkpoint, a passenger generally places their carry-on baggage on a conveyor for scanning by a threat scanning machine 106 and passes through a walk through metal detector (WTMD) 3950.” EX1006, 20:44-48 (cited at Pet., 21). Thus, in Zanolitch, it is only *after* the carry-on baggage passes the checkpoint, that the baggage (the alleged monitored object) would be within the alleged “monitored environment.” Thus, the Petition has not established that the alleged “tracking data” (e.g., weight) in Zanolitch is generated by the threat scanning machines 106 (TSM) when the alleged “monitored object [is] located within the monitored environment,” as recited in the claims.

For example, the claims recite that the tracking data is generated when the “monitored object is located within said monitored environment” (Element [14.c], [17.b], [24.b]), while the claims separately recite generating identification data when the monitored object is “located at an identification gateway of a monitored environment.” *See* Elements [14.b], [17.a], and [24.a]. The ’509 patent’s specification also differentiates between “identification data” generated at gateway and the “tracking data” generated by “syst track”:

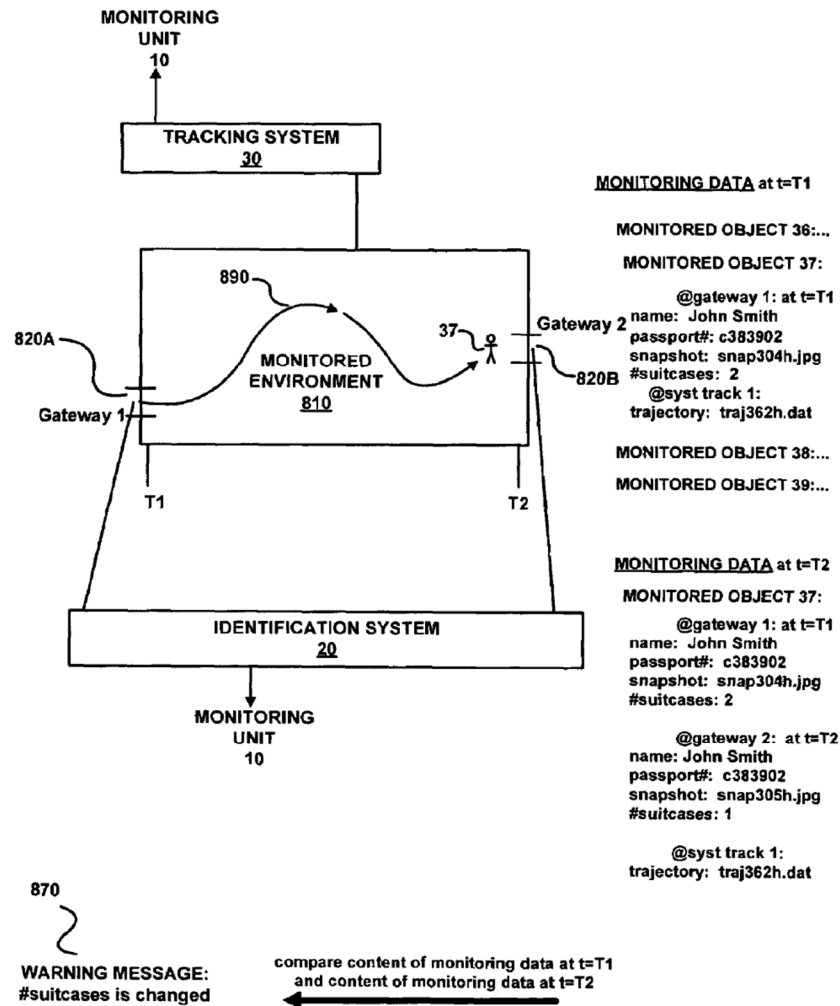


FIG. 8

But the Petitioner has not explained why or how Zanovitch's threat scanning machine 106 located at a security checkpoint (gateway) expressly or inherently discloses generating data for objects "*within* said monitored environment."

