

**IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION**

MEDIT CORP.,

Plaintiff,

v.

3SHAPE A/S,

Defendant.

Case No. 6:23-cv-00658-ADA

**PLAINTIFF MEDIT CORPORATION'S
RESPONSIVE CLAIM CONSTRUCTION BRIEF**

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I. INTRODUCTION

Plaintiff Medit Corporation (“Medit”) hereby respectfully submits this claim construction brief, along with the Declaration of Hassan Foroosh, Ph.D. (“Foroosh Decl.”), in response to the Opening Claim Construction Brief (“Opening Brief,” Dkt. 14), accompanying exhibits, and Declaration of J.P. Mellor (“Mellor Decl.,” Dkt. 14-5) filed by Defendant 3Shape A/S (“3Shape”).

Medit proposes that all terms, with one exception, should be given their plain and ordinary meaning, which is in line with the “heavy presumption” that patent claim terms should be construed according to their plain and ordinary meaning. *See Aventis Pharms. Inc. v. Amino Chems. Ltd.*, 715 F.3d 1363, 1373 (Fed. Cir. 2013). 3Shape, however, tries to sidestep this long-standing and well-known canon of claim construction by baldly accusing Medit of proposing plain-and-ordinary meaning constructions for ulterior motives. Specifically, 3Shape accuses Medit of purchasing patents *solely* to assert them against 3Shape and that Medit’s constructions are merely a “guise” for Medit to “maintain claims against 3Shape.” Dkt. 14 at 1.

3Shape’s hyperbolic rhetoric cannot, and will not, change the “heavy presumption” in claim construction law that plain and ordinary meaning should apply, nor alter the fact that 3Shape is infringing valid patents owned by Medit in violation of U.S. law.¹ 3Shape’s attempt to color the claim construction process with such wild accusations should be disregarded in its entirety.

As discussed in greater detail below, Medit seeks constructions that are consistent with the claim language, written descriptions, and prosecution histories of the asserted patents. 3Shape’s constructions, on the other hand, violate multiple rules of claim construction, fail to meet the high standard for indefiniteness, and rely on extrinsic evidence in the form of an expert declaration that

¹ The asserted patents are U.S. Patent No. 7,912,257 (“the ’257 patent”), U.S. Patent No. 9,191,648 (“the ’648 patent”), U.S. Patent No. 9,245,374 (“the ’374 patent”), and U.S. Patent No. 9,262,864 (“the ’864 patent”).

merely parrots 3Shape’s attorney argument and otherwise asserts conclusory opinions that conflict with the asserted patents’ own intrinsic evidence. Accordingly, Medit respectfully submits that its constructions should be adopted.

II. LEVEL OF ORDINARY SKILL

As of the priority dates of the asserted patents, a person of ordinary skill in the art (“POSITA”) would have had at least a bachelor’s degree in computer engineering, computer science, electrical engineering, or an equivalent field and at least one or two years of industry experience in the general area of computer vision, image processing, or 3D data acquisition. *See* Foroosh Decl., ¶ 23. A POSITA also would have had experience with three-dimensional imaging systems and three-dimensional modeling techniques. *Id.*

Medit submits that its proposed level of ordinary skill conforms to the prevailing view that a POSITA is “a person of *ordinary* skill.” *See Standard Oil Co. v. Am. Cyanamid Co.*, 774 F.2d 448, 454 (Fed. Cir. 1985) (“A [POSITA] is . . . presumed to be one who thinks along the line of conventional wisdom in the art and is not one who undertakes to innovate, whether by patient, and often expensive, systematic research or by extraordinary insights, it makes no difference which.”) (emphasis in original).

By contrast, 3Shape’s proposed level of skill, *see* Dkt. 14 at 3, is far from “ordinary.” For example, 3Shape would require specialized experience and advanced education related to “three-dimensional virtual models,” which is highly specific and appears to be based on 3Shape’s (and its expert’s) perception of the unique levels of skill of the inventors of the asserted patents. This is improper. *Cf. Standard Oil Co.*, 774 F.2d at 454 (noting that, with respect to determining ordinary skill in the context of the obviousness inquiry, “[t]he actual inventor’s skill is irrelevant”). Regardless of the level of skill of the inventor, patents are drafted for those of “ordinary” skill level and are examined by USPTO examiners who could never satisfy 3Shape’s exacting standards.

Moreover, the disclosures of the asserted patents belie 3Shape's overly narrow POSITA definition because at least one asserted patent describes its field of invention as "three-dimensional data acquisition." See '257 patent at 1:14-17. 3Shape's POSITA definition entirely excludes persons knowledgeable about 3D data acquisition because 3Shape's proposed definition focuses entirely on using the 3D virtual models once they are made to the exclusion of the '257 patent's own "Field of Invention." See *Foroosh Decl.*, ¶¶ 24-29. Accordingly, 3Shape's proposed POSITA cannot be correct. See *Daiichi Sankyo Co., Ltd. v. Apotex, Inc.*, 501 F.3d 1254, 1257 (Fed. Cir. 2007) (rejecting POSITA definition limited to persons that "have a medical degree" where inventors and others of ordinary skill in the relevant art had backgrounds in other subjects).

III. LEGAL STANDARDS

Because the Court is familiar with the law of claim construction, as stated in the Standing Order Governing Proceedings (OGP) 4.4 – Patent Cases, § IX at 7, Medit limits this discussion to issues directly relevant to the disputed claim terms.

When construing claims, "[t]here is a heavy presumption that claim terms are to be given their ordinary and customary meaning." *Aventis*, 715 F.3d at 1373. "Properly viewed, the 'ordinary meaning' of a claim term is its meaning to the ordinary artisan after reading the entire patent." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1321 (Fed. Cir. 2005) (en banc). A claim term may only be given a construction other than its ordinary meaning if a party properly asserts one of two exceptions to this rule: lexicography or disclaimer. See *Thorner v. Sony Computer Entm't Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012) (discussing the exceptions). Constructions that are redundant and merely repeat features expressly recited in the claims are disfavored. See *Apple, Inc. v. Ameranth, Inc.*, 842 F.3d 1229, 1237 (Fed. Cir. 2016).

The bar for establishing that a claim term is indefinite is even higher. Claims are indefinite only when they "fail to inform, with reasonable certainty, those skilled in the art about the scope

of the invention.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 901 (2014). “[A]bsolute precision” is not required. *Id.* at 910. “Any fact critical to a holding on indefiniteness must be proven by the challenger by clear and convincing evidence.” *Cox Commc’ns, Inc. v. Sprint Commc’n Co. LP*, 838 F.3d 1224, 1228 (Fed. Cir. 2016). Mere attorney argument does not suffice. *See Traxcell Techs., LLC v. Cellco P’ship*, No. 6:20-cv-01175-ADA, 2023 WL 2415583, at *4 (W.D. Tex. March 8, 2023). Nor does expert testimony that is conclusory or inconsistent with the intrinsic record. *See Phillips*, 415 F.3d at 1318.

