

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

DJI Europe B.V.
Petitioner,

v.

TEXTRON INNOVATIONS INC.
Patent Owner.

Case IPR2023-01227
Patent No. 11,288,972

**PATENT OWNER'S PRELIMINARY RESPONSE
UNDER 37 C.F.R. § 42.107**

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1006	U.S. Patent 9,852,642 to Butler et al. ("Butler")
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1028	“Enabling Civilian Low-Altitude Airspace and Unmanned Aerial System (UAS) Operations by UTM” (March 23, 2015), <i>available at</i> https://ntrs.nasa.gov/api/citations/20160000434/downloads/20160000434.pdf .
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1030	U.S. Patent App. Pub. 2016/0275801 to Kopardekar
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USPTO MEMORANDUM

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I. INTRODUCTION

The Board should deny institution of *inter partes* review for discretionary and merits-based reasons.

Each *Fintiv* factor favors denial. Trial is scheduled to take place well before any final written decision will issue in this proceeding, the parties and district court will have invested significant resources in the related litigation by the time an institution decision issues, and the Petition raises the same issues as in related litigation because Petitioner has not provided any stipulation as to which grounds it will raise in litigation should the Board grant institution. Moreover, the Petition does not present a compelling challenge that overcomes a *Fintiv* denial as it suffers from fatal deficiencies. Indeed, regarding the merits, the Petition fails at least because it is inconsistent in its analysis of claim terms and proffers a motivation to combine that fails to articulate why or how one of ordinary skill in the art would have combined the asserted prior art.

In addition to failing to articulate a rational basis supporting Petitioner's assertion of obviousness, the Petition also fails to establish that any of the references relied upon by Petitioner disclose every element of the challenged claims. For example, for both grounds, Petitioner relies upon UTM-DNET as disclosing the “*modifying the flight path*” limitation of the independent claims. But “time shift[ing]” a flight plan, as taught by UTM-DNET, does not involve

“modifying” a “*flight path*,” as required by the claims. And Petitioner has not and cannot show that UTM-DNET’s generic disclosure of “optimization” and “re-optimiz[ation]” of a flight plan teaches or renders obvious “modifying” a “flight path.”

As such, the Board should deny institution of this *inter partes* review.

II. THE BOARD SHOULD DENY INSTITUTION UNDER *FINTIV*

Under § 314(a), the Board has discretion to deny institution when there is a parallel district court proceeding. In considering whether to exercise discretion, the Board balances six factors:

1. whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted;
2. proximity of the court’s trial date to the Board’s projected statutory deadline for a final written decision;
3. investment in the parallel proceeding by the court and the parties;
4. overlap between issues raised in the petition and in the parallel proceeding;
5. whether the petitioner and the defendant in the parallel proceeding are the same party; and
6. other circumstances that impact the Board’s exercise of discretion, including the merits.

Apple Inc. v. Fintiv, Inc., IPR2020-00019, Paper 11 at 5-6 (PTAB Mar. 20, 2020).

“These factors relate to whether efficiency, fairness, and the merits support the exercise of authority to deny institution in view of an earlier trial date in the parallel proceeding.” *Id.* In evaluating, the Board takes “a holistic view of whether

efficiency and integrity of the system are best served by denying or instituting review.” *Id.*

Patent Owner asserted the '972 Patent, as well as three other patents, against Petitioner in *Textron Innovations Inc., v. SZ DJI Tech. Co., Ltd. et al.*, Case No. 2:22-CV-00351-RWS-RSP (E.D. Tex.) (Complaint filed September 9, 2022) (“the district court litigation”). In view of the advanced nature of this parallel litigation, discretionary denial under *Fintiv* is warranted.¹

A. Factor 1 Favors Denial or is Neutral (Likelihood of a Stay)

Factor 1 weighs in favor of exercising discretion to deny institution or, at a

¹ Petitioner did not address *Fintiv* other than providing a cursory argument that its Petition “presents a compelling unpatentability challenge” and “[s]hould PO raise discretionary denial under *Fintiv* in its preliminary response, Petitioner reserves the right to offer a stipulation at that time to mitigate or foreclose *Fintiv* discretionary denial.” Petition (Paper 2), 80-81. To the extent Petitioner requests authorization to address *Fintiv* with a more complete analysis, such a request should be denied. Petitioner had good reason to expect a *Fintiv* argument by Patent Owner, at least because it filed the Petition close to the one-year statutory bar, knew of the advanced stage of litigation, and has not offered any stipulation that would have obviated the *Fintiv* issues.

minimum, is neutral. Petitioner has requested a stay in the parallel district court litigation, but there is no evidence indicating that the stay will be granted as the court has a “universal” practice to deny pre-institution stays. EX2001; EX2002, 7-8. Indeed, neither Judge Schroeder nor Judge Payne, who are assigned to the district court litigation, appear to have granted any contested pre-institution stays. EX2003; EX2004. And the likelihood of any post-institution stay is similarly slim. EX2005; EX2006. Absent evidence indicating a stay, this factor weighs in favor of discretionary denial or, at a minimum, is neutral. *Mylan Labs. Ltd. v. Janssen Pharmaceutica NV*, IPR2020-00440, Paper 17 at 13-14 (PTAB Sept. 16, 2020) (finding this factor “leans towards denial of institution” where the facts in the parallel district court proceeding “indicate that no stay is likely to be entered”); *see also Sand Revolution II, LLC v. Cont'l Intermodal Grp.-Trucking LLC*, IPR2019-01393, Paper 24 at 7 (P.T.A.B. June 16, 2020) (noting that without “specific evidence” of whether or not a stay would be granted, this factor is neutral).

B. Factor 2 Strongly Favors Denial (Timing of Trial)

Fintiv factor 2 weighs heavily in favor of exercising discretion to deny institution. Trial in the district court litigation is scheduled to take place in July 2024—four months after the deadline for an institution decision to issue (March 15, 2024) and approximately eight months before the statutory deadline for a final written decision of March 15, 2025. Paper 5; EX2007, 1. This factor therefore

“weighs heavily” in favor of denial. *See Roku, Inc. v. Ioengine, LLC*, IPR2022-01553, Paper 11 at 10-11 (PTAB May 5, 2023) (trial date “about six months prior to the due date for [] final written decision” found to “weigh[] heavily in favor of discretionary denial of institution”); *Samsung Electronics Co., Ltd. v. California Institute of Technology*, IPR2023-00130, Paper 10 at 16 (PTAB May 4, 2023) (trial date “several months before the expected date of [] final written decision” weighing in favor of denial); *Zhuhai Cosmx Battery Co. Ltd. v. Ningde Ampere Tech. Ltd.*, IPR2023-00585, Paper 12 at 11-13 (PTAB Oct. 24, 2023) (trial scheduled “about eight or nine months before the statutory deadline” to issue a final written decision, and median time-to-trial statistics indicating “trial would occur about three to four months before the statutory deadline,” weighing in favor of denial).

Moreover, there is no indication that the litigation is departing from the scheduled July 2024 trial date. The most recent trial statistics for the twelve-month period ending June 30, 2023 indicate that the Eastern District of Texas’s median time-to-trial for civil cases is 19 months. EX2008, 35. The time-to-trial for the district court litigation is approximately three months longer than the median, which indicates that the scheduled date is conservative and will likely be maintained. The statistics therefore further support that trial will take place well before issuance of a final written decision.

C. Factor 3 Strongly Favors Denial (Investment in Parallel Proceeding)

Factor 3 weighs heavily in favor of denial because both Petitioner and Patent Owner will have invested significantly and expended considerable resources in the parallel district court litigation by the time the Board issues a decision on institution. For this factor, the Board considers “the amount and type of work already completed in the parallel litigation by the court and the parties at the time of the institution decision.” *Fintiv*, Paper 11 at 9. “Specifically, if, at the time of the institution decision, the district court has issued substantive orders related to the patent at issue in the petition, this factor favors denial.” *Id.*, 9-10. For example, “district court claim construction orders may indicate that the court and parties have invested sufficient time in the parallel proceeding to favor denial.” *Id.*, 10. “This investment factor is related to the trial date factor, in that more work completed by the parties and court in the parallel proceeding tends to support the arguments that the parallel proceeding is more advanced, a stay may be less likely, and instituting would lead to duplicative costs.” *Id.*

Here, the Board is projected to issue a decision on institution by March 15, 2024. By that time, the parties will have fully briefed and argued claim construction, and likely will have obtained a final *Markman* order. EX2007, 3-4. Fact discovery will be completed. *Id.* Completion of expert discovery will be approximately two weeks away, with opening expert reports having been served

and rebuttal reports coming due in three days. *Id.* Document production will be substantially completed. *Id.* Petitioner has already served invalidity contentions including the same combinations presented in this proceeding. EX2009.

