

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SHENZHEN TUOZHU TECHNOLOGY CO., LTD.,
Petitioner,

v.

STRATASYS, INC.,
Patent Owner.

Case IPR2025-00585
Patent 11,167,464

**PETITIONER'S OPPOSITION TO
PATENT OWNER'S DISCRETIONARY DENIAL BRIEF**

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I. INTRODUCTION

The PTAB is best suited to consider the patentability of '464 patent. Much like the multi-patent litigation at issue in *Tesla, Inc. v. Intellectual Ventures II LLC*, the '464 patent at issue here is part of “complex and diverse” multi-patent litigation spanning multiple patent families and numerous diverse technologies. IPR2025-00217, Paper 9 at 2-3 (Jun. 13, 2025). As explained in more detail in Section III, *infra*, Petitioner has filed IPR petitions challenging nine different patents spanning six patent families that, while all nominally related to three-dimensional printing, are each directed to technology distinct aspects of such systems.

The patents asserted by Patent Owner in the parallel District Court proceeding relate to varied areas of technology including software, robotics, video imaging, computer networks, material science, control systems, and various sensor technologies. This “diverse range of subject matter” along with “[t]he large number and vast scope of the patents asserted in the district court litigation” reveals that validity of these patents is best determined by the Board. *Id.* Indeed, IPR challenges of three of the patents involved in this multi-patent challenge have already been instituted. *See* IPR2025-00257, Paper 9; IPR2025-00311, Paper 9; IPR2025-00321, Paper 10. Institution in the present proceeding is thus warranted so that the tribunal best suited to review a “large number of patents involving diverse subject matter” (the Board) may weigh validity in each of the related IPR proceedings. *Tesla*,

IPR2025-00217, Paper 9 at 2-3. This is especially true here, where the '464 patent issued less than three and a half years prior to the filing of the IPR Petition and was only recently brought to the attention of Petitioner. *Infra*, Section II.

In addition to the diverse subject matter of the Patents in the parallel district court proceeding, numerous other factors favor against discretionary denial, including Petitioner's "broad stipulation" that builds off of the stipulation recently endorsed by the Acting Director in *Tesla*. See IPR2025-00217, Paper 9 at 2 ("Petitioner has filed a broad stipulation"). Here, Petitioner's stipulation includes all restrictions from the *Tesla* stipulation and further adds that Petitioner will not pursue "any ground that could be raised under §§ 102 or 103 on the basis of system art corresponding to the references that form the basis of any ground raised in IPR2025-00585" if this proceeding is instituted and remains instituted. EX1033.

In addition to this broad stipulation, which dispels any concern of overlap between the proceedings, the facts below show there is a great deal of uncertainty as to the beginning of the parallel district court proceeding and that the actual final resolution of that proceeding (which is likely to occur months after initial jury selection) will likely occur months after a Final Written Decision is issued in this proceeding. Furthermore, the merits of the Petition are robust because the prior art grounds are directly on point, which is exactly why Patent Owner now seeks to avoid the Office's consideration of those grounds.

Regarding Patent Owner’s reach for § 325(d) discretion, it likewise assumes too much. The *Advanced Bionics* factors weigh strongly against discretionary denial—especially where Patent Owner does not contend that the obviousness combinations here were posited by the Examiner (they were not). The Petition’s newly cited prior art highlight how the Examiner erred during prosecution. Again, the strength of these prior art grounds is truly why Patent Owner now seeks to avoid the merits in a PTAB trial.

The public deserves more. The PTAB’s very “purpose and design” as reiterated by Supreme Court precedent is fulfilled by addressing the merits of the prior art here, not by shunning this much-needed review before it starts. *Thryv, Inc. v. Click-To-Call Techs., LP*, 590 U.S. 45, 54 (2020) (“By providing for inter partes review, Congress, concerned about overpatenting and its diminishment of competition, sought to weed out bad patent claims efficiently”).

The Acting Director should pass this IPR petition on for consideration by the merits panel.

II. PETITIONER’S SETTLED EXPECTATIONS OUTWEIGH PATENT OWNER’S

The ’464 patent is young. It was issued less than four years ago and was never “commercialized, asserted, marked, licensed, or otherwise applied in a petitioner’s particular technology space.” *Intel Corp. v. Proxense LLC*, IPR2025-00327, Paper

12, pp. 2-3. Indeed, Stratasys has taken the position that it “does not intend to rely on the assertion that its own products or other instrumentalities practice the claimed invention.” EX1034, 9-10. When pressed for discovery into its practicing products, Stratasys first demanded that Bambu identify any such products under the *Artic Cat* framework, which requires the defendant to identify *unmarked* practicing products before the burden shifts to the plaintiff to explain why the marking obligation was met. EX1039, 38-39; EX1040, 2-4, 17-19. After Bambu served its *Artic Cat* letter, Stratasys failed to present any evidence that it met its marking obligations with respect to the ’464 patent. *Id.*

As the Acting Director recently explained:

There may be persuasive reasons why the Board should review challenged claims several years after their issuance date. For example, ... a patent may have been in force for years but may not have been commercialized, asserted, marked, licensed, or otherwise applied in a petitioner’s particular technology space, if at all. These non-exclusive examples provide considerations that weigh against a patent owner’s claim of settled expectations and bears on the Director’s discretion.

Intel Corp. v. Proxense LLC, IPR2025-00327, Paper 12, pp. 2-3. Here, both the recent nature of the ’464 patent and Stratasys’s lack of commercialization, marking, etc. should “weigh against a patent owner’s claim of settled expectations.” *Id.* The

fact that the '464 patent (or any other patents in the multi-patent litigation) has never previously been asserted also favors against discretionary denial.

Moreover, the Acting Director's guidance in *Cambridge Industries* also demonstrates why Stratasys has no settled expectations for the '464 patent. *Cambridge Industries USA, Inc. v. Applied Optoelectronics, Inc.*, IPR2025-00435, Paper 11, p. 3. Surely, the '464 patent is unlike “[t]he patents challenged in IPR2025-00433 and IPR2025-00435 [that] have been in force for nine and seven years, respectively.” *Id.* As detailed below, the IPR petition here was filed within three and a half years of issuance of the '464 patent, well within the time frame that such patents are ripe for review.

Only recently has Patent Owner elected to become litigious (in 2024). This is the first suit involving the '464 patent. And Petitioner had received no pre-suit notice of alleged infringement of the '464 patent, nor had Petitioner had any reason to believe the '464 patent covered their products. It is also notable that the flagship 3D printer of Petitioner's subsidiary company launched on Kickstarter in May 2022.¹ Petitioner could not have known to challenge the '464 patent sooner.

Furthermore, it was not until Patent Owner filed suit against Petitioner and its subsidiaries in 2024 that the public become aware of Patent Owner's mistaken

¹ See <https://www.3dprintingjournal.com/p/05-31-2022-bambu-lab-x1-debuted-on>

viewpoint of its claim scope. The Petition in this IPR proceeding is the prompt and direct result of Patent Owner’s very recent assertion of a claim scope that ensnares known prior art—a claim scope that the Examiner would have never allowed if foreseen at that time. In particular, Patent Owner has asserted that the claimed requirement of “performing a diagnostic test to determine whether the operational parameter is suitable for the three-dimensional printer” is met by determining whether filaments are compatible, whether a build volume temperature is compatible with a filament, or whether a build platform temperature is compatible with a filament. EX1037, 47-53. Patent Owner’s overly broad claim scope encompassing such purported “diagnostic tests” was unforeseeable because these purported “diagnostic tests” determine whether two materials are suitable to be used together or whether an operating temperature is suitable for material detected in the material dispenser of the printer. *Id.* The PTAB’s very “purpose and design,” as reiterated by the Supreme Court, is fulfilled by addressing the merits of the prior art here, not by shunning this much-needed review before it starts. *Thryv, Inc. v. Click-To-Call Techs., LP*, 590 U.S. 45, 54 (2020) (“By providing for inter partes review, Congress, concerned about overpatenting and its diminishment of competition, sought to weed out bad patent claims efficiently”); *Cuozzo Speed Techs., LLC v. Lee*, 579 U.S. 261, 279-80 (2016) (describing the PTAB’s basic “purpose” and the public’s “paramount interest in seeing that patent monopolies ... are kept within their legitimate scope”).

Patent Owner's contention that this new "length of time" factor somehow overrules this mandate is an unwise invitation for an abuse of discretion.

