

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TESLA, INC.,
Petitioner

v.

AUTONOMOUS DEVICES, LLC,
Patent Owner

Case: IPR2023-01054
U.S. Patent No. 10,452,974

PATENT OWNER'S SUR-REPLY

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Exhibit List

Exhibit	Description
2001	Biography of Blair M. Jacobs (previously submitted)
2002	Declaration of Blair M. Jacobs (previously submitted)
2003	Supplemental Declaration of Blair M. Jacobs (previously submitted)
2004	Disclaimer of Claims 1-3, 6, 8-10, 12-13, 16-20 (previously submitted)
2005	District Court Docket (previously submitted)
2006	District Court Scheduling Order (previously submitted)
2007	Declaration of Dr. Eli Saber (previously submitted)
2008	Deposition transcript of Dr. Jason Janet dated February 28, 2024 in IPR2023-01054 (previously submitted)
2009	RESERVED
2010	RESERVED
2011	RESERVED
2012	American Heritage Dictionary (1992) Excerpts (previously submitted)
2013	Webster's Third New International Dictionary (2002) Excerpts (previously submitted)
2014	RESERVED
2015	Dr. Eli Saber CV (previously submitted)

I. INTRODUCTION

Petitioner's Reply (Paper No. 30) improperly introduces a number of new arguments in a failed attempt to remedy deficiencies in the Petition. Petitioner has the burden to prove unpatentability of the instituted claims by a preponderance of the evidence, and has not done so. *In re Magnum Oil Tools Int'l, Ltd.*, 829 F.3d 1364, 1375 (Fed. Cir. 2016). Petitioner, in its Reply, improperly introduces new arguments that should be excluded, has not established that the cited prior art references disclose or suggest all of the limitations of the Challenged Claims (Claims 4, 5, 7, and 11), and has not rectified numerous other deficiencies in the Petition. As a result, the Board should confirm the patentability of the Challenged Claims.

II. PETITIONER IMPROPERLY INTRODUCES NEW ARGUMENTS IN ITS REPLY

Petitioner improperly adds new arguments to support its deficient prior art arguments for the first time in its Reply and via a reply declaration (Ex-1010, "Janet Reply Declaration") from its expert, Dr. Janet. ***"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.'"*** *Intelligent Bio-Sys., Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1369 (Fed. Cir. 2016) (citing 35 U.S.C. §312(a)). Namely, once a petition is instituted, the challenges set forth in the petition are crystallized, and the

scope of a petitioner’s argument thereafter is expressly limited to “explaining how its original petition was correct.” *Wasica Fin. GmbH v. Cont’l Auto. Sys., Inc.*, 853 F.3d 1272, 1286 (Fed. Cir. 2017). Thus, for these same reasons, a petitioner on reply ***“may not submit any new evidence, issues, or argument that it could have presented earlier, e.g. to make out a prima facie case of unpatentability.”*** *Allsteel Inc. v. Dirtt Environmental Solutions LTD.*, IPR2015-01691, *2 (PTAB April 22, 2019).

Yet that is precisely what Petitioner does here. Petitioner argues in its Reply for the first time that Grotmol’s robots “use a collection of controllers” to provide a “knowledgebase on the first robot that includes both first and second correlations learned in a learning process on the first robot and a fourth correlation learned in another learning process on the second robot.” Reply, 2 (citing Janet Reply Declaration ¶¶10-12, 43-45). Petitioner elaborates on this new argument for almost seven pages. Reply, 2-9. But in its Petition, Petitioner never mentioned this collection of controllers or explained how it discloses the claimed knowledgebase using mixed knowledge. In fact, the Petition does not even mention multiple controllers in a single robot. If Petitioner wanted to argue that Grotmol’s multiple controllers disclose the claimed invention, it should have done so in the Petition at the requisite level of detail, e.g., at a minimum mentioning the multiple controllers.

Petitioner did no such thing, *never once even using the word “controllers” when discussing the claimed knowledgebase using mixed knowledge*. Petition, 27-28.