IV. THE ‘257 PATENT

A. “video rate” / “at the video rate” (claims 1, 6-11, 16, 18, 21)

No construction of “video rate” or “at the video rate” is necessary because this term consists of common words that are understood by a POSITA and a layperson. *See, e.g., Adv. Aerodynamics, LLC v. Spin Master Ltd.*, No. 6:21-cv-00002-ADA, 2022 WL 1518930, at *4 (W.D. Tex. Mar. 15, 2022) (citing *Kroy IP Holdings, LLC v. Safeway, Inc.*, No. 2:12-cv-800-WCB, 2014 WL 3735222, at *2 (E.D. Tex. July 28, 2014)) (declining to construe “apex,” a term “not difficult or technical in nature such that a construction would help the jury’s understanding”).

3Shape represents that its construction of the term – “(at the) frame rate for acquiring 2D images for video” – “reflect[s] the meaning of the term as described in the claims, specification and prosecution history” and will “help the jury properly understand the meaning of the term.” Dkt. 14 at 4. On the contrary, 3Shape’s construction is inconsistent with the claim language, improperly narrows the claim scope, and can only serve to confuse the jury by unnecessarily repeating words from the claims. “Merely rephrasing or paraphrasing [a] term will not help a jury understand or apply this term, and risks distorting its plain meaning.” *Adv. Aerodynamics*, 2022 WL 1518930, at *4 (citing *C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 862-63 (Fed. Cir.

2004)). Indeed, by repeating language already present in the claims, 3Shape tacitly acknowledges that no construction is necessary.

Moreover, 3Shape’s construction improperly injects an entirely new limitation – to acquire 2D images – that is not present in the claims. A claim construction that adds an entirely new limitation that narrows the scope of the claim should not be adopted. *See Seachange Intern., Inc. v. C-Cor, Inc.*, 413 F.3d 1361, 1376 (Fed. Cir. 2005) (“[I]t is improper to import a limitation into a claim where the limitation has no basis in the intrinsic record.”).

Additionally, 3Shape’s attempt to limit this term to only “2D images” conflicts with the use of “video rate” in connection with features other than “images,” as used in claim 1:

- “acquiring two dimensional ***data*** . . . at a video rate”
- “displaying the ***digital surface representation*** at the video rate”
- “acquiring ***additional two-dimensional data*** . . . at the video rate”
- “reconstructing a ***subsequent digital surface representation*** . . . at the video rate”
- “combining the ***digital surface representation*** and the ***subsequent digital surface representation*** at the video rate to provide a ***three-dimensional representation*** . . .”
- “providing a ***visual display of the three-dimensional representation*** at the video rate in real time” and
- “. . . the ***visualization*** updated at the video rate . . .”

None of the bolded features – data, digital surface representations, three-dimensional representation, visual display of the three-dimensional representation, and visualization – are included in 3Shape’s construction, nor does 3Shape address this problem with its proposed construction. 3Shape fails to cite any support for the proposition that a frame rate for acquiring 2D images, according to its construction, would encompass all these recited features.

On the contrary, the specification expressly warns against such an overly narrow interpretation: “terms such as ‘video’ or ‘video rate’ imply *a wide range of possible frame rates* associated with . . . video.” *See* ’257 patent at 6:54-55 (emphasis added). 3Shape’s construction does not account for this “wide range” of possible frame rates. Furthermore, the specification instructs that “the terms video rate and frame rate should be interpreted broadly.” *Id.* at 6:65-66. Again, by narrowly construing the term to include only a “frame rate for acquiring 2D images for video,” 3Shape’s construction improperly excludes embodiments from the claim. *See, e.g., Atlas Glob. Techs. LLC v. Zyxel Networks Corp.*, No. 6:22-CV-355-ADA, 2023 WL 3361214, at *7 (W.D. Tex. May 9, 2023) (declining to adopt a construction that “improperly” imported “particular disclosed embodiments into the claims”). For example, 3Shape’s construction fails to recognize the connection between “video rate” and the feature corresponding to the real-time display of data disclosed in the patent. *See, e.g.,* ’257 patent at 8:56-57 (“These visualization may be rendered in real time, e.g., at the video rate of the image capture system . . .”).

Furthermore, in contrast to 3Shape’s interpretation of the cited prosecution history, Dkt. 14 at 5-6, the excerpt refers to “obtaining *incremental three-dimensional data* (from two-dimensional video images) at a video rate.” *See id.* (emphasis added). Although 3Shape characterizes this passage as describing “that the claimed invention obtained 2D images at a video rate to obtain the 3D model,” *see id.*, a plain reading of the excerpt reveals that it is the *incremental three-dimensional data* that is *obtained at a video rate*, and the portion in the parenthetical indicates only that the incremental three-dimensional data is obtained *from two-dimensional video images*. The cited excerpt certainly does not support 3Shape’s contention that “video rate” always refers to the acquisition of “2D images.” Additional disclosures in the specification also confirm that, contrary to 3Shape’s construction, data acquired at the video rate is not limited solely to 2D

images. *See, e.g.*, '257 patent at 7:51-53 (“The display 110 may include any display suitable for video or other rate rendering at a level of detail corresponding to the acquired data or a rendered version of the acquired data.”).

Additionally, when 3Shape’s construction is incorporated into the relevant claim language of independent claims 1 and 11, it needlessly repeats already recited features regarding “acquiring” and “two-dimensional”: “*acquiring two dimensional* data from one or more intraoral structures of a dental patient at a [frame rate for *acquiring 2D* images for video].” Such a construction is improper because “[c]onstruing a claim term to include features of that term already recited in the claims would make those expressly recited features redundant.” *Apple*, 842 F.3d at 1237 (affirming a construction that excluded already recited claim terms); *see also U.S. Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed.Cir.1997) (claim construction “is not an obligatory exercise in redundancy”). 3Shape and its expert further fail to provide any valid explanation for why such repetition clarifies the scope of the claim.

Finally, the statements provided by 3Shape’s expert witness do nothing more than parrot the conclusory arguments in 3Shape’s Opening Brief without providing any additional evidence or analysis. *See Mellor Decl.*, ¶¶ 16-22. Such “conclusory, unsupported assertions by experts as to the definition of a claim term are not useful to a court.” *Phillips*, 415 F.3d at 1318; *see also Network Com., Inc. v. Microsoft Corp.*, 422 F.3d 1353, 1361 (Fed. Cir. 2005) (concluding that expert’s “declaration provides scant support for” party’s position where the expert “does not support his conclusion with any references to industry publications or other independent sources”); *Hafeman v. LG Elecs., Inc.*, No. 6:21-cv-00696-ADA-DTG, 2023 WL 2978968, at *3 (W.D. Tex. Apr. 17, 2023) (citing *Phillips*, 415 F.3d at 1317) (“[A]n expert’s conclusory or unsupported assertions as to the meaning of a term are not [helpful]”).