Accordingly, the parties will have already expended significant time and resources in the parallel district court litigation, including work relevant to validity, claim construction, and fact and expert discovery, before an institution decision. For at least these reasons, the parties' significant investment in the parallel district court litigation before the Board issues a decision on institution weighs heavily in favor of discretionary denial. *See, e.g., Fintiv*, IPR2020-00019, Paper 15 at 13-14 (finding this factor weighed in favor of discretionary denial where the parties had fully briefed claim construction, conducted the *Markman* hearing, and exchanged both initial and final infringement and invalidity contentions—"including detailed invalidity claim charts addressing the prior art cited in th[e] Petition"—despite fact discovery being in its early stages); *Zhuhai Cosmx Battery Co. Ltd.*, IPR2023-00585, Paper 12 at 14-15 (finding advanced nature of district court litigation heavily favoring denial).

D. Factor 4 Strongly Favors Denial (Overlap of Issues)

Factor 4 weighs heavily in favor of denial. Petitioner challenged claims 1-20 in this proceeding. Petition, 2. Claims 1-20 are currently asserted in the district court litigation, meaning all asserted claims have been challenged. EX1013, 1.

In the district court litigation, Petitioner is challenging ***all of the asserted claims*** using the ***same references*** and ***same grounds*** raised in the Petition. EX2009, 1, 11-13, 36, 39;² Petition, 3. Institution of the Petition would result in a high likelihood of inconsistent results and be inefficient, with the parties, Board, and district court all analyzing the same issues. This factor therefore weighs strongly in favor of discretionary denial and institution of this proceeding should be denied. *See, e.g., Fintiv*, Paper 11 at 12 (“[I]f the petition includes the same or substantially the same claims, grounds, arguments, and evidence as presented in the parallel proceeding, this fact has favored denial,” because “concerns of inefficiency and the possibility of conflicting decisions [are] particularly strong.”); *Resmed Corp v. Cleveland Medical Devices, Inc.*, IPR2023-00565, Paper 13 at 13-15 (PTAB Sept. 25, 2023) (“Given the overlap in claims, prior art, and arguments between this IPR and the district court, we have concerns regarding duplicative efforts and potentially conflicting positions”); *Intel Corp. v. VLSI Tech. LLC*, IPR2020-00158, Paper 16 at 12 (PTAB May 20, 2020) (denying institution when there was “substantial overlap between the issues raised in the Petition and in the [district court] litigation.”); *Google LLC v. AGIS Software Dev., LLC*, IPR2020-

² The UTM-DNET (EX1005) reference is referred to as “Homola” in the invalidity contentions. EX2009, 13.

00873, Paper 16 at 15 (PTAB Nov. 25, 2020) (denying institution where there was “substantial overlap between the grounds asserted in the underlying litigation and those asserted in the Petition, so that institution of an *inter partes* review likely will result in duplicative efforts by the Board and the trial court as to how the references teach limitations of the challenged claims.”); *U.S. Venture, Inc. v. Sunoco Partners Marketing & Terminals L.P.*, IPR2020-00728, Paper 10 at 12-14 (PTAB Oct. 1, 2020) (denying institution where the petitioner relied on the same primary references in IPR and the parallel district court proceeding, as “instituting an *inter partes* review would likely duplicate the district court’s efforts, as well as create the potential for inconsistent results, both of which undercut the efficiency and integrity of the Patent system.”).

Additionally, Petitioner has not provided any stipulation that it will forego using the prior art included in the Petition in the district court litigation, let alone that it will not pursue any ground that could have been reasonably raised under 35 U.S.C. §§ 102 or 103 based on prior art patents and/or printed publications. Nor has Petitioner taken any other actions to mitigate the duplicative challenges. For at least these additional reasons, this factor weighs strongly in favor of discretionary denial. *See, e.g., Resmed*, IPR2023-00565, Paper 13 at 14-15 (“Petitioner could have expressly waived in district court any overlapping patentability or invalidity defenses but chose not to. Given the facts here this factor weighs in favor of

exercising discretion to deny institution”); *Apcon, Inc. v. Gigamon Inc.*, IPR2020-01579, Paper 9 at 26 (PTAB Mar. 16, 2021) (finding this factor favored denial where the art was substantially the same and no stipulation had been filed by the petitioner agreeing not to assert the same art in the parallel proceeding); *Code200, Uab v. Luminati Networks Ltd.*, IPR2020-01506, Paper 10 at 11-12 (PTAB Feb. 16, 2021) (determining that this factor favored exercising discretion to deny institution where the petitioner had not filed any stipulations or taken any actions to reduce the overlap between the IPR and district court proceedings); *see also Vizio, Inc. v. Maxell, Ltd.*, IPR2022-01458, Paper 8 at 51-52 (PTAB April 11, 2023) (lack of stipulation weighing in favor of denial, but instituting due to “compelling merits”); *Samsung Electronics Co., Ltd. et al. v. Ancora Technologies, Inc.*, IPR2020-01184, Paper 11 at 19-21 (PTAB Jan. 5, 2021) (finding that a narrow stipulation agreeing only that the art used in the grounds in the Petition would not be raised during trial in the parallel litigation does not “mitigate the ‘concerns of inefficiency and the possibility of conflicting decisions,’ nor does it ensure that an *inter partes* review is a ‘true alternative’ to the parallel District Court proceeding.”) (quoting *Fintiv*, Paper 11 at 12).

E. Factor 5 Strongly Favors Denial (Overlapping Parties)

Factor 5 weighs strongly in favor of discretionary denial. It is undisputed that Petitioner and Patent Owner are the same parties in the district court litigation.

See, e.g., Fintiv, Paper 15 at 15 (“Because the petitioner and the defendant in the parallel proceeding are the same party, this factor weighs in favor of discretionary denial.”); *Samsung Electronics Co., Ltd. et al. v. Ancora Technologies, Inc.*, IPR2020-01184, Paper 11 at 22-23 (PTAB Jan. 5, 2021).

F. Factor 6 Strongly Favors Denial (Other Circumstances)

This factor is “a catch-all that takes into account any other relevant circumstances,” including “strengths or weaknesses” of the parties’ arguments. *Samsung Electronics Co., Ltd. v. Clear Imaging Research, LLC*, IPR2020-01401, Paper 12 at 23 (PTAB Feb. 17, 2021).

As noted above, Petitioner did not address *Fintiv* other than stating the Petition presented a “compelling unpatentability challenge” and reserving the right to offer a stipulation if Patent Owner raised *Fintiv* in the POPR. Petition, 80-81. Petitioner’s chosen strategy is problematic for multiple reasons and strongly favors denial.

Petitioner’s bare statement that its Petition “presents a compelling unpatentability challenge” is undercut not only by the fatal deficiencies identified below (see Section V), but also the Director’s precedential opinion in *Commscope Tech. LLC v. Dali Wireless, Inc.*, IPR2022-01242, Paper 23 (PTAB Feb. 27, 2023) (Director Review Decision) (Precedential). Under *Commscope*, the Board “should first assess *Fintiv* factors 1-5” and “if that analysis supports discretionary denial,

the Board should engage the compelling merits question.” *Commscope*, Paper 23 at 6. Petitioner did not address *Fintiv* factors 1-5. Thus, not only does the Petition fail in providing a compelling challenge—its bare argument is improper and carries no weight.

Petitioner's compelling challenge argument (as well as its challenge in general) is also undermined by the inconsistent claim construction positions it has taken before the Board and in the parallel district court litigation, which could lead to inconsistent results. In district court, Petitioner proposed construing every limitation of the independent claims. *See* EX2010, 4-8. None of these constructions were proposed by Petitioner in the Petition, and at least the following proposed constructions are not properly addressed—even implicitly—by the Petition's Grounds:

- Preamble of independent claim 1 is limiting, “method elements are performed in the listed order,” “[f]leet is more than one vehicle,” and the preamble is “[u]ndertaken or carried on without outside control” (EX2010, 5);
- Preamble of independent claim 8 is limiting, “[f]leet is more than one vehicle,” “[t]he recited elements must be part of the fleet controller not external to it,” the preamble is “[u]ndertaken or carried on without outside control,” the preamble's “fleet controller” is “[a] controller

external to a vehicle that controls the vehicle,” and the preamble requires the “[s]pecific order of performance” of claim elements (EX2010, 7; EX2012, 11-12);

- Preamble of independent claim 15 is limiting, “[f]leet is more than one vehicle,” the preamble is “[u]ndertaken or carried on without outside control,” “[t]he system comprises the distinct recited elements,” and the preamble requires the “[s]pecific order of performance” of claim elements (EX2010, 7-8); and
- “*sending the vehicle commands to the vehicle using the connection*” (claims 1, 8, and 15) means “[t]he commands are sent over the persistent connection from the controller to the vehicle” and “[s]ending of vehicle commands is performed by the fleet controller” (EX2010, 6-7).

