

**IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE**

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ALIGN TECHNOLOGY, INC.,	:	
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Plaintiff,	:	
	:	
v.	:	C.A. No. 17-1647-LPS
	:	
3SHAPE A/S, 3SHAPE, INC., and	:	
3SHAPE TRIOS A/S,	:	
	:	
Defendants.	:	

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**MEMORANDUM ORDER**

At Wilmington this **8th** day of **October, 2020**, having considered the briefing and associated materials submitted in connection with various motions filed by Defendants 3Shape A/S, 3Shape Inc., and 3Shape Trios A/S (collectively, “3Shape”) – specifically, 3Shape’s Motion for Judgment on the Pleadings Pursuant to Federal Rule of Civil Procedure 12(c) (D.I. 281); 3Shape’s Motion for Summary Judgment of Invalidity Under 35 U.S.C. § 112(1) or in the Alternative Non-Infringement of the Asserted Claims of U.S. Patent Nos. 8,734,149 and 7,056,115 (D.I. 289); 3Shape’s Motion for Summary Judgment of Non-Infringement of U.S. Patent Nos. 8,092,215, 8,545,221, and 9,566,132 (D.I. 291); 3Shape’s Motion for Summary Judgment of Invalidity for Failure to Claim Patent-Eligible Subject Matter or in the Alternative Non-Infringement of the Asserted Claims of U.S. Patent Nos. 8,734,149 and 7,056,115 (D.I. 293); and 3Shape’s *Daubert* Motion to Exclude Testimony of Karan Singh and John Hart (D.I. 341) – and having heard argument on the motions on August 11, 2020 (D.I. 420) (“Tr.”),

**IT IS HEREBY ORDERED** that all five of 3Shape’s motions (D.I. 281, 289, 291, 293, 341) are **DENIED**.

1. 3Shape’s motion for judgment on the pleadings (D.I. 281) contends that each of the 51 asserted claims of U.S. Patent Nos. 8,092,215 (the “215 Patent”), 8,545,221 (the “221 Patent), and 9,566,132 (the “132 Patent”) (collectively, the “Smile Designer Patents”) are not directed to patent eligible subject matter, pursuant to 35 U.S.C. § 101.<sup>1</sup> In 3Shape’s view, the asserted claims of the Smile Designer Patents are directed to minor variations on an abstract idea – “describing an intended result of a dental treatment to a patient” – implemented using simple processes of collection and manipulation of data. (D.I. 282 at 1) 3Shape adds that the asserted claims introduce no inventive concept but, instead, merely convert what had been done manually into an automated (but unspecified) process on a computer. (*Id.* at 1-2)

Accepting all factual allegations in the complaint as true and viewing them in the light most favorable to Align, 3Shape has failed to “clearly establish[] that no material issue of fact remains to be resolved and that [it] is entitled to judgment as a matter of law.” *Rosenau v. Unifund Corp.*, 539 F.3d 218, 221 (3d Cir. 2008). 3Shape’s characterization of the concepts to which the Smile Designer Patents are purportedly directed overlooks key aspects of the claims that amount to improvements to conventional methods of developing dental treatment plans. For example, the specification identifies risks and issues associated with conventional treatment

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<sup>1</sup> The Court adopts and incorporates by reference the legal standards governing Rule 12(c) motions and motions arising under § 101 (including the now-familiar *Alice/Mayo* two-step test) as set out in *CardioNet, LLC v. InfoBionic, Inc.*, 955 F.3d 1358, 1367-68 (Fed. Cir. 2020) (§ 101 motion under Rule 12(b)(6)); *Berkheimer v. HP, Inc.*, 881 F.3d 1360, 1366-70 (Fed. Cir. 2018) (§ 101 discussion on appeal from grant of summary judgment); and *Baggage Airline Guest Services, Inc. v. Roadie, Inc.*, 351 F. Supp. 3d 753, 756-58, 760 (D. Del. 2019) (§ 101 motion under Rule 12(c)).

methods, such as removal of healthy tooth mass (*see, e.g.*, ‘215 Patent at 1:28-33), lack among treatment professionals of the “level of skill or experience needed to properly design and implement an improved smile” (*see, e.g.*, ‘215 Patent at 1:34-36), and the potential need for “further corrective dental action, which can be costly and/or harmful to the teeth” as a result of an improperly-designed smile (*see, e.g.*, ‘215 Patent at 1:36-40). The claimed invention seeks to address these problems in various specified ways, including by “identify[ing] the area in the patient’s mouth where the patient’s teeth are showing” and “indicat[ing] where changes to the patient’s occlusion may affect the appearance of the patient’s smile” so that the “location of the patient’s teeth in relation to the patient’s lip can be modified to create a more desirable smile.” (*See, e.g.*, ‘215 Patent at 6:42-47, 56-60)

Mere use of generic computer functions does not render the claims patent-ineligible. *See, e.g., BASCOM Glob. Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1349-52 (Fed. Cir. 2016). The Court agrees with Align that the claims amount to an improvement of the dental treatment process; they do not simply automate a previously manual process. Focusing on improving the design of dental treatment plans and patient smiles, the claims improve the relevant technology and are not abstract. *See, e.g., McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1314 (Fed. Cir. 2016). Therefore, 3Shape’s motion is denied at step 1.