Thus, the Petition fails to establish that Zanovitch anticipates the challenged claims because Zanovitch does not expressly or inherently disclose generating tracking data for objects located *within* a monitored environment.

IV. GROUND 3: PEDERSON DOES NOT ANTICIPATE THE CHALLENGED CLAIMS

Element [14.d] of independent claim 14 recites “merged data that is based on the comparison of new content of monitoring data of a monitored object and prior content of said monitoring data of said monitored object.” Similarly, Elements [17.c]/[24.c] and [17.d]/[24.d] of independent claims 17 and 24, respectively, recite “merging and storing said identification data and said tracking data of each monitored object to form monitoring data for each monitored object,” and “comparing new content of said monitoring data of a monitored object with prior content of said monitoring data of said monitored object.” The claim language therefore requires the comparison be performed on the new and old monitoring data of the same monitored object.

Pederson, however, is directed to identifying vehicles and individuals which are potential threats using a system “to flag discrepancies related to information accessible and processed from a stored and accumulated continuously evolving database of information in order to warn security, surveillance, and/or law enforcement officers as to the existence of a condition warranting further investigation to minimize risk of danger, such as illegal activity or terrorist attacks.” EX1005, 7:6-12. For example, Pederson discloses that “the system may compare images of a suspect vehicle, such as an undercarriage image, to standard vehicle

images stored in the database and alert security personnel as to potential vehicle overloading or foreign objects detected, such as potential bombs.” *Id.*, Abstract.

Thus, Pederson’s Figures 4 and 4A embodiment discloses that Pederson’s computer 22, “upon the receipt of information concerning the make and model of the vehicle 70, as provided by the license plate 54 reader, may access the database 30 for retrieval of a pre-recorded undercarriage *image 34 representative of the blueprint or undercarriage of the identified make and model for the vehicle 70.*” EX1005, 11:26-32. The comparison in Pederson is therefore between “the pre-recorded undercarriage image 34” which is “representative of the blueprint or undercarriage of the identified make and model for the vehicle 70” on the one hand and “the observed undercarriage image 36” of the actual vehicle 70 on the other hand. *Id.*, 11:36-39, 11:26-32. Put another way, the comparison is between images for the actual monitored object, vehicle 70, and the images of vehicles “representative of the make and model” associated with vehicle 70, but not vehicle 70 itself.

As another example, Pederson explains that “it is desirable to record an observed undercarriage image 36 and have the computer 22 scan the database 30 for likely matches. The computer 22 may then select the most likely prerecorded undercarriage image 34 match for comparison.” *Id.*, 12:45-49. In another example, Pederson describes comparing images of a vehicle to prerecorded profile images to

see if the vehicle matches the expected vehicle type based on the license plate. *See id.*, 12:58-13:4; *see also id.*, 13:4-8 (“Thus, the system 10 may either verify that the make and model of the actual vehicle 70 matches the expected vehicle make and model as determined from the license plates 54, or indicate a discrepancy and alert security personnel.”). None of these examples involve a comparison of new monitoring data and old monitoring data of the same monitored object.

As such, Pederson generally discloses comparing images of a given object (e.g., vehicle) to previously stored images of *other* similar vehicles to see if there is a discrepancy from what is expected. That is, Pederson is not directed to comparing new and prior monitoring data for the *same* vehicle. Therefore, the Petitioner has not established that Pederson expressly or inherently discloses comparing “new content of monitoring data of a monitored object and **prior content of said monitoring data of said monitored object**,” per Element 14[d]; *see also* Elements [17.c]/[24.c] and [17.d]/[24.d].

As a second and separate deficiency, the Petition fails to account for the fact that the recited “monitoring data” consists of merged identification and tracking data, per Element [17.c]. Specifically, when addressing Element [17.d], the Petition cites to passages in Pederson which do not disclose that current merged identification and tracking data is compared to prior merged identification and tracking data. For example, the Petition first cites to 19:26-29 in Pederson, which addresses only

“activity data.” Next, the Petition cites to 16:50-52 of Pederson, which only references “observed data” being compared to “prerecorded and stored data.” Then, the Petition cites to 18:28-33 of Pederson, which again only mentions comparing “observed data” to “previously stored data.” *See also* Pet., 50-51 (citing 21-45-22:12 of Pederson which addresses only “activity patterns.”). None of these citations suggest that Pederson discloses that current merged identification and tracking data is being compared to prior merged identification and tracking data.

