

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TESLA, INC.,
Petitioner,

v.

AUTONOMOUS DEVICES, LLC
Patent Owner

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

**PETITIONER'S REPLY
TO PATENT OWNER'S PRELIMINARY RESPONSE**

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PETITIONER'S EXHIBIT LIST

Ex. 1001	U.S. Patent No. 10,452,974 (the "'974 patent")
Ex. 1002	Declaration of Jason Janet, Ph.D.
Ex. 1003	Curriculum Vitae of Jason Janet, Ph.D.
Ex. 1004	U.S. Patent No. 9,604,359 ("Grotmol")
Ex. 1005	U.S. Patent No. 8,639,644 ("Hickman")
Ex. 1006	Service, Robert F., <i>Minds of Their Own</i> , Sci. Magazine. Oct. 10, 2014, 346(6206):182-183, available at, https://www.usna.edu/AcResearch/_files/documents/Science_Minds_of_Their_own_182.full1.pdf
Ex. 1007	Prosecution File History of U.S. Patent No. 10,452,974
Ex. 1008	U.S. Patent No. 11,238,344 (the "'344 patent")
Ex. 1009	<i>Autonomous Devices, LLC v. Tesla, Inc.</i> , Stipulation and Order Granting Leave to File First Amended Complaint and to Amend Scheduling Order, Case No. 22-1466-MN (D. Del.)

As authorized by the Board, Petitioner below addresses Patent Owner's arguments urging denial of institution under 35 U.S.C. § 314(a) as well as the claim construction of "object representation."

I. CONSTRUCTION OF "OBJECT REPRESENTATION"

Patent Owner proposes that the term "object representation," which appears in challenged claims 14 and 15, should be construed as a "data structure that includes an object property generated by object processing." POPR at 10. Patent Owner further contends that digital images are not object representations under its proposed construction. POPR at 24.

A. Patent Owner's Proposed Construction Should Be Rejected

Patent Owner's construction should be rejected because it improperly imports limitations from cherry-picked embodiments in the specification and unjustifiably restricts the ordinary meaning of a "representation" of an object to a particular "data structure." As set forth in the Petition, the '974 patent does not expressly define "object representation." Pet. at 42. Nor does the specification or file history include any relevant disclaimer or disavowal. In this context, no legitimate basis exists for Patent Owner's departure from ordinary meaning to re-write its chosen claim term "object representation" as a "data structure that includes an object property generated by object processing." *Polaris Innovations Ltd. v. Brent*, 48 F.4th 1365, 1376 (Fed. Cir. 2022) ("only two exceptions to the general rule that terms are given

their ordinary and customary meaning ... —lexicography and disavowal”) (internal quotations omitted).

Equally problematic, Patent Owner's construction improperly reads out embodiments of the '974 patent that refer to object representations in broader contexts. Indeed, Patent Owner would require an “object representation” to include an “object property generated by object processing,” but that is just one embodiment (out of the nearly 1800 times the term appears in the specification):

In some embodiments, the first collection of object representations includes one or more representations of objects detected by the sensor at a time. . . . In *further* embodiments, an object representation of a stream of collections of object representations includes one or more object properties.

'974 Pat. at 3:31-51, 28:9-12. There is no requirement that object representations always include “object properties generated by object processing.”

Finally, Patent Owner's attempt to exclude digital images depicting objects from the scope of the term “object representation” is contradicted by other claims in the patent family that use the term “object representation.” Specifically, claim 18 of U.S. Pat. No. 11,238,344—a continuation of the '974 patent challenged in IPR2023-01055—expressly states that “the one or more object representations include: ... one or more digital pictures that depict one or more objects.” Ex. 1008 at 173:66-174:4; *see also* '974 Pat. at 69:45-56 (“Sensor 92 may be or include Camera 92a . . .”).

B. Grotmol Discloses “Object Representations” Even Under Patent Owner's Proposed Construction

The Petition asserts that claims 14 and 15 are anticipated by Grotmol *both* because Grotmol discloses images comprising “representations of one or more objects” *and* because Grotmol discloses that the sensor used to capture images “may provide *information associated with objects* within the field-of-view,” including through use of “object recognition” and “edge detection.” Pet. at 41-44 (citing Ex. 1004 at 8:57-9:13, 9:41-52, 38:56-39:12). Patent Owner devotes eleven pages of its Preliminary Response to the first disclosure in Grotmol (POPR at 23-33), but just two conclusory sentences to the second (POPR at 34).