Petitioner also tees up new arguments by pointing to new portions of Hickman’s knowledgebase and arguing for the first time that certain information including task data corresponds to the claimed instruction sets with respect to Claims 4 and 11. Reply, 21-24. *Petitioner never mentioned “tasks data” at all in the Petition*. According to the Board’s rules, a petitioner “may not submit new evidence or argument in reply that it could have presented earlier, e.g. to make out a prima facie case of unpatentability.” Patent Trial and Appeal Board Consolidated Trial Practice Guide, 73 (Nov. 2019). The Petition’s failure to fully address this limitation is its own deficiency and should not be rewarded by the Board.

The rule that the Petitioner must present all of its arguments up front in the Petition *is in place to give the patent owner a fair opportunity to respond during the IPR proceedings and not be ambushed by the Petitioner later in the*

proceedings. Accordingly, for the new allegations mentioned above in Petitioner's Reply which are not found in the original Petition, the arguments must be excluded.

III. GROUND 1: GROTMOL DOES NOT ANTICIPATE CLAIMS 4, 5 AND 7

A. Claim 4

Petitioner's impermissible new argument that Grotmol's multiple controllers comprise the mixed knowledgebase including a fourth correlation where "at least a portion of the fourth correlation is learned in another learning process" involving the second device, as required by claim 4, is wrong. While Petitioner is correct that "Grotmol's robots . . . use a collection of controllers," nothing in Grotmol discloses that any of the separate controllers or any combination of them contain a single, mixed knowledgebase containing correlations of circumstance representations and instruction sets learned in different learning processes involving different devices. Reply, 2. Grotmol discloses one user operating one device in one learning process. Therefore, knowledge in all of the robot's controllers in Grotmol is learned only in a single learning process and only on a single robot. Grotmol never discloses using its adaptive controllers to learn multiple correlations in different learning processes involving different devices and storing those correlations in a *single, mixed knowledgebase*, as required by claim 4.

Petitioner points to column 33 lines 30-32 of Grotmol and contends that a POSITA would have understood Grotmol's disclosure at col. 33:30-32 to mean that a trained configuration containing behaviors learned on a second robot and loaded on a first robot would be implemented alongside the trained configurations for other controllers—i.e., controllers that Grotmol expressly discloses can be learned locally through learning processes on the first robot.

Reply, 2. Petitioner's arguments are conclusory, as the cited portion of Grotmol merely discloses that "[i]n some implementations, the trained configuration may be loaded to one or more other robots in order to provide learned behaviors." Ex-1004, 33:30–32. Grotmol's disclosure of loading one configuration from one robot into another robot *says nothing about a configuration being loaded alongside another configuration that was learned on the receiving robot in a different learning process to make up a single, mixed knowledgebase (as required by claim 4) that includes one correlation learned in one learning process involving one robot and another correlation learned in another learning processes involving another robot.* And simply because Grotmol's multiple controllers each including knowledge learned in a single learning process and on a single device may be "implemented alongside" each other does not mean that those controllers use or are a part of a single, mixed knowledgebase.

Further, the Board should reject Petitioner's last minute effort to construct an argument regarding why Grotmol allegedly discloses the claimed fourth correlation

and knowledgebase including correlations learned in different learning processes involving different devices. The Board has already noted problems with Petitioner's argument regarding the claimed fourth correlation and "question[ed] whether Petitioner has sufficiently shown that Grotmol discloses more than loading a trained configuration from a first robot to a second robot." Decision (Paper No. 20), 35. The Board also questioned whether Petitioner had sufficiently shown that "Grotmol discloses a fourth correlation learned in another learning process by a second robot that is included as part of the knowledgebase along with the first and second correlations learned by the first robot." *Id.*, 35-36. Grotmol's disclosure of additional controllers does nothing to cure the Grotmol deficiencies noted by the Board.

