

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

ALIGN TECHNOLOGY, INC.)	
)	
Plaintiff,)	
)	
v.)	C.A. No. 17-1648-LPS
)	
3SHAPE A/S and 3SHAPE INC.,)	
)	
Defendants.)	

FIRST AMENDED COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Align Technology, Inc. (“Align”) demands a trial by jury on all issues so triable and, for its complaint against Defendants 3Shape A/S and 3Shape Inc. (collectively, “3Shape” or “Defendants”), alleges as follows:

THE PARTIES

1. Align is a Delaware corporation incorporated in April 1997, with its principal place of business in San Jose, California.
2. On information and belief, 3Shape A/S (“3Shape A/S”) is a Danish corporation with a principal place of business at Holmens Kanal 7, 1060 Copenhagen K, Denmark.
3. On information and belief, 3Shape Inc. (“3Shape US”) is a Delaware corporation with a principal place of business at 10 Independence Boulevard, Suite 150, Warren, New Jersey 07059.
4. On information and belief, 3Shape US is a wholly owned subsidiary of 3Shape A/S.

5. Defendants make, use, sell, and offer for sale in the United States and/or import into the United States the TRIOS and TRIOS 3 scanners and software products that embody systems and/or methods for intraoral scanning for dental applications.

JURISDICTION AND VENUE

6. This lawsuit is an action for patent infringement arising under the patent laws of the United States, Title 35 of the United States Code.

7. This Court has subject matter jurisdiction over this action pursuant to 28 U.S.C. §§ 1331 and 1338(a).

8. This Court has personal jurisdiction over Defendants in that they have, directly or through agents and/or intermediaries, committed acts within Delaware giving rise to this action and/or have established minimum contacts with Delaware such that the exercise of jurisdiction would not offend traditional notions of fair play and justice.

9. On information and belief, Defendants regularly conduct business in Delaware, and purposefully avail themselves of the privileges of conducting business in Delaware. In particular, on information and belief, Defendants, directly and/or through their agents and/or intermediaries, make, use, import, offer for sale, sell, and/or advertise their products and affiliated services in Delaware. Defendants have placed, and continue to place, infringing products into the stream of commerce, via an established distribution channel, with the knowledge and/or understanding that such products are sold in the United States including in Delaware and specifically including this District.

10. On information and belief, Defendants have derived substantial revenue from their infringing activity occurring with the State of Delaware and within this District and/or should reasonably expect their actions to have consequences in Delaware. In addition, Defendants have, and continue to, knowingly induce infringement within this District by

advertising, marketing, offering for sale and/or selling devices containing infringing functionality within this District to at least resellers, distributors, customers, dentists, orthodontists, dental and orthodontic labs, and/or other end users, and by providing instructions, user manuals, advertising and/or marketing materials which facilitate, direct or encourage the use of infringing functionality with knowledge thereof.

11. Defendants have committed patent infringement in Delaware that has led to foreseeable harm and injury to Align, a Delaware corporation.

12. Additionally, 3Shape A/S is subject to jurisdiction in the United States, and specifically in Delaware, pursuant to FED. R. CIV. P. 4(k)(2). 3Shape A/S has contacts with the United States that include, *inter alia*, advertising, offering to sell, and/or selling its products and software throughout the United States, including Delaware and this District.

13. This Court also has personal jurisdiction over 3Shape US because 3Shape US is a Delaware corporation and thus resides within, and has consented to, personal jurisdiction within this District.

14. The Court further has personal jurisdiction over 3Shape US because 3Shape US has committed, or aided, abetted, contributed, and/or participated in the commission of tortious acts of patent infringement that have led to foreseeable harm and injury to Align, which is a corporation organized and existing under the laws of the State of Delaware. Likewise, 3Shape A/S, alone and/or in concert with 3Shape US or others, has committed, or aided, abetted, contributed, and/or participated in the commission of tortious acts of patent infringement that have led to foreseeable harm and injury to Align.

15. Venue is proper pursuant to 28 U.S.C. §§ 1391 and 1400(b).

THE PATENTS-IN-SUIT

16. On August 15, 2006, the U.S. Patent and Trademark Office duly and lawfully issued U.S. Patent No. 7,092,107 (“the ’107 patent”), entitled “Method and Apparatus for Imaging Three-Dimensional Structure,” naming Noam Babayoff and Isaia Glaser-Inbari as the inventors. Align is the owner by assignment of all right, title and interest in the ’107 patent and has exclusive right to bring suit to enforce the patent. Evidence of such assignment has been recorded with the U.S. Patent and Trademark Office at Reel/Frame 034482/0410. A true and correct copy of the ’107 patent is attached hereto as Exhibit 1.

17. On June 18, 2019, the Patent Trial and Appeal Board issued its decision denying institution of 3Shape’s petition for *inter partes* review of the ’107 patent, Case IPR2019-00149. The Board held that 3Shape had not demonstrated a reasonable likelihood of prevailing on its challenge to claims 1-17 of the ’107 patent.

18. On April 11, 2017, the U.S. Patent and Trademark Office duly and lawfully issued U.S. Patent No. 9,615,901 (“the ’901 patent”), entitled “Method and Apparatus for Imaging Three-Dimensional Structure,” naming Noam Babayoff and Isaia Glaser-Inbari as the inventors. Align is the owner of all right, title and interest in the ’901 patent and has exclusive right to bring suit to enforce the patent. A true and correct copy of the ’901 patent is attached hereto as Exhibit 2.

19. On July 16, 2020, the Patent Trial and Appeal Board issued its Final Written Decision on 3Shape’s petition for *inter partes* review of the ’901 patent, Case IPR2019-00152. The Board upheld the patentability of all challenged claims of the ’901 patent except for claims 15 and 20.

20. On January 28, 2014, the U.S. Patent and Trademark Office duly and lawfully issued U.S. Patent No. 8,638,448 (“the ’448 patent”), entitled “Method and Apparatus for Imaging Three-Dimensional Structure,” naming Noam Babayoff and Isaia Glaser-Inbari as the inventors. Align is the owner by assignment of all right, title and interest in the ’448 patent and has exclusive right to bring suit to enforce the patent. Evidence of such assignment has been recorded with the U.S. Patent and Trademark Office at Reel/Frame 034482/0410. A true and correct copy of the ’448 patent is attached hereto as Exhibit 3.

21. On July 16, 2020, the Patent Trial and Appeal Board issued its Final Written Decision on 3Shape’s petition for *inter partes* review of the ’448 patent, Case IPR2019-00151. The Board upheld the patentability of all challenged claims of the ’448 patent.

22. On January 28, 2014, the U.S. Patent and Trademark Office duly and lawfully issued U.S. Patent No. 8,638,447 (“the ’447 patent”), entitled “Method and Apparatus for Imaging Three-Dimensional Structure,” naming Noam Babayoff and Isaia Glaser-Inbari as the inventors. Align is the owner by assignment of all right, title and interest in the ’447 patent and has exclusive right to bring suit to enforce the patent. Evidence of such assignment has been recorded with the U.S. Patent and Trademark Office at Reel/Frame 034482/0410. A true and correct copy of the ’447 patent is attached hereto as Exhibit 4.

23. On June 17, 2020, the Patent Trial and Appeal Board issued its Final Written Decision on 3Shape’s petition for *inter partes* review of the ’447 patent, Case IPR2019-00150. The Board upheld the patentability of all challenged claims of the ’447 patent.

24. On January 18, 2005, the U.S. Patent and Trademark Office duly and lawfully issued U.S. Patent No. 6,845,175 (“the ’175 patent”), entitled “Dental Image Processing Method and System,” naming Avi Kopelman and Eldad Taub as the inventors. Align is the owner by

assignment of all right, title and interest in the '175 patent and has exclusive right to bring suit to enforce the patent. Evidence of such assignment has been recorded with the U.S. Patent and Trademark Office at Reel/Frame 034482/0201. A true and correct copy of the '175 patent is attached hereto as Exhibit 5.

BACKGROUND

25. Align is a global medical device company with industry leading innovative products such as iTero intraoral scanners and OrthoCAD software that help dental and orthodontic professionals deliver effective, cutting-edge dental and orthodontic options to their patients.

26. Align's iTero intraoral scanners scan and provide, in conjunction with Align's OrthoCAD software, 3D imaging of an intraoral surface, such as the teeth and gums, without drying and powdering the intraoral surface, resulting in a digital impression. Align's iTero intraoral scanners and the software that works in conjunction with the scanner thus eliminate the need for traditional teeth impressions typically taken with an elastomeric or other material.

27. The digital impression captured by Align's iTero intraoral scanners, when teamed with Align's OrthoCAD software, can be used in a variety of dental and orthodontic applications, such as, for example, modeling the occlusion between the patient's teeth and processing images that are capable of describing relationships between the various parts of the skeletal, dental and soft tissue elements of the cranofacial complex.