III. THE COMPLEXITY AND DIVERSE TECHNOLOGY SCOPE OF THE ASSERTED PATENTS FAVORS INSTITUTION

Patent Owner's assertion of a "large number and vast scope of the patents" directed toward "a diverse range of subject matter" in the parallel district court proceeding is the precise situation for which "the Board is better suited to review" issues of validity, just as was the case in *Tesla, Inc. v. Intellectual Ventures II LLC* IPR2025-00217, Paper 9 at 2-3 (Jun. 13, 2025). In total, Petitioner has filed IPR petitions challenging nine different patents from six different patent families that, while all related to the general technological area of three-dimensional printing, span a broad array of claim scopes and specific technologies within the broader classification of three-dimensional printing. For example, the various patents asserted by Patent Owner cover technologies as diverse as computing networks for remotely controlling rapid fabrication systems, specific techniques for operating a three-dimensional printer, determination of three-dimensional printing material properties, materials for plating a build plate of a three-dimensional printer, and determination and adaptation to a printer's capabilities. The patents asserted by Patent Owner in the parallel district court proceeding claim details that require knowledge and understanding of three-dimensional printing to analyze, including:

- Remote control of a three-dimensional printer over a computing network including presentation of video images of the build process and a three-dimensional model of an object to be fabricated (U.S. Pat. No. 8,562,324).
- A three-dimensional printer having a heated build platform for a 3D printer including a thermally conductive build plate carrying a non-tape polymer coating (U.S. Pat. No. 9,592,660).
- Software instructions for operating a three-dimensional printer to print layers of a purge tower between printing of successive layers of part material and support material to purge a print head when switching from a stand-by mode to an operating mode (U.S. Pat. No. 9,421,713).
- Generating a fabrication profile based on querying a printer's capabilities in response to receiving a request to fabricate an object, and generating machine-ready code for the same (U.S. Pat. No. 11,886,774).
- Controlling an extruder of a three-dimensional printer based on sensed and calculated contact force between the extruder and a separate structure (U.S. Pat No. 10,556,381).

- Controlling a component of a three-dimensional printer while depositing material based on a detected current contact force (U.S. 9,168,698).
- Automatic detection and acquisition of three-dimensional printer build material characteristics and using such characteristics to determine operational parameters for the three-dimensional printer (U.S. Pat. Nos. 10,569,466 and 11,167,464).
- Automatic capturing and analyzing of a three-dimensional printing process using a three-dimensional scanner to determine a status of a print job and identify flaws in an object being fabricated (U.S. Pat. No. 8,747,097).

The “complex and diverse litigation proceeding” involving a wide array of technologies relating to diverse areas of software, robotics, video imaging, computer networks, material science, control systems, and various sensor technologies spanning nine patents across six distinct patent families favors institution. *Tesla*, IPR2025-00217, Paper 9 at 2-3. As was the case in *Tesla*, “the Board is better suited to review a large number of patents involving diverse subject matter.” *Id.* As such, due to the “diverse range of subject matter” and “[t]he large number and vast scope of the patents asserted in the district court litigation” issues of validity are best determined by the Board. *Id.* Indeed, IPR challenges of three of the patents involved

in this multi-patent challenge have already been instituted. *See* IPR2025-00257, Paper 9; IPR2025-00311, Paper 9; IPR2025-00321, Paper 10. Institution in the present proceeding is thus warranted.

IV. THE *FINTIV* FACTORS WEIGH IN FAVOR OF INSTITUTION—35 U.S.C. § 314(a)

A. *Factor 1: Whether the court granted a stay or whether evidence exists that one may be granted if an IPR is instituted*

Factor 1 is “neutral” because there is no indication that if the action is maintained and a subsequent motion to stay is requested, the court will deny a stay. *Nikon Corp. et al. v. Optimum Imaging Technologies, LLC*, IPR2024-01372, Paper 17 at 10-11 (PTAB April 23, 2025) (Factor 1 is neutral when no stay has been requested because the Board “will not attempt to predict how the court in the parallel district court proceedings would proceed if a stay is requested”). Patent Owner identifies a chart showing a generic “85%” denial rate for motions to stay before Judge Gilstrap yet provides no analysis as to the procedural posture or relevant circumstances for any of the particular cases for the identified motions to stay. Paper 7, 7. Patent Owner, of course, conveniently omits the fact that Judge Gilstrap has often granted a stay *after institution of IPR*—especially where the defendant/petitioner stipulates to be bound by the IPR “estoppel.” *See e.g.*, EX1031 (showing Judge Gilstrap’s reasoning for granting a stay after IPR is instituted). Nothing forbids such a motion to stay in the EDTX case here.

Here, Petitioner has filed IPR petitions challenging all of the asserted claims for all but one of the patents currently asserted in the district court, with pertinent and worthy prior art in each of the IPR petitions. Three of those Petitions have already been instituted, five are pending, and Petitioner plans to file a Request for Director Review in the lone case that has been discretionarily denied. Institution of IPR here would further the opportunity for a stay in the EDTX litigation (refer to the example in EX1031) such that validity would be determined by the PTAB and thereby streamline the district court case. Thus, at a minimum, Factor 1 remains “neutral.” *Nikon*, IPR2024-01372, Paper 17 at 10-11; *Sand Revolution II, LLC v. Cont’l Intermodal Grp. - Trucking LLC*, IPR2019-01393, Paper 24 at 7 (PTAB June 16, 2020) (informative) (“facts beyond our control and to which the Board is not privy”).

B. *Factor 2: Proximity of the court’s trial date to the Board’s projected statutory deadline for a Final Written Decision*

All of Patent Owner’s arguments with respect to Factor 2 effectively demand the Director should assume that jury selection will start on June 1, 2026. Discretionary denial should not be based on such premature assumptions.

Patent Owner’s assertion that the EDTX litigation will reach “a final resolution” in a jury trial before any final written decision in this forum (Paper 7, 1) is simply not true. Although a Final Written Decision for the present proceeding is

expected to issue 4 months after the theoretical start of jury selection in EDTX on June 1, 2026 (EX1020, 1), any experienced patent litigator knows the beginning of jury selection is far from “a final resolution” (Paper 7, 1). Even if the jury trial were to begin on June 1, 2026 (which is a false assumption that overlooks ten other plaintiffs also scheduled to start jury selection on that same date in the same courtroom), Patent Owner’s assertion ignores the amount of time required to achieve a final judgment ripe for any appeal—after the resolution of post-trial motions. Indeed, an analysis of pendency of cases handled by Judge Gilstrap from LegalMetric reveals an average pendency for post-trial motions of 6.9 months after the jury trial. EX1028, 2. Therefore, the “final resolution” of the EDTX proceeding (if it occurs at all) would likely not occur until *sometime in early 2027*. By that time, the Board’s Final Written Decision (predicted to issue Oct. 7, 2026 or earlier) would be in final repose or already under appeal. This IPR proceeding is the most efficient and prompt forum for achieving appealable finality, and it is the only forum that would address *any* of the prior references cited in the Petition after institution (refer to Factor 4). There is a meaningful difference between a theoretical date for the start of jury selection and an actual date of final resolution in the district court, a difference that should be seriously considered by the Board in assessing Factor 2. Patent Owner’s Factor 2 analysis does not contemplate this difference.

Even more revealing, the most recent statistics for Judge Gilstrap reveal a median time-to-trial of 23.2 months for cases filed within the past three years, which would place *the beginning of the jury trial later in July 2026* based on the August 8, 2024 filing date for the complaint. EX2001, 7; EX2009. In such scenarios in which the median time-to-trial indicates that the likely trial date “is reasonably proximate to the projected statutory deadline for a final written decision,” Factor 2 weighs in favor of the Board “not exercising [its] delegated discretion to deny institution.” *Cisco Systems, Inc. v. Croga Innovations LTD.*, IPR2024-01283, Paper 8 at 44 (PTAB Feb. 13, 2025). Petitioner here requests nothing more than the same Factor 2 reasoning afforded the petitioner in *Cisco. Id.*

Additionally, Patent Owner’s own actions have added even more uncertainty to the timing of the parallel District Court proceeding. Specifically, Patent Owner now seeks to add new products to the suit, including an entirely new printer – Petitioner’s flagship model with many new features – greatly expanding the work and potentially delaying resolution as both parties will have to prepare and submit briefing related to alleged infringement of these newly added products and potentially additional claim construction arguments relevant to the issue of infringement of these new products.