By failing to present its proposed district court constructions in this proceeding, the Petitioner is asking the Board to review unpatentability arguments based on claim interpretations it has specifically ***advocated against*** in district court (i.e., that the above claim terms and limitations should have their “plain and ordinary” meaning). Furthermore, the Board cannot determine whether the prior art reads on the claims as construed by Petitioner in the district court because the Petition did not analyze the relevant claim terms and limitations under such

constructions. And in any event, as Section V shows, the Grounds do not show that the prior art discloses every element of the claims under Petitioner's proposed constructions (or under a plain or ordinary meaning).³

Petitioner's chosen strategy leaves the Board with the choice of alternative claim constructions that could lead to conflicting claim interpretations and applications of prior art, inconsistent rulings, and/or Petitioner's arguments in the Petition becoming inapposite or failing to provide a sufficient evidentiary basis to support institution. The Board has found that such a quagmire results in the Petition failing to meet the compelling merits standard, and further weighs factor 6 in favor of exercising discretion to deny institution. *Resmed Corp. v. Cleveland Medical Devices Inc.*, IPR2023-00565, Paper 13 at 17-18 (PTAB Sept. 25, 2023).

And as a broader issue, Petitioner's chosen strategy is an example of the "inefficiency and gamesmanship" the Director intended to eliminate in the *Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation Memorandum* (June 21, 2022), 1. Petitioner's inconsistent constructions amount to "gamesmanship" that, as noted above, may result in inconsistent rulings and cause a lack of uniformity between this proceeding and the

³ Patent Owner's discussion of Petitioner's proposed claim constructions in the district court litigation is not an admission that those constructions are correct.

district court. Prior panels have found that Petitioner's practice "undermine[s] the 'predictability'" of claim scope, as well as the "integrity of the patent system" overall." See *Kiosoft Tech. LLC and Techtrex, Inc. v. Payrange, Inc.*, IPR2021-00086, Paper 12 at 14-16 (PTAB March 22, 2021).

Moreover, Petitioner had good reason to expect the POPR would address discretionary denial under *Fintiv* in view of the July 2024 trial date and advanced stage of litigation, and because Petitioner waited until approximately the last possible month to file its Petition. And Petitioner apparently recognized this by expressly "reserv[ing] the right to offer a stipulation" to "mitigate or foreclose *Fintiv* discretionary denial" should "PO raise discretionary denial under *Fintiv* in its preliminary response." Petition, 80-81. But within the current context, premising an offer of stipulation on whether "PO raise[s] discretionary denial under *Fintiv* in its preliminary response" feigns ignorance on the issue. Petitioner's inefficient, gamesmanship strategy forces Patent Owner to expend a significant portion of its word count to address *Fintiv* even though Petitioner apparently intends to offer a stipulation to mitigate or foreclose the issue after the POPR is filed.

Petitioner's chosen strategy therefore strongly favors denial.

* * * * *

In sum, the *Fintiv* factors weigh heavily in favor of discretionary denial. The

Board should therefore exercise its discretion to deny institution to avoid an inefficient duplication of efforts and resources for the Board, the parties, and the district court.

III. LEVEL OF SKILL IN THE ART

For the limited purpose of this Preliminary Response, Patent Owner does not contest Petitioner's definition of a person of ordinary skill in the art ("POSITA") but reserves the right to do so in the event that trial is instituted.

IV. CLAIM CONSTRUCTION

The Board applies the *Phillips* claim construction standard used by the district courts. *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (*en banc*). Patent Owner submits that the claims should take their plain and ordinary meaning and it is not necessary for the Board to construe claim terms to deny institution.

As noted above, in the parallel district court litigation, Petitioner proposed construing every limitation of the '972 patent's independent claims but failed to propose any constructions for these claims in the Petition. EX2010, 4-8; Petition, 10. Patent Owner addresses the deficiencies in the Grounds created by Petitioner's inconsistent positions below. *See infra*, Section V.A.

V. THE PETITION DOES NOT ESTABLISH A REASONABLE LIKELIHOOD OF PREVAILING

The Board should deny institution because Petitioner fails to show that there is a reasonable likelihood that it would prevail with respect to at least one of the

challenged claims. 35 U.S.C. § 314(a).

For brevity, Patent Owner addresses only those arguments that are necessary for the Board to determine whether to institute trial at this stage and makes no admission or waiver with respect to arguments not addressed herein. Further, to avoid confusion and facilitate the Board's review, Patent Owner adopts the Petition's labeling of claim elements of the '972 Patent for this Response without accepting the substance of the Petition's arguments or any substantive implications of such labeling.

A. Grounds 1 and 2 are Deficient because Petitioner Fails to Identify its Proposed Claim Constructions and Show How the Construed Claims are Unpatentable

The Board should deny institution because Petitioner failed to address how the challenged claims should be construed and show how the construed claims are unpatentable. 37 C.F.R. §§ 42.104(b)(3), (b)(4). The Board has denied institution when Petitioner's do not comply with this requirement. *Orthopediatrics Corp. v. K2M, Inc.*, IPR2018-01547, Paper 9 at 9-11 (PTAB Feb. 22, 2019); *Volkswagen Grp. of Am., Inc. v. Mich. Motor Techs. LLC*, IPR2020-00229, Paper 13 at 9-10 (PTAB July 6, 2020).

As discussed above, in the parallel district court litigation, Petitioner proposed that **every limitation** of the '972 patent's independent claims requires construction. See EX2010, 4-8; Section II.F, *supra*. Yet, no construction of any

limitation was proposed in the Petition, and at least the following constructions proposed by Petitioner in the district court were not applied—even implicitly—in the Petition's Grounds:

- Preamble of independent claim 1 is limiting, “method elements are performed in the listed order,” “[f]leet is more than one vehicle,” and the preamble is “[u]ndertaken or carried on without outside control” (EX2010, 5);
- Preamble of independent claim 8 is limiting, “[f]leet is more than one vehicle,” “[t]he recited elements must be part of the fleet controller not external to it,” the preamble is “[u]ndertaken or carried on without outside control,” the preamble’s “fleet controller” is “[a] controller external to a vehicle that controls the vehicle,” and the preamble requires the “[s]pecific order of performance” of claim elements (EX2010, 7; EX2012, 11-12);
- Preamble of independent claim 15 is limiting, “[f]leet is more than one vehicle,” the preamble is “[u]ndertaken or carried on without outside control,” “[t]he system comprises the distinct recited elements,” and the preamble requires the “[s]pecific order of performance” of claim elements (EX2010, 7-8); and
- *“sending the vehicle commands to the vehicle using the connection”*

(claims 1, 8, and 15) means “[t]he commands are sent over the persistent connection from the controller to the vehicle” and “[s]ending of vehicle commands is performed by the fleet controller” (EX2010, 6-7).

Rather than propose constructions here, the Petition states, “[c]laim terms are typically given their ordinary and customary meanings as understood by a POSITA at the time of the invention” and “Petitioner does not believe it is necessary for the Board to expressly construe any term for the purpose of this IPR proceeding.” Petition, 10. Regarding the preamble of claim 1, the Petition notes, “Petitioner does not acquiesce the preamble is limiting.” Petition, 29 (FN3). Petitioner does not explain why it is advocating for different constructions in different forums and fails to address how the Grounds meet the constructions it proposes in district court.⁴ In any case, Petitioner’s Grounds fail under such constructions. *See, infra* Section V.C.

⁴ Such a failure is especially problematic where Petitioner acknowledges its apparent belief that construction was necessary. *See, e.g.*, Petition, 29 (FN4) (regarding the preamble of claim 1, “[t]he ’972 patent does not provide a definition for or provide a discussion of what constitutes an ‘autonomous’ vehicle or operation.”).