Further, at step 2, applying the Rule 12(c) standard, it is at least plausible that there is something in the patented invention that might be unconventional, not well-known, or not well-understood, as Align argues. At this stage, Align is entitled to all plausible inferences. *See, e.g., Archer v. Defenders, Inc.*, 2020 WL 3128029, at \*1 (D. Del. June 12, 2020). Thus, 3Shape’s

motion must be denied for the additional reason that 3Shape has failed to meet its burden at step 2.<sup>2</sup>

2. 3Shape's summary judgment motion relating to the '149 and '115 patents (D.I. 289) presents three arguments: (i) Align's interpretation of the "scale"/"scaling" limitations of the asserted claims of the '149 and '115 Patents lacks support, as there is no basis to read them as encompassing "offsetting;" (ii) under a proper construction of the "scale"/"scaling" limitations there can be no infringement; and (iii) if Align's construction of the asserted claims is correct, then the claims are invalid for lack of written description and enablement under 35 U.S.C. § 112. (D.I. 290 at 1)<sup>3</sup>

To satisfy the written description requirement, a patent's specification "must clearly allow persons of ordinary skill in the art to recognize that the inventor invented what is claimed." *Ariad Pharm., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (internal brackets and quotation marks omitted). "To be enabling, the specification of a patent must teach those skilled in the art how to make and use the full scope of the claimed invention without undue experimentation." *MagSil Corp. v. Hitachi Glob. Storage Techs., Inc.*, 687 F.3d 1377, 1380 (Fed. Cir. 2012) (internal quotation marks omitted). Determining "[w]hether undue

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<sup>2</sup> While Align submitted the Kuo declaration in connection with its opposition to 3Shape's motion (D.I. 301), the parties agreed that the Court should not consider it in evaluating the Rule 12(c) motion (Tr. at 13, 19-20).

<sup>3</sup> Under Rule 56(a) of the Federal Rules of Civil Procedure, "[t]he court shall grant summary judgment if the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law." The moving party bears the burden of demonstrating the absence of a genuine issue of material fact. *See Matsushita Elec. Indus. Co., Ltd. v. Zenith Radio Corp.*, 475 U.S. 574, 585-86 (1986). The Court will "draw all reasonable inferences in favor of the nonmoving party, and it may not make credibility determinations or weigh the evidence." *Reeves v. Sanderson Plumbing Prods., Inc.*, 530 U.S. 133, 150 (2000).

experimentation is needed” requires “weighing many factual considerations.” *In re Wands*, 858 F.2d 731, 737 (Fed. Cir. 1988) (listing factors).

To prevail on its motion, 3Shape must persuade the Court (while taking the evidence in the light most favorable to Align) either that (i) 3Shape’s construction of “scaling” is proper *and* applying it no reasonable jury could find infringement,<sup>4</sup> *or* (ii) Align’s construction of “scaling” is proper *and* applying it no reasonable factfinder could find anything other than clear and convincing evidence that the asserted claims are invalid for lack of written description and/or enablement. 3Shape has not met its burden.

The Court concludes that, consistent with its claim construction opinion, “scaling” does not require construction. At the claim construction phase, the Court rejected 3Shape’s attempt to read in the limitation that scaling must be “isotropic,” finding that “none of the cited portions of the specification (or any other) state that scaling must be equal in all directions, even if applied to the entire object,” and that “nothing in the claims precludes the entire tooth model from being scaled along a single axis.” (D.I. 148 at 6) Similarly here, the Court rejects 3Shape’s new narrow reading of the term. The evidence does not support a claim interpretation that excludes “offsetting.” (*See, e.g.*, D.I. 325 Ex. 16 ¶¶ 86-104) (Dr. Hart opining that specification’s references to percentages would not be read by person of ordinary skill in art (“POSA”) to necessarily exclude “offsetting”) Additionally, 3Shape’s reliance on U.S. Application Serial No. 10/794,325 is unavailing, as that document illustrates that an alternative embodiment for scaling includes offsetting. (D.I. 299 Ex. 17 at Align-DE\_0139742) Nor has 3Shape persuaded the Court that Align clearly and unmistakably disclaimed “offsetting” during prosecution. (D.I. 290

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<sup>4</sup> As 3Shape states on reply, Align concedes that if 3Shape’s construction of “scaling” is adopted, Align cannot prove infringement. (D.I. 334 at 1; *see also generally* D.I. 322)

at 7) Instead, the applicants' arguments in response to an obviousness rejection centered on Rubbert's teachings relating to scaling a template tooth on a point cloud, not on scaling a digitized tooth, and the applicants never discussed "offsetting." *See, e.g., Biogen Idec, Inc. v. GlaxoSmithKline LLC*, 713 F.3d 1090, 1095 (Fed. Cir. 2013).