28. Align's iTero intraoral scanner and OrthoCAD digital software constitute a proprietary system and method for treating, among other things, malocclusion, misalignment, and/or chipped or missing teeth. Align's high precision, high speed intraoral scanner and related software allow for the creation of a variety of orthodontic and dental devices including, but not limited to, crowns, bridges, bracket templates, aligners and implants. Each dental device is

custom-manufactured for each patient using computer-aided design techniques and sophisticated computer graphic interfaces to communicate with the patient's dental or orthodontic professional in the planning and implementation of the customized treatment program.

29. Align's iTero intraoral scanner and OrthoCAD software, developed by Align over many years and at great expense and effort, represents a breakthrough in the manufacturing principle of "mass customization" and a vast improvement over conventional methods for treating, among other things, chipped or missing teeth, misalignment of teeth, and malocclusion. Additionally, the iTero intraoral scanner and OrthoCAD software provide a "chair-side" platform for live viewing of the digital impression as it is being built on the display screen during scanning, for accessing valuable digital diagnosis and treatment tools, and for enhancing accuracy of records, treatment efficiency, and the overall patient experience. The innovations embodied in Align's iTero intraoral scanner and OrthoCAD software are protected by numerous United States and foreign patents.

30. On information and belief, defendant 3Shape designs, develops, manufactures, and markets the TRIOS and TRIOS 3 scanners, as well as the related Dental System software products that include software modules including, but not limited to, the Implant Studio, Ortho System, Ortho Analyzer, Ortho Planner, Appliance Designer and Ortho Control Patent (hereinafter "Dental System software products"). Moreover, 3Shape is involved in the sale of and/or importation into the United States of intraoral scanners, digital models, and digital data and Dental System software products for dental and orthodontic applications including, but not limited to, crowns, bridges, bracket templates, aligners and implants. 3Shape's intraoral scanners, digital and physical models generated from digital data using 3Shape software, and

3Shape's software products for dental and orthodontic applications described above embody and/or use the patented apparatuses, systems, and methods at issue.

31. 3Shape's TRIOS and TRIOS 3 scanners, as well as 3Shape's related Dental System software products, directly compete with the Align's iTero scanners and OrthoCad software. On information and belief, 3Shape developed, made, and sold its intraoral scanners and software with the intent to directly compete with Align's intraoral scanners and software. Before introducing its products, 3Shape was aware of the structure, design and operation of Align's patented intraoral scanners and software, including but not limited to intraoral scanners and software developed by Cadent Holdings, Inc. ("Cadent"), which Align acquired on April 29, 2011. Moreover, 3Shape has previously entered into agreements with Align that provided 3Shape with significant access to Align's patented technologies.

32. On information and belief, 3Shape developed, made, and sold its infringing TRIOS and TRIOS 3 scanners and related infringing Dental System software products despite having knowledge of the Align patents at issue (i) based, at a minimum, on its knowledge of the Align intraoral scanners and software being covered by numerous patents including the patents at issue through its prior business dealings with Align, including those with Cadent, whereby 3Shape acquired specific and detailed knowledge from Align regarding the structure, function, operation and commercial benefits of the Align products and the patent protection afforded to certain structures, functions and operations of the patented Align technology; (ii) by virtue of 3Shape's patent prosecution activities wherein Align's patents at issue and/or family members were cited as prior art, including but not limited to U.S. Patent Nos. 7,092,107, 9,615,901, 8,638,448, 8,638,447, 6,845,175, or related family members; and/or (iii) by virtue of 3Shape's U.S. Food and Drug Administration Section 510(k) premarket notification of intent to market the

accused products, which identifies 3Shape's accused products as substantially equivalent to Align's patent-practicing products (*see, e.g.*, Exhibit 6).

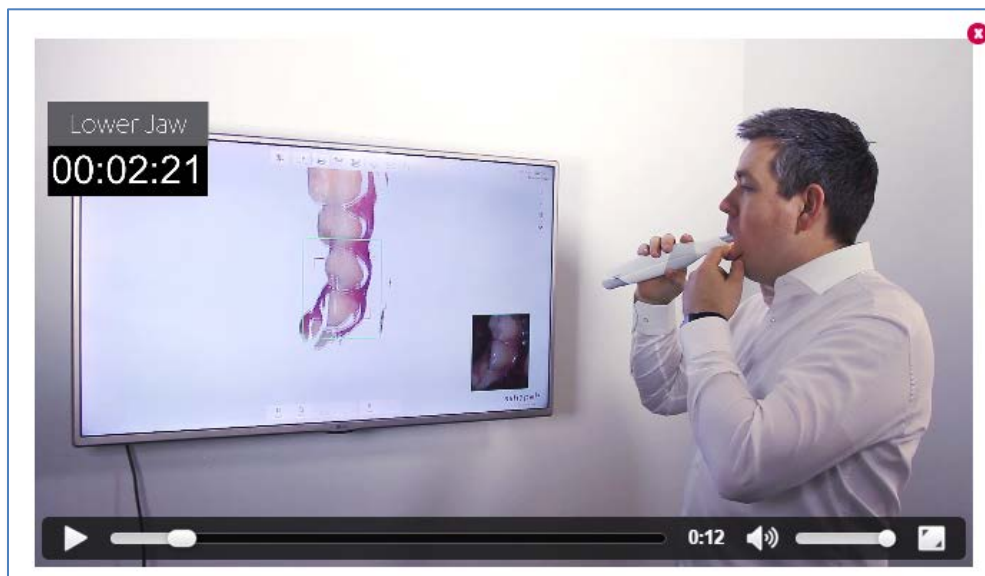
COUNT ONE – INFRINGEMENT OF THE '107 PATENT

33. Align incorporates by reference its allegations in Paragraphs 1-32 as if fully restated in this paragraph.

34. On information and belief, 3Shape has been and is now directly and/or indirectly infringing, literally and/or under the doctrine of equivalents, the '107 patent by making, using, selling, and/or offering for sale in the United States, and/or importing into the United States, products covered by one or more of the claims of the '107 patent, including the TRIOS and TRIOS 3 scanners, as well as the related Dental System software products.

35. The '107 patent is generally directed to determining and imaging three-dimensional structures. Claim 1 of the '107 patent recites a method for determining surface topology of a portion of a three-dimensional structure, comprising: providing an array of incident light beams propagating in an optical path leading through a focusing optics and through a probing face; the focusing optics defining one or more focal planes forward said probing face in a position changeable by said optics, each light beam having its focus on one of said one or more focal plane; the beams generating a plurality of illuminated spots on the structure; detecting intensity of returned light beams propagating from each of these spots along an optical path opposite to that of the incident light; repeating steps (a) and (b) a plurality of times, each time changing position of the focal plane relative to the structure; for each of the illuminated spots, determining a spot-specific position, being the position of the respective focal plane yielding a maximum measured intensity of a respective returned light beam; and generating data representative of the topology of said portion.

36. Upon information and belief, 3Shape's TRIOS and TRIOS 3 scanners, as well as the related Dental System software products, infringe at least claim 1 of the '107 patent. For example, 3Shape's TRIOS and TRIOS 3 scanners, used with the related Dental System software products, provide an array of incident light beams propagating in an optical path leading through a focusing optics and through a probing face; the focusing optics define one or more focal planes forward said probing face in a position changeable by said optics, each light beam has its focus on one of said one or more focal plane; the beams generate a plurality of illuminated spots on the structure; detect intensity of returned light beams propagating from each of these spots along an optical path opposite to that of the incident light; repeat steps (a) and (b) a plurality of times, each time changing position of the focal plane relative to the structure; for each of the illuminated spots, determine a spot-specific position, being the position of the respective focal plane yielding a maximum measured intensity of a respective returned light beam; and generate data representative of the topology of said portion, as shown, for example, in the demonstration video, TRIOS brochure, and press release below.



(See, e.g., 3Shape TRIOS® Video (3Shape website, available at:

<http://www.3shape.com/products/trios/intraoral-scanners#myModal>) (the specific version of the

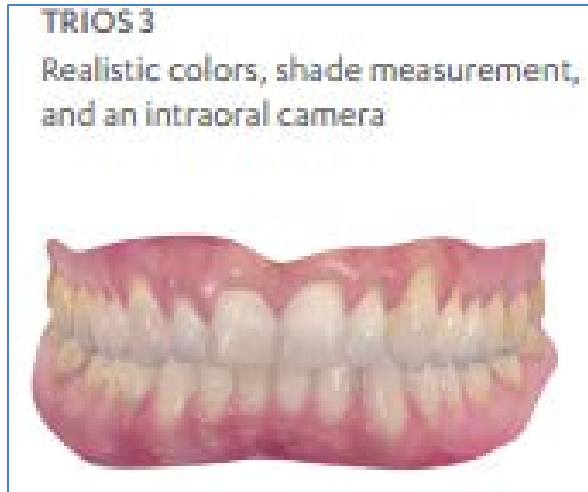
video screenshotted above may no longer be available on 3Shape's website.))