Petitioner's failure to identify its proposed constructions from parallel litigation and show how the construed claims are unpatentable under those constructions renders the Petition deficient under 37 C.F.R. §§ 42.104(b)(3), (b)(4). *Orthopediatrics Corp.* at 9-11. The Board should therefore deny institution.

B. Grounds 1 and 2 are Deficient because Petitioner has not Shown that UTM-DNET (EX1005) Qualifies as Prior Art to the '972 Patent

The Board should deny institution because Petitioner failed to show that UTM-DNET (EX1005), used in each Ground of the Petition (*see* Petition, 3), qualifies as prior art to the '972 patent. “[A]t the institution stage, the petition must identify, with particularity, evidence sufficient to establish a reasonable likelihood that the reference was publicly accessible before the critical date of the challenged patent and therefore that there is a reasonable likelihood that it qualifies as a printed publication.” *Hulu, LLC v. Sound View Innovations, LLC*, IPR2018-01039, Paper 29 at 13 (PTAB Dec. 20, 2019) (precedential). In *Hulu*, the Board held that “[p]ublic accessibility requires more than technical accessibility.” *Id.* at 10. “[A] work is not publicly accessible if the only people who know how to find it are the ones who created it.” *Samsung Elecs. Co. v. Infobridge Pte., Ltd.*, 929 F.3d 1363, 1369, 1372 (Fed. Cir. 2019). Under *Hulu*, a reference is deemed “publicly accessible” upon a satisfactory showing that the document was made available to the extent that “persons interested and ordinarily skilled in the subject matter” who

are “exercising reasonable diligence” could locate it at the relevant time. *Hulu* at 10-11.

UTM-DNET is a NASA document that bears no objective indicia of public availability—it includes no publication date, no copyright date, or any indication of where it was published or how. EX1005. Accordingly, Petitioner relies on the declaration of Trenton J. Roche (EX1008) to allege that UTM-DNET was “at least publicly available on NASA’s Technical Reports Server (‘NTRS’) since September 25, 2018” (Petition, 1-2), and relies on EX1009 through EX1011 to allege that “[t]he record details on NTRS indicate that UTM-DNET is a conference paper originally presented at the 2018 American Institute of Aeronautics and Astronautics (‘AIAA’) Aviation Technology, Integration, and Operations Conference held in Atlanta, Georgia and is a public document without distribution limits” and “[t]he AIAA website indicates that UTM-DNET was presented as part of the Advanced Operational Concepts session on June 28, 2018 at 1600 hrs (4:00pm).”⁵ But none of these allegations establish that UTM-DNET qualifies as

⁵ Petitioner’s reliance on EX1009 through EX1011 amounts to a reliance on hearsay evidence. Petitioner has not authenticated or otherwise verified the content of EX1009 through EX1011, and as discussed below, Mr. Roche does not have any

prior art to the '972 patent.

Mr. Roche's cursory declaration falls well short of establishing that UTM-DNET was publicly available as of September 25, 2018. Mr. Roche states that UTM-DNET was "publicly available on NTRS since September 25, 2018" but does not cite to any evidence to support this proposition. EX1008, ¶5. And none of EX1009 through EX1011, which are not even cited to or otherwise relied on by the declaration, list September 25, 2018 as a relevant date.

Moreover, Mr. Roche's declaration, as well as EX1009 through EX1011, do not show how UTM-DNET was "disseminated or otherwise made available to the extent that persons interested and ordinarily skilled in the subject matter or art exercising reasonable diligence can locate it." *Hulu* at 11 (quoting *SRI Int'l, Inc. v. Internet Sec. Sys., Inc.*, 511 F.3d 1186, 1194 (Fed. Cir. 2008) and *Bruckelmyer v. Ground Heaters, Inc.*, 445 F.3d 1374, 1378 (Fed. Cir. 2006)). EX1009 through EX1011 are NTRS "Server Record Details for UTM-DNET" (EX1009), a "Table of Contents" from the "2018 Aviation Technology, Integration, and Operations Conference" (EX1010), and "AIAA details for UTM-DNET" (EX1011). But none of these documents show, and neither the Petition nor Mr. Roche's declaration

personal knowledge regarding the content of these exhibits, which is relied on to prove the truth of the matter.

explain how UTM-DNET was disseminated before the '972 patent's critical date of December 19, 2019 (the '972 patent's filing date) such that POSITAs exercising reasonable diligence could locate it.

To the extent Petitioner relies on an alleged publication of UTM-DNET at the "2018 Aviation Technology, Integration, and Operations Conference," Petitioner fails to address any of the factors set forth by the Federal Circuit for determining whether the reference was "sufficiently publicly accessible to be considered a 'printed publication.'" See *In re Klopfenstein*, 380 F.3d 1345, 1350-52 (Fed. Cir. 2004). Nothing in the Petition, Mr. Roche's declaration, or Exhibits 1009-1011 provides any details regarding whether or how UTM-DNET was presented at the conference, whether any confidentiality restrictions existed, the length of time the document was exhibited, expertise of the target audience, existence or lack thereof of reasonable expectations that the material displayed would not be copied, or simplicity or ease the material displayed could have been copied. *Id.* Indeed, consideration of these factors is important because "the more transient the display, the less likely it is to be considered a 'printed publication,'" "[t]he expertise of the intended audience can help determine how easily those who viewed it could retain the displayed material," a "reasonable expectation that the information displayed will not be copied" makes less likely that the information is

a printed publication, and complexity of the display also impacts the analysis. *Id.* The Petition fails to consider any of these factors.

Reliance on the NTRS system to establish public availability is also problematic. That the screenshot of EX1009 states that the “Distribution Limits” of UTM-DNET are allegedly “Public” and the alleged “Publication Date” is June 25, 2018 does not necessarily mean that UTM-DNET was publicly accessible as of this date within the meaning of *Hulu*. Petitioner provides no evidence or explanation, in the Petition or in Mr. Roche’s declaration, about the meaning such distribution limits and publication date of the NTRS system with respect to UTM-DNET. For example, such entries could equally mean that the UTM-DNET document was technically accessible (rather than publicly accessible; *see Hulu*) as of June 25, 2018, or that its current distribution status is “Public” but it was not before the ’972 patent’s critical date. The Petition leaves these possibilities unaddressed.

And Mr. Roche’s declaration is unhelpful—not only because it lacks relevant explanation, but also because he is not even qualified to opine on whether UTM-DNET was publicly accessible before the ’972 patent’s critical date of December 19, 2019. His declaration admits that he only worked at NASA “from June 2020” (EX1008 at ¶¶ 1-2), so he could not have had any personal knowledge, attributable to his position at NASA, that UTM-DNET would have been publicly

disseminated at the conference (which he does not indicate he attended) or otherwise available to POSITAs exercising reasonable diligence to locate it on NTRS before the December 19, 2019 critical date.⁶

Mr. Roche's declaration is bereft of any suggestions that a POSITA could have found UTM-DNET by exercising reasonable diligence before the '972 patent's critical date. Mr. Roche does not even testify that a POSITA would or could have found UTM-DNET by searching NTRS records (or otherwise), much less how. Instead, he simply (1) states that "[t]he NTRS is free and publicly accessible, contains record details for all of the published materials, and is publicly searchable by keyword;" (2) identifies the "Document ID" associated with UTM-DNET as "20180004805;" and (3) alleges "20180004805 – Publicly available on NTRS since September 25, 2018."⁷ EX1008 at ¶¶ 3-5. But the declaration does not

⁶ Mr. Roche does not (and cannot) show that the NASA database was maintained as a publicly accessible database prior to the '972 patent's critical date.

⁷ Mr. Roche couches his assertion regarding public availability of UTM-DNET as being "[u]pon information and belief" (EX1008, ¶ 5), admitting that he has no personal knowledge of the document's public availability. See EX2011 (Black's Law Dictionary defining "on information and belief" as meaning "based on secondhand information that the declarant believes to be true").

(and cannot due to Mr. Roche's lack of personal knowledge from the relevant time period) provide any evidence that a search query on the NTRS system before the December 19, 2019 critical date would have led to UTM-DNET appearing in search results. Mr. Roche's declaration presupposes a POSITA knowing the "Document ID" of UTM-DNET but does not show how a POSITA would have located UTM-DNET on NTRS without this ID—before the critical date or otherwise. Petitioner has, at best, shown an example of "technical accessibility" using the document ID of UTM-DNET, which as explained by *Hulu* is insufficient to meet the public accessibility requirement. *Hulu* at 10.