Weighing even further in favor against discretionary denial, Judge Gilstrap currently has *eleven* trials simultaneously scheduled to start jury selection on June

1, 2026, all of which Patent Owner oddly ignores. *See* EX1027, 1-8. By advocating for discretionary denial based on the scheduled jury selection date, Patent Owner is insisting that the Board must assume that Judge Gilstrap will prioritize the Patent Owner's litigation over the *ten other* cases scheduled to begin jury selection on the same day. There is no dispute that seven of those ten other cases are complex patent trials, yet Patent Owner has offered no evidence to suggest that Judge Gilstrap will favor the Patent Owner in this proceeding over the other patent owners. Indeed, the litigation here is not even the only one of the identically scheduled trials in which co-pending IPR petitions have been filed.² It would be unjust for the Patent Office to assume that an Article III judge would prioritize one patent owner (Stratasys) over all seven others (and over the three other non-patent plaintiffs). Yet, by advocating for discretionary denial, Patent Owner is asking the Director to assume that there is a 100% chance that Patent Owner's proceeding will be the one out of the eleven

² Of the EDTX cases currently scheduled to simultaneously start jury selection on June 1, 2026, the various defendants have filed IPR petitions in at least: 2:24-cv-00260 (*Maxeon Solar Pte. Ltd. v. REC Solar Holdings AS*); 2:24-cv-00540 (*Hermes IP Management LLC v. Samsung Electronics Co. Ltd. et al.*); 2:24-cv-00634 (*OS-New Horizon Personal Computing Solutions Ltd. v. Samsung Electronics Co. Ltd. et al.*).

cases actually selected to begin trial on June 1, 2026. Even in a neutral statistical analysis, the chance of the present parties being selected as the one trial to start jury selection on June 1, 2026 out of eleven cases simultaneously scheduled for the same date is small—approximately 9%.

Furthermore, Patent Owner’s assertion that the “majority of cases do not reach a jury trial” (Paper 7, 10) does not distinguish between patent and non-patent cases and also ignores the fact that institution of IPR petitions is a factor that significantly contributes to settlement between parties, thus causing such cases to “not reach a jury trial.” Indeed, recent statistics issued by the Patent Office reveal that institution of IPR petitions, which demonstrates validity issues with patents challenged by such petitions, can significantly contribute to settlement between the parties. EX1032, 9. As such, institution of the present petition would contribute toward settlement between the parties and reduce the burden on the District Court. *See, e.g.*, IPR2025-00100, Paper 15 (Settlement After Institution).

These additional considerations indicate that Factor 2 weighs against exercising discretion to deny IPR.

Finally, while Patent Owner cites to several cases to support its assertion that any gap between the predicted Final Written Decision date and the scheduled jury selection date for the parallel District Court proceeding causes Factor 2 to weigh in favor of discretionary denial (Paper 7, 12-13), this assertion ignores the fact that

numerous decisions issued since the withdrawal of Former Director Vidal's *Fintiv* memo indicate that a *Sotera* stipulation (a stipulation with narrower exclusionary effect than the much broader stipulation provided in the present case, which is even more restrictive than the stipulation in *Tesla*) favors institution when the gap between jury selection and the expected FWD date is four months or less, as is the case here. *See e.g.*, IPR2025-00196, Paper 7 at 10-11, 14-16, 18; IPR2025-00120, Paper 9 at 6-10; IPR2025-00100, Paper 10 at 27-30, 34; IPR2025-00307, Paper 18; IPR2024-01487, Paper 8 at 36-39; IPR2025-00021, Paper 14 at 9-12; IPR2025-00124, Paper 14 at 9-12; IPR2024-01463, Paper 14 at 13-14, 16-17, 19; IPR2024-01472, Paper 9 at 8-11. Additionally, the gap between the expected FWD date and the currently scheduled start of jury selection would be only two months (similar to the time gap in *Tesla*) if not for the two month delay by the PTAB in issuing the Notice According Filing Date after the present Petition was filed.

C. *Factor 3: Investment in the parallel proceeding by the court and the parties*

The investment in the parallel proceedings is low. The related District Court proceeding remains in its early stages with much of the work yet to be done. Meaningful discovery is only just beginning, with the parties only recently filing the first round of motions to compel. EX1035; EX1036. Notable case milestones like identifying claim terms and a claim construction hearing have not been reached.

As is clear from the existence of early discovery motions, the district court case is in its infancy. Patent Owner’s briefing acknowledges the case’s early stage, referring to many “substantial investments” that have not yet been made. Indeed, while preliminary infringement contentions and invalidity contentions have been served, discovery is only just beginning—contentions are not finalized, depositions have not been taken, and expert discovery is distant on the horizon.

So far, each party has served an initial set of interrogatories and requested document production, but as evidenced by the pending motions to compel, neither party is satisfied with the other’s productions. Indeed, Patent Owner has dragged its feet on producing documents fundamental to the case, including those pertaining to practicing products, prior art products, and invention documents. In fact, when Petitioner had filed its motion, Patent Owner had provided no code and only 2,288 documents, with less than 200 marked confidential to compel. EX1036, 1.

Aside from earlier productions of *less than 200* confidential documents, Patent Owner only recently began meaningful productions of these fundamental documents on June 27, 2025. Even still, Patent Owner produced only 94 more documents and cannot commit to a schedule for its remaining productions. This meager production does not address the fundamental deficiencies outlined in Petitioners’ motion, and Patent Owner’s inability to commit to a production schedule suggests not even it knows when it will do so.

Nor does Patent Owner accurately portray Petitioner’s production. While Patent Owner touts the “tens of thousands of pages of documents” that have been produced, it conveniently omits Patent Owner’s own characterizations of a substantial amount of this production

[Petitioners] had not produced *a single non-public technical document*. The “over 8,000 documents” referenced in [Petitioners’] letter are almost exclusively printouts of publicly available web pages, with *over three-quarters of the documents being printouts of a third-party website* (GitHub), most of which are simply screen captures of comments left by users on that site.

EX1029.

Notable district court milestones are still on the distant horizon. There is no dispute that completion of fact discovery is not until January 12, 2026—months away even assuming the discovery schedule is not further extended. EX1020, 4. And, similarly, no depositions have yet been taken and expert discovery has yet to begin. *Id.* (expert discovery not to be completed until February 2026). And the parties have neither argued nor briefed claim construction issues. EX1020, 5. Indeed, the parties have not even exchanged a list of identified claim terms. *Id.* Thus, the bulk of the district court milestones have yet to occur—and certainly little or no investment from the parties regarding the merits of prior art/invalidity disputes. In accordance with PTAB precedent, the current stage of the parallel proceeding

indicates that Factor 3 weighs against discretionary denial. *Sotera Wireless, Inc. v. Masimo Corporation*, IPR2020-01019, Paper 12 at 16-17 (Dec. 1, 2020) (designated “precedential” Dec. 17, 2020) (holding that Factor 3 weighs against discretionary denial when no *Markman* briefing has yet occurred as this indicates “relatively limited investment in the parallel proceeding”). Petitioner here requests nothing more than the same Factor 3 reasoning afforded the petitioner in the *Sotera* precedent. *Id.*

Furthermore, in addition to the parallel District Court proceeding being still in a relatively early stage, Petitioner’s diligence in filing the instant Petition in a timely manner further indicates that Factor 3 weighs against discretionary denial. Specifically, Petitioner was diligent in obtaining counsel, identifying highly relevant prior art, securing the declaration testimony of Dr. Hickner, and preparing the Petition—all in less than 6 months of the August 8, 2024 filing of the Complaint in EDTX. *See* Paper 6, 1; EX2009. The PTAB has repeatedly (and justly) reasoned that “Petitioner’s diligence in filing the Petition also weighs in favor of not exercising discretion to deny institution.” *Peag LLC et al. v. Varta Microbattery GMBH*, IPR2020-01212, Paper 8 at 20 (PTAB Jan. 6, 2021); *see also Dish Network LLC v. Broadband iTV, Inc.*, IPR2020-01332, Paper 14 at 28-29 (PTAB Jan. 27, 2021). Patent Owner’s Factor 3 analysis does not contemplate this fact when reaching its flawed conclusion.

D. *Factor 4: Overlap between issues raised in the petition and in the parallel proceeding*

Factor 4 weighs strongly in favor of institution because, in light of the recent *Tesla, Inc. v. Intellectual Ventures II LLC*, IPR2025-00217, Paper 9 at 2 (Jun. 13, 2025) decision, Petitioner served Patent Owner (and subsequently filed with the Board) a stipulation for this proceeding that includes all restrictions from the *Tesla* cases and takes the stipulated restrictions even one step further. *See* EX1033. Petitioner has similarly submitted stipulations that are at least as restrictive as that in *Tesla* for all of the other IPR proceedings involving Petitioner and Patent Owner. Specifically, Petitioner's stipulation for the '464 patent plainly states:

If IPR is instituted in IPR2025-00585, unless institution is later vacated, reversed or otherwise withdrawn by rehearing or Director Review, Shenzhen Tuozhu and the other defendants named in the related District Court Case No. 2:24-cv-00645 (E.D. Tex.) and declaratory judgment plaintiffs in the related District Court Case No. 2:25-cv-00465 (E.D. Tex.) stipulate that they will not pursue in the 2:24-cv-00645 case or the 2:25-cv-00465 case, against the '464 Patent, **(i) *the specific grounds asserted in IPR2025-00585, (ii) any other ground that was raised or could have been reasonably raised in an IPR*** (i.e., any ground that could be raised under §§ 102 or 103 on the basis of prior art patent or printed publications), **(iii) *any ground based on a combination of system prior art (i.e., prior art that is neither a patent or printed publication) and the references that form the basis of any ground raised in IPR2025-00585, or (iv) any ground that could be***

raised under §§ 102 or 103 on the basis of system art corresponding to the references that form the basis of any ground raised in IPR2025-00585.