Petitioner's statement that Grotmol's configuration may be loaded from one robot to another robot "does not mean that the knowledgebase on a first robot that loads the trained configuration from a second robot would contain only the learned behaviors from the second robot," highlights the conclusory nature of Petitioner's argument. Reply, 2. ***The inquiry here is not what the destination robot may or may not already contain in a hypothetical, but what Grotmol discloses the destination robot actually containing.*** Grotmol's disclosure cited by Petitioner (Ex-1004, 33:30–32) lacks even a hint of any configuration that may already be in the destination robot, which confirms that the loaded configuration is for the entire robot

(i.e., all of its controllers) and that the loaded configuration is still learned on the single originating robot and in a single learning process (since Grotmol does not disclose multiple learning processes) even when loaded into another robot. Grotmol never mentions or suggests the hypothetical situation proposed by Petitioner, where a configuration is loaded onto an adaptive controller on a robot that already contains pre-trained adaptive controllers. And Grotmol certainly does not disclose or suggest how such a scenario would be handled by the device on which the configuration was loaded, much less the single, mixed knowledgebase claimed in claim 4. Further, based on all indications in Grotmol, a POSA would understand that Grotmol's controller is physical hardware, and nothing in Grotmol discloses adding physical controllers from one robot to another. ***In fact, Grotmol never provides even a hint that trained configurations or controllers (or anything for that matter) learned in multiple learning processes involving multiple robots are ever stored (i.e., mixed) in a single robot.***

Petitioner's claim that the adaptive controllers disclosed by Grotmol comprise a single, mixed knowledgebase is contradicted by Grotmol's disclosure. Reply, 2-4. Figure 10B, for example, shows two separate adaptive controllers receiving separate input and providing separate output. *Id.*, 4. Further, Petitioner's claim that "the knowledgebase on the first robot would include correlated images and instruction sets learned in learning processes on both the first and second robot,"

Reply, 5–6, is conclusory and not supported by the portion of Grotmol cited by Petitioner (Ex-1004, 33:21-30). The cited portion of Grotmol (33:21-30) merely provides that a trained configuration may be stored but does not explain or even mention a single, mixed knowledgebase including correlations learned in different learning processes involving different devices, as required by claim 4.

Contrary to Petitioner's assertion, Grotmol's disclosure that the receiving robot can benefit from the learning of the transmitting robot does not say anything about the specific single mixed knowledgebase of claim 4. Reply, 6. Grotmol discloses that the controllers are separate and provides no disclosure regarding a mixed, single knowledgebase including correlations learned in different learning processes involving different devices. Ex-1004, Figure 10B. Further, the matching allegedly disclosed by Grotmol and impermissibly newly cited by Petitioner, Reply, 6 (citing Ex-1004, 33:32-35), has nothing to do with a single, mixed knowledgebase, as required by claim 4. Instead, it simply provides that the controller learning process may match the process configuration present during saving of the loaded configuration and does not address the issue at hand of a single, mixed knowledgebase including correlations learned in different learning processes involving different devices.

Petitioner's statement that Grotmol's architecture employing the adaptive controllers is modular contradicts Petitioner's conclusory and unsupported statement

that “[a]ll training configurations—whether [allegedly] learned locally on the first device or shared by another device—are stored in the same knowledgebase (e.g., in memory 814).” Reply, 6-7. Each module or controller disclosed in Grotmol has its own data that is stored on the controller, Ex-1004, 33:24-27, and the controllers do not share a single, mixed knowledgebase as required by claim 4.

Petitioner’s attempt to equate the claimed knowledgebase with simple memory is also incorrect. Reply, 6-7. Claim 1, from which claim 4 depends, provides that the claimed memory “stores at least a knowledgebase.” Ex-1001, 102:8-12. *Therefore, the memory is an element that stores the more specific narrower element - the knowledgebase (with its own very specific elements), but is not the knowledgebase itself.* Moreover, the specification states that “[k]nowledgebase 530 may be or include any data structure or arrangement capable of storing the knowledge of a device’s operation in circumstances including objects with various properties.” *Id.*, 102:8-12. As a result, and as Petitioner concedes, a knowledgebase is more than just simple memory or storage. Petition, 13 n.2. Given this disclosure, Grotmol’s memory or any other part of Grotmol never discloses a mixed knowledgebase or data structure containing correlations learned in different learning processes involving different devices, as required by claim 4.