The Court also agrees with Align that 3Shape has failed to show by clear and convincing evidence that "scaling" lacks written description. Align's expert's unrebutted declaration creates a genuine issue of material fact. *See, e.g., Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1567 (Fed. Cir. 1991) (non-refutation of expert's declaration "gave rise to a genuine issue of material fact inappropriate for summary disposition"). A reasonable juror could credit Dr. Hart's opinion that a POSA would have understood the specification to demonstrate possession of "offsetting" and that "offsetting" was a "well-known method . . . to change the size of a digital 3D model of a shape." (*See, e.g.* D.I. 325 Ex. 16 ¶¶ 86-104)

3Shape's conclusory arguments also fail to show that summary judgment is warranted on lack of enablement grounds. It has failed to show that a reasonable juror would have to conclude that there is clear and convincing evidence of nonenablement. *See Vasudevan Software, Inc. v. MicroStrategy, Inc.*, 782 F.3d 671, 683-84 (Fed. Cir. 2015) (reciting clear and convincing evidence standard for lack of enablement). Rather than attempt to show that the patent fails to "teach those skilled in the art how to make and use the full scope of the claimed invention without undue experimentation," *MagSil Corp. v. Hitachi Glob. Storage Techs., Inc.*, 687 F.3d 1377, 1380 (Fed. Cir. 2012) (internal quotation marks omitted), 3Shape merely asserts that the claims are not enabled. (*See* D.I. 290 at 8-10) This does not meet 3Shape's burden.<sup>5</sup>

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<sup>5</sup> In something of an attempt to remedy this deficiency, 3Shape in its reply brief argues that "[u]ndue experimentation is required because there is no disclosure of offsetting." (D.I. 334

3. 3Shape's summary judgment motion relating to non-infringement of the '215, '221, and '132 Patents (D.I. 291) challenges Align's infringement theory that a single end user uses two accused products, Ortho System and Dental System, in a combined manner. Genuine disputes of material fact preclude granting summary judgment.

While Align's evidence of infringement is circumstantial (as Align concedes, *see* D.I. 323 at 1-3), a patentee is permitted to prove infringement through circumstantial evidence, including circumstantial evidence from which a reasonable jury might find that 3Shape's customers have used Ortho System and Dental System in combination in a way that infringed the claims of the '215, '221, and '132 Patents. *See generally* *Lucent Techs., Inc. v. Gateway, Inc.*, 580 F.3d 1301, 1318 (Fed. Cir. 2009). Align points to instructions provided by 3Shape, customer service data, technical documents, marketing videos, and software specifications, along with testimony from 3Shape's witnesses, which is among the evidence from which a reasonable juror could find that 3Shape instructed users to purchase and install Ortho System and Dental System together in a manner practicing the patented methods. (*See, e.g.*, D.I. 229 Ex. 23 ¶¶ 99-102, 359-60, 446-48; *id.* Ex. 26 at 111-12; D.I. 325 Ex. 1 at 3; *id.* Ex. 2 at row 2094 of tab Raw Data; *id.* Exs. 4-6; *id.* Ex. 7 at 51; *id.* Ex. 8 at 124; *id.* Ex. 11 at 3-5; *see also* D.I. 323 at 1-5 (citing evidence)) In addition to this evidence, with respect to the device claims a reasonable factfinder could find from the record that the accused product is capable of being used in an infringing manner, which is sufficient in this context to support a finding of infringement. *See*

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at 5) The Court will not evaluate the merits of this contention because it is untimely and waived. *See generally* *Perrigo Co. v. Int'l Vitamin Co.*, 2019 WL 359991, at \*2 (D. Del. Jan. 29, 2019) ("Because this argument was raised for the first time in a reply brief, this Court may consider it waived."); *see also* D. Del. L.R. 7.1.3(c)(2) ("The party filing the opening brief shall not reserve material for the reply brief which should have been included in a full and fair opening brief.").