EX1033. In other words, if the Board proceeds to review the '464 patent in a PTAB trial, there will be no overlap with the parallel litigation because the litigation defendants will not pursue in the district court any “ground that was raised or could have been reasonably raised”; ***any ground that uses any of “the references that form the basis of any ground” raised in the Petition***, whether alone or in combination; or ***any ground based on “system art corresponding to the references that form the basis of any ground raised” in the Petition. Id.***

To be clear, if the Board institutes and maintains the present IPR proceeding, the Dahlin, Menchik, Loughran, and Toshiki references that form the basis of the Petition grounds cannot be used in any invalidity ground whatsoever in the related litigations. Additionally, if the present IPR proceeding is instituted and not later revoked, systems described in any of Dahlin, Menchik, Loughran, and Toshiki cannot be used in any invalidity ground whatsoever in the related litigations. The limited district court invalidity grounds that remain include system art alone or system art in combination with other prior art never presented in the IPR grounds, and in both scenarios, the relied upon system art is required to be distinct from

systems described in any of the references relied upon in the grounds of the present Petition. *See* EX2007, 89-103. As such, there will be no overlap. None.

This broad stipulation, which is broader than both the stipulation provided in the precedential *Sotera* case and the stipulation in the recently issued *Tesla* decisions, “ensures that an inter partes review is a ‘true alternative’ to the district court proceeding” and “mitigates any concerns of duplicative efforts between the district court and the Board, as well as concerns of potentially conflicting decisions.” *Sotera*, IPR2020-01019, Paper 12 at 18-19 (designated “precedential” Dec. 17, 2020). This broad stipulation “address[es] any concerns about overlap between the issues presented in the two fora.” *Ocado Group PLC v. AutoStore Technology AS*, IPR2021-00311, Paper 11 at 17 (PTAB June 28, 2021).

As Patent Owner identified in its Request for Discretionary Denial, Petitioner has identified five “system art” references in its District Court invalidity contentions. Paper 7, 17-19. There is no dispute these system art references are unavailable for consideration in this IPR. But that is where Patent Owner’s factual assertion ends and its error-riddled theories begin. Fatally, Patent Owner has identified no overlap between the identified system art references and the distinct publication references relied upon in the present proceeding. *Id.* In other words, Patent Owner presents no evidence or analysis that the “system art” references identified in Petitioner’s District Court invalidity contentions are derived from or describe the same or similar

systems as those disclosed by the printed publication prior art relied upon in the IPR grounds here. Critically, Patent Owner cannot do so because no such connection exists. Furthermore, Petitioner's stipulation forbids Petitioner from raising such grounds in the District Court proceeding should this IPR be instituted and maintained.

The broad stipulation offered by Petitioner in the present proceeding ensures that, should the present IPR proceeding be instituted and maintained, Petitioner is indeed "restrained from asserting very similar obviousness theories in the Related Litigation that include only minor differences from the Grounds raised in this Petition by including unpublished system art." Paper 7, 19. In light of Petitioner's broadly restrictive stipulation, Factor 4 strongly favors against exercising discretion to deny IPR.

Petitioner's new stipulation should be considered in this case as it is submitted responsive to recent material changes in the application of the *Fintiv* Factors in recent Director Discretionary Denial Decisions that could not have been reasonably foreseen prior to the decisions in *Tesla* and *Shenzen Tuozhu Technology Co. LTD v. Stratasys, Inc.*, IPR2025-00354, Paper 11 (PTAB June 12, 2025). Upon becoming aware the Office had made this fundamental shift in application of the *Fintiv* factors, Petitioner promptly provided its new, broader stipulation.

E. *Factor 5: Whether the petitioner and the defendant in the parallel proceeding are the same party*

Petitioner is a defendant in the parallel EDTX proceeding. As such, this factor weighs in favor of discretionary denial.

F. *Factor 6: Other circumstances that impact the Board's exercise of discretion, including the merits*

Numerous other factors favor against discretionary denial of the present Petition and in favor of consideration of the prior art challenges presented in the Petition on the merits.

1. The strong merits of the Petition favor institution

On the merits and pertinence of the prior art cited in the Petition, the IPR Grounds here strongly favor institution. As one example, the merits of the instant Petition are strong because Petitioner identified printed publications that were not before the examiner during prosecution that expressly disclose the feature thought to be missing from the prior art at the time of allowance, all of which is confirmed by the only expert testimony in the record. As identified in the Petition, during prosecution of the application that led to the '464 patent, the Applicant distinguished the allowed claims from the Batchelder reference applied during prosecution by amending claim 1 to recite “performing a diagnostic test to determine whether the operational parameter is suitable for the three-dimensional printer” and “when the operational parameter is suitable for the three-dimensional printer according to the

diagnostic test, controlling operation of the three-dimensional printer during the fabrication process with the controller according to the operational parameter to fabricate an object with the three-dimensional printer.” EX1002, 133-141; Pet., 4-5. The Applicant asserted that the amended claim language distinguished over Batchelder because “the word ‘test’ appears to be completely missing from the *Batchelder* disclosure.” *Id.*

In response to this claim amendment and arguments by the Applicant, the Examiner withdrew all prior art-based rejections and allowed the claims without expressing any reasons for allowance. EX1002, 191-195. As such, the Prosecution History indicates that the feature thought to be missing from the prior art during prosecution is “performing a diagnostic test to determine whether the operational parameter is suitable for the three-dimensional printer” and “when the operational parameter is suitable for the three-dimensional printer according to the diagnostic test, controlling operation of the three-dimensional printer during the fabrication process with the controller according to the operational parameter to fabricate an object with the three-dimensional printer.”

The merits of the instant Petition are strong because Petitioner identified not one, but two references (Dahlin and Toshiki), neither of which was addressed by the Examiner during examination and one of which was not even listed in an IDS, that disclose precisely this feature that was thought to be absent from the prior art. Pet.,

29-30, 61-66. For example, Dahlin discloses determining the amount of support filament required for completing the job (*operational parameter specifying a support structure requirement*) in order to “calculate whether a spool... 56 contains enough filament to complete the job,” which is *a diagnostic test* to determine whether the amount of support filament required (*operational parameter specifying a support structure requirement*) is *suitable for the printer* to complete the print job and *controlling operation of the printer during fabrication* of the object according to the amount of support filament required to complete the job (*operational parameter*). EX1011, 5:26-37, 5:55-64, 1:64-2:2, 6:28-39, 8:14-20; Pet., 29-30.

Similarly, Toshiki discloses determining whether the modeling material storage tank needs to be replaced while performing model processing, which is *a diagnostic test* to determine whether the amount of support material to be used in the modeling process (*operational parameter specifying a support structure requirement*) is suitable for the printer to complete the print job, and *controlling operation of the three-dimensional printer* during the fabrication process according to the amount of support material to be used (*operational parameter*) to fabricate an object with the three-dimensional printer by, e.g., monitoring the amount of support material used to update the amount of support material to be used (*operational parameter*) and notifying the operator to replace the cartridge during the fabrication

process. EX1024, [0009]-[0010], [0013]-[0015], [0017], [0023], [0033], [0109], [0090], [0100], [0102]-[0103], [0110], [0111], [0121], [0123], [0133], [0141]-[0142], [0139], [0183], FIG. 10A; Pet., 61-66.

The fact that the Petition identifies two distinct references that each separately disclose the feature thought to be missing from the prior art (a three-dimensional printer that performs “a diagnostic test to determine whether the operational parameter is suitable for the three-dimensional printer” and controls the operation of the printer “when the operational parameter is suitable for the three-dimensional printer according to the diagnostic test”) by itself indicates the strong merits of the Petition. As such, for this reason alone, Factor 6 strongly favors institution.

2. Patent Owner’s merit-based arguments fail to identify any flaws in the grounds presented in the Petition

Patent Owner’s merit-based arguments (Paper 7, 33-44) should be dismissed for both policy interest reasons and because Patent Owner’s arguments fail to show any actual flaws in the Petition’s application of the proposed prior art combinations to the challenged claims.