(See, e.g., 3Shape TRIOS® Digital Impression Solution Brochure; 3Shape Orthodontics Lab

Brochure (3Shape website, available at: [http://www.3shape.com/en/products/orthodontic-](http://www.3shape.com/en/products/orthodontic-system/intraoral-scanner-orthodontics-software - myModal)


[system/intraoral-scanner-orthodontics-software - myModal](http://www.3shape.com/en/products/orthodontic-system/intraoral-scanner-orthodontics-software - myModal).)



(Id.)

Choose your workflows
3Shape TRIOS®
Send to lab

Get the full range of indications, materials and expertise
Freely connect to thousands of labs. Easily communicate and interact with the lab using 3Shape TRIOS® and 3Shape Communicate on your mobile device and web browser. 3Shape TRIOS enables the widest range of treatment options with verified CAD/CAM lab workflows.

Crowns 	Bridges 	Veneers, inlays & onlays 
Removable partial dentures Exclusive to TRIOS 	Temporary crowns and virtual diagnostic wax-ups Exclusive to TRIOS 	Post and core Exclusive to TRIOS 
Abutments, implant bridges and bars 	Invisalign 	Invisalign 

Download the 3Shape Communicate App
Google Play and the App Store



(Id.)

Are there other advantages for patients?

The accuracy of digital impressions and the resulting crowns means a much better fitting restoration. The accuracy also cuts down on the need for remakes. So patient-visits are quicker and they don't have to come back for adjustments. Also if you're practicing same day dentistry you're eliminating second visits. So besides patient comfort, digital speed and accuracy are huge advantages.

Another interesting benefit when working with 3D digital color impressions is that you now have the patient's mouth on the big screen. You can show the patient what is going in their mouth.

You don't know how many dentists have told us about their patients' reactions to seeing their mouths onscreen for the very first time. And how many times the patient has ended up asking to have additional work done. Digital impressions are an important tool in helping to gain treatment acceptance from patients.

When you factor in the time savings, in terms of scanning, design and production, digital dentistry is just a more efficient way to work.

(See, e.g., 3Shape TRIOS® Knowledge Center (3Shape website, available at:

<https://www.3shape.com/en/news/2015/why-your-patients-love-digital-technology>).

37. 3Shape possesses knowledge of and is aware of the '107 patent by virtue of, at a minimum, filing this Complaint and, on information and belief, had prior knowledge of the '107 patent by virtue of the prior business dealings between 3Shape and Align and other facts described above.

38. 3Shape also has been and is now actively inducing infringement of one or more claims of the '107 patent, either literally or under the doctrine of equivalents.

39. On information and belief, 3Shape A/S alone and/or acting in concert with, directing and/or authorizing 3Shape US to make, use, sell, or offer for sale in the United States or import into the United States the TRIOS, TRIOS 3, and/or the related Dental System software products, possesses an affirmative intent to actively induce infringement by others. On information and belief, 3Shape A/S induces 3Shape US to infringe.

40. On information and belief, 3Shape US alone and/or acting in concert with, directing and/or authorizing 3Shape A/S to make, use, sell or offer for sale in the United States

or import into the United States the TRIOS, TRIOS 3, and/or the related Dental System software products, possesses an affirmative intent to actively induce infringement by others.

41. 3Shape has intended, and continues to intend to induce infringement of the '107 patent by others and has knowledge, with specific intent, that the inducing acts would cause infringement or has been willfully blind to the possibility that its inducing acts would cause the infringing acts. For example, 3Shape is aware that the features claimed in the '107 patent are features in the TRIOS, TRIOS 3, and/or the related Dental System software products and are features used by others that purchase TRIOS, TRIOS 3, and/or related Dental System software products and, therefore, that purchasers and end users will infringe the '107 patent by using the TRIOS, TRIOS 3, and/or the related Dental System software products. 3Shape actively induces infringement of the '107 patent with knowledge and the specific intent to encourage that infringement by, *inter alia*, disseminating the TRIOS, TRIOS 3, and/or the related Dental System software products and providing promotional materials, marketing materials, training materials, instructions, product manuals, user guides, and technical information (including but not limited to the demonstration video, brochure, and press release described in this Count of the Complaint) to others including, but not limited to, resellers, distributors, customers, dentists, orthodontists, dental and orthodontic labs, and/or other end users of the TRIOS, TRIOS 3, and/or the related Dental System software products. Those third parties directly infringe the '107 patent by making, using, selling, offering for sale, and/or importing the TRIOS, TRIOS 3, and/or the related Dental System software products.

42. 3Shape also has been and is now contributing to the infringement of one or more claims of the '107 patent, either literally or under the doctrine of equivalents.

43. 3Shape has actively, knowingly, and intentionally contributed and continues to actively, knowingly, and intentionally contribute to the infringement of the '107 patent by having sold or offered to sell and continuing to sell or offer for sale the TRIOS, TRIOS 3, and/or the related Dental System software products within in the United States and/or by importing the TRIOS, TRIOS 3, and/or the related Dental System software products into the United States, with knowledge that the infringing technology in the TRIOS, TRIOS 3, and/or the related Dental System software products is especially made and/or especially adapted for use in infringement of the '107 patent. 3Shape has contributed to the infringement by others with knowledge that the infringing technology in the TRIOS, TRIOS 3, and/or the related Dental System software products is a material part of the patented invention, and with knowledge that the infringing technology in the TRIOS, TRIOS 3, and/or the related Dental System software products is not a staple article of commerce suitable for substantial non-infringing use, and with knowledge that others including, but not limited to, resellers, distributors, customers, dentists, orthodontists, dental and orthodontic labs, and/or other end users of the TRIOS, TRIOS 3, and/or the related Dental System software products, infringe and will continue to infringe the '107 patent because, due to their specific designs, the accused products and components thereof do not have any substantial non-infringing uses. 3Shape has such knowledge at least because the claimed features of the '107 patent are used by others including, but not limited to, resellers, distributors, customers, dentists, orthodontists, dental and orthodontic labs, and/or other end users of the TRIOS, TRIOS 3, and/or the related Dental System software products.

44. On information and belief, 3Shape knew or should have known of the '107 patent and has acted, and continues to act, in an egregious and wanton manner by infringing '107 patent. On information and belief, 3Shape's infringement of the '107 patent has been and

continues to be willful and deliberate. The market for intraoral scanners and related dental and orthodontic software products is small and contains a limited number of competitors, with Align being a known pioneer with whom 3Shape has great familiarity. The companies have worked together in the past and 3Shape has had ample access to Align's technology. Upon information and belief, 3Shape knowingly developed and sold its competitive knockoff products in an infringing manner that was known to 3Shape or was so obvious that 3Shape should have known about this infringement.

45. On information and belief, despite knowing that its actions constituted infringement of the '107 patent and/or despite knowing that there was a high likelihood that its actions constituted infringement of the patent, 3Shape nevertheless continued its infringing actions, and continues to make, use and sell its infringing products.

46. 3Shape's acts of infringement have injured and damaged Align.

COUNT TWO – INFRINGEMENT OF THE '901 PATENT

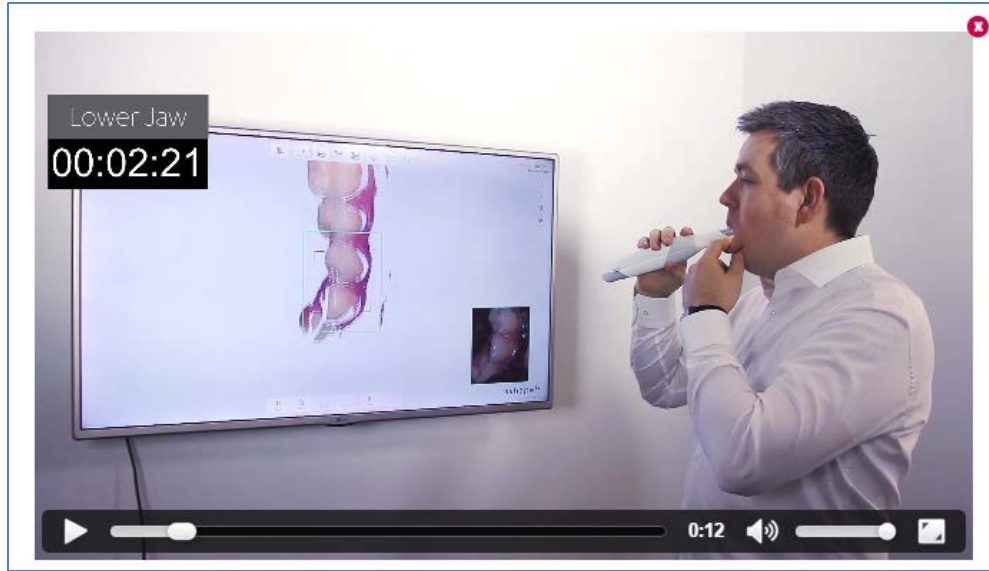
47. Align incorporates by reference its allegations in Paragraphs 1-46 as if fully restated in this paragraph.