Medit’s construction avoids the problems raised by 3Shape’s construction, permitting the term “video rate” to be “interpreted broadly,” as required by the specification. *See* ’257 patent at 6:65-66. The Court therefore should reject 3Shape’s proposed construction in favor of the plain and ordinary meaning of “video rate.”

B. “visualization” (claims 1, 11, 18)

This term is not indefinite and does not require construction. The term “visualization” is a common, ordinary word that would be understood by both a POSITA and a layperson. *See, e.g., Adv. Aerodynamics*, 2022 WL 1518930, at *4. The specification includes multiple examples that confirm this term’s plain and ordinary meaning as used in the claims. As such, a POSITA would understand this term with reasonable certainty such that it is not indefinite.

3Shape asserts the term is indefinite on two grounds, both of which should be rejected. First, 3Shape asserts that “the claim language itself fails to provide any reasonable certainty as to the scope of the claimed ‘visualization.’” Dkt. 14 at 7. 3Shape’s support for this statement is limited only to attorney argument asserting that the claims fail to provide an “indication of what the visualization is, how it would be displayed in the visual display, and how it would identify regions of inaccurate scan data.” *Id.* 3Shape’s criticisms, however, ignore basic patent law that the claims be construed in light of the specification. *See Phillips*, 415 F.3d at 1315 (“[C]laims must be read in view of the specification, of which they are a part.”) (internal quotation marks omitted). The specification contains multiple references to “visualization,” including the examples discussed in detail below. *See, e.g.,* ’257 patent at 2:31, 2:42, 3:10, 9:11, 11:27, 11:33, 11:58, 15:49, 15:57, 18:17, 18:56.

Further, 3Shape’s attorney argument is insufficient to render this term indefinite. *See Traxcell*, 2023 WL 2415583, at *4 (“[T]he Court finds [the defendant’s] attorney arguments do not meet its high burden to establish by clear and convincing evidence that [the disputed term] is

indefinite.”); *WesternGeco L.L.C. v. ION Geophysical Corp.*, 876 F. Supp. 2d 857, 875 (S.D. Tex. 2012) (“Defendants’ unsupported attorney argument fails to prove indefiniteness by clear and convincing evidence.”); *Cacace v. Meyer Mktg. (Macau Com. Offshore) Co.*, 812 F. Supp. 2d 547, 561 (S.D.N.Y. 2011) (“[M]ere attorney argument is insufficient to establish invalidity based on indefiniteness.”). Moreover, 3Shape’s conclusory statement that the use of the term in the claims is inconsistent with a plain and ordinary meaning is wrong. There is nothing inconsistent with the use of the term in the claims – “providing (or generat[ing]) a visualization within the visual display, the visualization updated at the video rate to identify regions of inaccurate scan data within the three-dimensional representations” (claims 1, 11,18) – and the term’s plain and ordinary meaning. 3Shape’s mere criticism about the breadth of the term is not sufficient to prove otherwise. *See Traxcell*, 2023 WL 2415583, at *4.

3Shape also attacks this term on the grounds that it is “purely subjective.” Dkt. 14 at 7. According to 3Shape, “[t]his is reflected in the specification, which provides an open-ended laundry list of what might constitute a ‘visualization.’” *Id.* 3Shape’s criticisms misread the specification and misstate the applicable law. In fact, as 3Shape acknowledges, the specification provides multiple examples of the disputed term. *See* Dkt. 14 at 7-8. For example:

- “A number of range finding visualizations may also be included that provide visual cues related to one or more scanning parameters of an image capture system.” ’257 patent at 8:54-56.
- “Other visual cues and/or metaphors may also, or instead, be employed, such as a visualization of a plane passing through a sphere, active distance bars, animated text, or other visualizations, any of which may provide animated, visual feedback based on, for example, mean distance, center distance, or some other metric that can be derived from scanner output.” *Id.* at 10:20-25.
- “Visualization of scan quality may also, or instead, be augmented by explicit indicators, such as coloring, shading, surface texturing, or any of the other visual cues described above, which may visually identify regions of incomplete scan data, inaccurate scan data,

insufficient scan detail (such as where a restoration will be affixed) and the like.” *Id.* at 13:39-44.

The specification illustrates and explains displaying “visualizations” in the form of “visual cues” or “visual feedback.” *Id.* at Figs. 2 & 4. In describing Figure 2, the specification states that “positioning the dynamic object 236 within the center of the window 230 advantageously permits a user to receive visual feedback from the dynamic object 236 without looking away from the current video of the subject being scanned.” *Id.* at 9:41-45; Fig. 2. The specification further explains that such “visual feedback” may include “useful animations.” *See id.* at 9:46-10:33. Figure 4 further illustrates a “user interface 400,” which “may include a window 402 including range-finding visual cues 404, 406, all as generally described above.” *Id.* at 12:5-7; Fig. 4.

Figures 8 and 9 additionally illustrate “visualization techniques” that reinforce the plain and ordinary meaning of the term “visualization.” Figure 8, for example, shows “a visualization of gaps in surface data . . .” in which “a hole 806 in the digital surface representation may be visualized by simulating an internal illumination of the digital model, with rays 808 of light passing through the hole.” *Id.* at 16:17-23; Fig. 8. Similarly, Figure 9, shows “a visualization of external illumination of the model . . .” in which “an illumination beam 910 may be visualized as emanating from a scanner 908 or other object within the window 900 and falling upon a region 906 of the view 902 of the digital model.” *Id.* at 17:14-21; Fig. 9. The specification further makes clear that the visualizations described therein can be “embodied in hardware,” which includes a display, as depicted in Figure 1 (element 110). *See id.* at 18:54-60; Fig. 1.

According to 3Shape’s convoluted logic, however, the result of the many concrete examples provided in the specification is that “a person of ordinary skill would not be able to determine with reasonable certainty the bounds of what is considered a ‘visualization’ because no informed and confident choice is available among the competing options.” Dkt. 14 at 8. In other

words, 3Shape believes that the more examples provided in the specification, the more indefinite a term becomes. But the examples accomplish just the opposite, providing a POSITA with reasonable certainty of the term’s meaning. Because the “intrinsic evidence here provides ‘a general guideline and examples sufficient to enable a person of ordinary skill in the art to determine the scope of the claims,’ . . . the claims are not indefinite.” *Enzo Biochem., Inc. v. Applera Corp.*, 599 F.3d 1325, 1335 (Fed. Cir. 2010); *Nevro Corp. v. Boston Scientific Corp.*, 955 F.3d 35, 39 (Fed. Cir. 2020) (“[T]he patents provide reasonable certainty about the claimed inventions’ scope by giving detailed guidance and examples.”); *Guandong Alison Hi-Tech Co. v. Int’l Trade Comm’n*, 936 F.3d 1353, 1361-62 (Fed. Cir. 2019) (rejecting argument that claims were indefinite where the written description was “replete with examples and metrics” and “a person of ordinary skill in this field ‘can tell when a material has zero or a negligible amount of resilience without needing a mathematical definition’”); *Biosig Instruments, Inc. v. Nautilus, Inc.*, 783 F.3d 1374, 1382-83 (Fed. Cir. 2015) (holding that a term, which was not “specifically define[d] . . . with actual parameters,” was definite where the claim language, specification, and figures “provide sufficient clarity to skilled artisans as to the bounds” of the term).