The Board's decision in *Salesforce.com, Inc. v. WSOU Investments, LLC*, IPR2022-00428, Paper 10 at 8-14 (PTAB Jul. 13, 2022) is instructive. In that case, Petitioner submitted a declaration alleging a POSITA could have found the reference at issue through reasonable diligence. The declaration asserted, in relevant part, as follows:

"Given that the Code Project website was accessible to the public prior to March 31, 2008, I understand that persons interested and ordinarily skilled in the subject matter or art exercising reasonable diligence could have located the Erdogan article from the website using the common search terms discussed above and/or reasonable diligence. Indeed, upon accessing the Code Project website, such an interested researcher would have found the Erdogan article by simply clicking on the "articles" link followed by the topic and applying reasonable diligence."

Salesforce at 9. This assertion—an equivalent of which is even lacking from Mr. Roche's declaration—was insufficient in *Salesforce* to show public accessibility.

Instead, the Board found that the declarant did “not explain from where she derived that understanding, and she does not identify any evidence to support her understanding as to how the Code Project website would have been searched before the critical date.” *Id.* at 12. The declarant did “not identify any evidence about the specific search capabilities” of the website used to find the reference at issue as of the critical date. *Id.* The Board further noted that the record was “devoid of any evidence that a query” of the website used to find the reference at issue “would have led to [the reference at issue] appearing in the search results.” *Id.* at 13. The Board concluded in *Salesforce* by noting that even if the reference at issue had been available on the asserted website by the critical date, at best, the declarant established technical accessibility, where “someone could theoretically find [the reference] on the Internet,” but “public accessibility requires more than technical accessibility.” *Id.* at 13-14 (internal quotes omitted). The Board found the Petitioner “fail[ed] to identify evidence showing that an ordinarily skilled artisan exercising reasonable diligence” could have located the reference through the use of “common search terms.” *Id.* at 14.

In the present proceeding, Mr. Roche does not allege that a POSITA could have found UTM-DNET with the exercise of reasonable diligence before the critical date, and could not make such an allegation because he lacks personal knowledge about the issue. At best, Mr. Roche's declaration shows that UTM-

DNET was “technically accessible” on NTRS using its document ID number. But such technical accessibility is insufficient to demonstrate that UTM-DNET (EX1005) was publicly accessible and cannot be relied on in an IPR.

As such, Petitioner has not shown that UTM-DNET, used in each Ground of the Petition, qualifies as prior art to the '972 patent. Institution should be denied on this basis alone.

C. Ground 1: The combination of UTM-DNET and Butler does not render obvious claims 1-5, 7-12, 14-18, and 20

1. Petitioner has not shown that a POSITA would have been motivated to combine UTM-DNET and Butler

a) The Petition's “Flight plan design” motivation is deficient

UTM-DNET describes a “system for post-disaster relief operations.” EX1005, 8. Butler describes using “high level programming language” and “low level commands” to control a drone. EX1006, 14:1-4, 19:12-22. Petitioner alleges that a POSITA would have been “motivated to combine the teachings of Butler with UTM-DNET's system for controlling UAS in immediate post-disaster relief operations,” where “a POSITA would have been motivated to incorporate Butler's teachings regarding flight plan design including the design unit teachings and the drone adapter teachings into the D-NET system of UTM-DNET.” Petition, 22, 24-25. But Petitioner does not adequately explain *how* or *why* a POSITA would have been motivated to combine these teachings, and there is no such motivation.

Kinetic Concepts, Inc. v. Smith & Nephew, Inc., 688 F.3d 1342, 1368-69 (Fed. Cir. 2012).

i. The alleged basis for combining UTM-DNET and Butler is wrong

To provide a basis for its combination, the Petition states, “UTM-DNET does not provide any details regarding how these flight plans are generated.” Petition, 22. But this conclusion mischaracterizes UTM-DNET by creating a deficiency that does not exist. As discussed below, UTM-DNET does indeed provide “details regarding how [] flight plans are generated.” Board decisions have repeatedly rejected motivations to combine based on alleged deficiencies in a prior art reference that do not exist. *See Runway Safe LLC v. Engineered Arresting Systems*, IPR2015-01921, Paper 9 at 6-8, 10 (PTAB Feb. 29, 2016) (no motivation to combine because a POSITA would have had no reason to solve a problem that does not exist: “[b]ecause we are not persuaded that water intrusion is a problem in Gwynne’s arrester system, we are not persuaded by Petitioner’s proffered rationale[.]”); *id.* at 10-11 (rejecting another combination because “Petitioner’s stated rationale for combining Brubaker ’917 [secondary reference] with Angley ’025 [base reference] is predicated on solving a problem already addressed by Angley ’025”); *Life Spine, Inc. v. Globus Medical, Inc.*, IPR2022-01603, Paper 8 at 48-49 (PTAB June 12, 2023) (“Given that Olmos already teaches a mechanism for accommodating lordosis, the bare reasoning Petitioner offers, i.e., ‘to

accommodate lordosis,' does not sufficiently explain why a POSITA would further modify Olmos's device;" "Petitioner's vague and conclusory reference to 'benefits,' in the absence of any identification of an actual purported benefit—other than the lordosis-accommodating benefit already provided by Olmos's device—is not sufficient reasoning to support the asserted combination of references."); *TRW Automotive U.S. LLC v. Magna Electronics, Inc.*, IPR2015-00972, Paper 9 at 11-12 (PTAB Sept. 16, 2015) (no motivation to combine as Petitioner "does not explain why it would have been obvious to use the fastening device and housing in Klappenbach to mount the camera rather than the bracket already disclosed in Schofield," finding unpersuasive an argument that "the housing in Klappenbach would advantageously seal the components of the camera to prevent intrusion of elements from the environment" when "Schofield teaches that the camera disclosed therein already is protected from such intrusions."); *Stryker Corp. v. Karl Storz Endoscopy America, Inc.*, IPR2015-00764, Paper 13 at 13 (PTAB September 2, 2015) ("[W]e fail to see, and Petitioner does not adequately explain, why it would be obvious to add a translator to redundantly perform the function that Petitioner maintains is performed by the interconnect devices and network computer located within the surgical network.").

For example, UTM-DNET states that "D-NET contains data on the available aircraft fleet and onboard equipment, as well as real-time data on reconnaissance

and rescue mission demands,” and that “the optimization subsystem **uses the above data to assign missions and generate flight trajectories for all aircraft.**”

EX1005, 8. UTM-DNET further states that “D-NET generates vehicle mission assignments and flight plans **based on information from available resources (obtained through the aircraft database), satellite imagery showing flooded areas, for example, and disaster area information.**” *Id.* Moreover, “with this input data, D-NET’s planning block creates optimal mission assignment of the available disaster relief manned and unmanned aircraft.” *Id.* Thus, a POSITA would not have “been led to Butler” or its disclosure “regarding flight plan design” because UTM-DNET does provide “details regarding how these flight plans are generated.” Petition, 22.

As part of its “flight plan design” motivation, the Petition further argues that “UTM-DNET does not provide details regarding the interface required to provide flight plans to UAS.” Petition, 22. But the Petition does not explain why such an interface is necessary in UTM-DNET or why a POSITA would look for such details to allegedly improve the UTM-DNET system. Instead, the Petition’s conclusory statement is simply a hindsight-based attempt to manufacture an alleged motivation to combine.

And notably, the Petition does not cite to its expert’s, Dr. Reinholtz’s, testimony on either of these points—but even if it did, such testimony should be

afforded little weight because it is repetitive, almost verbatim, of the Petition and does not include any further corroborating evidence, support, or reasoning. EX1003, ¶74; *Xerox Corp. v. Bytemark, Inc.*, IPR2022-00624, Paper 12 at 5 (PTAB Feb. 10, 2023) (Director Review decision, designating as precedential the Board's underlying institution decision denying review) ("the Board was correct in giving little weight to Petitioner's expert because the expert declaration merely offered conclusory assertions without underlying factual support and repeated, verbatim, Petitioner's conclusory arguments").