48. On information and belief, 3Shape has been and is now directly and/or indirectly infringing, literally and/or under the doctrine of equivalents, the '901 patent by making, using, selling, and/or offering for sale in the United States, and/or importing into the United States, products covered by one or more of the claims of the '901 patent, including the TRIOS and TRIOS 3, as well as the related Dental System software products.

49. The '901 patent is generally directed to determining and imaging three-dimensional structures. Claim 1 of the '901 patent recites an apparatus for determining surface topology of a portion of a three-dimensional structure, the apparatus comprising: a probing member; an illumination unit configured to generate a plurality of incident light beams; an

optical system configured to focus the plurality of incident light beams to a focal plane external to the probing member so as to illuminate the portion of the three-dimensional structure; a detector unit configured to measure a characteristic of a plurality of returned light beams generated from illuminating the portion of the three-dimensional structure with the plurality of incident light beams; and a processor coupled to the detector unit and configured to determine a surface topology of the portion of the three-dimensional structure based at least in part on the measured characteristic of the plurality of returned light beams.

50. 3Shape's TRIOS, TRIOS 3, and/or the related Dental System software products, infringe at least claim 1 of the '901 patent. For example, 3Shape's TRIOS and TRIOS 3, used with the related Dental System software products, have a probing member; an illumination unit configured to generate a plurality of incident light beams; an optical system configured to focus the plurality of incident light beams to a focal plane external to the probing member so as to illuminate the portion of the three-dimensional structure; a detector unit configured to measure a characteristic of a plurality of returned light beams generated from illuminating the portion of the three-dimensional structure with the plurality of incident light beams; and a processor coupled to the detector unit and configured to determine a surface topology of the portion of the three-dimensional structure based at least in part on the measured characteristic of the plurality of returned light beams, as shown, for example, in the demonstration video, TRIOS brochure, and press release below.



(See, e.g., 3Shape TRIOS® Video (3Shape website, available at: <http://www.3shape.com/products/trios/intraoral-scanners#myModal>) (the specific version of the video screenshotted above may no longer be available on 3Shape’s website).)

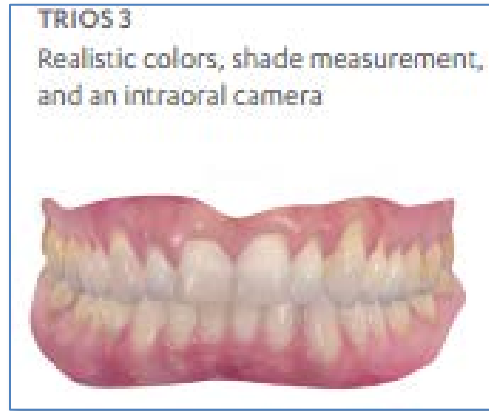
Engage patients with realistic color scans
Create high quality digital impressions in lifelike colors to evaluate treatment and improve patient dialogue.

Digital tools for better treatment
Shade measurement for digital reliability, HD photos to enhance details and an intraoral camera so you don't need one on the side.*

"The natural colors enable us to better evaluate treatment. Doctors, staff and patients love it!"

Dr. Jonathan L. Ferencz
Prosthodontist, New York, USA

(See, e.g., 3Shape TRIOS® Digital Impression Solution Brochure (3Shape website, available at: <http://www.3shape.com/en/products/orthodontic-system/intraoral-scanner-orthodontics-software-myModal>).



(Id.)

A vertical advertisement for 3Shape TRIOS. At the top, it says "Choose your workflows" and "3Shape TRIOS Send to lab". Below this is a paragraph: "Get the full range of indications, materials and expertise. Freely connect to thousands of labs. Easily communicate and interact with the lab using 3Shape TRIOS® and 3Shape Communicate on your mobile device and web browser. 3Shape TRIOS enables the widest range of treatment options with verified CAD/CAM lab workflows." The central part of the ad features a grid of dental work items with their respective 3D digital models: "Crowns", "Bridges", "Veneers, inlays & onlays", "Removable partial dentures (Exclusive to TRIOS)", "Temporary crowns and virtual diagnostic wax-ups (Exclusive to TRIOS)", "Post and core (Exclusive to TRIOS)", "Abutments, implant bridges and bars", "Invisalign", and "Invisalign". To the right of the grid is a photograph of a male dentist in a white lab coat. At the bottom left, there is a red banner with the text: "Download the 3Shape Communicate App Google Play and the App Store".

(Id.)

Are there other advantages for patients?

The accuracy of digital impressions and the resulting crowns means a much better fitting restoration. The accuracy also cuts down on the need for remakes. So patient-visits are quicker and they don't have to come back for adjustments. Also if you're practicing same day dentistry you're eliminating second visits. So besides patient comfort, digital speed and accuracy are huge advantages.

Another interesting benefit when working with 3D digital color impressions is that you now have the patient's mouth on the big screen. You can show the patient what is going in their mouth.

You don't know how many dentists have told us about their patients' reactions to seeing their mouths onscreen for the very first time. And how many times the patient has ended up asking to have additional work done. Digital impressions are an important tool in helping to gain treatment acceptance from patients.

When you factor in the time savings, in terms of scanning, design and production, digital dentistry is just a more efficient way to work.

(See, e.g., 3Shape TRIOS® Knowledge Center (3Shape website, available at:

<https://www.3shape.com/en/news/2015/why-your-patients-love-digital-technology>).

51. 3Shape possesses knowledge of and is aware of the '901 patent by virtue of, at a minimum, filing this Complaint and, on information and belief, had prior knowledge of the '901 patent by virtue of the prior business dealings between 3Shape and Align and other facts described above.

52. 3Shape also has been and is now actively inducing infringement of one or more claims of the '901 patent, either literally or under the doctrine of equivalents.

53. On information and belief, 3Shape A/S alone and/or acting in concert with, directing and/or authorizing 3Shape US to make, use, sell or offer for sale in the United States or import into the United States the TRIOS, TRIOS 3, and/or the related Dental System software products, possesses an affirmative intent to actively induce infringement by others. On information and belief, 3Shape A/S induces 3Shape US to infringe.

54. On information and belief, 3Shape US alone and/or acting in concert with, directing and/or authorizing 3Shape A/S to make, use, sell or offer for sale in the United States

or import into the United States the TRIOS, TRIOS 3, and/or the related Dental System software products, possesses an affirmative intent to actively induce infringement by others.

55. 3Shape has intended, and continues to intend to induce infringement of the '901 patent by others and has knowledge, with specific intent, that the inducing acts would cause infringement or has been willfully blind to the possibility that its inducing acts would cause the infringing acts. For example, 3Shape is aware that the features claimed in the '901 patent are features in the TRIOS, TRIOS 3, and/or the related Dental System software products and are features used by others that purchase TRIOS, TRIOS 3, and/or the related Dental System software products and, therefore, that purchasers and end users will infringe the '901 patent by using the TRIOS, TRIOS 3, and/or the related Dental System software products. 3Shape actively induces infringement of the '901 patent with knowledge and the specific intent to encourage that infringement by, *inter alia*, disseminating the TRIOS, TRIOS 3, and/or the related Dental System software products and providing promotional materials, marketing materials, training materials, instructions, product manuals, user guides, and technical information (including but not limited to the demonstration video, brochure, and press release described in this Count of the Complaint) to others including, but not limited to, resellers, distributors, customers, dentists, orthodontists, dental and orthodontic labs, and/or other end users of the TRIOS, TRIOS 3, and/or the related Dental System software products. Those third parties directly infringe the '901 patent by making, using, selling, offering for sale, and/or importing the TRIOS, TRIOS 3, and/or the related Dental System software products.

56. 3Shape also has been and is now contributing to the infringement of one or more claims of the '901 patent, either literally or under the doctrine of equivalents.