3Shape’s expert witness offers no additional support for 3Shape’s position. Dr. Mellor’s declaration merely parrots the attorney argument in the Opening Brief regarding the alleged lack of “relevant context” in the claims and the characterization of the examples in the specification as “boundless.” Mellor Decl., ¶¶ 24-26; *see also* Foroosh Decl., ¶¶ 32-39. Dr. Mellor provides no further evidence or analysis on this term. *Id.* His testimony is therefore not useful and provides little value, regardless of whether it is credible. *See Phillips*, 415 F.3d at 1318; *see also Network Com.*, 422 F.3d 1353 at 1361. 3Shape therefore fails to meet the high burden for showing that the term is indefinite, and the Court should reject 3Shape’s construction.

C. “inaccurate scan data” (claims 1, 11, 18)

This term is not indefinite, and no construction of the term is necessary. This term includes common words that would be readily understood by both a POSITA and a layperson, *see Adv. Aerodynamics*, 2022 WL 1518930, at *4, which is confirmed by the description in the specification of the ’257 patent, including through multiple examples.

3Shape asserts that this term would not be understood by a POSITA because it “is not a term of art and has no accepted objective bounds that would render the term definite.” Dkt. 14 at 8. 3Shape’s argument lacks merit. Notably, the specification clearly draws parallels between the terms “inaccurate scan data,” “incomplete scan data,” and “insufficient scan detail,” as follows:

Visualization of scan quality may also, or instead, be augmented by explicit indicators, such as coloring, shading, surface texturing, or any of the other visual cues described above, which may visually identify regions of ***incomplete scan data, inaccurate scan data, insufficient scan detail*** (such as where a restoration will be affixed) ***and the like***.

’257 patent at 13:39-44. Despite 3Shape’s cursory dismissal of this excerpt as only “mention[ing] [inaccurate scan data] in passing,” Dkt. 14 at 9, a POSITA would reasonably understand from this disclosure that the term “inaccurate scan data” equates with the exemplary concepts of “incomplete scan data” and “insufficient scan detail,” as well as other related concepts (*e.g.*, “and the like”) known to a POSITA. In view of these disclosures, a POSITA would readily understand the concept and scope of “inaccurate scan data.”

The specification also provides numerous examples of the concept of “accurate” data, which inherently assists in defining the term “inaccurate” (*i.e.*, not accurate) data as it is used in the claims. For example, the specification includes the following disclosures:

- “Any features that can be objectively characterized, such as curvature, taper, clearance, and the like, can be tested for against an accurate three-dimensional representation of an actual surface preparation, with suitable visualizations generated to guide a

dentist in improving or accepting a preparation.” ’257 patent at 15:36-41.

- “As a visualization tool, the user interface may permit a dentist to review a cross-section of the dental model to permit more accurate assessment of dimensions, orientation, and so forth.” *Id.* at 15:57-60.

Thus, the specification explicitly discusses “accuracy” with respect to “features that can be objectively characterized.” *Id.* at 15:36-41. Accordingly, no basis exists for 3Shape’s assertion that “inaccurate” is a “term of degree” that is subjective or without boundaries.

Multiple courts have rejected similar erroneous arguments. *See SB IP Holdings, LLC v. Vivint Smart Home, Inc.*, No. 4:20-CV-886, 2021 WL 5804286, at *19 (E.D. Tex. Dec. 7, 2021) (rejecting the defendant’s assertion that “irregular activity” is a “term of degree” or “a subjective term without any metes or bounds described in the specification” and instead assigning the term its plain meaning based on examples provided in the specification); *Netfuel, Inc. v. Cisco Systems Inc.*, 2019 WL 1571099, at *3 (N.D. Cal. Apr. 11, 2019) (“‘Optimal’ in this context is a superlative and singular term, not a term of degree or a term of comparison.”); *Radware, Ltd. v. F5 Networks, Inc.*, Case No. 5:13-cv-02024-RMW, 2015 WL 6828273, at *4 (N.D. Cal. Nov. 6, 2015) (concluding that the term “‘unspecific regarding,’ in the context of the asserted patents, is not a term of degree” because “[e]ither a request has a cookie with information about a particular server, or it does not”).

Furthermore, even *if* “inaccurate” were a term of degree, that in and of itself does not equate to indefiniteness. 3Shape demands “objective bounds” in the form of “parameters, metrics, algorithms, formulas,” *see* Dkt. 14 at 9-10, but that is not the standard for definiteness. Such “absolute precision” is not required; rather the standard is “reasonable certainty.” *Nautilus*, 572 U.S. at 910. Given the detailed descriptions in the specification and the context of the claims,

3Shape’s contention that a POSITA would not be reasonably certain of the meaning of the word “inaccurate” stretches credulity.

3Shape’s assertion that the term “scan data” is somehow indefinite fares even worse. The specification expressly discloses a “scanner” for acquiring “data”: “[T]he scanner 102 may employ structured light, laser scanning, direct ranging (e.g., time of flight in a known direction), or any other technology suitable for acquiring three-dimensional data, or two-dimensional data that can be resolved into three-dimensional data.” ’257 patent at 4:36-41; *see also, e.g., id.* at 3:2, 7:36, 8:21, 9:20, 10:61, 10:65, 11:39, 12:24, 13:11, 13:35, 13:43. Thus, regardless of 3Shape’s and its expert’s feigned confusion over this term, a POSITA would understand its meaning with reasonable certainty.

Consistent with the rest of his declaration, 3Shape’s expert again fails to provide any additional support for 3Shape’s manufactured accusations of indefiniteness. *See* Foroosh Decl., ¶¶ 40-45. Dr. Mellor provides nothing more regarding this term than conclusory assertions that mimic those in the Opening Brief without providing additional substantive evidence or analysis. *See* Mellor Decl., ¶¶ 28-36; Foroosh Decl., ¶¶ 40-45. His testimony fails to even address the specification’s discussions of “accuracy,” as described above. *Id.* Accordingly, Dr. Mellor’s testimony should be given no weight. *Phillips*, 415 F.3d at 1318; *see also Network Com.*, 422 F.3d at 1361.