The Petition also argues that a "POSITA would have been further motivated to combine UTM-DNET and Butler to permit the interoperability of the UTM-DNET system with a variety of different UAS models and UAS manufacturers." Petition, 23. Yet, such interoperability is already contemplated by UTM-DNET. The entire objective of UTM-DNET was to offer "a collaborative research plan" between NASA and the Japan Aerospace Exploration Agency (JAXA) "to enable the integration of small unmanned aircraft systems (sUAS) in disaster response management efforts." EX1005, 1-2. And "[t]he goal of this collaborative research effort between NASA and JAXA is to leverage core capabilities that have been developed as part of UTM and integrate them with D-NET in order to provide the ability to deploy and manage sUAS as part of wider disaster response efforts." *Id.* Indeed, UTM-DNET specifically describes that "[t]he objective of D-NET is to

acquire data efficiently from multiple sources such as satellites, helicopters, and unmanned aircraft systems to enable the analysis of these data in order to provide an optimal resource allocation and flight trajectory plan(s)” and to provide (1) “**integrated operation** of aircraft such as helicopters, aircraft, and satellites, for efficient and safe rescue operations by disaster relief aircraft,” (2) “integration of D-NET, which incorporate sUAS in the planning, information sharing, and operation support of disasters response activities, and UTM, which provides airspace management to enable large scale high density operations.” EX1005, 1-3; *see also id.*, 4, 7, 10, 14. Thus, such “interoperability” was already present in UTM-DNET and cannot serve as an adequate basis to combine UTM-DNET with Butler.

ii. The Petition’s “known technique” rationale is erroneous

The Petition proposes a canned motivation to combine rationale, broadly stating that “[t]he combined UTM-DNET and Butler system is simply the application of a known technique (flight planning design and conversion of high-level commands to low-level commands) to a known device (the D-NET system) to yield predictable results (flight plans that can be executed by a UAS)” and that “[t]he results of the combination would have been predictable to a POSITA and a POSITA would have had a reasonable expectation of success in the combination because defining a flight plan as a series of instructions/commands was well-

known as was the use of an adaptor to interface with an application programming interface (API).” Petition, 24. But as noted above, the Petition has not articulated a reason to combine UTM-DNET and Butler, and the explanation here is deficient, essentially amounting to an assertion that because items are allegedly known, a POSITA would have combined them. Such an argument is not a proper motivation to combine. *Metalcraft of Mayville, Inc. v. The Toro Company*, 848 F.3d 1358, 1367 (Fed. Cir. 2017) (to show a motivation to combine, “it is not enough [] to merely demonstrate that elements of the claimed invention were independently known in the prior art”). The Petition also does not explain or otherwise address why a POSITA with some undefined and generic “background in software development” would have had a reasonable expectation of success “in modifying D-NET software to add flight planning and adaption.” Petition, 24.

b) The Petition’s “Flight plan storage” motivation is deficient

Petitioner further alleges that “a POSITA would have been motivated to store the flight plans generated by the D-NET system that are submitted to UTM for verification in storage associated with the D-NET system, such as a database,” and points to Butler as allegedly “suggest[ing] use of a database to store flight plans,” concluding “[a] POSITA would have been motivated to combine Butler’s flight plan storage teachings with UTM-DNET.” Petition, 22, 24-27. But yet again, Petitioner does not adequately explain *how* or *why* a POSITA would have been

motivated to combine these teachings, and there is no such motivation. *Kinetic Concepts, Inc.*, 688 F.3d at 1368-69.

i. The alleged reasons for combining UTM-DNET and Butler do not relate to the combined teachings

To support its proposed combination, the Petition argues that “D-NET further suggests that verified flight plans are stored at the D-NET system.” Petition, 25. The Petition then, however, changes tact by asserting that “[a] POSITA would have been motivated to indicate the status of a flight plan (e.g., initial, verified, etc.) so that the system knows whether a stored flight plan has been verified” and launches into an explanation as to UTM-DNET’s alleged “visualization” and “enhanced operational awareness.” *Id.* at 25-26. The Petition then concludes by stating that “UTM-DNET suggests use of a database by disclosing the use of an ‘Aircraft database’ for storing ‘Vehicle status, Onboard Equipment, and Home Base, etc.’” and that “[a] POSITA therefore would have been motivated to modify the D-NET system to either (1) store flight plans in the existing database or (2) incorporate a separate database for storing flights plans.” *Id.* at 26-27. But none of the Petition’s explanation regarding “flight plan status,” “visualization,” and “operational awareness” relates to why or how a POSITA would have combined UTM-DNET and Butler to store flight plans in any database, or why a POSITA would have been motivated to choose one storage location (i.e.,

a database) over another. The Petition is therefore deficient and does not provide an adequate rationale to combine the references.

ii. The “information sharing” reasons for combining UTM-DNET and Butler are deficient

The Petition alleges that a “POSITA would have further been motivated to combine the flight plan storage teachings of Butler with UTM-DNET to ‘coordinate information sharing amongst different relief agencies,’ which UTM-DNET explains is critical when responding to catastrophic events” and that the “combination would further UTM-DNET’s stated objective of collecting and sharing information amongst different relief agencies by creating a central repository for disaster-response operation information.” Petition, 27-28.

The Petition, however, fails to account for how UTM-DNET already provides for the coordination of information sharing, as Petitioner itself recognizes, and does not explain how such a “central repository” would advance UTM-DNET’s goals. Petition, 27-28. For example, UTM-DNET explains that “integration of the DNET and UTM enables coordination, data sharing, and airspace management to improve the timeliness of disaster response, enable relief organization to reduce cost and overhead by using UAS assets and still maintain airspace safety during the relief activities.” Petition, 1. Moreover, UTM-DNET discloses an “Insight UTM (iUTM) interface” graphical display that “gives users

an understanding of the overall airspace and where operations are in relation to one another,” which is “used to assist in planning safely separated operations without the need to use strategic deconfliction on a trial and error basis” and “gives the user a quick overview of operations within the system and their status.” EX1005, 11. Thus, UTM-DNET already describes the information sharing for which Petitioner alleges that Butler’s “flight plan storage” teachings would provide, and a POSITA would not have been motivated to combine UTM-DNET with Butler for this reason.

iii. The Petition’s “known technique” rationale is erroneous

The Petition broadly states:

This combination of UTM-DNET with Butler is simply the application of a known technique (using a database to store flight plans) to a known device (a UAS fleet management system) to yield predictable results (operational awareness for all stakeholders in UAS system). [] The results of the combination would have been predictable to a POSITA and a POSITA would have had a reasonable expectation of success in the combination because the system described in UTM-DNET already interfaces with a database: “D-NET generates vehicle mission assignments and flight plans based on information ... obtained through the **aircraft database.**” [] A POSITA would understand that the UTM-DNET system would interface with the Aircraft Database and Butler’s database of executable flight plans in the same way or even combine the two into a single database.

Petition, 28 (emphasis in original). But as noted above, the Petition has not articulated a reason to combine UTM-DNET and Butler, and does not explain or otherwise show how the combination would have been effectuated. This rationale is therefore insufficient, and institution should be denied.

2. To the extent the preamble is limiting, Petitioner has not shown that UTM-DNET and Butler teach the preamble

Claim 1 recites “[a]n *autonomous vehicle fleet control method*”⁸ as the preamble. EX1001, claim 1. In the district court litigation, Petitioner alleges that the preamble is limiting and proposes, among other things, that it be construed to require the method to be “[u]ndertaken or carried on without outside control.” EX2010, 4-5. Petitioner does not propose this construction here. But to the extent the preamble is found to be limiting, and Petitioner’s proposed district court construction is adopted,⁹ Petitioner has not shown that it is disclosed or rendered obvious by UTM-DNET and Butler.

The Petition argues, “UTM-DNET teaches an ‘*autonomous vehicle fleet control method*,’” where “for large-scale disasters, ‘hundreds of aircraft are deployed and engaged in search and rescue missions’” and “[t]he integrated system

⁸ Unless otherwise noted, claim language is italicized.

⁹ Again, Patent Owner does not concede that Petitioner’s proposed district court constructions are correct or that the preamble is limiting.

provides ‘overall coordination and integration of all aircraft’ by ‘optimiz[ing] the performance’ of available vehicles, including manned aircraft and unmanned aircraft, ‘by assigning missions according to the vehicle’s equipage, state, and location.’” Petition, 30. The Petition continues, alleging that “D-NET transmits flight plans to UASs for execution” and that “[d]uring mission execution, D-NET receives position data from the UAS and (with UTM) ‘checks their conformance with submitted flight plans and assigned operational volumes.’” *Id.*, 30-31. “When non-conformance is detected, D-NET ‘requir[es] the UAS to adjust its behavior’” and thus “D-NET controls each UAS in the UTM-DNET system during a disaster recovery effort.” *Id.*, 31.