57. 3Shape has actively, knowingly, and intentionally contributed and continues to actively, knowingly, and intentionally contribute to the infringement of the '901 patent by having sold or offered to sell and continuing to sell or offer for sale the TRIOS, TRIOS 3, and/or the related Dental System software products within in the United States and/or by importing the TRIOS, TRIOS 3, and/or the related Dental System software products into the United States, with knowledge that the infringing technology in the TRIOS, TRIOS 3, and/or the related Dental System software products is especially made and/or especially adapted for use in infringement of the '901 patent. 3Shape has contributed to the infringement by others with knowledge that the infringing technology in the TRIOS, TRIOS 3, and/or the related Dental System software products is a material part of the patented invention, and with knowledge that the infringing technology in the TRIOS, TRIOS 3, and/or the related Dental System software products is not a staple article of commerce suitable for substantial non-infringing use, and with knowledge that others including, but not limited to, resellers, distributors, customers, dentists, orthodontists, dental and orthodontic labs, and/or other end users of the TRIOS, TRIOS 3, and/or the related Dental System software products, infringe and will continue to infringe the '901 patent because, due to their specific designs, the accused products and components thereof do not have any substantial non-infringing uses. 3Shape has such knowledge at least because the claimed features of the '901 patent are used by others including, but not limited to, resellers, distributors, customers, dentists, orthodontists, dental and orthodontic labs, and/or other end users of the TRIOS, TRIOS 3, and/or the related Dental System software products.

58. On information and belief, 3Shape knew or should have known of the '901 patent and has acted, and continues to act, in an egregious and wanton manner by infringing '901 patent. On information and belief, 3Shape's infringement of the '901 patent has been and

continues to be willful and deliberate. The market for intraoral scanners and related dental and orthodontic software products is small and contains a limited number of competitors, with Align being a known pioneer with whom 3Shape has great familiarity. The companies have worked together in the past and 3Shape has had ample access to Align's technology. Upon information and belief, 3Shape knowingly developed and sold its competitive knockoff products in an infringing manner that was known to 3Shape or was so obvious that 3Shape should have known about this infringement.

59. On information and belief, despite knowing that its actions constituted infringement of the '901 patent and/or despite knowing that there was a high likelihood that its actions constituted infringement of the patent, 3Shape nevertheless continued its infringing actions, and continues to make, use and sell its infringing products.

60. 3Shape's acts of infringement have injured and damaged Align.

COUNT THREE – INFRINGEMENT OF THE '448 PATENT

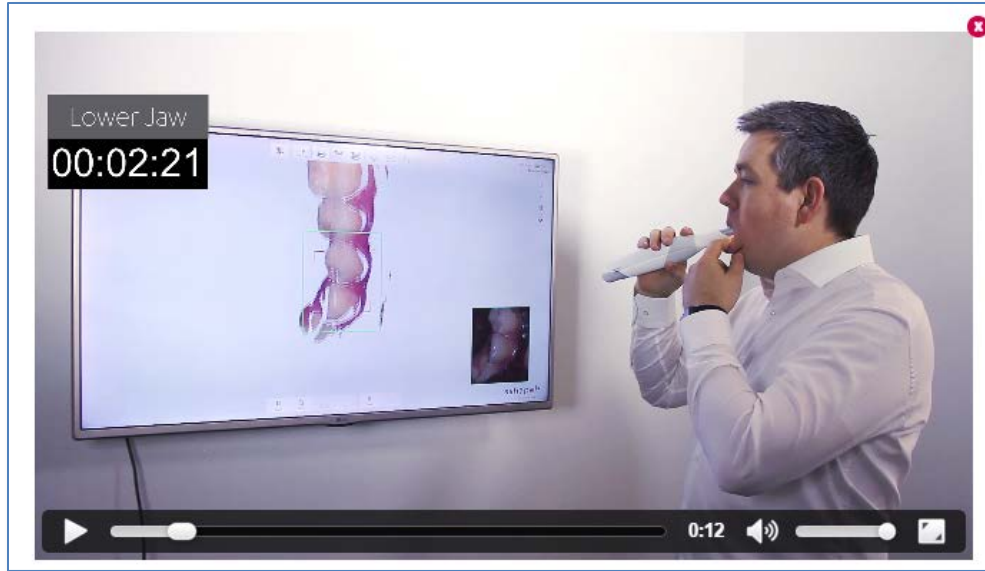
61. Align incorporates by reference its allegations in Paragraphs 1-60 as if fully restated in this paragraph.

62. On information and belief, 3Shape has been and is now directly and/or indirectly infringing, literally and/or under the doctrine of equivalents, the '448 patent by making, using, selling, and/or offering for sale in the United States, and/or importing into the United States, products covered by one or more of the claims of the '448 patent, including the TRIOS and TRIOS 3, as well as the related Dental System software products.

63. The '448 patent is generally directed to determining and imaging three-dimensional structures. Claim 1 of the '448 patent recites an apparatus for imaging at least a portion of a patient's dentition, the apparatus comprising: an illumination unit configured to transmit a parent light beam comprising a first wavelength component and a second wavelength

component; an optical system configured to generate an illuminated region on a portion of a patient's dentition, wherein the first wavelength component is focused at a first focal plane and the second wavelength component is focused at a second focal plane; a translation mechanism configured to change the position of the first focal plane and the second focal plane at the same time; a detector unit configured to measure intensity of returned light beams of the first wavelength component and the second wavelength component; and a processor coupled to the detector unit and configured to determine a surface topology of the patient's dentition based at least in part on a first intensity of a first returned light beam of the first wavelength component and a second intensity of a second returned light beam of the second wavelength component.

64. 3Shape's TRIOS, TRIOS 3, and/or the related Dental System software products, infringe at least claim 1 of the '448 patent. For example, 3Shape's TRIOS and TRIOS 3, used with the related Dental System software products, have an illumination unit configured to transmit a parent light beam comprising a first wavelength component and a second wavelength component; an optical system configured to generate an illuminated region on a portion of a patient's dentition, wherein the first wavelength component is focused at a first focal plane and the second wavelength component is focused at a second focal plane; a translation mechanism configured to change the position of the first focal plane and the second focal plane at the same time; a detector unit configured to measure intensity of returned light beams of the first wavelength component and the second wavelength component; and a processor coupled to the detector unit and configured to determine a surface topology of the patient's dentition based at least in part on a first intensity of a first returned light beam of the first wavelength component and a second intensity of a second returned light beam of the second wavelength component, as shown, for example, in the demonstration video, TRIOS brochure, and press release below.



(See, e.g., 3Shape TRIOS® Video (3Shape website, available at: <http://www.3shape.com/products/trios/intraoral-scanners#myModal>) (the specific version of the video screenshotted above may no longer be available on 3Shape’s website).)



Wireless



Engage patients with realistic color scans
Create high quality digital impressions in lifelike colors to evaluate treatment and improve patient dialogue.

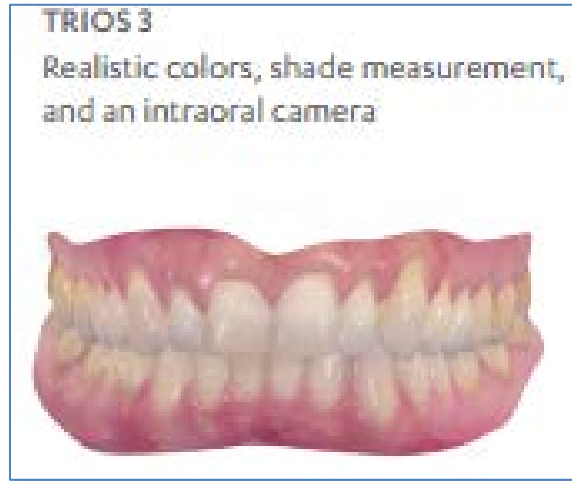


Digital tools for better treatment
Shade measurement for digital reliability, HD photos to enhance details and an intraoral camera so you don't need one on the side.*

*The natural colors enable us to better evaluate treatment. Doctors, staff and patients love it!

Dr. Jonathan L. Ferencz
Prosthodontist, New York, USA

(See, e.g., 3Shape TRIOS® Digital Impression Solution Brochure (3Shape website, available at: <http://www.3shape.com/en/products/orthodontic-system/intraoral-scanner-orthodontics-software-myModal>).



(Id.)

A vertical advertisement for 3Shape TRIOS. At the top, it says "Choose your workflows" and "3Shape TRIOS Send to lab". Below this is a paragraph: "Get the full range of indications, materials and expertise. Freely connect to thousands of labs. Easily communicate and interact with the lab using 3Shape TRIOS® and 3Shape Communicate on your mobile device and web browser. 3Shape TRIOS enables the widest range of treatment options with verified CAD/CAM lab workflows." The central part of the ad features a grid of dental workflows with corresponding 3D models: "Crowns", "Bridges", "Veneers, inlays & onlays", "Removable partial dentures (Exclusive to TRIOS)", "Temporary crowns and virtual diagnostic wax-ups (Exclusive to TRIOS)", "Post and core (Exclusive to TRIOS)", "Abutments, implant bridges and bars", "Invisalign", and "invisalign". To the right of the grid is a photograph of a male dentist in a white lab coat. At the bottom left, there is a red banner with the text: "Download the 3Shape Communicate App Google Play and the App Store".