D. “visual display signal (of the three-dimensional model)” (claims 18, 21)

This term is not indefinite, and no construction of the term is necessary. As an initial matter, 3Shape does not seek to construe the related claim term “visual display” and, in fact, expressly acknowledges that a POSITA would readily understand that term. Dkt. 14 at 12-13. 3Shape never explains how the term “visual display” clears the definiteness threshold but a signal going to the visual display does not. 3Shape instead bases its position on an apparent claim term differentiation

argument that the term “visual display signal” must mean something different than “visual display.” *See id.* But 3Shape undermines its own position by admitting that “a display ***displays*** the visual display signal.” *See id.* at 13. Put simply – according to 3Shape’s own argument – the visual display performs the act of displaying the visual content that is received from and provided by the visual display signal. Thus, 3Shape has already differentiated the claim terms, effectively rebutting its primary argument.

The specification confirms 3Shape’s acknowledgement that the visual display receives and displays visualizations provided by a signal:

It will also be appreciated that the . . . the ***visualizations*** . . . may similarly be expressed as methods or processes embodied in hardware, software, and various combinations thereof. . . . They may also, or instead, include one or more application specific integrated circuits, programmable gate arrays, programmable array logic components, ***or any other device or devices that may be configured to process electronic signals.***

’257 patent at 18:51-67 (emphasis added). Thus, the specification explicitly links a “visualization” to an “electronic signal.” *Id.* 3Shape itself admits that the claim recites the “visual display” as displaying a signal. In view of this disclosure and the claim language, 3Shape’s spurious argument that the term “visual display signal” would not “make sense” to a POSITA should be rejected. *See* Dkt. 14 at 13.

The surrounding claim language also contradicts 3Shape’s position. Contrary to 3Shape’s argument, claims 1 and 11 recite a method step of “providing a visual display,” whereas claim 18 recites a “processor” that is “configured to . . . generate a visual display signal.” *See* ’257 patent at claims 1, 11, 18. It is beyond legitimate contention that a POSITA would understand with reasonable certainty that a processor is an element of hardware that can generate an electronic signal that a visual display receives and displays.

Finally, Dr. Mellor again provides nothing more than conclusory comments that parrot the Opening Brief with no additional relevant analysis or evidence to support 3Shape’s contention that the term is indefinite. Mellor Decl., ¶¶ 37-41; *see* Foroosh Decl., ¶¶ 46-50. Dr. Mellor’s opinion regarding the various types of signals recited in the specification is irrelevant because none of these signals are “visual display signals.” *See* Mellor Decl., ¶ 40; *see* Foroosh Decl., ¶ 50. Indeed, the first two types of signals identified by Dr. Mellor – “control signals” and a “dispersive signal” – involve commands sent to the scanner to control the camera and the process for receiving commands from the user and thus have nothing to do with creating “visuals.” *See* ’257 patent at 6:35-37 (stating that “[t]he computer 108 may generate *control signals* to the scanner 102 which, in addition to *image acquisition commands*, may include *conventional camera controls*” (emphasis added)); 7:56-59 (noting that “the display may include a touch screen interface using, for example . . . surface acoustic wave (also referred to as *dispersive signal*) touch screen technologies, or any other suitable *technology for sensing physical interaction with the display 110* (emphasis added)); *see also* Foroosh Decl., ¶ 50. As noted above, the last citation from Dr. Mellor in this paragraph actually supports Medit’s position. *See* Mellor Decl., ¶ 40 (citing ’257 patent at 18:67); *see also* Foroosh Decl., ¶ 50. Dr. Mellor’s citation of two signals that have nothing to do with displaying a visualization and his citation of a third signal that supports Medit’s position do not advance his position. Thus, as with the other terms discussed above, 3Shape and its expert have failed to meet the high standard of clear and convincing evidence required to show that this term is indefinite.

V. THE ’648 PATENT

A. “(first/second) three-dimensional model” (claims 1, 2, 12, 13, 23, 24)

A POSITA would readily understand the meaning of “three-dimensional model” from the claims and from the ’648 patent’s specification. This term should therefore be afforded its plain

and ordinary meaning. The independent claims of the '648 patent (claims 1, 12, 23, and 24) recite “first” and “second” “three-dimensional model(s)” that include pluralities of three-dimensional points that are spatially related by a camera path. *See* '648 patent at claims 1, 12, 23, 24. Accordingly, the plain and ordinary meaning of “three-dimensional model” is evident from the claim language itself.

Although 3Shape’s construction purports to be based on language found in the specification – namely, that “the second three-dimensional model may be any disparate data set that is not directly *spatially* related to the first three-dimensional model through a single scan or camera path,” *see* '648 patent at 18:52-55 (emphasis added) – 3Shape’s construction omits “spatially” from its construction, thus unduly changing the scope of the term without explanation or justification. *See, e.g., Atlas Glob.*, 2023 WL 3361214, at *7 (declining to adopt a construction that “improperly” imported “particular disclosed embodiments into the claims”). Furthermore, the language relied upon by 3Shape is permissive, merely describing that “the second three-dimensional model *may be* any disparate data set . . .” *See* Dkt. 14 at 15 (citing '648 patent at 18:52-55) (emphasis added).² 3Shape therefore improperly imports limitations from the specification into its proposed construction. *See Phillips*, 415 F.3d at 1320 (“[O]ne of the cardinal sins of patent law [is] reading a limitation from the written description into the claims.”) (internal citation omitted).

3Shape also misinterprets Figures 4A and 4B of the '648 patent, asserting that these figures show camera paths that are entirely “disparate.” *See* Dkt. 14 at 14. Figures 4A and 4B plainly show the various camera paths – i.e., segments 430, 432, 434, and 436 in Figure 4A and segments

² The remaining four citations to the specification by 3Shape in this section do not even include “three-dimensional model,” the term being construed. *See* Dkt. 14 at 16-17. These citations are thus irrelevant.

440, 442, 444, and 446 in Figure 4B – partially overlapping or intersecting each other, which the specification refers to as “cross linking.” *See* ’648 patent at 9:50-53. Such overlap or intersection between the camera paths (examples of which are shown with **red** arrows in the annotated figure below) is excluded by 3Shape’s construction, which wrongly requires that a data set and three-dimensional model ***must not*** be directly related through any single scan or camera path.

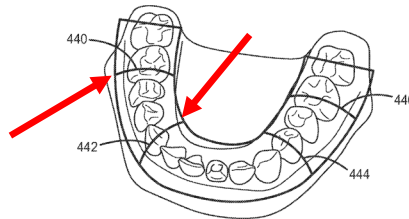


FIG. 4B

Furthermore, 3Shape has not overcome the “heavy presumption” that claim terms “carry their accustomed meaning in the relevant community at the relevant time.” *Azure Networks, LLC v. CSR PLC*, 771 F.3d 1336, 1347 (Fed. Cir. 2014), *vacated on other grounds*, 575 U.S. 959, 959 (2015) (internal quotation omitted). Notably, 3Shape does not expressly allege lexicography or disclaimer, and therefore cannot overcome the presumption that this term should be given its plain and ordinary meaning. *Thorner*, 669 F.3d at 1365; *see also, e.g., Datanet LLC v. Dropbox, Inc.*, No. 6:22-cv-00142-OLG-DTG, 2023 WL 7545234, at * 8 (W.D. Tex. Nov. 10, 2023) (construing “current version” with its plain and ordinary meaning in the absence of lexicography or disclaimer). Instead of providing clarification, 3Shape’s construction takes a simple phrase and adds an excessive number of terms that create redundancies, *including* “three-dimensional model,” ***the very term that 3Shape is seeking to construe***. *Ameranth*, 842 F.3d at 1237 (declining to adopt a construction introducing redundancies); *U.S. Surgical Corp.*, 103 F.3d at 1568. It is unclear how replacing a simple phrase with a lengthy construction that simply adds more words to the ***same***

phrase will aid the jury in understanding this term. Inserting 3Shape’s construction into relevant claim language (*e.g.*, claim 1) illustrates the confusion that will be created for the jury (**in red**):

obtaining a **[disparate data set that is not directly related to another three-dimensional model through a single scan or camera path]** including a first plurality of sets of three-dimensional points spatially related to each other by a first camera path