First, Patent Owner’s merit-based arguments fly directly in the face of the spirit of the March 26, 2025 Memorandum by the Director regarding “Interim Processes for PTAB Workload Management” (Director Memo). The new bifurcated process is intended to streamline the PTAB procedures and reduce the workload on

the Board by splitting discretionary considerations from merit-based determinations for each petition. By including merit-based arguments into the Request for Discretionary Denial, Patent Owner is essentially insisting that the Director and the panel of consulting PTAB judges tasked with assessing discretionary considerations should also conduct a full merits review for every Petition prior to the assigned three-member PTAB panel repeating that same review. This insistence by Patent Owner is directly contrary to the efficiencies that the new bifurcated process is intended to achieve. Indeed, Patent Owner's theory is belied by the Patent Office's recent "FAQs," which emphasized that "[t]he parties should not treat a discretionary denial brief or opposition as an additional opportunity for merits briefing."³

If the Director were to conduct a full merits analysis at this initial discretionary consideration stage, such an outcome would invite every future Patent Owner to include merit-based arguments in the request for discretionary denial and thus turn the new, streamlined bifurcated process back into a unified process in which a single entity, the Director and panel of consulting PTAB judges, would be tasked with conducting both discretionary and merits analysis on an accelerated schedule from

³ https://www.uspto.gov/patents/ptab/faqs/interim-processes-workload-management?utm_campaign=subscriptioncenter&utm_content=&utm_medium=email&utm_name=&utm_source=govdelivery&utm_term= at FAQ no. 25.

the standard six-month time frame for the PTAB to make institution determinations. The Board should decline this invitation from Patent Owner to conduct a full merits analysis as part of the discretionary considerations phase.

Second, as discussed above, the merits of this case are strong because the Petition advances grounds based on not one, but two references, one of which was not before the Examiner during prosecution, that precisely disclose the feature thought to be missing from the prior art. Turning briefly to Ground 1A, as discussed above, Ground 1A relies on the Dahlin reference as the primary reference in the combination to expressly disclose the feature thought to be missing from the prior art, and Petitioner further described in detail the reasons that would have motivated a POSITA to apply the teachings of Menchik to Dahlin to provide a 3D printing apparatus that uses data stored in a data tag to determine operational parameters including the amount of modeling and support filament required for completing the job, and how this predictable combination would have provided all elements of claims 1, 4, 5, 11-17. Pet., 14-17.

Patent Owner's arguments with respect to Ground 1A fail to identify any flaws in the proposed combination described in the Petition because they improperly attack the references in isolation rather than the proposed combination as a whole. *In re Merck & Co., Inc.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986) ("Non-obviousness cannot be established by attacking references individually where the rejection is based upon

the teachings of a combination of references.”). Dahlin’s disclosures of determining if the amount of material is sufficient to create a desired object, using “proper” parameters for dispensing material, and notifying the operator if the amount of material is insufficient for subsequent replacement of the material (Paper 7, 33-34) does not teach away from the additional functionality of using data stored in a data tag to determine operational parameters including the amount of modeling and support filament required for completing the job, as taught by Menchik. EX1009, [0035], [0048]-[0049], [0046]. Such a modification would have achieved the numerous benefits discussed in the Petition. Pet., 14-17. The disclosure of an alleged alternative solution is not a teaching away from one of the known alternative solutions. *See PAR Pharm., Inc. v. TWI Pharms., Inc.*, 773 F.3d 1186, 1197-98 (Fed. Cir. 2014) (“Our precedent...does not require that the motivation be the best option, only that it be a suitable option from which the prior art did not teach away.”); *see also Galderma Labs., L.P. v. Tolmar, Inc.*, 737 F.3d 731, 738 (Fed. Cir. 2013); *Bayer Healthcare Pharms., Inc. v. Watson Pharms., Inc.*, 713 F.3d 1369, 1376 (Fed. Cir. 2013); *In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004) (“Our case law does not require that a particular combination must be the preferred, or the most desirable, combination described in the prior art in order to provide motivation for the current invention.”).

Menchik includes clear disclosure of using data stored in a data tag to determine operational parameters and nothing in the prior art criticizes the functionality of using data stored in a data tag to determine operational parameters including the amount of modeling and support filament required for completing the job by Dahlin's 3D printer based on those teachings of Menchik and thus there is no "teaching away" from such the proposed combination. *SightSound Techs., LLC v. Apple Inc.*, 809 F.3d 1307, 1320 (Fed. Cir. 2015); EX1006, 3; EX1012, FIG. 2A, [0018]-[0020], [0026]. As such, Patent Owner's assertion that Menchik does not teach "determining the amount of material required for completing a job based on information stored in its memory chip" (Paper 7, 34) fails because this argument improperly attacks the Menchik reference in isolation rather than the proposed combination of Dahlin and Menchik. More specifically, the Petition does not rely on Menchik as teaching determining the amount of material required for completing a job based on information stored in its memory chip. Rather, as discussed in the Petition, Menchik discloses using data stored in a data tag to determine operational parameters and these teachings are properly combined with Dahlin which discloses determining operational parameters including the amount of modeling and support filament required for completing the job.

Patent Owner's arguments regarding application of Dahlin and Menchik to the claims (Paper 7, 35-37) similarly fail. The Petition explains in detail that in the

predictable combination, Menchik's memory device stores optimal operation parameters, optimum building parameters, material parameters, and building material information, and the controller computes material and supply parameters including the amount of material required for printing a given object, and Dahlin's system determines *the amount of support material required* for printing a given object (operational parameter specifying *a support structure requirement*). Pet., 23-28; EX1009, [0047]-[0048], [0035], [0027], [0006]-[0007], FIG. 6; EX1011, 1:64-2:2, 5:26-37, 5:55-64.

As discussed in the Petition, Menchik's FIG. 6 shows that at "block 610 various parameters of the materials within the various cartridges may be computed by the controller, for example, the amount of material of each type and/or color presently available in each cartridge, by, for example, *utilizing the data provided by* the respective sensors and *respective memory chips* attached to the respective cartridges." EX1009, [0047]; Pet., 25. Menchik also suggested that 3D printer system could then advantageously provide for "management and control of the supply of building materials" by "*processing the building material status data to determine parameters* of the building material" such as "the amount of modeling material, support liquid, or combination of modeling and support materials required for printing a given three-dimensional object." EX1009, [0006]-[0007], [0048]; Pet., 26-27. Based on Dahlin's and Menchik's disclosures describing continuing the

printing process and monitoring the amount of support material required during the printing process after determining that the amount of support material required to complete the job (operational parameter) is suitable, a POSITA would have understood that when the amount of support filament required for completing the job (operational parameter specifying a support structure requirement) is suitable for the printer to complete the print job, the CPU 92 controls operation of the printer during fabrication of the object according to the amount of support filament required to complete the job (operational parameter) by, e.g., monitoring the amount of support material to complete construction (operational parameter) and replacing the cartridge during the fabrication process. EX1003, ¶61; Pet., 31; EX1011, 5:26-37, 6:28-39, 8:14-20; EX1009, [0050].

With respect to Ground 2, the analysis presented in the Petition clearly reveal that all Challenged Claims are not entitled to the filing date of U.S. Provisional Application No. 61/719,874 (“the ’874 Provisional”) because claims 1-6 and 10-19 do not have written description support in the ’874 Provisional. Pet., 6-10. The ’874 Provisional discloses no such system that performs all the required steps of reading data from a tag (elements 1[a], 12[c], 19[a]), determining an operational parameter based upon the data (elements 1[b], 12[d], 19[d]), performing a diagnostic test to determine whether the operational parameter is suitable for the three-dimensional printer (elements 1[c], 12[d], 19[e]), and when the operational parameter is suitable

for the three-dimensional printer according to the diagnostic test, controlling operation of the three-dimensional printer according to the operational parameter (elements 1[d], 12[e], 19[f]). Therefore, Toshiki is prior art.

Petitioner further described in detail the reasons that would have motivated a POSITA to apply the teachings of Toshiki to Loughran to provide a 3D printing system that determines the amount of the modeling material to be used in the modeling process and provide the user with a notification either that the amount of material in the cartridges is adequate for the modeling process or that the cartridge will need replacement and reloading during the modeling process. EX1024, [0110]-[0111], [0121], [0139], [0015], [0017], FIG. 10A; EX1011, 5:26-37; Pet., 50-52. Patent Owner's arguments with respect to Ground 2 fail to identify any flaws in the proposed combination described in the Petition. Paper 7, 40-44.