(*Id.*)

Are there other advantages for patients?

The accuracy of digital impressions and the resulting crowns means a much better fitting restoration. The accuracy also cuts down on the need for remakes. So patient-visits are quicker and they don't have to come back for adjustments. Also if you're practicing same day dentistry you're eliminating second visits. So besides patient comfort, digital speed and accuracy are huge advantages.

Another interesting benefit when working with 3D digital color impressions is that you now have the patient's mouth on the big screen. You can show the patient what is going in their mouth.

You don't know how many dentists have told us about their patients' reactions to seeing their mouths onscreen for the very first time. And how many times the patient has ended up asking to have additional work done. Digital impressions are an important tool in helping to gain treatment acceptance from patients.

When you factor in the time savings, in terms of scanning, design and production, digital dentistry is just a more efficient way to work.

(*See, e.g.*, 3Shape TRIOS® Knowledge Center (3Shape website, available at:

<https://www.3shape.com/en/news/2015/why-your-patients-love-digital-technology>.)

65. 3Shape possesses knowledge of and is aware of the '448 patent by virtue of, at a minimum, filing this Complaint and, on information and belief, had prior knowledge of the '448 patent by virtue of the prior business dealings between 3Shape and Align and other facts described above.

66. 3Shape also has been and is now actively inducing infringement of one or more claims of the '448 patent, either literally or under the doctrine of equivalents.

67. On information and belief, 3Shape A/S alone and/or acting in concert with, directing and/or authorizing 3Shape US to make, use, sell or offer for sale in the United States or import into the United States the TRIOS, TRIOS 3, and/or the related Dental System software products, possesses an affirmative intent to actively induce infringement by others. On information and belief, 3Shape A/S induces 3Shape US to infringe.

68. On information and belief, 3Shape US alone and/or acting in concert with, directing and/or authorizing 3Shape A/S to make, use, sell or offer for sale in the United States

or import into the United States the TRIOS, TRIOS 3, and/or the related Dental System software products, possesses an affirmative intent to actively induce infringement by others.

69. 3Shape has intended, and continues to intend to induce infringement of the '448 patent by others and has knowledge, with specific intent, that the inducing acts would cause infringement or has been willfully blind to the possibility that its inducing acts would cause the infringing acts. For example, 3Shape is aware that the features claimed in the '448 patent are features in the TRIOS, TRIOS 3, and/or the related Dental System software products and are features used by others that purchase TRIOS, TRIOS 3, and/or the related Dental System software products and, therefore, that purchasers and end users will infringe the '448 patent by using the TRIOS, TRIOS 3, and/or the related Dental System software products. 3Shape actively induces infringement of the '448 patent with knowledge and the specific intent to encourage that infringement by, *inter alia*, disseminating the TRIOS, TRIOS 3, and/or the related Dental System software products and providing promotional materials, marketing materials, training materials, instructions, product manuals, user guides, and technical information (including but not limited to the demonstration video, brochure, and press release described in this Count of the Complaint) to others including, but not limited to, resellers, distributors, customers, dentists, orthodontists, dental and orthodontic labs, and/or other end users of the TRIOS, TRIOS 3, and/or the related Dental System software products. Those third parties directly infringe the '448 patent by making, using, selling, offering for sale, and/or importing the TRIOS, TRIOS 3, and/or the related Dental System software products.

70. 3Shape also has been and is now contributing to the infringement of one or more claims of the '448 patent, either literally or under the doctrine of equivalents.

71. 3Shape has actively, knowingly, and intentionally contributed and continues to actively, knowingly, and intentionally contribute to the infringement of the '448 patent by having sold or offered to sell and continuing to sell or offer for sale the TRIOS, TRIOS 3, and/or the related Dental System software products within in the United States and/or by importing the TRIOS, TRIOS 3, and/or the related Dental System software products into the United States, with knowledge that the infringing technology in the TRIOS, TRIOS 3, and/or the related Dental System software products is especially made and/or especially adapted for use in infringement of the '448 patent. 3Shape has contributed to the infringement by others with knowledge that the infringing technology in the TRIOS, TRIOS 3, and/or the related Dental System software products is a material part of the patented invention, and with knowledge that the infringing technology in the TRIOS, TRIOS 3, and/or the related Dental System software products is not a staple article of commerce suitable for substantial non-infringing use, and with knowledge that others including, but not limited to, resellers, distributors, customers, dentists, orthodontists, dental and orthodontic labs, and/or other end users of the TRIOS, TRIOS 3, and/or the related Dental System software products, infringe and will continue to infringe the '448 patent because, due to their specific designs, the accused products and components thereof do not have any substantial non-infringing uses. 3Shape has such knowledge at least because the claimed features of the '448 patent are used by others including, but not limited to, resellers, distributors, customers, dentists, orthodontists, dental and orthodontic labs, and/or other end users of the TRIOS, TRIOS 3, and/or the related Dental System software products.

72. On information and belief, 3Shape knew or should have known of the '448 patent and has acted, and continues to act, in an egregious and wanton manner by infringing '448 patent. On information and belief, 3Shape's infringement of the '448 patent has been and

continues to be willful and deliberate. The market for intraoral scanners and related dental and orthodontic software products is small and contains a limited number of competitors, with Align being a known pioneer with whom 3Shape has great familiarity. The companies have worked together in the past and 3Shape has had ample access to Align's technology. Upon information and belief, 3Shape knowingly developed and sold its competitive knockoff products in an infringing manner that was known to 3Shape or was so obvious that 3Shape should have known about this infringement.

73. On information and belief, despite knowing that its actions constituted infringement of the '448 patent and/or despite knowing that that there was a high likelihood that its actions constituted infringement of the patent, 3Shape nevertheless continued its infringing actions, and continues to make, use and sell its infringing products.

74. 3Shape's acts of infringement have injured and damaged Align.

COUNT FOUR – INFRINGEMENT OF THE '447 PATENT

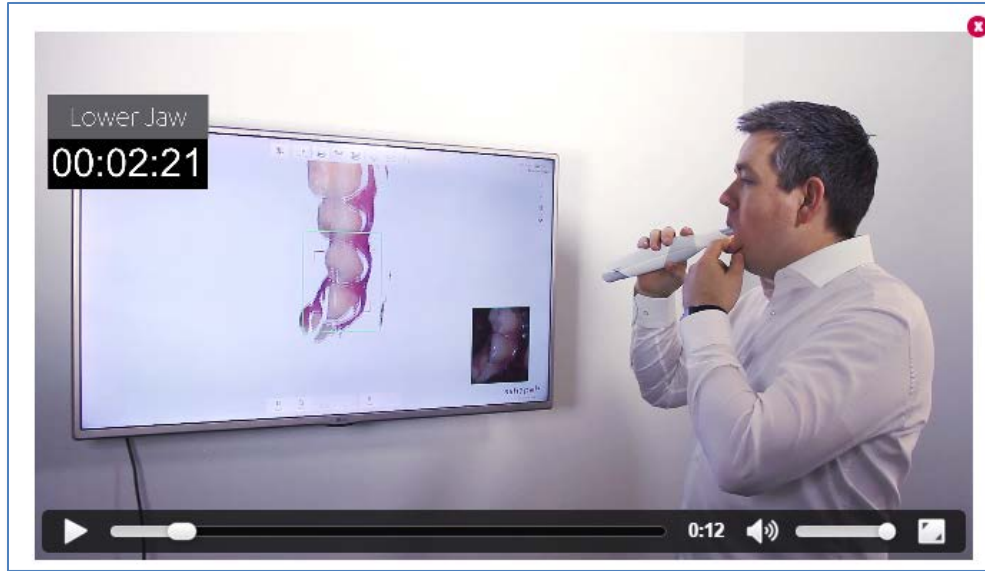
75. Align incorporates by reference its allegations in Paragraphs 1-74 as if fully restated in this paragraph.

76. On information and belief, 3Shape has been and is now directly and indirectly infringing, literally and/or under the doctrine of equivalents, the '447 patent by making, using, selling, and/or offering for sale in the United States, and/or importing into the United States, products covered by one or more of the claims of the '447 patent, including the TRIOS and TRIOS 3, as well as the related Dental System software products.

77. The '447 patent is generally directed to determining and imaging three-dimensional structures. Claim 1 of the '447 patent recites an apparatus for imaging at least a portion of a patient's dentition, the apparatus comprising: an illumination unit configured to transmit a parent light beam comprising a first wavelength component and a second wavelength

component; an illumination unit configured to transmit a parent light beam comprising a first wavelength component and a second wavelength component; a translation mechanism configured to move the position of the first focal plane and the second focal plane at the same time over a range of focal plane positions; a detector unit configured to measure intensity of returned light beams of the first wavelength component and the second wavelength component; and a processor coupled to the detector unit and configured to determine a surface topology of the patient's dentition based at least in part on a first intensity of a first returned light beam of the first wavelength component and a second intensity of a second returned light beam of the second wavelength component.