Thus, 3Shape’s construction not only introduces “another three-dimensional model” to the claim language but also introduces another “camera path” in addition to the “first” and “second” “camera path(s)” already recited by claim 1. The ambiguities introduced by 3Shape’s construction carry throughout the other independent claims as well and are equally confusing. Therefore, the Court should reject 3Shape’s construction and afford this term its plain and ordinary meaning.

B. “camera path” (claims 1, 12, 23, 24)

The meaning of “camera path” is readily understood from the claims and specification of the ’648 patent. The independent claims of the ’648 patent (claims 1, 12, 23, and 24) recite “first” and “second” “camera path(s)” providing spatial relationships between three-dimensional points underlying the three-dimensional models. A POSITA would clearly understand this limitation, especially given the surrounding claim language.

3Shape again commits error by attempting to import limitations from the specification into the claim, and again relies upon permissive, non-limiting language to support its defective argument. *See* Dkt. 14 at 18 (citing ’648 patent at 16:38-43). Notably, this section of the specification provides that “the camera path *may* correspond to a physical camera path . . . or the camera path *may also or instead* include a virtual camera path formed from a plurality of different physical camera paths or other virtual camera paths that intersect with one another.” *See* ’648 patent at 16:38-43 (emphasis added). As with 3Shape’s proposed construction for “three-

dimensional model,” this attempt to narrowly construe a claim limitation by importing non-limiting descriptions from the specification should be rejected.

3Shape’s construction further attempts to limit the recited “camera path(s)” to physical paths even though 3Shape itself admits that camera paths may be physical *or* virtual. This artificial and transparent attempt by 3Shape to narrow the scope of the claim term is improper because it excludes the described embodiments related to virtual camera paths that the specification explicitly describes. *See, e.g., Atlas Glob.*, 2023 WL 3361214, at *7. The specification expressly states that “[i]t should be understood that in this context, the camera path may correspond to a physical camera path . . . or the camera path may also or instead include a **virtual camera path** formed from a plurality of different physical camera paths **or other virtual camera paths** that intersect with one another.” *See* ’648 patent at 16:38-43 (emphasis added). This description of camera paths clearly encompasses virtual camera paths, which may be comprised of a **plurality** of different physical camera paths, or **other virtual camera paths**. 3Shape acknowledges that this citation describes virtual camera paths but conflates these virtual paths with physical paths with little explanation beyond that the virtual path “may” be comprised of physical camera paths. Dkt. 14 at 18.

Furthermore, 3Shape’s construction creates ambiguity in the claim that can be illustrated by inserting this construction into claim 23 (**in red**):

a scanner configured to obtain a first three-dimensional model including a first plurality of sets of three-dimensional points spatially related to one another by a first **[physical path taken by a scanner during a scan]** and a second three-dimensional model including a second plurality of sets of three-dimensional points spatially related with one another by a second **[physical path taken by a scanner during a scan]**”; (emphasis added)

Claim 23 already recites “a scanner,” yet 3Shape’s construction subsequently introduces “a scanner” multiple times, as well as injecting multiple instances of the term “a scan,” thus creating confusion to which scanner and scan the claim is referring. *Ameranth*, 842 F.3d at 1237.

3Shape’s construction creates ambiguities in the claims and excludes specific embodiments disclosed in the specification and will therefore only serve to confuse. For these reasons, the Court should afford “camera path” its plain and ordinary meaning.

C. “virtual stitch graph (claims 1, 9, 12, 20, 23, 24)”

While the parties agree that “virtual stitch graph” requires construction, they dispute what the proper construction should be. 3Shape’s proposal improperly limits “virtual stitch graph” to a spatial relationship between “models,” which excludes stitching between scan data sets. As such, instead of being “straightforward,” 3Shape’s construction improperly reads out embodiments described by the ’648 patent. In contrast, Medit’s proposal finds direct support in the specification, provides the proper scope that “virtual stitch graph” encompasses in the patent, and will aid the Court and jury in understanding the scope of the claims.

1. 3Shape’s Construction Improperly Narrows the Claim Scope

3Shape’s construction improperly narrows “virtual stitch graph.” Specifically, it restricts the term to a relationship between *models* while excluding a relationship between *scan data*. The specification, however, describes creating **both** relationships between rendered data from models and between scanned data before that data is rendered into models. ’648 patent at 1:35-45; 8:40-44; 8:54-57; 11:38-12:24; 19:14-20; 19:36-49. The specification also describes including other data in the virtual stitching process. *See, e.g., id.* at 21:58-62. Because 3Shape’s construction excludes stitched relationships between scan data, it improperly excludes an embodiment of the invention and cannot be correct. *See, e.g., Atlas Glob.*, 2023 WL 3361214, at *7.

Furthermore, 3Shape’s construction creates confusion regarding the “model” terms and introduces redundancy regarding “spatial relation[ship],” as is shown when incorporating 3Shape’s construction into the relevant claim language (**in red**):

creating a **[spatial relationship between models using data from disparate models]** that spatially relates the first plurality of sets and the second plurality of sets, thereby providing a combined model that includes the first plurality of sets and the second plurality of sets all spatially related by the **[spatial relationship between models using data from disparate models]**

Under 3Shape’s construction, the claim language would ambiguously recite “models,” “disparate models,” and a “combined model.” It is unclear how the “models” and “disparate models” introduced by 3Shape’s construction differ from each other, or from the “combined model” already recited in the claim. By reciting the same words over and over, 3Shape’s construction only sows confusion. *See Ameranth*, 842 F.3d at 1237; *U.S. Surgical Corp.*, 103 F.3d at 1568. In sum, 3Shape’s construction both improperly narrows the scope of the claim language, while repeating claim terms, thereby creating confusion and thus should be rejected.