Patent Owner's remaining arguments with respect to Ground 2A mirror its arguments with respect to Ground 1A by similarly improperly attacking the references in isolation rather than the predictable combination described in the Petition. *Id.* As clearly articulated in the Petition, Loughran's SFF system 104 "receives the material identifier from the tag 114 of the material container 110 (302)," "retrieves information regarding the material 112 from the material information server 108 over the network 106, based on the material identifier (316)," "parses the retrieved information regarding the material 112 to, for instance, extract

parameters regarding the material 112, and dynamically adjusts its own parameters based on parameters extracted (326)” “so that physical objects can be properly fabricated from the material 112.” EX1004, [0032]-[0037], [0045], [0048], [0024]-[0025]. Additionally, Toshiki discloses “modeling parameters such as the type of modeling material, the thickness of the modeling material layer, scanning speed, and the like.” EX1024, [0029]. Based on Loughran’s and Toshiki’s disclosures, a POSITA would have also found it obvious to implement Loughran’s parameters that are retrieved based on the material identification number to include modeling parameters such as the type of modeling material, the thickness of the modeling material layer, and the scanning speed, as suggested by Toshiki. Pet., 58-60. A POSITA would also have been motivated to implement Loughran so that the SFF system 104 also determines the amount of support material to be used (*operational parameter specifying a support structure requirement*) in the modeling process based on modeling parameters that are retrieved using the material identification number (*tag data*), based on Loughran’s and Toshiki’s suggestions. *Id.* Further, in the predictable modification of Loughran as suggested by Toshiki, Loughran’s SFF system 104 compares the current remaining amount of the model material M and the support material S with the cumulative amount of the modeling material to be used in model processing (*a diagnostic test* to determine whether the amount of support material to be used in the modeling process (operational parameter specifying a

support structure requirement) is suitable for the printer to complete the print job) and displays the determination result, including an indication that the tank needs to be replaced, on a display screen before model processing is started, based on Toshiki's suggestions. EX1024, [0110]-[0111], [0121], [0139], [0015], [0017] FIG. 10A; Pet., 61-63.

The above discussion of Patent Owner's merit-based arguments only scratch the surface. However, based on the recently issued Patent Office guidance that "[t]he parties should not treat a discretionary denial brief or opposition as an additional opportunity for merits briefing," Petitioner will reserve additional discussion of the merits of the Grounds advanced in the Petition for the Petitioner's Reply after institution. *See* FAQs for Interim Processes for PTAB Workload Management at 25.

3. The "additional factors" enumerated in the Director Memo favor institution

Reliance on Expert Testimony

Patent Owner's assertions regarding reliance on expert testimony (Paper 7, 21-23) do not shift discretionary denial considerations. Petitioner properly relies on expert testimony from Dr. Hickner to support the arguments made in the Petition—including detailed and focused testimony on how a POSITA would have predictably combined the identified references and how such combinations apply to the challenged claims. Here, Dr. Hickner provided important context not available to

the examiner during examination regarding the knowledge of a POSITA and the understanding that a POSITA would have gathered from the cited prior art references. Patent Owner's arguments regarding reliance on expert testimony ignore the underlying reason for this factor. Indeed, Patent Owner never alleges that expert testimony is being used as a substitute for a prior art publication against any claim element or to fill in any claim elements missing from the cited prior art. The length of the expert declaration is a reflection of the number of claims, the requirements for a fulsome analysis under *KSR* and other precedent, and the PTAB's own rules at 37 CFR § 42.65(a). Patent Owner essentially demands that this new factor regarding "[t]he extent of the petition's reliance on expert testimony" should force petitioners to violate the requirement of 37 CFR § 42.65(a) that expert testimony "disclose the underlying facts or data on which the opinion is based." We disagree that the Director intended such a result.

Furthermore, if there were merit to Patent Owner's assertion that "the declaration largely mirrors the wording and argument made in the Petition," surely Patent Owner would have been able to find more than a single alleged example. Paper 7, 21-23. That some phrasing in the Petition mirrors the testimony of Dr. Hickner merely demonstrates that Petitioner puts credence in the sound judgment and focused analysis of Dr. Hickner based on his decades of experience in the field.

Turning to the specific issue of Dr. Hickner's statements regarding Loughran's parameters (EX1003, ¶108), the testimony of Dr. Hickner on this point does not "supplant the teachings of the references themselves," as Patent Owner alleges. Paper 7, 22. Rather, Dr. Hickner simply identifies the plain fact that a POSITA would have found it obvious to implement Loughran's parameters to include modeling parameters based on Loughran's disclosure of "parameters of the material 112, including, but not limited to, melting temperature, storage temperature, minimum feature size, horizontal and vertical shrinkage rates, material lifetime, inter-layer delay time, and amount of ultraviolet (UV) light required per layer, among other parameters" and Toskihi's disclosure of "modeling parameters such as the type of modeling material, the thickness of the modeling material layer, scanning speed, and the like." EX1003, ¶¶107-108 (citing EX1004, [0024] and EX1024, [0029]). That is, Petitioner does not rely on Dr. Hickner's testimony to fill in an element missing from the disclosures of Loughran (or the other prior art of Ground 2A) but rather for the straightforward understanding that a POSITA would have found it obvious to implement Loughran's parameters to include modeling parameters.

Compelling Economic or National Security Interests

Patent Owner's assertions regarding "economic or national security interests" are similarly hollow. Paper 7, 23-25. Patent Owner does not even allege any

“national security interests” that would arise from the claimed technology⁴. *Id.* Similarly, economic interests favor institution as allowing Patent Owner to continue to assert claim scope that ensnares known prior art, and therefore that which rightfully belongs to the public, would allow Patent Owner to hold an unjust monopoly on such technology. Such an artificial monopoly would have negative economic consequences for the public by restricting the free market to determine the fair price for such technology that is rightfully within the public domain.

V. THE DIRECTOR SHOULD EXERCISE DISCRETION TO GRANT INSTITUTION UNDER SECTION 325(d)

The *Advanced Bionics* framework sets forth a two-part inquiry to determine whether a §325(d) discretionary denial is warranted. *Advanced Bionics, LLC v. MED-EL Elektromedizinische Geräte GmbH*, IPR2019-01469, Paper 6 (PTAB Feb. 13, 2020) (designated precedential: Mar. 24, 2020). Under this framework, the Board considers:

- (1) whether the same or substantially the same art previously was presented to the Office or whether the same or substantially the same arguments previously were presented to the Office; and

⁴ Patent Owner’s comments regarding possible restrictions again “foreign entities” pursuing IPR challenges ignore the fact that Patent Owner’s parent company is itself a foreign entity. EX1038.

(2) if either condition of first part of the framework is satisfied, whether the petitioner has demonstrated that the Office erred in a manner material to the patentability of challenged claims.

Id., 8. This two-part-framework includes evaluation of the *Becton, Dickinson* factors. *Becton, Dickinson & Co. v. B. Braun Melsungen AG*, IPR2017-01586, Paper 8 (PTAB Dec. 15, 2017) (designated precedential as to Section III.C.5, first paragraph: Aug. 2, 2019). More specifically, in evaluating the first prong of the *Advanced Bionics* framework, the Board weighs the following non-exclusive factors first identified in the *Becton, Dickinson* precedential decision: (a) the similarities and material differences between the asserted art and the prior art involved during examination; (b) the cumulative nature of the asserted art and the prior art evaluated during examination; and ; (d) the extent of the overlap between the arguments made during examination and the manner in which Petitioner relies on the prior art or Patent Owner distinguishes the prior art. *Advanced Bionics*, 10; *Becton, Dickinson*, 17–18. If it is determined that the same or substantially the same art or arguments previously were presented to the Office, the Board next evaluates the following *Becton, Dickinson* factors: (c) the extent to which the asserted art was evaluated during examination, including whether the prior art was the basis for rejection (e) whether Petitioner has pointed out sufficiently how the Examiner erred in its evaluation of the asserted prior art; and (f) the extent to which additional evidence

and facts presented in the Petition warrant reconsideration of prior art or arguments.

Id.

As explained below, application of the *Advanced Bionics* framework to this case reveals that discretionary denial under §325(d) is not warranted.

A. Factors (a), (b), and (d): The Patent Office did not previously consider the same or substantially the same art or arguments presented in the Petition

Although Dahlin (EX1011) and Menchik (EX1009) were cited on the face of the '464 patent, they were never addressed by the Examiner in rejecting the claims or any other official action and certainly never considered in combination with each other. Further, the Petition also advances Ground 2A which relies exclusively on references that were never even cited in an IDS or made of record anywhere during prosecution (Loughran (EX1004) and Toshiki (EX1024)).

As discussed in § IV.F.1, *supra*, Toshiki, which was never before the Examiner during prosecution, discloses precisely the feature thought to be missing from the prior art during prosecution: “performing a diagnostic test to determine whether the operational parameter is suitable for the three-dimensional printer” and “when the operational parameter is suitable for the three-dimensional printer according to the diagnostic test, controlling operation of the three-dimensional printer during the fabrication process with the controller according to the operational parameter to fabricate an object with the three-dimensional printer.” EX1024,

[0009]-[0010], [0013]-[0015], [0017], [0023], [0033], [0109], [0090], [0100], [0102]-[0103], [0110], [0111], [0121], [0123], [0133], [0141]-[0142], [0139], [0183], FIG. 10A; Pet., 61-66. For example, Toshiki expressly discloses determining whether the modeling material storage tank needs to be replaced while performing model processing, which is *a diagnostic test* to determine whether the amount of support material to be used in the modeling process (*operational parameter* specifying a support structure requirement) is suitable for the printer to complete the print job, and controlling *operation of the three-dimensional printer* during the fabrication process according to the amount of support material to be used (*operational parameter*) to fabricate an object with the three-dimensional printer by, e.g., monitoring the amount of support material used to update the amount of support material to be used (operational parameter) and notifying the operator to replace the cartridge during the fabrication process. *Id.* Patent Owner does not address these teachings of Toshiki in combination with Loughran. *See* Paper 7, 31.