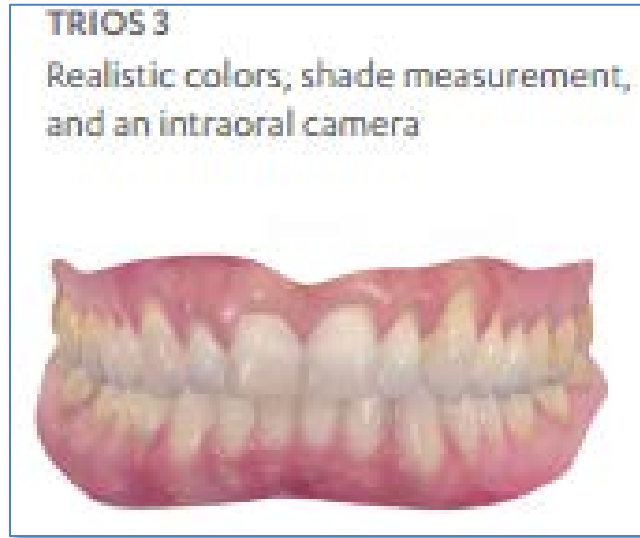
78. 3Shape's TRIOS, TRIOS 3, and/or the related Dental System software products, infringe at least claim 1 of the '447 patent. For example, 3Shape's TRIOS and TRIOS 3, used with the related Dental System software products, have an illumination unit configured to transmit a parent light beam comprising a first wavelength component and a second wavelength component; an illumination unit configured to transmit a parent light beam comprising a first wavelength component and a second wavelength component; a translation mechanism configured to move the position of the first focal plane and the second focal plane at the same time over a range of focal plane positions; a detector unit configured to measure intensity of returned light beams of the first wavelength component and the second wavelength component; and a processor coupled to the detector unit and configured to determine a surface topology of the patient's dentition based at least in part on a first intensity of a first returned light beam of the first wavelength component and a second intensity of a second returned light beam of the second wavelength component, as shown, for example, in the demonstration video, TRIOS brochure, and press release below.



(See, e.g., 3Shape TRIOS® Video (3Shape website, available at: <http://www.3shape.com/products/trios/intraoral-scanners#myModal>) (the specific version of the video screenshotted above may no longer be available on 3Shape’s website.))



(See, e.g., 3Shape TRIOS® Digital Impression Solution Brochure (3Shape website, available at: <http://www.3shape.com/en/products/orthodontic-system/intraoral-scanner-orthodontics-software-myModal>).



(Id.)

Choose your workflows
3Shape TRIOS
Send to lab

Get the full range of indications, materials and expertise
Freely connect to thousands of labs. Easily communicate and interact with the lab using 3Shape TRIOS® and 3Shape Communicate on your mobile device and web browser. 3Shape TRIOS enables the widest range of treatment options with verified CAD/CAM lab workflows.

Crowns 	Bridges 	Veneers, inlays & onlays
Removable partial dentures Exclusive to TRIOS 	Temporary crowns and virtual diagnostic wax-ups Exclusive to TRIOS 	Post and core Exclusive to TRIOS
Abutments, implant bridges and bars 	Invisalign 	invisalign

Download the 3Shape Communicate App
Google Play and the App Store

A man in a white lab coat stands next to the 3Shape TRIOS 3 scanner. The scanner is a handheld device with a camera lens. The background is white with a red diagonal stripe.

(*Id.*)

Are there other advantages for patients?

The accuracy of digital impressions and the resulting crowns means a much better fitting restoration. The accuracy also cuts down on the need for remakes. So patient-visits are quicker and they don't have to come back for adjustments. Also if you're practicing same day dentistry you're eliminating second visits. So besides patient comfort, digital speed and accuracy are huge advantages.

Another interesting benefit when working with 3D digital color impressions is that you now have the patient's mouth on the big screen. You can show the patient what is going in their mouth.

You don't know how many dentists have told us about their patients' reactions to seeing their mouths onscreen for the very first time. And how many times the patient has ended up asking to have additional work done. Digital impressions are an important tool in helping to gain treatment acceptance from patients.

When you factor in the time savings, in terms of scanning, design and production, digital dentistry is just a more efficient way to work.

(*See, e.g.*, 3Shape TRIOS® Knowledge Center (3Shape website, available at:

<https://www.3shape.com/en/news/2015/why-your-patients-love-digital-technology>.)

79. 3Shape possesses knowledge of and is aware of the '447 patent by virtue of, at a minimum, filing this Complaint and, on information and belief, had prior knowledge of the '447 patent by virtue of the prior business dealings between 3Shape and Align and other facts described above.

80. 3Shape also has been and is now actively inducing infringement of one or more claims of the '447 patent, either literally or under the doctrine of equivalents.

81. On information and belief, 3Shape A/S alone and/or acting in concert with, directing and/or authorizing 3Shape US to make, use, sell or offer for sale in the United States or import into the United States the TRIOS, TRIOS 3, and/or the related Dental System software products, possesses an affirmative intent to actively induce infringement by others. On information and belief, 3Shape A/S induces 3Shape US to infringe.

82. On information and belief, 3Shape US alone and/or acting in concert with, directing and/or authorizing 3Shape A/S to make, use, sell or offer for sale in the United States

or import into the United States the TRIOS, TRIOS 3, and/or the related Dental System software products, possesses an affirmative intent to actively induce infringement by others.

83. 3Shape has intended, and continues to intend to induce infringement of the '447 patent by others and has knowledge, with specific intent, that the inducing acts would cause infringement or has been willfully blind to the possibility that its inducing acts would cause the infringing acts. For example, 3Shape is aware that the features claimed in the '447 patent are features in the TRIOS, TRIOS 3, and/or the related Dental System software products and are features used by others that purchase TRIOS, TRIOS 3, and/or Dental System and, therefore, that purchasers and end users will infringe the '447 patent by using the TRIOS, TRIOS 3, and/or the related Dental System software products. 3Shape actively induces infringement of the '447 patent with knowledge and the specific intent to encourage that infringement by, *inter alia*, disseminating the TRIOS, TRIOS 3, and/or the related Dental System software products and providing promotional materials, marketing materials, training materials, instructions, product manuals, user guides, and technical information (including but not limited to the demonstration video, brochure, and press release described in this Count of the Complaint) to others including, but not limited to, resellers, distributors, customers, dentists, orthodontists, dental and orthodontic labs, and/or other end users of the TRIOS, TRIOS 3, and/or the related Dental System software products. Those third parties directly infringe the '447 patent by making, using, selling, offering for sale, and/or importing the TRIOS, TRIOS 3, and/or the related Dental System software products.

84. 3Shape also has been and is now contributing to the infringement of one or more claims of the '447 patent, either literally or under the doctrine of equivalents.

85. 3Shape has actively, knowingly, and intentionally contributed and continues to actively, knowingly, and intentionally contribute to the infringement of the '447 patent by having sold or offered to sell and continuing to sell or offer for sale the TRIOS, TRIOS 3, and/or the related Dental System software products within in the United States and/or by importing the TRIOS, TRIOS 3, and/or the related Dental System software products into the United States, with knowledge that the infringing technology in the TRIOS, TRIOS 3, and/or the related Dental System software products is especially made and/or especially adapted for use in infringement of the '447 patent. 3Shape has contributed to the infringement by others with knowledge that the infringing technology in the TRIOS, TRIOS 3, and/or the related Dental System software products is a material part of the patented invention, and with knowledge that the infringing technology in the TRIOS, TRIOS 3, and/or the related Dental System software products is not a staple article of commerce suitable for substantial non-infringing use, and with knowledge that others including, but not limited to, resellers, distributors, customers, dentists, orthodontists, dental and orthodontic labs, and/or other end users of the TRIOS, TRIOS 3, and/or the related Dental System software products, infringe and will continue to infringe the '447 patent because, due to their specific designs, the accused products and components thereof do not have any substantial non-infringing uses. 3Shape has such knowledge at least because the claimed features of the '447 patent are used by others including, but not limited to, resellers, distributors, customers, dentists, orthodontists, dental and orthodontic labs, and/or other end users of the TRIOS, TRIOS 3, and/or the related Dental System software products.