Moreover, on pages 51-52, the Petition cites to the embodiment in column 19 of Pederson, but again fails to explain how Pederson’s comparing current activity to “recorded activity data” anticipates the feature of comparing current merged identification and tracking prior merged identification and tracking data, per Element [17.d]. The Petition’s analysis for independent claim 24 merely refers back to its discussion of claim 17, and therefore is deficient for the same reasons. *See* Pet. 58-59.

The Petition’s discussion of independent claim 14 is similarly deficient. For example, Element 14[d] requires that the merged data be based on a comparison of new content of monitoring data and prior content of said monitoring data for the *same* monitored object. But, as described above, Pederson generally compares images of a given object (e.g., vehicle) to previously stored images of *other* similar

vehicles to see if there is a discrepancy from what is expected, not to the *same* vehicle. *See supra*, pp. 15-17.

In addition, for Element 14[d] the Petition also cites to column 21 in Pederson which describes how computer 22 can “identify patterns and deviations from the patterns as previously recorded.” *Id.*, 21:45-49. But that discussion in Pederson does not indicate that the patterns are of the same vehicle, as opposed to those of similar vehicles generally, and the Petition fails to explain how comparing such patterns would read on comparing new and prior monitoring data for the *same* monitored object. In fact, that section of Pederson is describing an embodiment that relates to surveillance in a security zone, such as at an embassy, and how pattern information can be used to detect unusual activity, such as for “certain *types* of vehicles 70 adjacent to an embassy.” *See id.*, 21:15-20.

The Petition also seems to acknowledge that Pederson links its identification data with tracking data. *See* Pet. 49 (“To be sure, Pederson’s vehicle 70/individual 56 specific files include both the tracking information from within a security zone (Ex. 1005, 19:22-26) and identification information obtained at the gate (*id.*, 17:8-13).”). The Petition does not explain how this the organization of Pederson’s vehicle 70/individual 56 specific files supports the Petition’s assertion that Pederson’s disclosure is similar to the ‘509 patent’s specification and discloses “[b]efore the identification data and the tracking data for each monitored object is merged, the

monitoring system 100 interprets this data as representing tracking data for an object assigned the unique tracking identifier X and as identification data for an object identified as [a vehicle with the identified license plate].” *Contra* Pet. 49.

In summary, Petitioner has not shown that Pederson anticipates the challenged claims because it has not shown that Pederson expressly or inherently discloses each and every limitation of the claims as arranged in the claims.

V. GROUND 2: ZANOVITCH AND JOHNSON FAIL TO RENDER THE CHALLENGED CLAIMS OBVIOUS

Petitioner’s obviousness Ground 2 also fails. *First*, the Petition relies on Johnson for “merging and storing [the] identification data and [the] tracking data... to form monitoring data,” but does not rely on Johnson for the “tracking data” limitations that are missing from Zanovitch, as detailed above in Section III, and therefore cannot cure Zanovitch’s deficiencies.

Second, Petitioner’s suggested combination of Zanovitch and Johnson is “based on the hindsight combination of components selectively culled from the prior art to fit the parameters of the patented invention.” *ATD Corp. v. Lydall, Inc.*, 159 F.3d 534, 546 (Fed. Cir. 1998). Indeed, Johnson is not even analogous art to the ’509 patent and, therefore, cannot be used in an obviousness combination against it.

Third, even if Johnson were analogous, the Petition fails, in the absence of hindsight, to adequately explain why a POSA would have selected Johnson from the

sea of prior art, and then would have and could have selected the particular components from it and Zanolich and combined them in the manner proposed to render the claims obvious. *See WBIP, LLC v. Kohler Co.*, 829 F.3d 1317, 1337 (Fed. Cir. 2016) (“Too often the obviousness analysis is framed as an inquiry into whether a person of skill, with two (and only two) references sitting on the table in front of him would have been motivated to combine [them] The real question is whether that skilled artisan would have plucked one reference out of the sea of prior art ... and combined it.”).