Petitioner’s claim that Grotmol discloses multiple users is also wrong and irrelevant to claim 4 as it recites a single “user” in the underlying independent claim

1. Reply, 7-8. Petitioner has failed to point to a single disclosure of multiple users using a single device in Grotmol (much less multiple users using multiple devices in multiple learning processes), and instead states without explanation that a POSA would have understood that user commands can be provided by multiple users. Reply, 7.

Petitioner's final argument that a single controller can include a knowledgebase with mixed correlations also is not contained in the Petition, is impermissible, and is wrong. Reply, 8-9. ***The inquiry here is not what a controller can or cannot include in a hypothetical, but what Grotmol discloses about what the controller actually includes.*** Petitioner's cited example, where a "first robot loads a trained configuration shared from a second robot and a user then modifies the trained configuration through additional training on the first robot," Reply, 9, merely discusses modifying configurations, and does not address or explain how a single controller can include a mixed knowledgebase ***including correlations learned in multiple learning processes involving multiple robots. In fact, Grotmol never provides even a hint that a controller (or anything for that matter) that is loaded from one robot into another robot is further modified on the destination robot.***

In summary, enabling a system to learn mixed autonomous operation knowledge in different learning processes involving different devices and integrate such knowledge into a single knowledgebase is an approach not disclosed or

suggested in Grotmol due to the complexities of combining the mixed knowledge into a single knowledgebase.

B. Claim 5

Petitioner next accuses Patent Owner of improperly importing a counting requirement into claim 5, Reply, 9–10, but Patent Owner has done no such thing. Patent Owner has merely pointed out that using the number of at least partially matching portions in the matching process of claim 5 *involves counting the portions and determining whether this counted number of portions exceeds a numerical threshold*, and Grotmol does not disclose any such counting of portions and numerical threshold. Response (Paper No. 26), 20–22. Further, using the percentage of at least partially matching portions in the matching process in claim 5 *involves counting the portions to compute the percentage and determining whether this computed percentage of portions exceeds a percentage threshold*. *Id.* However, Grotmol does not disclose any such counting of portions, computation, and percentage threshold, either. *Id.* Petitioner’s argument that the claimed determining can be performed without counting is wrong, and Petitioner’s expert never explains how the determining steps in claim 5 can be performed without counting as discussed above. *See* Ex-1010, ¶¶21–22.

Petitioner next argues that the similarity measure in Grotmol breaching a threshold reads on claim 5, but this is Petitioner’s own words unsupported in

Grotmol since Grotmol does not even mention, let alone disclose any numeric or percentage threshold. Reply, 10. The similarity measure, as Grotmol discloses, “may be determined by performing pixel-wise difference between . . . overlapping regions,” Ex-1004, 41:8-17, and “may characterize similarity between features of the subset and features of the given training set.” Ex-1004, 2:30-34. A similarity measure is *not* a number of at least partially matching portions, as required by claim 5. *Further, the similarity measure is for measuring similarity of compared elements, not for counting their number or computing their percentage.* Ex-2007, ¶¶82-83. Hence, a similarity measure of compared elements is clearly different than the number or percentage of the similar elements after the similarity measure of those elements is determined.

Petitioner next cites Grotmol’s disclosure of comparing shifted/trimmed images and argues that “the ‘shifted/trimmed frames’ for which a similarity metric is determined are ‘at least partially matching portions.’” Reply, 11. But there is no indication that Grotmol discloses determining that a number of these shifted or trimmed frames that are at least partially matched exceeds a threshold number. Instead, Grotmol discloses using a similarity measure with these shifted/trimmed images. Ex-1004, 40:52-41:17. As discussed above, a similarity measure is *not* a number of at least partially matching portions, as required by claim 5. Further, Petitioner’s claim that “a POSITA would have understood that Grotmol only

selectively performs the pixel-wise difference comparison between ‘portions’ of a new image and images in a pre-determined ‘matching’ search set,” Reply, 11, is conclusory and unsupported by Grotmol’s disclosure. Nothing in Grotmol discloses determining whether at least partially matching portions of images exceed a numerical or percentage threshold, as required by claim 5.