The second disclosure of Grotmol anticipates the use of “object representations” even under Patent Owner’s construction. Per the ’974 patent, “*object recognition* techniques and/or tools . . . can be utilized for detecting or *recognizing objects and/or their properties* in digital pictures.” ’974 Pat. at 74:63-75:5. Moreover, objects can be recognized “by comparing *features* (i.e. lines, *edges*, ridges, corners, blobs, regions, etc.) of the digital picture with *features of known objects and/or their properties*.” *Id.* at 73:50-54.

II. THE BOARD SHOULD NOT DENY INSTITUTION UNDER § 314(a)

Collectively, the *Fintiv* factors weigh strongly against discretionary denial.

Factor 1: Stay: Neither party has requested a stay. This factor is therefore neutral. *See Sand Revolution II, LLC v. Cont’l Intermodal Grp. - Trucking LLC*, IPR2019-01393, Paper 24 at 7 (P.T.A.B. June 16, 2020) (informative).

Factor 2 (Proximity of Trial Dates): In the event of institution, the Board will issue its Final Written Decision long before the district court reaches trial. Assuming the Board issues an institution decision on December 15, 2023, the Final Written Decision, barring extensions, would be due December 16, 2024. Trial is currently set for June 23, 2025, more than six months later. Ex. 2006. Thus, Factor 2 “weighs strongly against discretionary denial.” *Autostore Sys. Inc. v. Ocado Innovation Ltd.*, IPR2022-00673, Paper 7, at 10-11 (P.T.A.B. Sept. 14, 2022).

Factor 3 (Investment in Parallel Proceedings): Petitioner filed its Petition June 9, 2023, five months before the statutory deadline (November 8, 2023), and currently, “the most burdensome stages of the case[]—completing discovery, preparing expert reports, filing and responding to pretrial motions, preparing for trial, going through the trial process, and engaging in post-trial motions practice—all lie in the future.” *IOENGINE, LLC v. PayPal Holdings, Inc.*, No. 18-452-WCB, 2019 WL 3943058, at *5 (D. Del. Aug. 21, 2019). The Board's institution decision is due by December 15, 2023. In the district court action, fact discovery does not close until February 23, 2024.¹ Claim construction briefing is set for April-June 2024, with a hearing on July 26, 2024. Ex. 2006. Expert discovery does not even

¹ The scheduling order cited by Patent Owner (Ex. 2006) was modified via stipulation on September 15, 2023. Ex. 1009 (D.I. 91).

start until September 2024. *Id.* Trial is set for June 2025. *Id.* Thus, Factor 3 weighs against exercising discretion to deny institution

Factor 4 (Overlap of Issues): As a result of the speed at which Petitioner acted to file the present Petition, a Final Written Decision would issue long before the Delaware trial is even scheduled to begin (*see* Factor 2). On this schedule, Petitioner would be estopped under 35 U.S.C. § 315(e) from asserting in the Delaware trial that any challenged claim in this proceeding is invalid based on the same grounds in the Petition or any other ground that reasonably could have been raised in the IPR. There is therefore no risk of adjudication of overlapping issues.

Nonetheless, to the extent any concern remains, Petitioner stipulates that, if the Board institutes IPR on the Petition grounds, Petitioner will not pursue an invalidity defense in the district court (C.A. No. 22-cv-1466-MN) that the patent claims subject to the instituted IPR are invalid based on the same Petition grounds. *Sand Revolution II*, Paper 24 at 12. Thus, Factor 4 weighs strongly against denial.

Factor 6: (Other Circumstances): The Petition presents compelling unpatentability challenges to the claims of the '974 patent, rendering discretionary denial under *Fintiv* inappropriate. Indeed, Patent Owner has already disclaimed 14 out of 20 patent claims in the '974 patent. And Patent Owner's claim construction argument lacks merit for the reasons discussed above. *See supra* Section I (claim construction). Factor 6 thus weighs strongly against denial.

IPR2023-01054 ('974 Patent)
Petitioner's Reply to Patent Owner's Preliminary Response

Dated: October 3, 2023

Respectfully Submitted,

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CERTIFICATE OF COMPLIANCE

The undersigned hereby certifies that this brief complies with the type volume limitations of 37 CFR § 42.24(a)(1)(i). This brief contains 1,163 words as calculated by the "Word Count" feature of Microsoft Word 2016, the word processing program used to create it.

The undersigned further certifies that this brief complies with the typeface requirements of 37 CFR § 42.6(a)(2)(ii) and typestyle requirements of 37 CFR § 42.6(a)(2)(iii). This brief has been prepared in a proportionally spaced typeface using Microsoft Word 2016 in Times New Roman 14 point font.

Dated: October 3, 2023

Respectfully Submitted,

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that on October 3, 2023 the foregoing
**PETITIONER'S REPLY TO PATENT OWNER'S PRELIMINARY
RESPONSE** was served via electronic mail upon the following:

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