2. Medit’s Construction Is Directly Supported by the Specification and Affords the Proper Claim Scope

Medit’s construction finds verbatim support in the specification, and allows for transformations between data sets, as well as rendered models, consistent with the ’648 patent specification. *See Renishaw PLC v. Marposs Societa’ per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998) (“The construction that stays true to the claim language and most naturally aligns with the patent’s description of the invention will be, in the end, the correct construction.”). Furthermore, Medit’s construction stays consistent with the claims, in particular, dependent claims 10 and 21, which make it clear that “virtual stitch graph” encompasses stitching between data sets.

a. The Specification Directly Supports Medit’s Construction

Medit’s construction for “virtual stitch graph” is lifted directly from the ’648 patent specification: “[S]titch graph should be broadly interpreted to include any rigid transformations and/or other descriptive data that characterizes camera motion . . . in a manner that permits path-based reconstruction of a three-dimensional surface.” ’648 patent at 18:38-43.

The specification explains that “virtual,” as used in this context, is intended to distinguish models using *data* from *multiple disparate scans*. *Id.* at 19:23-25 (emphasis added). Medit’s construction combines these straightforward specification portions to directly arrive at the proper construction of “a rigid transformation and/or other descriptive data that characterizes camera motion in a manner that permits path-based reconstruction of a 3D surface based on multiple disparate scans.”

b. The Dependent Claims Support Medit’s Construction

Medit’s “virtual stitch graph” construction is also consistent with the dependent claims, which describe stitching data sets, not models. For example, claims 9 and 20 recite “spatially relating two or more of the first plurality of sets to two or more of the second plurality of sets within the sub-region to provide a virtual stitch graph.” *Id.* at claims 9, 20. As another example, claims 10 and 21 recite “creating at least one virtual stitch between two unstitched ones of the first plurality of sets.” *Id.* at claims 10, 21. These dependent claims illustrate that “virtual stitch graph” creates relationships between data sets, not the models based on the underlying data. Medit’s construction, and not 3Shape’s, is consistent with the claim scope encompassed by these dependent claims. *See Phillips*, 415 F.3d at 1316 (“The construction that stays true to the claim language and most naturally aligns with the patent’s description of the invention will be, in the end, the correct construction.”) (internal citation omitted).

In sum, Medit’s construction for this “virtual stitch graph” captures the proper scope of this claim term as described in the specification and is consistent with the language in the claims. Therefore, the Court should reject 3Shape’s improper construction and adopt Medit’s construction.

VI. THE '374 PATENT

A. “displaying the point for a decay time” (claims 1, 12, 23)

No construction of this term is necessary. “[D]isplaying the point for a decay time” includes common words that a POSITA and a layperson would easily understand. *See Adv. Aerodynamics*, 2022 WL 1518930, at *4. 3Shape’s construction is divorced from the context of the claims and the description in the specification and therefore improper. Worse yet, 3Shape further attempts to use its construction to improperly, and deliberately, narrow the scope of the claim by introducing the concept of “predetermined” into the claims – a new word that appears nowhere else, either in the claims or in the patent. Thus, 3Shape’s construction should be rejected.

The plain meaning of this term is consistent with the use of the term in the claims, which recite that a “point in a prohibited volume” is “displayed” for the duration of “a decay time.” ’374 patent, claims 1, 12, 23. The specification further provides a description of this term that is consistent with the term’s plain and ordinary meaning and its use in the claims: “For example, data within the prohibited volume may be excluded from display, or may be displayed temporarily using a brief decay time such as 0.5 seconds or any other short interval.” *Id.* at 17:41-44. No further construction of this term is therefore required for a POSITA to understand the term with reasonable certainty.

3Shape’s construction will only confuse a jury and improperly limits the scope of the term. 3Shape’s inclusion of the words “temporarily displaying a point” and “time interval” are unnecessary in view of the term’s ordinary meaning. Further, 3Shape’s inclusion of the word “short” ignores the context of the claim language, which does not include the word “short” or any similar term. As the *Phillips* court noted by example, “the context in which a term is used in the asserted claim can be highly instructive. . . . [T]he claim in this case refers to ‘steel baffles,’ which strongly implies that the term ‘baffles’ does not inherently mean objects made of steel.” *See*

Phillips, 415 F.3d at 1314. Similarly, here, the specification’s single reference to a “brief decay time” does not mean that every instance of a “decay time” is inherently “brief” (or “short”). Indeed, no other uses of the term “decay time” in the ’374 patent support 3Shape’s addition of “short.” *See, e.g.*, ’374 patent at 1:58 (“... and displaying the point with a decay time.”) & claims 1, 12, 23; *see also Phillips*, 415 F.3d at 1320 (“[O]ne of the cardinal sins of patent law [is] reading a limitation from the written description into the claims.”) (internal citation omitted).

The most problematic aspect of 3Shape’s construction, however, is its inclusion of the word “predetermined,” which does not appear anywhere in the claims or specification. *Stanacard, LLC v. Rebtel Networks, AB*, 680 F. Supp. 2d 483, 493 (S.D.N.Y. 2010) (rejecting a construction that “serves only to introduce additional terms into the claim and would result in confusion for the jury”); *see also U.S. Well Servs. v. TOPS Well Servs.*, No. 3:19-cv-00237, 2020 WL 9439469, at *11 (S.D. Tex. Sept. 18, 2020) (noting that replacing a claim term with new terms not present in the specification “risk[s] unnecessarily obfuscating the plain meaning” as “the jury will have no guidance on the meaning of those terms”). 3Shape attempts to justify including the word “predetermined” by arguing that “this temporary, short display must be controlled, which means that the time for which the display occurs is pre-determined and set at some value prior to the act of display, rather than contingent upon some variable or condition.” Dkt. 14 at 23.

No support can be found for this assertion in the patent itself. The portion of the specification that 3Shape cites says **nothing** about a “predetermined” time. *See* ’374 patent at 17:40-44. Rather, 3Shape attempts to rationalize the inclusion of the word “predetermined” by equating it to the concept of “controll[ing]” the display of data. The specification, however, does not tie these two terms together; it states nothing more than that “modified processing may include controlling how data in the prohibited volume is displayed.” *Id.* at 17:40-41. That statement does

not mean or imply that any aspect of the displayed data is predetermined; it means simply that “how the data in the prohibited volume is displayed” may be “controll[ed].” The quoted excerpt, as well as the rest of the ’374 patent, is completely silent as to whether predetermination is or is not associated with displaying data, including when it is displayed for a decay time. It therefore would be entirely inappropriate to import this concept into the claims. *See Seachange*, 413 F.3d at 1376 (“[I]t is improper to import a limitation into a claim where the limitation has no basis in the intrinsic record.”). 3Shape’s throwaway reference to the prosecution history and contention that this element is “the primary novelty in the patent application” does not mandate a different result. *See* Dkt. 14 at 23.