A. Johnson is Non-Analogous Art

A reference may be used in an obviousness determination “only when analogous to the claimed invention.” *In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004). A reference is analogous when (1) it is from the same field of endeavor, regardless of the problem addressed, or (2) if it is not from the same field of the inventor’s endeavor, it is reasonably pertinent to the particular problem with which the inventor is involved. *Id.*; *see also United Lab’ys Int’l, LLC v. Refined Techs., Inc.*, IPR2019-01544, Paper 9 at 11 (PTAB Jan. 22, 2022) (denying institution and finding prior art related to oil well exploration was not analogous to claims directed to cleaning oil refineries); *Polygroup Limited v. Willis Elec. Co.*, IPR2016-01609, Paper 16 at 35 (PTAB Feb. 26, 2018) (finding that prior art related to electrical connections used in desk lamps was not analogous to claims directed to lighting for

artificial trees), *aff'd*, *Polygroup Ltd. MCO v. Willis Elec. Co., Ltd*, 759 F. App'x 934, 942 (Fed. Cir. 2019).

Petitioner does not assert that Johnson is analogous art, and has not established that it is in the same field of endeavor as the '509 patent, or is reasonably pertinent to the problems addressed by the '509 patent. This alone is fatal to the challenge. *See In re Nat. Alternatives, LLC*, 659 F. App'x 608, 614 (Fed. Cir. 2016) (citations omitted) (To satisfy the burden of showing why a patent is obvious, the party must “explain why a person of ordinary skill in the art would have found the prior art to be ‘reasonably pertinent to the problem with which the inventor was concerned.’”). As explained below, Johnson fails both prongs; it is not from the same field of endeavor as the '509 patent, and it is not reasonably pertinent to the particular problem the '509 patent is involved. Thus, Johnson is non-analogous art and cannot be used in an obviousness analysis for the '509 patent.

Petitioner contends that “Johnson relates to monitoring identification and location information and is therefore in the same or a similar field to Zanolitch and the '509 patent.” Pet., 34. That is incorrect. Instead, Johnson is directed to a system for delivering situational, location-dependent content (like advertising) to mobile devices (Receiving Data Processing Systems or RDPS). For example, Johnson explains that “as a driver or pedestrian (i.e. user) approaches a retail store with a mobile RDPS, a configured advertisement of a special deal at the retail store can be

proactively delivered (i.e. pushed) to the user automatically on behalf of the store.” EX1008, 3:9-13. While Johnson provides a number of examples of how the system can be implemented, in each case the core idea is that “[c]ontent is pushed out to receiving devices at the most appropriate times. Users do not pull the content with a query.” *Id.*, 4:5-7.

Petitioner attempts to circumvent these stark differences by characterizing Johnson and the ’509 patent at an absurdly high level of abstraction. But, whether art is analogous must consider “each reference’s disclosure in view of the reality of the circumstances, and weigh those circumstances from the vantage point of the common sense likely to be exerted by one of ordinary skill in the art in assessing the scope of the endeavor.” *Airbus S.A.S. v. Firepass Corp.*, 941 F.3d 1374, 1380 (Fed. Cir. 2019) (citations and internal quotation marks omitted). Here, a POSA would understand that because Johnson relates primarily to pushing advertisements to mobile device users when it is most advantageous to do so, not monitoring and tracking objects based on merged identification and tracking data. Therefore, Johnson is not in the same field of endeavor as the ’509 patent.