But Petitioner has not shown that UTM-DNET teaches the claimed “*autonomous vehicle fleet control method*. That UTM-DNET describes “coordination and integration,” “optimizing the performance” of vehicles by assigning missions, and requiring “the UAS to adjust its behavior” (Petition, 30-31) does not necessarily render obvious a *control method* that, for example, “*generat[es] vehicle commands*” and “*send[s] the vehicle commands to the vehicle*,” as required by Claim 1. EX1001, claim 1. Indeed, UTM-DNET makes no mention of these claimed aspects and the Petition does not show that simple detection of “non-conformance” and a requirement to “adjust behavior” means that “*vehicle commands*” are generated and sent to a vehicle.

Additionally, as noted above, Petitioner did not construe the preamble in this proceeding as it proposed to do so in district court. Petitioner further did not show how the prior art allegedly renders the claim as construed by Petitioner in district court unpatentable. This itself warrants denial of institution under 37 C.F.R. §§ 42.104(b)(3) and (b)(4). The Petition alleges that “[t]he ’972 patent does not provide a definition for or provide a discussion of what constitutes an ‘autonomous’ vehicle or operation,” thereby suggesting that Petitioner believed construction of the preamble was necessary (Petition, 29 (FN4)). Yet, Petitioner failed to offer a construction of the preamble in the Petition, and instead only chose to do so later in the parallel district court litigation. Petition, 29; EX2010, 5, 7-8. Because it is evident from the Petition and Petitioner’s claim construction positions in district court that Petitioner believed the preamble should be construed, Petitioner was required to state “[h]ow the [preamble of the] challenged claim is to be construed” and “[h]ow the construed claim is unpatentable under the statutory grounds” in the Petition. 37 C.F.R. §§ 42.104(b)(3)-(b)(4). Petitioner’s failure to do so thus renders the Petition deficient under 37 C.F.R. §§ 42.104(b)(3) and (b)(4), and institution should be denied. *See Orthopediatrics Corp.* at 9-11.

3. Petitioner has not shown that UTM-DNET and Butler teach the “*obtaining*” limitation ([1A]) of claim 1

Claim 1 recites “*obtaining, by a fleet controller, from a master schedule, a mission for a vehicle of a fleet of autonomous vehicles, wherein the mission is associated with a mission entry of the master schedule.*” EX1001, claim 1.

The Petition argues that “[e]ach entry (individual mission/flight trajectory) in the database includes a unique identifier, an earliest requested flight time and/or latest desired arrival time, and the planned flight path including the departure location and one or more arrival locations, as taught by Butler.” Petition, 33. The Petition continues, stating, “[t]hese entries are ‘*mission entries*’ that are associated with ‘*missions*’ (and vice versa)” and “[t]hus, the combination of UTM-DNET and Butler discloses that each ‘*mission is associated with a mission entry of the master schedule.*’” *Id.* However, the Petition’s analysis is deficient because it does not provide a motivation to combine the relied-upon aspects of UTM-DNET and Butler.

Indeed, the Petition states that a POSITA would have been “motivated to combine the flight plan storage teachings of Butler with UTM-DNET to ‘coordinate[] information sharing amongst different relief agencies, which UTM-DNET explains is critical when responding to catastrophic events.” Petition, 24-28. But that does not explain, or even tangentially address, why a POSITA would have utilized Butler’s specific teachings regarding “a unique identifier, an earliest

requested flight time and/or latest desired arrival time, and the planned flight path including the departure location and one or more arrival locations” for each database entry in the alleged UTM-DNET and Butler combination. *Id.*, 33. The Petition includes no explanation as to how or why these teachings of Butler are part of Butler’s “flight plan storage teachings” that the motivation refers to, or why they would be combined with UTM-DNET to “coordinate information sharing.” *Id.*, 24-28, 33.

The Petition’s lack of explanation causes ambiguity and is fatal as the Board “will not, and cannot, piece together Petitioner’s inconsistent and contradictory arguments into a cogent and coherent explanation that supports and obviousness showing” and instead must “evaluate the Petition’s arguments as presented.” *See Facebook, Inc. v. Uniloc USA, Inc.*, IPR2017-01523, Paper 7 at 9-19 (PTAB December 4, 2017). As such, the Petition fails to show how UTM-DNET and Butler meet limitation [1A] and the Board should deny institution.

4. Petitioner has not shown that UTM-DNET and Butler teach the “*modifying*” limitation [1D] of claim 1

Claim 1 recites *modifying the flight path according to data from the UTM in response to the UTM indicating that the usability of the flight path is not verified*. EX1001, claim 1. The Petition alleges that UTM-DNET meets this limitation, stating, “the DNET system sends generated flight plans to UTM for verification” and “[t]he UTM’s ‘flight plan acceptance/rejection is feedback to D-NET and input

for further planning and optimization,” where “[i]f UTM rejects a flight plan (*‘usability of the flight path is not verified’*), D-NET’s optimization subsystem ‘re-optimizes the plan against the rest of the missions and re-submit[s] it to UTM.’” Petition, 40. The Petition continues, explaining that such re-optimizing includes an “adjust[ed] flight plan” where “the D-NET system ‘re-optimized and time shifted’ the flight plan” to “avoid the overlap” with another flight plan. *Id.*, at 41.

The Petition, however, does not show that UTM-DNET teaches *modifying the flight path* as claimed. As an initial matter, the Petition does not even map the prior art to this limitation. Petition, 40-41. Additionally, the Petition provides no explanation or evidence that shows how UTM-DNET’s time shifting (e.g., adjusting start time) of a scheduled flight plan necessarily meets, or even renders obvious, *modifying any flight path* associated with a flight plan. Petition, 40-41; EX1005, 10, Fig. 9. Indeed, Figure 9 of UTM-DNET, which the Petition points to as describing how an “adjust[ed] flight plan” is produced after “flight plan rejection,” shows a new flight plan that includes the **same, unmodified** flight path of the rejected plan and merely time shifts the plan to start at a different time. EX1005, Fig. 9. Dr. Reinholtz’s declaration is unhelpful as it simply parrots the Petition without providing any further corroborating evidence, support, or reasoning, and should therefore be afforded no weight. EX1003, ¶¶128-130; *Xerox Corp.*, IPR2022-00624, Paper 12 at 5. And there is no suggestion in the ’972

patent's specification that *modifying the flight path* somehow encompasses time shifting.

The Petition further does not show that the “optimization” and “re-optimiz[ation]” of UTM-DNET includes *modifying the flight path*.¹⁰ POPR, 40-41. UTM-DNET does not describe any details of its optimization and re-optimization (let alone what optimization and re-optimization mean or how a flight plan is optimized or re-optimized), and the Petition points to nothing in UTM-DNET (or otherwise) that shows or even suggests that such optimization and/or re-optimization involve *modifying a flight path*. And as before, Dr. Reinholtz's declaration is unhelpful as it simply parrots the Petition without any further corroborating evidence, support, or reasoning, and should be afforded no weight. EX1003, ¶¶128-130; *Xerox Corp.*, IPR2022-00624, Paper 12 at 5. Indeed, his declaration includes no testimony suggesting that a POSITA would have understood or found obvious that UTM-DNET's optimizing or reoptimizing means *modifying the flight path*. *Id.*

¹⁰ To the extent Petitioner is relying on inherency, Petitioner has not shown that UTM-DNET's optimization and re-optimization necessarily includes *modifying the flight path*. *PAR Pharmaceutical, Inc. v. TWI Pharmaceuticals, Inc.*, 773 F.3d 1186, 1195-96 (Fed. Cir. 2014).

The Petition therefore fails to show that UTM-DNET and Butler teach claim 1 and institution should be denied.

5. Petitioner has not shown that UTM-DNET and Butler teach the “*sending*” limitation ([1G]) of claim 1

Claim 1 recites “*maintaining a **persistent connection** with the vehicle*” and “*sending the vehicle commands to the vehicle **using the connection**, the vehicle commands causing the vehicle to execute the mission under control of the fleet controller.*” EX1001, claim 1 (emphasis added).

The Petition alleges that the combination of UTM-DNET and Butler meets the claimed “*persistent connection*” in two different ways: (1) “[a] communications connection providing continuous streaming of video or images from a UAS through the ground station (or directly) to the D-NET system is a ‘*persistent connection*’” and (2) in UTM-DNET “vehicles submit ‘position updates...at a defined rate (e.g., 1 Hz) throughout the entirety of an operation’” and rather than “establishing a new connection for each such update [which] would be inefficient...a POSITA would have been motivated to use a ‘*persistent connection with the vehicle*’ to provide the position updates to UTM.” Petition, 47-48.