Finally, Petitioner’s attempt to manufacture the use of a threshold in Grotmol’s disclosure of a best match process also fails. Reply, 12. Grotmol merely discloses that “if a match search set image with the best match score (e.g., the lowest norm) belongs to the primary particle set then it may be selected as the best match. If the image with the best match score belongs to the secondary particle set than it may be selected based on an evaluation of image history parameter.” Ex-1004, 41:35-40. This portion of Grotmol never cites the word threshold or explains how any threshold, much less numeric or percentage threshold as in claim 5 is used, and Petitioner’s attempt to manufacture the use of a threshold out of Grotmol’s disclosure of match scores fails. Petitioner’s claim that the threshold is “zero when a ‘best match’ is determined with a portion of an image from a ‘primary particle’ of the matching search set or . . . one or more depending on the window size when a ‘best match’ is determined with a portion of an image from a ‘secondary particle’ set,” Reply, 12, mischaracterizes Grotmol’s disclosure to manufacture a fictional

threshold. Grotmol's simple matching using first and second sets never mentions using any threshold, let alone a numeric or percentage threshold.

C. Claim 7

Contrary to Petitioner's arguments, Reply, 12–18, Patent Owner's proposed construction for “connection” in claim 7 is well-supported by the intrinsic and extrinsic record, and Grotmol fails to disclose the claimed connections under this construction. Further, Petitioner's over-broad proposal for the alleged plain and ordinary meaning of “connection” as “an association or relationship,” Reply, 16, contradicts the intrinsic record and *would effectively render the term meaningless since the connection in claim 7 is recited to narrow what is recited in independent claim 1.*

After the Board invited the parties to provide additional argument regarding the meaning of the claimed “connection” in claim 7 (Institution Decision, 41), Patent Owner offered a well-supported construction of the term as “a relationship that includes a link.” Response, 9–15. Patent Owner's proposed construction is reasonable, well-supported, and is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (en banc). “Importantly,” skilled artisans are “deemed to read the claim term . . . in the context of the entire patent.” *Id.* The specification “is always highly relevant to the claim construction analysis”

and is usually “dispositive.” *Phillips*, 415 F.3d at 1315. Patent Owner’s construction is consistent with the claim language and is well-supported by the intrinsic record including the specification and figures, particularly Figures 17 and 18A of the ’974 patent. Response, 9-15.

Petitioner’s contention that PO’s proposed construction improperly imports a requirement for a connection to include a link is wrong. Reply, 14. The portions of the specification and drawings cited in the Response provide important context and meaning for the term “connection,” and the various examples of connections shown in Figures 17 and 18A and the associated disclosure confirm that a connection is a relationship that includes a link. Response, 10-14. Petitioner’s argument that certain cited language that includes a permissive “may” is not relevant to construing the term “connection” is wrong. Reply, 14. The portions of the ’974 patent cited by Petitioner are highly relevant, as they provide specific descriptions of connections and Figures showing connections as relationships that include links. Reply, 10-14. And Petitioner is wrong that the ’974 patent never refers to a connection including a link, as both *Figures 17 and 18A show a connection including a link*. Moreover, the ’974 patent specifically provides that “[k]nowledge cells [including correlations] may be connected, interrelated, or *interlinked* into knowledge structures using statistical, artificial intelligence, machine learning, and/or other models or techniques.” Ex-1001, 153:66-154:2 (emphasis added).

Petitioner’s claim that the meaning of the term “link” is unclear is undermined by the fact that the *’974 patent specifically provides disclosure of a link in Figures 17 and 18A*, and that the patent states that “[k]nowledge cells . . . may be . . . *interlinked* into knowledge structures.” Ex-1001, 153:66-67 (emphasis added). Further, Dr. Saber specifically pointed to *Figure 17 when asked to define “link” during his deposition and provided a clear description of the meaning of the term based on the specification*. Ex-1012, 12:12-35:1. And Petitioner’s only argument regarding the dictionary definitions of “connection” cited by Patent Owner is that the definitions were “cherry-picked.” Reply, 15. But these definitions support Patent Owner’s proposed construction and are entirely consistent with the disclosures of the ’974 patent, including the figures and portions of the patent cited by Patent Owner in its Response. Response, 9-14.