Moreover, Johnson is also not reasonably pertinent to the particular problem to which the ’509 patent is directed. To show that a reference is “reasonably pertinent,” a petitioner must show that “an inventor would look to this particular art to solve the particular problem at hand.” *Circuit Check, Inc. v. QXQ, Inc.*, 795 F.3d

1331, 1335-36 (Fed. Cir. 2015). Petitioner has failed to do so here. The '509 patent is directed to overcoming the deficiencies in prior art monitoring systems that “focus on *either* identifying the objects or tracking what is happening in the monitored environment.” EX1001, 1:19-21. Systems that focus on identifying objects tend to have several deficiencies, including being spatially limited and lacking the ability to provide information relating to the activity of the objects outside the limited scope of the identification sensors. *See id.*, 1:22-34. Alternatively, monitoring systems that focus on object tracking tend to lack accuracy, particularly as the size of the monitored environment increases. *See id.*, 1:35-42. The '509 patent overcomes these deficiencies in prior art by disclosing a system and method that, for example, merges highly accurate, spatially-limited identification data with flexible tracking data to more accurately monitor objects within a monitored environment.

In contrast, Johnson is directed to the addressing the fact that “[a]dvertisers desire to target their audience at the most appropriate time” and that “[k]nowing the location of a user as being relevant to a particular advertisement is desirable,” as is “[a]utomating the delivery of the content” EX1008, 1:67-2:3. Johnson addresses this need by recognizing a “situational location” of the mobile user, and delivering content from a database based on the “situational location” and delivery constraints. *See* EX1008, Abstract. Therefore, a POSA would have understood the problem that Johnson was attempting to solve was to improve the effectiveness of providing

advertising content to a mobile user by considering the mobile user's location and situation, not merging highly accurate, spatially-limited identification data with flexible tracking data to more accurately monitor objects within a monitored environment.

Therefore, Johnson would not “logically ... have commended itself to an inventor's attention in considering his problem.” *In re ICON Health and Fitness, Inc.*, 496 F.3d 1374, 1379-80 (Fed. Cir. 2007) (quoting *In re Clay*, 966 F.2d 656, 659 (Fed. Cir. 1992)); *see generally* MPEP § 2141.01(a).

For the reasons above, Johnson is also not in the same field or directed to the same problem as Zanolitch, which is directed to a high-security visual observation system, such as an airport threat scanner. *See e.g.*, EX1006 (“A dynamically configurable threat scanning machine management system is capable of tracking information associated with one or more items and/or passengers.”).

B. Petitioner Has Not Shown That A POSA Would Have Been Motivated to Combine Zanolitch and Johnson

For the same reasons that Johnson would not have logically commended itself to the attention of the inventors of the '509 patent, a POSA also would not have been motivated to combine Zanolitch and Johnson. Regardless, even if Johnson were analogous art (it is not), Petitioner's Ground 2 still fails because its motivations to combine fall short of establishing what would have prompted a POSA to make the

proffered combination to arrive at the inventions of the '509 patent. *See Wyers v. Master Lock Co.*, 616 F.3d 1231, 1238 (Fed. Cir. 2010); *see also In re Kahn*, 441 F.3d 977, 987–88 (Fed. Cir. 2006) (noting that the inquiry as to whether a person of ordinary skill in the art would have sought to combine the references “picks up where the analogous art test leaves off”).

First, the Petition has not established that a person of ordinary skill in the art designing a high-security visual observation system or an airport threat scanner according to Zanolitch would logically look to a mobile-advertising push-content network to improve its security system.

Second, the Petition argues that “tracking data for the object to be updated over time ... would be less reliable for objects that had a random identifier assigned.” Pet., 39. The Petition argues that “if a monitored object is identified, and that identification data is merged with the tracking data for the object as Johnson discloses, such merging would readily permit the system to determine if a future (or past) monitored object was the same object by comparing the identification data.” *Id.* But Petitioner does not assert that Zanolitch’s Bag ID which specifically links a carry-on luggage with a passenger is a “random identifier” that suffers from the alleged deficiencies and should therefore be replaced by the type of “unique handle” that Johnson discloses. The Petition therefore has not established that a POSA would have had a reason to modify Zanolitch’s system as proposed.