3Shape urges the Court to give credence to extrinsic evidence in the form of Dr. Mellor’s declaration, which again fails to provide any valid basis for 3Shape’s construction. In addition to repeating 3Shape’s conclusory arguments regarding the intrinsic record, Dr. Mellor also introduces a completely unrelated concept – the “decayFactor function . . . typically used in ‘motion-blur settings.’” Mellor Decl., ¶ 86; *see also* Foroosh Decl., ¶¶ 51-52. While Dr. Mellor provides a cursory description of “decayFactor” citing a single-page excerpt from the “OpenGL Programming Guide,” he fails to explain the relevance of this so-called “evidence” to the ’374 patent or to 3Shape’s construction. *See* Foroosh Decl., ¶ 53. Indeed, the OpenGL excerpt itself does not describe any aspect of the “decayFactor” as being “predetermined,” let alone disclose anything relevant to the ’374 patent’s use of space carving in 3D scanning. *See* Mellor Decl., App’x B at 489; *see also* Foroosh Decl., ¶ 53. He merely concludes, without support, that the decayFactor “is the same idea that the ’374 Patent conveys, as the decay time would be constant based on whatever setting is chosen to provide recognizable feedback to the user.” Mellor Decl., ¶ 86. Thus, because Mellor’s declaration contains nothing more than unsupported, conclusory assertions, and

analyzes a reference that bears no relation to the '374 patent, Dr. Mellor's testimony on this claim term should be given no weight. *See Genuine Enabling Tech. LLC v. Nintendo Co., Ltd.*, 29 F.4th 1365, 1373 (Fed. Cir. 2022) (“[E]xpert testimony may not be used to diverge significantly from the intrinsic record.”) (collecting cases). 3Shape's construction should be rejected in favor of the term's plain and ordinary meaning.

VII. THE '864 PATENT

A. “each one of the plurality of images (in each image set) captured from a different optical axis” (claims 1-3, 9)

The meaning of “each one of the plurality of images (in each image set) captured from a different optical axis” is readily understood from the claims and specification of the '864 patent. The independent claims of the '864 patent (claims 1-3, 9) recite “each one of the plurality of images (in each image set) captured from a different optical axis.” This element is further described as providing images with perspectives corresponding to that of a rendered three-dimensional model.

A jury is capable of understanding “optical axis” in the context of imaging technology and 3Shape's construction is needlessly confusing. 3Shape's construction only serves to complicate the term “optical axis” by reframing it confusingly to mean “a different fixed, known relationship to the perspective of the other images.” For example, 3Shape's construction introduces an additional “perspective” limitation. The independent claims already describe a “perspective” that relates the three-dimensional model to video images (claims 1, 2) or one of a plurality of images (claims 3, 9). The additional “perspective of the other images” recited by 3Shape's construction only creates confusion about the “perspective” limitations that are already recited by these claims. *Ameranth*, 842 F.3d at 1237; *U.S. Surgical Corp.*, 103 F.3d at 1568.

Additionally, 3Shape’s construction introduces “the other images,” which is a term without antecedent basis. *Stanacard*, 680 F. Supp. 2d at 493. Substituting 3Shape’s construction into the claim language illustrates the confusion that is created (**in red**; antecedent basis issue **highlighted**):

“creating a three-dimensional model with a processor from a sequence of image sets stored in a memory, each image set including a plurality of images of a subject including dentition, **[each image of the plurality of images (in each image set) captured from a fixed, known relationship to the perspective of the other images]**, the plurality of images including at least one video image”

Thus, as inserted, 3Shape’s construction repeats the terms “images” to the point of confusion.

Finally, 3Shape’s construction would exclude embodiments described by the specification. For example, the ’864 patent broadly describes that “any camera or camera system suitable for capturing images from which a three-dimensional point cloud may be recovered,” ’864 patent at 9:3-5, and expressly describes “single-camera video techniques” that may used to obtain three-dimensional images. *See id.* at 22:28-33 (describing “a variety of techniques for obtaining three-dimensional images including structured light or laser techniques, time-of-flight techniques, single-camera video techniques, multi-camera. multi-aperture, or split-pupil video techniques, and so forth.”). 3Shape’s construction’s requirement that “each image” used to create the three-dimensional model be “captured from a different fixed, known relationship to the perspective of the other images” excludes embodiments that may, for example, use images that are referenced to a scanning path, and are not in a “fixed, known relationship” to each other. The ’864 patent disclosure describes many examples of imaging techniques that may be used to generate the three-dimensional model, and the claims should not be improperly narrowed to exclude any of those techniques.

Because 3Shape’s construction excludes embodiments and fails to clarify the claim scope, the Court should reject 3Shape’s construction in favor of the term’s plain and ordinary meaning.

B. “video image” (claims 1, 2, 15, 16, 18, 19)

3Shape once again convolutes a simple phrase with a complicated construction. “Video image” is already straightforward and will be easily understood by the jury without the excessive verbiage inserted by 3Shape. *See Stanacard*, 680 F. Supp. 2d at 493; *Am. Patent Dev. Corp. v. MovieLink, LLC*, 604 F. Supp. 2d 704, 716 (D. Del. 2009) (rejecting a construction which was “merely a verbose paraphrasing of claim language that otherwise offers little to assist one of ordinary skill in the art in understanding the claims”). Contrary to 3Shape’s assertions, Dkt. 14 at 27, its proposed construction not only creates ambiguity and confusion, but also excludes embodiments described by the ’864 patent. *See, e.g., U.S. Well Servs., Inc. v. Halliburton Co.*, No. 6:21-cv-00367-ADA, 2022 WL 819548, at *32 (W.D. Texas, Jan. 17, 2022) (rejecting a construction that reads an embodiment into the claims while excluding other embodiments). For example, 3Shape’s construction makes it unclear whether every recited “video image” is required to be used to create the 3D model. This contradicts the ’864 patent disclosure, which discloses embodiments in which video images are obtained to supplement the display of a three-dimensional model. *See, e.g.,* ’864 patent at 21:58-61, Fig. 10; *see also, id.* at 27:1-10 (describing video images that are mapped onto an existing three-dimensional model).

3Shape’s construction also creates redundancies in the claim with respect to the “three-dimensional model” term, for example, by incorporating the construction into claim 1 (in red):

“creating a *three-dimensional model* with a processor from a sequence of image sets stored in a memory, each image set including a plurality of images of a subject including dentition, each one of the plurality of images captured from a different optical axis, the plurality of images including at least one **[two-dimensional image captured by a video camera used to create the 3D model]**” (emphasis added)

The claim already describes the “three-dimensional model” as being created by “a processor from a sequence of image sets.” This confusing redundancy does not serve to clarify the term for the

jury. *Ameranth*, 842 F.3d at 1237; *U.S. Surgical Corp.*, 103 F.3d at 1568. Thus, the Court should reject 3Shape's construction in favor of the term's plain and ordinary meaning.

VIII. CONCLUSION

For the foregoing reasons, Medit respectfully requests that the Court adopt its proposed constructions and deny 3Shape's proposed claim constructions.

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Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that on February 26, 2024, I electronically filed the foregoing with the Clerk of Court using the CM/ECF system, which will send notification of such filing via electronic mail to all counsel of record.

/s/ Douglas F. Stewart

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