Petitioner’s argument that Patent Owner’s proposed construction departs from the term’s ordinary meaning misses the mark. Reply, 12-16. As discussed in the Response, Patent Owner’s construction is consistent with the term’s customary meaning and is supported by the claims, specification, drawings, and intrinsic record as a whole. Response, 9–14. The Board should reject Petitioner’s attempt to analyze claim terms “in a vacuum.” *See Slimfold Mfg. Co. v. Kinkead Indus., Inc.*, 810 F.2d 1113, 1116 (Fed. Cir. 1987).

By contrast, Petitioner’s alleged plain and ordinary meaning for the term “connection” as an “association or relationship,” Reply, 16, finds no support in the intrinsic record and broadens the meaning of the term improperly. Petitioner provides no explanation in its Reply regarding how the intrinsic record supports its proposed meaning. Reply, 15-16. Moreover, the specification never uses the term “association” in relation to the term “connection.” And the specification plainly shows in Figures 17 and 18A and the disclosure discussed in the Response that a connection is more than simply an association. Response, 9-14. The Board should reject Petitioner’s overly broad and unsupported meaning for “connection” and adopt Patent Owner’s proposed construction.

Petitioner next incorrectly argues that Grotmol discloses connections under the alleged plain and ordinary meaning of that term because “Grotmol describes storing correlations including sequences of images with their corresponding instruction sets . . . , and that the training buffer may be ordered temporally, according to when the images were acquired.” Reply, 16. But as discussed in the Response, *a sequence of elements inherently does not need any connections since the sequence is an ordered group of elements of a single path (i.e., sequence)*, hence, Grotmol never discloses connections because Grotmol does not need them. Response, 24. In contrast, connections may be used to link specific correlations to create multiple paths (unlike a single path in Grotmol’s sequence) through the

knowledgebase. Ex-2007, ¶¶88-90. Further, as discussed above, a connection is not simply an association, and therefore Grotmol's disclosure of "an ordered buffer in a non-volatile memory," Ex-1004, 38:39-42, does not disclose the claimed connections or relationships including links.

Petitioner also cites Grotmol's disclosure that the images may be ordered in the training buffer either temporally or in some other fashion, Reply, 17-18, but regardless of the order of the training buffer, the order is different from the claimed connections or relationships that include links, Ex-2007, ¶¶87-90. Petitioner cites an alleged "temporal link" between images in Grotmol's ordered training buffer, Reply, 17-18, but this is Petitioner's own words unsupported in Grotmol that at most indicates that the images are temporally ordered and says nothing about them being connected or in relationships that include links. Also, Petitioner's contention *only mentions images* as allegedly being linked (which even Grotmol does not disclose) and *does not address the correlations being connected* as recited in claim 7. And the figure Petitioner has created in its Reply, Reply, 18, is conclusory, not contained in Grotmol, and inserts links in Grotmol where Grotmol only discloses temporally ordered, but not connected or linked, images. As a result, Grotmol's disclosure of basic memory storing ordered images and instruction sets does not disclose the claimed connections between the first correlation and the second correlation, and

between the second correlation and the fourth correlation of claim 7. Ex-2007, ¶¶84-90.

Finally, claim 7 additionally *requires generating the first and second connections*, and Petitioner has failed to point to any portions of Grotmol that disclose this generation of connections. Reply, 16-18.

IV. GROUND 2: GROTMOL DOES NOT RENDER OBVIOUS CLAIM 11

Petitioner first contends that “PO’s arguments regarding claim 11 are similar to PO’s arguments for claim 4,” and that a POSA reviewing Grotmol would understand that Grotmol discloses multiple learning processes. Reply, 18. But for the reasons discussed above, Grotmol fails to disclose a second learning process involving a second (“another”) device, and a POSA would not have found the second learning process involving the second device obvious based on Grotmol offering not even a hint of these elements. Response, 25-35.

Petitioner’s contention that Dr. Saber conceded that “it would have been understood to a POSITA for user commands in Grotmol to be provided by multiple users,” Reply, 18-19, is wrong and mischaracterizes Dr. Saber’s testimony. The cited testimony merely indicates that multiple users *could* provide commands to multiple adaptive controllers, and not that a POSA would have understood that Grotmol discloses more than one user as required by claim 11. Ex-1011, 166:12-18. Further, at his depositions Dr. Saber was able to identify numerous disclosures in

Grotmol where only a single user is mentioned. Ex-1011, 182:21-187:2; Ex-1012, 78:15-83:16.