Specifically, Johnson’s alleged “identification data” is a “Device ID,” which Johnson discloses as being “a telephone #, physical or logical address, or some other *unique handle* to the RDPS.” EX1008, 15:20-22; *see also* Pet., 38 (“device ID such as a phone number or caller ID”). But neither Petitioner nor its expert explain why a phone number or other unique handle, comprised of a unique string of numbers, is any different than Zanolvitch’s existing “item ... identification” (Pet., 20), such as a “Bag ID” shown, for example, in Table 2 (col. 8, ll. 1024). Petitioner is merely proposing to swap one unique string of characters (Zanolvitch’s Bag ID) for another (Johnson’s phone number).

And, while Petitioner goes on to list a number of alleged benefits of using Johnson’s “unique handle” (phone number) instead of Zanolvitch’s “item identification” (Bag ID), there is no explanation as to why any of those alleged benefits are related to using a phone number (or another alleged unique handle) over Zanolvitch’s Bag ID. Thus, at best the Petition suggests that a POSITA *could* have combined the references, not that they *would* have. *Belden Inc. v. Berk-Tek LLC*, 805 F. 3d 1064, 1073 (Fed. Cir. 2015) (“obviousness concerns whether a skilled artisan not only *could have made* but *would have been motivated* to make the combinations or modifications of prior art to arrive at the claimed invention.”) (emphasis in original).

Third, Petitioner argues that a “POSITA also would have understood that

merging the identification data and tracking data simplifies data management and increases system efficiency.” Pet., 39. However, Petitioner fails to link the alleged efficiency and benefits (e.g., reducing the number of database lookups) to the actual proposed combination. For example, the Petition argues that “merging (as disclosed by Johnson) would likely reduce the number of database lookups required because there is no need to join separate tables (e.g., one with identification data and one with tracking data), which would have the benefits of reducing memory needs, improving query speeds, and reducing communication payloads.” Pet., 39-40. But Johnson is based on a standard relational database with separate data records. Specifically, Johnson stores data across a multitude of individual data records. *See* FIG. 7A (described as “a data record in the deliverable content database”); FIG. 7B (described as “a data record in the keyword data”); FIG. 8 (described as “a data record in the location hierarchy data”); FIG. 9A (described as “a data record in the registration data”); FIG. 9B (described as “a data record in the location history data”); FIG. 9C (described as “a data record in the SDPS transmission history data”); FIG. 9D (described as “a data record in the RDPS transmission history data”). *Id.*, 5:48-64.

Johnson links these data records using a “unique identifier, “Rec id field.” EX1008, 13:16-29, 14:31-32 (“The value in the rec id field 702 will be used to join all content items.”); *see e.g.*, EX1008, 14:39-42 (“A keyword data record 750 is

joined to a deliverable content database record 700 through a matching rec id field 752.”). However, the Petition fails to engage on this issue to explain why Johnson’s use of separate data records, linked by a unique identifier, would not still require multiple database lookups. The fact is that Johnson does not support Petitioner’s theory because Petitioner has failed to provide an adequate explanation as to why there would be a reduction in the number of database lookups when Johnson itself stores data across separate, cross-referenced data records.

Fourth, Petitioner’s entire motivation-to-combine discussion is supported only by Mr. Williams’ conclusory declaration testimony. For example, for Ground 2, on page 39-40, the Petition lists out various alleged reasons for why a “POSITA implementing Zanolitch’s systems and methods would have had good reason to consider Johnson’s data structure.” Pet., 39. But those pages consist of a series of conclusions, each of which is followed by a citation to a paragraph in Mr. Williams’ declaration. No additional reason or evidence is provided, including no citations to the references themselves. But Mr. Williams’ testimony merely repeats that which is stated in the Petition, which is not helpful to the Board and should be accorded no weight. 37 C.F.R. §42.65(a) (“Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.”). Those unsupported conclusory statements are not competent factual support for Petitioner’s assertion. *See In re Nuvasive, Inc.*, 842 F.3d 1376, 1383 (Fed. Cir. 2016).