Furthermore, Patent Owner fails to demonstrate that Loughran and/or Toshiki are substantially the same as the Batchelder reference applied by the Examiner during prosecution. As discussed in § IV.F.1, *supra*, the challenged claims were allowed after the applicant amended the independent claims to include performing “a diagnostic test to determine whether the operational parameter is suitable for the three-dimensional printer” and to clarify that controlling the operation of the printer

occurred “when the operational parameter is suitable for the three-dimensional printer according to the diagnostic test.” EX1002, 133-141. As such, the Applicant asserted that the amended claim language distinguished over Batchelder because “the word ‘test’ appears to be completely missing from the *Batchelder* disclosure.”

Id. The fact that Batchelder does not use the word “test” is irrelevant, as a “reference need not satisfy an *ipsissimis verbis* test” in order to satisfy a claim element. *In re Gleave*, 560 F.3d 1331, 1334 (Fed. Cir. 2009); *Whitserve, LLC v. Comput. Packages, Inc.*, 694 F.3d 10, 21 (Fed. Cir. 2012). Toshiki fills the gap believed to be missing from the prior art by expressly disclosing determining whether the modeling material storage tank needs to be replaced while performing model processing, which is ***a diagnostic test*** to determine whether the amount of support material to be used in the modeling process (***operational parameter*** specifying a support structure requirement) is suitable for the printer to complete the print job, and controlling ***operation of the three-dimensional printer*** during the fabrication process according to the amount of support material to be used (***operational parameter***) to fabricate an object with the three-dimensional printer by, e.g., monitoring the amount of support material used to update the amount of support material to be used (operational parameter) and notifying the operator to replace the cartridge during the fabrication process. EX1024, [0009]-[0010], [0013]-[0015], [0017], [0023], [0033], [0109], [0090], [0100], [0102]-[0103], [0110], [0111], [0121], [0123], [0133], [0141]-

[0142], [0139], [0183], FIG. 10A; Pet., 61-66. Loughran in combination with Toshiki is *not* substantially the same as the prior art previously presented to the office.

Similar to Toshiki, Dahlin, which was listed in an IDS but never addressed by the Examiner during prosecution, also discloses the features thought to be missing from the prior art through its disclosure of determining the amount of support filament required for completing the job (*operational parameter specifying a support structure requirement*) in order to “calculate whether a spool... 56 contains enough filament to complete the job,” which is *a diagnostic test* to determine whether the amount of support filament required (*operational parameter specifying a support structure requirement*) is *suitable for the printer* to complete the print job and *controlling operation of the printer during fabrication* of the object according to the amount of support filament required to complete the job (*operational parameter*). EX1011, 5:26-37, 5:55-64, 1:64-2:2, 6:28-39, 8:14-20; Pet., 29-30.

The fact that Loughran and Toshiki were not before the Examiner during prosecution and that Dahlin and Menchik were not addressed by the Examiner and have never previously been considered in combination reveals that the Petition does not rely on the same or substantially the same prior art as that previously presented to the Office. As such, because “Petitioner relies extensively on references not

previously presented to the Office” to teach the claim recitations previously thought to be missing from the prior art, “factors (a) and (b) weigh in favor of institution” and “§ 325(d) is not applicable to this proceeding.” *Comcast Cable Comms, LLC, v. Rovi Guides, Inc.*, IPR2019-01434, Paper 14 at 13-14 (PTAB Feb. 12, 2020); *see also Hydrite Chemical Co. v. Solenis Techs., L.P.*, IPR2015-01592, Paper 7 at 9 (PTAB Jan. 27, 2016) (declining to exercise discretion under §325(d) even though several asserted references were previously considered by the Office because “Petitioner has provided **additional art**, arguments, declaration evidence, and other information not previously considered by the Patent Office.”); *Nvidia Corp. v. Invensas Corp.*, IPR2020-00602, Paper 11 at 17-19 (PTAB Sept. 3, 2020) (granted institution because new secondary reference was not considered by the Examiner during prosecution); *Agrofresh Solutions Inc. v. Lytone Enterprise, Inc.*, IPR2021-00451, Paper 11 at 12-13 (PTAB July 27, 2021). Petitioner requests the same treatment as the petitioners in these cases.

B. Factors (c), (e), and (f): The Examiner erred by not identifying and applying the more pertinent Loughran and Toshiki references presented in the Petition to the challenged claims prior to allowance.

As discussed in the previous section, the record reveals that the Petition does not rely on the same or substantially the same art or arguments previously presented to the Office. However, the second prong of the *Advanced Bionics* framework also

favors institution under the precedential *Oticon Medical AB v. Cochlear Limited* decision because the Examiner failed to identify Loughran or Toshiki (in addition to failing to address either of Menchik or Dahlin during prosecution). Failure to identify and apply the highly pertinent teachings of these references to the allowed claims “*was error in the prosecution* leading to the issuance of” the ’464 patent due to the fact that “the Examiner was simply not aware of” these references. *Oticon Medical AB v. Cochlear Limited*, IPR2019-00975, Paper 15 at 19-20 (PTAB Oct. 16, 2019) (designated precedential: Mar. 24, 2020). Where, as here, “[t]he Petition...presents different prior art than the Office was aware of,” this constitutes error by the Office during prosecution under the second prong of the *Advanced Bionics* framework and as such, discretionary denial under § 325(d) would be inappropriate in the present case. *Id.*

VI. THE TEXT OF 35 U.S.C. § 314(c) IS CONTRARY TO THE TYPE OF WRITTEN DECISION THAT PATENT OWNER IS REQUESTING HERE

To the extent Patent Owner is requesting a written decision that is silent on a determination of whether the IPR grounds in the Petition demonstrate a reasonable likelihood to prevail on at least one claim, Patent Owner overlooks the text of the statute. There is no dispute that § 314(a) includes the word “may” such that the

Director has discretion to grant or deny institution of review. *See* 35 U.S.C. § 314(a).

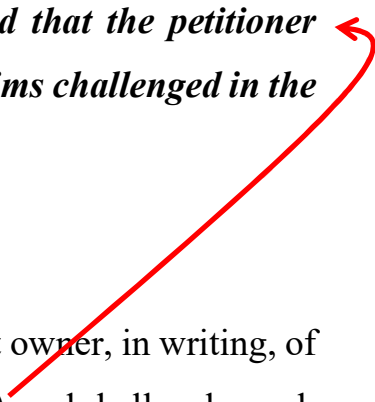
But the statute does not end there. Nor should the written decision in this case.

Reading further, it is clear that the text of § 314(c) includes the term “shall” and offers no discretion on what must be included in writing from the Office. And it is straight forward: “The Director *shall* notify the petitioner and patent owner, in writing, of the Director’s *determination under subsection (a)*.” *See* 35 U.S.C. § 314(c). In other words, § 314(c) does not provide any option for a decision at the institution stage (grant or denial) that is silent on the “determination under subsection (a),” which must be a specific type of determination. Namely, the term “determine” appears in § 314(a) to describe the reasonable-likelihood-to-prevail determination based on the merits of the prior art grounds presented in the Petition:

§314

(a)Threshold.—

The Director may not authorize an inter partes review to be instituted unless the Director *determines that the information presented in the petition filed under section 311 and any response filed under section 313 shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.*



...

(c)Notice.—

The Director *shall* notify the petitioner and patent owner, in writing, of the Director’s *determination under subsection (a)*, and shall make such notice available to the public as soon as is practicable. Such notice shall include the date on which the review shall commence.

See 35 U.S.C. § 314.

Thus, fulfillment of the statute is achieved when the written institution decision expresses the “determination” of whether the IPR grounds in the Petition demonstrate a reasonable likelihood to prevail on at least one claim. *Id.* But Patent Owner’s brief (Paper 7) appears to request the opposite. Worse yet, Patent Owner’s brief is distinct from the information that must be weighed in order to achieve “the Director’s determination under subsection (a).” *Id.* In particular, § 314(a) specifies that “the determination” should be based upon “the information presented in the petition filed under section 311 [the Petition] and any response filed under section

313 [the Preliminary Response].” See 35 U.S.C. § 314(a). Patent Owner’s brief (Paper 7) is neither of those.

For at least these reasons, the Director should reject Patent Owner’s request.