*Fantasy Sports Props., Inc. v. Sportsline.com, Inc.*, 287 F.3d 1108, 1118 (Fed. Cir. 2002) (“[I]n order to infringe the [patent-in-suit], the code underlying an accused [product] must be written in such a way as to enable a user of that software to utilize the [relevant] function . . . without having to modify that code; i]n other words, an infringing software must include the [relevant function] regardless whether [it] is activated or utilized in any way.”); *see also* Tr. at 63-64.<sup>6</sup>

4. In 3Shape’s motion for summary judgment of invalidity or in the alternative non-infringement relating to the ‘149 and ‘115 Patents (D.I. 293), 3Shape argues that (i) under Align’s present interpretation of the asserted claims, the claims are not directed to patent-eligible subject matter under § 101; and (ii) under Align’s previous interpretation, there is no infringement. (D.I. 294 at 1) 3Shape’s arguments do not provide a meritorious basis for summary judgment. As to patent eligibility of the claims of the ‘149 and ‘115 Patents, the Court already has rejected 3Shape’s contentions and sees no need to reconsider its decision now. (*See* D.I. 63 at 33-35) Nor is the Court persuaded that Align has “shifted” its interpretation of the claimed “template.”<sup>7</sup> 3Shape never sought a construction of “template” and the parties agree that

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<sup>6</sup> 3Shape waited until its reply brief to raise the argument that the evidence lacks sufficient evidence to support a finding of anyone practicing the claimed methods in the United States, rendering this an inappropriate basis on which to grant summary judgment of non-infringement. In any event, the Court agrees with Align that there is enough evidence (albeit circumstantial) that could be credited and support a finding of infringement occurring in the U.S. (*See, e.g.*, D.I. 323 at 1-2; Tr. at 55-64)

<sup>7</sup> At the motion to dismiss stage, Align described the problems associated with occasionally dislodged brackets and explained that the ‘149 Patent provided an innovative, non-conventional method by not requiring “the template to contain the bracket because its template directs the user to the precise location where the bracket should be placed based on geometric fit.” (D.I. 25 at 22) Align also made its position clear in its complaint and first amended complaint, which show that Align never construed “template” to preclude templates with brackets. (*See* D.I. 1 ¶¶ 27, 78, 93; D.I. 78 ¶¶ 29, 83, 99) (alleging 3Shape’s templates with brackets infringe ‘149 and ‘115 Patents)

a “template” can contain brackets. (Tr. 39-40; *see also generally* D.I. 100, 110) Under the applicable constructions and understanding of the claims from the perspective of a POSA, a reasonable juror, taking the evidence in the light most favorable to 3Shape, could find infringement.

5. Finally, 3Shape moves to exclude the expert testimony Align’s witnesses Karan Singh and John Hart.<sup>8</sup> (D.I. 341) Contrary to 3Shape’s arguments, Dr. Singh has sufficient qualifications. Dr. Singh need not be qualified as an expert in dentistry or orthodontics; it is sufficient that he is qualified in the relevant computer modeling techniques described in the Patents. *See Mytee Prod., Inc. v. Harris Research, Inc.*, 439 Fed. App’x 882, 884 (Fed. Cir. 2011) (affirming lower court’s decision that expert’s electrical engineering degree, experience with mechanical engineering, and experience prosecuting patents for mechanical devices provided relevant technical expertise in pertinent art was sufficient to allow testimony, despite lack of experience in relevant carpet-cleaning industry, and where experts on both sides lacked such experience); *Int’l Gamco, Inc. v. Multimedia Games Inc.*, 732 F. Supp. 2d 1082, 1088 (S.D. Cal. 2010) (expert’s opinion admissible where expert had substantial experience with distributed computer networking systems, but none in the relevant field of gaming or lottery systems). 3Shape’s arguments go to weight, not admissibility, and do not warrant preclusion.

Likewise, Dr. Hart’s opinions concerning scaling and superimposition appropriately relate to factual issues within his area of expertise: computer modeling. (*See* D.I. 342 Ex. 3 ¶¶

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<sup>8</sup> Federal Rule of Evidence 702, which governs admissibility of expert testimony, embodies a “liberal policy of admissibility.” *Pineda v. Ford Motor Co.*, 520 F.3d 237, 243 (3d Cir. 2008). There are three distinct requirements for admissible expert testimony: (1) qualification; (2) reliability; and (3) fit. *See generally Elcock v. Kmart Corp.*, 233 F.3d 734, 741-46 (3d Cir. 2000).

83-84) Dr. Hart is qualified to offer his “scaling” opinions and provides sufficiently reliable bases for his conclusions, relying on the patent specification and opining that offsetting was a well-known method to enlarge a 3D shape. (See D.I. 342 Ex. 3 ¶¶ 88-89, 97-98) Further, Dr. Hart has provided a sufficient basis to rely on examples from the two end values of the range of scaling – 105% and 150% – explaining that if “neither the smallest scaling (105%) nor the largest scaling (150%) creates a suitable scaled arch, the scaling in the range in between does not either by continuity.” (D.I. 342 Ex. 6 ¶ 21) Again, 3Shape’s criticisms go to weight and not admissibility.



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HONORABLE LEONARD P. STARK  
UNITED STATES DISTRICT JUDGE