But the Petition does not show how UTM-DNET and Butler teach “*using*” either of these connections to send “*the vehicle commands to the vehicle*” as required by limitation [1G] of claim 1. Instead, the Petition provides a cursory

analysis that generically states, “the flight plan (trajectory) is transmitted to the UAS as a sequence of instructions (commands) over the connection between the D-NET system, ground station, and the UAS.”¹¹ Petition, 49. The Petition does not explain, show, or otherwise allege that “the connection” referred to here is the same as the alleged connections that provide “continuous streaming of video or images” and “position updates.” See Petition, 48-50. The Petition’s analysis is therefore deficient and inconsistently maps UTM-DNET and Butler to the claimed “*connection*” of claim 1, and the Petition does not properly identify how UTM-DNET and Butler meet limitation [1G] of claim 1.

Moreover, this inconsistent analysis violates the particularity requirement for petitions of 35 U.S.C. § 312(a)(3) (Petition “may be considered only if...the petition identif[ies], in writing and with particularity,... the grounds one which the challenge to each claim is based, and the evidence that supports the grounds”), as well as the requirements of 37 C.F.R. §§ 42.104(b)(4), 42.104(b)(5), and 42.22(a)(2) that a Petition “specify where each element of the claim is found in the prior art,” “identify[] specific portions of the evidence that support the challenge,” and provide a “full statement of the reasons for the relief requested, including a

¹¹ The Petition refers to its “discuss[ion] *supra* §V.A.3” but Section V.A.3 of the Petition does not address the Petition’s inconsistent mapping for limitation [1G].

detailed explanation of the significance of the evidence.” *See also Facebook, Inc. v. Uniloc USA, Inc.*, IPR2017-01523, Paper 7 at 9-19 (PTAB December 4, 2017) (the Board “will not, and cannot, piece together Petitioner’s inconsistent and contradictory arguments into a cogent and coherent explanation that supports and obviousness showing” and instead must “evaluate the Petition’s arguments as presented”); *Smith & Nephew, Inc. v. Conformis, Inc.*, IPR2017-00545, Paper 8 at 13-14 (PTAB July 13, 2017) (Explaining that inconsistent citations to separate references “create ambiguity” as to what Petitioner is relying on to show obviousness, and “[m]erely identifying where limitations may be found in several prior art references is not sufficient to demonstrate a reasonable likelihood of prevailing in showing obviousness”). The Petition therefore fails to show that UTM-DNET and Butler teach claim 1 and institution should be denied.

Additionally, as noted in Section V.A., Petitioner proposed construing the “*sending*” limitation of claim 1 in parallel district court litigation, but did not propose a construction for this limitation in the Petition.¹² *See* Section V.A. Specifically, in district court Petitioner argued that “*sending the vehicle commands*

¹² Patent Owner’s discussion of Petitioner’s proposed district court construction for the “sending” step is not an admission that construction is needed or that Petitioner’s proposed construction is correct.

to the vehicle using the connection” means “[t]he commands are sent over the persistent connection from the controller to the vehicle.” EX2010, 6-7 (emphasis added). To the extent Petitioner’s proposed district court construction is adopted, the Petition’s lack of analysis for this limitation is even more troublesome. As explained above, the Petition does not show how any commands are sent over what it previously alleged was a “*persistent connection*,” let alone a “*persistent connection*” from “the controller to the vehicle” as required by Petitioner’s proposed district court construction.

6. Petitioner does not show that UTM-DNET and Butler teach its proposed district court construction that “method elements” of claim 1 are “performed in the listed order”

In district court, Petitioner proposed to construe the preamble of claim 1 as requiring “[t]he method elements are performed in the listed order.” EX2010, 5. The Petition does not propose this construction and Patent Owner does not believe any construction is necessary. But to the extent it is determined that Claim 1 requires that its limitations occur in the “listed order,” as Petitioner proposed in district court, Ground 1 fails for the additional reason that the Petition has failed to show how UTM-DNET and Butler disclose or render obvious the proposed order of steps.

For instance, claim 1 recites “*generating vehicle commands according to mission parameters associated with the mission based on the flight path*” and after

that recites “*maintaining a persistent connection with the vehicle*” and then “*sending the vehicle commands to the vehicle using the connection, the vehicle commands causing the vehicle to execute the mission under control of the fleet controller.*” EX1001, claim 1. The Petition, however, does not show that UTM-DNET and Butler teach this alleged “listed order.”

Specifically, the Petition alleges that UTM-DNET and Butler describe the “generation of high-level instructions (commands) implementing the flight path” and “low-level commands that address UAV servos” to teach “*generating vehicle commands according to mission parameters associated with the mission based on the flight path*” Petition, 43-45. The Petition further alleges that UTM-DNET and Butler describe (1) “[a] communications connection providing continuous streaming of video or images from a UAS through the ground station (or directly) to the D-NET system is a ‘*persistent connection*’” and (2) in UTM-DNET “vehicles submit ‘position updates...at a defined rate (e.g., 1 Hz) throughout the entirety of an operation’” and rather than “establishing a new connection for each such update [which] would be inefficient...a POSITA would have been motivated to use a ‘*persistent connection with the vehicle*’ to provide the position updates to UTM,” and that such disclosure teaches “*maintaining a persistent connection with the vehicle.*” *Id.*, 46-48. But the Petition does not show that such a generation of “instructions” or “commands” for a UAS takes place **before** “*maintaining*” a

“communication connection providing continuous streaming of video or images” or connection that provides “position updates” with the UAS, as would be required under Petitioner’s proposed district court construction. *Id.*, 43-48.

Moreover, the Petition alleges, “the flight plan (trajectory) is transmitted to the UAS as a sequence of instructions (commands) over the connection between the D-NET system, ground station, and the UAS” to meet “*sending the vehicle commands to the vehicle using the connection, the vehicle commands causing the vehicle to execute the mission under control of the fleet controller.*” Petition, 48-49. But the Petition does not show that such sending of commands occurs **after** “*maintaining*” a “communication connection providing continuous streaming of video or images” or connection that provides “position updates” with the UAS, as would be required under Petitioner’s proposed district court construction. *Id.*, 46-49.

Thus, to the extent Petitioner’s district court proposal is adopted, the Petition is deficient and the Board should therefore deny institution. Patent Owner further notes that these same arguments apply to independent claims 8 and 15. EX2010, 7-8; EX2012, 11-12.

7. Claims 2-5, 7-12, 14-18, and 20

Independent claims 8 and 15 recite limitations that overlap with claim 1 and the Petition refers to much of the claim 1 analysis when analyzing claims 8 and 15.

Petition, 54-58. The same arguments Patent Owner presents above regarding claim 1 are applicable to claims 8 and 15. Claims 2-5, 7, 9-12, 14, 16-18, and 20 depend from one of independent claims 1, 8, and 15. The same arguments Patent Owner presents above regarding claim 1 are therefore applicable to claims 2-5, 7, 9-12, 14, 16-18, and 20.

D. Ground 2: The combination of UTM-DNET, Butler, and Bethke does not render obvious claims 6, 13, and 19

Claims 6, 13, and 19 depend on one of independent claims 1, 8, and 15. The combination presented in Ground 2 does not remedy the deficiencies of Ground 1 identified with respect to claims 1, 8, and 15. As such, the same arguments presented above regarding claims 1, 8, and 15 apply to dependent claims 6, 13, and 19, and Petitioner has not shown that the combination of UTM-DNET, Butler, and Bethke renders obvious claims 6, 13, and 19.

VI. CONCLUSION

For the foregoing reasons, Patent Owner respectfully requests that the Board decline to institute *inter partes* review of the '972 Patent.

Respectfully submitted,

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Date: December 15, 2023

CERTIFICATE OF WORD COUNT

The undersigned certifies that the foregoing Preliminary Response has a word count of 11,365, as defined by 37 C.F.R. § 42.24 using the word count feature of Microsoft Word.

CERTIFICATE OF SERVICE

In accordance with 37 C.F.R. §§ 42.6(e), the undersigned certifies that on December 15, 2023, a complete and entire copy of PATENT OWNER'S PRELIMINARY RESPONSE UNDER 37 C.F.R. § 42.107 and related documents were served on Petitioner via electronic mail at the below addresses:

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