VII. PATENT OWNER IMPROPERLY REQUESTS RETROACTIVE APPLICATION OF DISCRETIONARY FACTORS THAT WERE NOT IN PLACE AT THE TIME THE PETITION WAS FILED

Patent Owner argues that discretionary denial is appropriate because the April 8, 2025 *Sotera* stipulation provided by Petitioner to Patent owner (prior to the much stricter stipulation discussed in §IV.D, *supra*) “is not likely to moot Petitioner’s numerous invalidity arguments in the District Court with unpublished system art.” Paper 7, 16-20. However, such an assertion, and Patent Owner’s broader request for discretionary denial after submission of a *Sotera* stipulation by Petitioner, is an improper request for the Director to disregard binding rules that had been in place at the time the Petition was filed and retroactively apply a new set of discretionary denial factors that were not in place at the time Petitioner filed the Petition. Specifically, at the time the Petition was filed, the June 21, 2022, USPTO Director memo was still in effect. This memo stated that the Board “will not discretionarily deny institution of an IPR ... in view of parallel district court litigation where a petitioner stipulates not to pursue in a parallel district court proceeding the same grounds as in the petition or any grounds that could have reasonably been raised in the petition”—a so-called *Sotera* stipulation. The Director stated that this rule—

which was phrased in absolute terms (“will not”) and admitted of no exceptions— was “issued under the Director’s authority to issue binding agency guidance.” *Apple Inc. v. Vidal*, 63 F.4th 1, 9 (Fed. Cir. 2023). Patent Owner now improperly requests that the Director ignore this “binding agency guidance” that was in place at the time the Petition was filed and retroactively apply new guidance that could not have been foreseen at the time of filing. Such a request by Patent Owner is improper.

Petitioner properly relied on the “binding agency guidance” of the June 2022 Memo in place at the time the Petition was filed based on the knowledge that submission of a *Sotera* stipulation, as provided by Petitioner here, served to completely prevent discretionary denial based on the parallel litigation. Patent Owner now improperly asks that the director apply the rescission of the June 2022 Memo to retroactively apply to Petitions filed prior to the Rescission of the memo and disregard Petitioner’s reliance on the June 2022 Memo in violation of the APA’s prohibition on arbitrary and capricious actions. Whether the Rescission is properly characterized as a binding, substantive rule (that the USPTO was prohibited from adopting absent notice-and-comment rulemaking) or mere guidance, the Rescission should not be applied retroactively to petitioners that already filed IPR petitions in reliance on established rules. Retroactive application of the Rescission to the current Petition would be “arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law,” and therefore must be “h[e]ld unlawful and set aside.” 5

U.S.C. § 706(2)(A). Unlike policy statements, only substantive rules may ever be applied retroactively, and even they “will not be construed to have retroactive effect unless their language requires this result.” *Id.* at 208 (“Retroactivity is not favored in the law.”); see also *Kirwa v. U.S. Dep’t of Def. (Kirwa I)*, 285 F. Supp. 3d 21, 41 (D.D.C. 2017) (a “new rule” that “effects a substantive change from the agency’s prior regulation or practice” “is impermissibly retroactive”).

In the June 2022 Memo, the Director restricted her own discretion. That restriction vested Petitioner with a legitimate entitlement to have its filed IPR petitions considered on the merits upon presenting a *Sotera* stipulation, without the potential for discretionary denial based on parallel litigation. As such, discretionary denial of the present petition based on the parallel litigation based on retractive application of the Recission would deprive Petitioner of the due process guaranteed under the Constitution. *Kirwa I*, 285 F. Supp. 3d at 41 (quoting *De Niz Robles v. Lynch*, 803 F.3d 1165, 1171–72 (10th Cir. 2015) (Gorsuch, J.)) (“constitutional protections sounding in due process and equal protection, as embodied in our longstanding traditions and precedents addressing retroactivity in the law” may also “constrain retroactive application.”).

Furthermore, the APA requires all rules to be adopted through notice-and-comment procedures, save for “interpretative rules, general statements of policy, or rules of agency organization, procedure, or practice.” 5 U.S.C. § 553(b). Regardless

of how the agency characterizes it, an agency pronouncement is a “binding,” substantive rule if it “effect[s] a change in existing law or policy or ... affect[s] individual rights and obligations.” *Coal. for Common Sense in Gov’t Procurement v. Sec’y of Veterans Affs.*, 464 F.3d 1306, 1317 (Fed. Cir. 2006). The agency’s Rescission did both, and thus required notice-and-comment rulemaking.

The Director’s June 2022 Memo created an absolute rule: presenting a *Sotera* stipulation was “dispositive by itself” of the Board’s ability to discretionarily deny institution based on parallel district-court litigation. Post-Rescission, the opposite is true: a *Sotera* stipulation is deemed merely “relevant.” *see CropLife Am. v. EPA*, 329 F.3d 876, 883 (D.C. Cir. 2003) (rejecting agency’s characterization of directive as mere statement of policy because “[t]he directive clearly establishes a substantive rule declaring that third-party human studies are now deemed immaterial in EPA regulatory decisionmaking”). Indeed, the Board itself has already acknowledged the Rescission as carrying the force of a “change of binding guidance.” *E.g., HP Inc. v. Universal Connectivity Techs., Inc.*, IPR2024-01428, Paper 12 at 1 (PTAB Apr. 8, 2025). As such, the Rescission of an absolute rule that the Director deemed as “binding” requires notice-and-comment rulemaking. *Gen. Elec. Co. v. EPA*, 290 F.3d at 383 (D.C. Cir. 2002) (“[A]n agency pronouncement will be considered binding as a practical matter if it either appears on its face to be binding, or is applied by the agency in a way that indicates it is binding.”).

Additionally, under the change-in-position doctrine, agencies may not change their existing policies unless “they provide a reasoned explanation for the change, display awareness that they are changing position, and consider serious reliance interests.” *FDA v. Wages & White Lion Invs., L.L.C.*, 145 S. Ct. 898, 917 (2025) (cleaned up). Because there is no dispute that the “agency changed existing policy,” the sole question presented by the doctrine here is: “Did the agency display awareness that it is changing position and offer good reasons for the new policy,” while being “cognizant that longstanding policies may have engendered serious reliance interests that must be taken into account”? *Id.* at 918 (cleaned up). Even if the June 2022 Memo were considered to be non-binding, Memo provided (in unqualified terms) that “the PTAB will not discretionarily deny institution of an IPR ... in view of parallel district court litigation where a petitioner” presents a *Sotera* stipulation. Discretionary denial of the Petition here, where Petitioner has provided a *Sotera* stipulation (prior to the stricter stipulation discussed in § IV.D, *supra*), based on the parallel litigation would be a clear change in position. The Rescission cannot reasonably be applied to parties that prepared and filed petitions at considerable expense, presented *Sotera* stipulations, and altered their litigation strategies in accordance with those stipulations, all in reliance on the June 2022 Memo and before the Rescission. *See Am. Bar Ass’n v. U.S. Dep’t of Educ.*, 370 F. Supp. 3d 1, 33 (D.D.C. 2019) (granting summary judgment for plaintiffs claiming

that application of changed standards to deny relief was arbitrary and capricious under 5 U.S.C. § 706(2)).

Additionally, a failure to consider Petitioner's stricter, *Tesla*+ style stipulation would also be an improper retroactive application of new discretionary denial rules to the present case which was pending prior to the recent shift in application of the *Fintiv* factors as indicated in the decisions in *Tesla* and IPR2025-00354, Paper 11.

Finally, Patent Owner improperly requests retroactive application of discretionary denial factors that were not in existence at the time the Petition was filed, including the length of time that "the '464 Patent has been in force," whether the Petition is based on "changes in the law or new judicial precedent," and alleged "compelling economic or national security interests." Paper 7, 23-24. Retroactive application of these additional factors that were not part of the existing USPTO guidance at the time of filing of the Petition would similarly be improper.

VIII. CONCLUSION

For the reasons discussed above, discretionary denial under either § 314(a) or § 325(d) is not warranted.

Respectfully submitted,

Dated: July 9, 2025

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CERTIFICATION UNDER 37 CFR § 42.24

Under the provisions of 37 CFR § 42.24, the undersigned hereby certifies that the word count for the foregoing Petitioner's Opposition to Patent Owner's Discretionary Denial Brief totals 12,314 words, which is less than the 14,000 allowed under 37 CFR § 42.24.

Dated: July 9, 2025

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CERTIFICATE OF SERVICE

Pursuant to 37 CFR §§ 42.6(e)(1) and 42.6(e)(4)(iii), the undersigned certifies that on July 9, 2025, a complete and entire copy of this Petitioner's Opposition to Patent Owner's Discretionary Denial Brief and added supporting exhibits are provided via email to the Patent Owner via electronic mail on Patent Owner's lead and backup counsel listed below at the following email address:

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