Petitioner next contends that it would “have been obvious to a POSITA that when there are multiple robots, particularly different types of robots, they can be trained by different trainers.” Reply, 19. Petitioner is wrong since this argument describes *a situation involving two trained configurations each stored and learned on a different robot, whereas claim 11 recites a single knowledgebase that includes mixed knowledge of correlations (i.e., first and second) learned in one learning process involving one device and one user and an additional correlation (i.e., fourth) learned in another learning process involving a second device and another user.* Ex-2007, ¶¶93-103. Grotmol fails to mention at all any second learning process involving a second device and second user, any detecting of a circumstance by a second device, and any instruction sets for operating a second device, as required by claim 11.

Petitioner next argues that “[s]imply because Dr. Janet considered an anticipation ground as ‘plausible,’ does not mean that his obviousness analysis provided in his first declaration is incorrect.” Reply, 20. However, nothing Petitioner says in its Reply cures the deficiencies with Dr. Janet’s obviousness analysis. Petitioner and Dr. Janet have failed to provide a legally proper obviousness analysis because, with respect to the claimed features, they failed to identify any

gaps in Grotmol's disclosure and they did not address how/why it would have been obvious to a POSA to implement those features (including failing to explain how to modify/combine Grotmol in view of the knowledge of a POSA and failing to provide evidence of a reasonable expectation of success). Response, 33-34. As discussed more fully below and in the Response (*id.*, 56-61), the Board should not credit Dr. Janet's testimony about any anticipation analysis regarding claim 11 and Grotmol, and Dr. Janet and Petitioner have failed to perform a proper obviousness analysis regarding claim 11.

V. GROUND 3: GROTMOL AND HICKMAN DO NOT RENDER CLAIMS 4 AND 11 OBVIOUS

Petitioner's claim that "the organization of knowledgebases is not relevant to the combination of Grotmol and Hickman," Reply, 21, is wrong and undermined by the fact that a key component of the inventions of claims 4 and 11 is the single, mixed knowledgebase that includes mixed knowledge of correlations learned in different learning processes involving different devices, and different users (in claim 11). Petitioner's attempt to divorce *the very general* "Hickman's teachings of facilitating knowledge sharing among different robots through a cloud computing system" (that cannot be used in a proper combination and obviousness analysis due to generality) from *the specific* "organization of knowledgebase in Hickman," *id.* (that does not disclose the claimed invention), fails because the manner in which

correlations are learned, structured, and claimed in a single knowledgebase is a critical part of the claimed invention.

Petitioner's argument that "PO's reliance on other features of Hickman to argue non-obviousness is without merit because '[t]he test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference,'" Reply, 21 (quoting *Allied Erecting v. Genesis Attachments*, 825 F.3d 1373, 1381 (Fed. Cir. 2016)), also misses the mark. This has nothing to do with the bodily incorporation, but with the fact that Hickman discloses storing instruction sets and images separately in separate knowledgebases, which a POSA would have found to be incompatible with (and to teach away from) Grotmol's disclosure of training sets or correlations with images and instruction sets correlated and stored together that is a fundamental element missing in Hickman required for the alleged Grotmol-Hickman combination to work at all. Ex-2007, ¶¶104-105.

Petitioner next contends that "PO incorrectly describes Hickman," Reply, 21, but Petitioner never disputes that Hickman discloses storing instruction sets and images separately in separate knowledgebases (images in Unique Object Knowledge Base 307 and instructions in Task Knowledge Base 309, *see* Ex-1005, Fig. 3). Response, 35. Instead, *Petitioner now offers an entirely new mapping of Hickman's disclosure to the claimed invention that is untimely, incorrect, and*

impermissible. For the first time in its Reply, Petitioner maps the tasks data disclosed by Hickman to the claimed instruction sets. Reply, 21-24. The rule that Petitioner must present all of its arguments up front in the Petition ***exists to give the patent owner a fair opportunity to respond during the IPR proceedings and not be ambushed the Petitioner later in the proceedings.*** Therefore, it is imperative for the Board to prevent Petitioner from introducing new arguments such as this one.