VI. GROUND 4: PEDERSON AND JOHNSON FAIL TO RENDER THE CHALLENGED CLAIMS OBVIOUS

Like Ground 2, Ground 4 looks to the same secondary reference (Johnson) for the same reason; namely, to “implement a merged data structure like Johnson discloses in Pederson.” Pet., 63. For at least the reasons below, Petitioner’s obviousness Ground 4 also fails.

First, the Petition does not rely on Johnson for the “comparing” limitations which are missing from Pederson, as detailed above in Section IV, and therefore cannot cure Pederson’s deficiencies. For example, even if Pederson’s alleged identification data and tracking data were merged, per Johnson, the combination would still be deficient with respect to the comparison of such data.

Second, Petitioner’s suggested combination of Pederson and Johnson is “based on the hindsight combination of components selectively culled from the prior art to fit the parameters of the patented invention.” *ATD Corp. v. Lydall, Inc.*, 159 F.3d 534, 546 (Fed. Cir. 1998). As described above in Section V.A, Johnson is not even analogous art to the ’509 patent or and, therefore, cannot be used in an obviousness combination against it.

Third, even if Johnson were analogous, the Ground 4 fails because the Petition does not adequately explain why a POSA would have selected Johnson from the sea of prior art, and then would have and could have selected the particular components

from it and Pederson and combined them in the manner proposed to render the claims obvious. *See WBIP, LLC v. Kohler Co.*, 829 F.3d 1317, 1337 (Fed. Cir. 2016). Instead, the Petition cites the same alleged motivations for combining Pederson and Johnson as it does for combining Zanolitch and Johnson. Specifically, the Petition adopts the same flawed approach of listing out various alleged reasons for why a POSITA would have combined the references. *See* Pet., 61-63. But here again those pages consist of nothing more than a series of conclusions followed by a single citation to a paragraph in Mr. Williams' declaration, which merely parrots the petition. *Compare* Pet., 39-40 with EX1002, ¶¶ 98-100 for Ground 2; *compare* Pet., 61-63 with EX1002, ¶¶ 133-135 for Ground 4. Thus, as with Ground 2, Mr. Williams's testimony, merely repeating what was said in the Petition, is not helpful to the Board and should be accorded no weight. 37 C.F.R. §42.65(a) ("Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight."). Those unsupported conclusory statements are not competent factual support for Petitioner's assertion. *See In re Nuvasive, Inc.*, 842 F.3d 1376, 1383 (Fed. Cir. 2016).

Fourth, Petitioner does not explain why a POSA would have added an alleged merging step if, as the Petition acknowledges, "Pederson's vehicle 70/individual 56 specific files [already] include both the tracking information from within a security zone (Ex. 1005, 19:22-26) and identification information obtained at the gate (*id.*,

17:8-13).” Pet. 49. Put another way, the Petition does not explain why a merging step is needed if the data has always been combined.

VII. GROUNDS 5 AND 6

Grounds 5 and 6 challenge only dependent claims, relying additionally on Maruya (EX1007), which is not alleged to cure any of the above deficiencies. Moreover, Grounds 5 and 6 suffer from the same reliance on Mr. Williams’ conclusory testimony regarding the alleged motivations to combine, which merely repeats those listed in the Petition. *Compare* Pet., 67-69, 71 to EX1002, ¶¶140-143).

VIII. CONCLUSION

For the foregoing reasons, the Petition fails on the merits and institution should be denied. Denial is also warranted for discretionary reasons, as described in Patent Owner’s Discretionary Denial Brief (Paper 8).

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Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify, pursuant to 37 C.F.R. section 42.6, that on May 26, 2026, a complete copy of the **PATENT OWNER'S PRELIMINARY RESPONSE** was served upon the following, by ELECTRONIC MAIL:

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CERTIFICATE OF WORD COUNT

I hereby certify, pursuant to 37 C.F.R. section 42.24, that the foregoing Patent Owner Preliminary Response contains 7,031 words, excluding the words in the table of contents, table of authorities, exhibit list, this certificate of word count, signature block and certificate of service. The word count is based on the word count of the Microsoft Word program used to prepare the Patent Owner Preliminary Response.

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