Regarding Petitioner's statement that "Hickman is somehow limited to 'storing instruction sets and images separately in separate knowledgebases,'" Reply, 23, what Patent Owner is arguing is that a POSA reading Hickman's disclosure of images and instruction sets stored separately would not have been motivated to combine Grotmol and Hickman in the manner proposed by Petitioner, Ex-2007, ¶¶109-110, especially in view of Petitioner's failure to provide how to modify/combine Grotmol and Hickman, and failure to provide evidence of a reasonable expectation of success. Further, simply because Hickman may contemplate "the addition of other fields to the unique object knowledge base 307," Reply, 23-24, says nothing about Hickman's disclosure of storing instruction sets and images separately that teaches away from the claimed invention. A POSA reading Hickman's disclosure in light of Grotmol's disclosure of storing images and instruction sets together would not have combined the references to arrive at the claimed invention. Response, 38-41.

Petitioner's next contention that Patent Owner's assertion that Hickman teaches away from the claimed circumstance representations and correlations is immaterial, is also wrong. Reply, 24-28. Hickman discloses (i) *storing images and instructions separately in separate knowledgebases (see Ex-1005, Fig. 3) that is not a correlation* as well as (ii) *a single object information that is not a circumstance representation*. Hence, Hickman does not disclose or suggest (and further teaches away from) (i) any correlations and (ii) any circumstance representations. Since **both** circumstance representations and correlations are fundamental to the operation of the system in Grotmol, Hickman must disclose **both** the circumstance representations and correlations in order to be combinable with Grotmol at all. Ex-2007, ¶106. Petitioner has failed to rebut this argument in its Reply and appears to concede that Hickman's single object information is not a circumstance representation since it presents no argument on this point.

Finally, regardless of whether it would have been obvious to combine Grotmol and Hickman, the references fail to disclose numerous claim limitations, as discussed in Patent Owner's Response. Response, 41-56. Petitioner has failed to respond to these arguments and appears to concede that the references fail to disclose the claimed single mixed knowledgebase comprising the claimed fourth correlation including a fourth circumstance representation detected by a second device and learned in another learning process involving the second device (claim 4), and the

single mixed knowledgebase comprising the claimed fourth correlation including a fourth circumstance representation detected by a second device and learned in another learning process involving the second device and another user (claim 11).

VI. THE PETITION’S OBVIOUSNESS ANALYSIS IS FLAWED

Petitioner’s contention that “the Petition clearly identifies the features it deems are rendered obvious by reference to a POSITA’s knowledge or the teachings of Hickman under Grounds 2 and 3,” is wrong. Petitioner’s citation to certain pages in its Petition, Reply, 28 (citing Petition, 56-57, 61, 64-65), does nothing to cure the deficiencies in Petitioner’s obviousness analysis with respect to Grounds 2 and 3. Nothing on the cited pages explains which specific claim limitations are missing in the primary reference for Grounds 2 and 3. And nothing in the Reply identifies the missing limitations as well. By failing to identify any gaps in Grotmol’s disclosure with respect to the claimed features and then addressing how/why it would have been obvious to a POSA to implement those features, Petitioner and Dr. Janet have failed to provide a legally proper obviousness analysis. Response, 56-61.

Dated: July 11, 2024

Respectfully submitted,

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CERTIFICATION OF WORD COUNT

The undersigned hereby certifies that the portions of the above-captioned **PATENT OWNER'S SUR-REPLY** specified in 37 C.F.R. § 42.24 have 5,599 words, in compliance with the 5,600 word limit set forth in 37 C.F.R. § 42.24(c). This word count was prepared using Microsoft Word.

Respectfully submitted,

Dated: July 11, 2024

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CERTIFICATION OF SERVICE

The undersigned hereby certifies that a copy of this **PATENT OWNER'S SUR-REPLY** has been served on Petitioner via email on the following counsel of record for Petitioner:

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