86. On information and belief, 3Shape knew or should have known of the '447 patent and has acted, and continues to act, in an egregious and wanton manner by infringing '447 patent. On information and belief, 3Shape's infringement of the '447 patent has been and

continues to be willful and deliberate. The market for intraoral scanners and related dental and orthodontic software products is small and contains a limited number of competitors, with Align being a known pioneer with whom 3Shape has great familiarity. The companies have worked together in the past and 3Shape has had ample access to Align's technology. Upon information and belief, 3Shape knowingly developed and sold its competitive knockoff products in an infringing manner that was known to 3Shape or was so obvious that 3Shape should have known about this infringement.

87. On information and belief, despite knowing that its actions constituted infringement of the '447 patent and/or despite knowing that there was a high likelihood that its actions constituted infringement of the patent, 3Shape nevertheless continued its infringing actions, and continues to make, use and sell its infringing products.

88. 3Shape's acts of infringement have injured and damaged Align.

COUNT FIVE – INFRINGEMENT OF THE '175 PATENT

89. Align incorporates by reference its allegations in Paragraphs 1-88 as if fully restated in this paragraph.

90. On information and belief, 3Shape has been and is now directly and indirectly infringing, literally and/or under the doctrine of equivalents, the '175 patent by making, using, selling, offering for sale, and/or importing into the United States products covered by one or more of the claims of the '175 patent, including the TRIOS and TRIOS 3, as well as the related Dental System software products.

91. The '175 patent is generally directed to providing a method and system in which information and data available from one type of teeth imaging technique is transferred and used in an image obtained by another kind of teeth imaging technique. Claim 14 of the '175 patent recites an image processing system comprising: a first input utility for receipt of first data

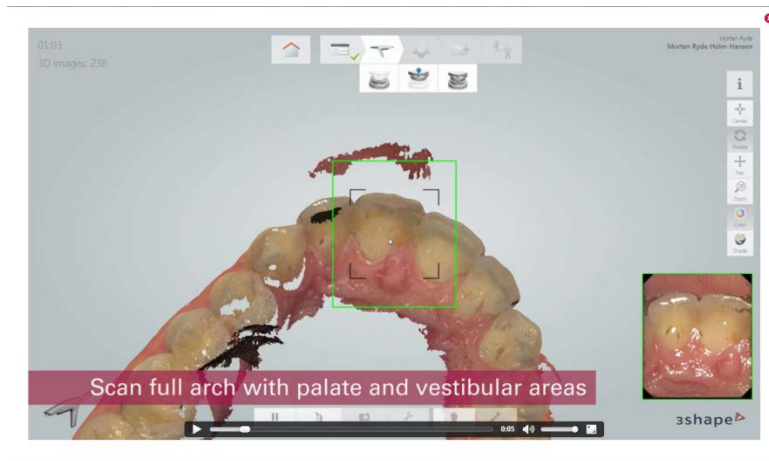
representative of a first two-dimensional cross-sectional image of at least a first teeth portion; a second input utility for receipt of second data representative of a second, three-dimensional virtual image of teeth model of at least a second teeth portion; a module for defining basic landmarks in both images and for generating data representative thereof; and a processor associated with said first and said second input utility and with said module, for receiving said first and said second data and for mapping elements in one of the two images to the other of the two images according to the data representative of said basic landmarks.

92. 3Shape's TRIOS, TRIOS 3, and/or the related Dental System software products, infringe at least claim 14 of the '175 patent. For example, 3Shape's TRIOS and TRIOS 3, used with the related Dental System software products, have a first input utility for receipt of first data representative of a first two-dimensional cross-sectional image of at least a first teeth portion; a second input utility for receipt of second data representative of a second, three-dimensional virtual image of teeth model of at least a second teeth portion; a module for defining basic landmarks in both images and for generating data representative thereof; and a processor associated with said first and said second input utility and with said module, for receiving said first and said second data and for mapping elements in one of the two images to the other of the two images according to the data representative of said basic landmarks, as shown, for example, in the marketing materials and videos below.



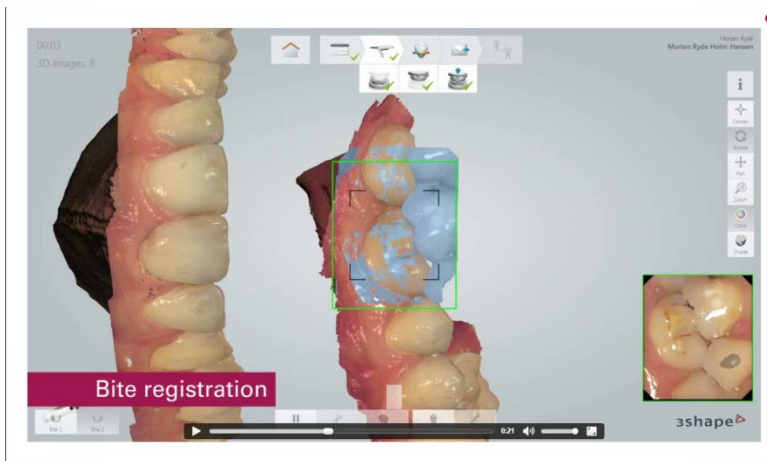
(See, e.g., 3Shape marketing material (3Shape website, available at:

<https://www.3shape.com/en/software/ortho-system#myModal>.)



(See e.g., 3Shape marketing video (3Shape website, available at:

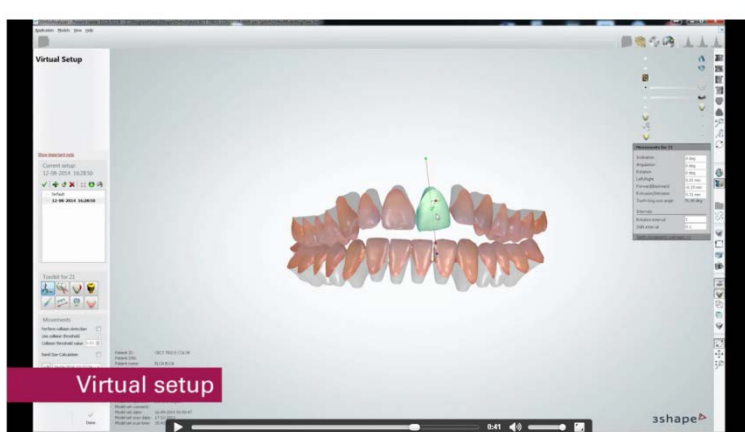
<https://www.3shape.com/en/software/ortho-system#myModal>.)



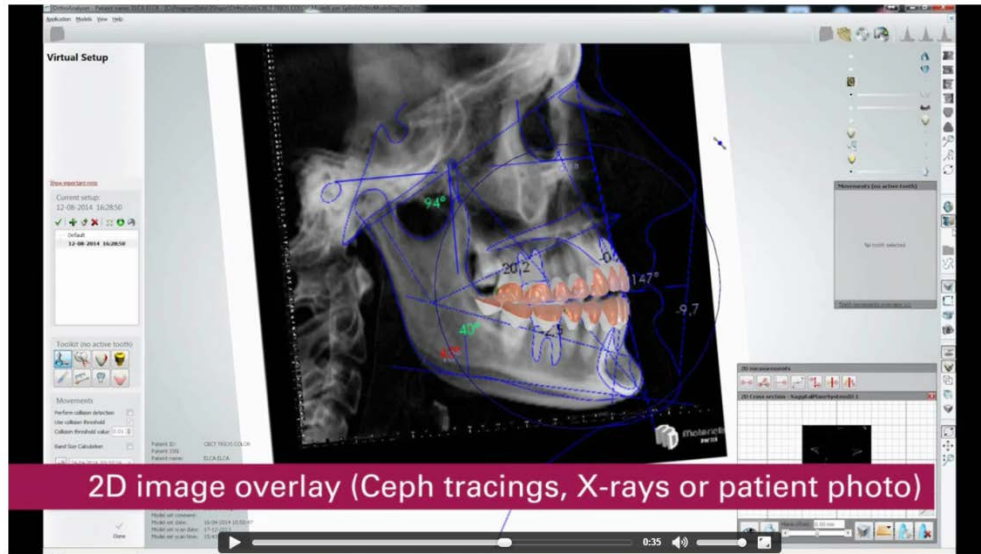
(Id.)



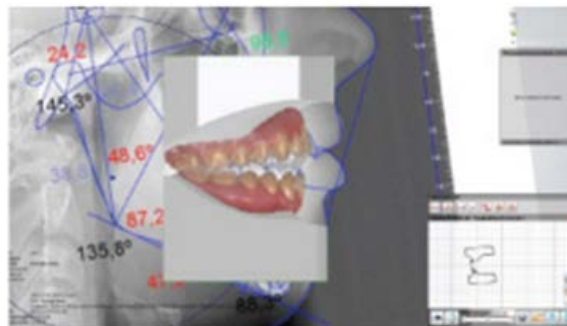
(Id.)



(Id.)



(Id.)




Combine 2D Images with 3D models

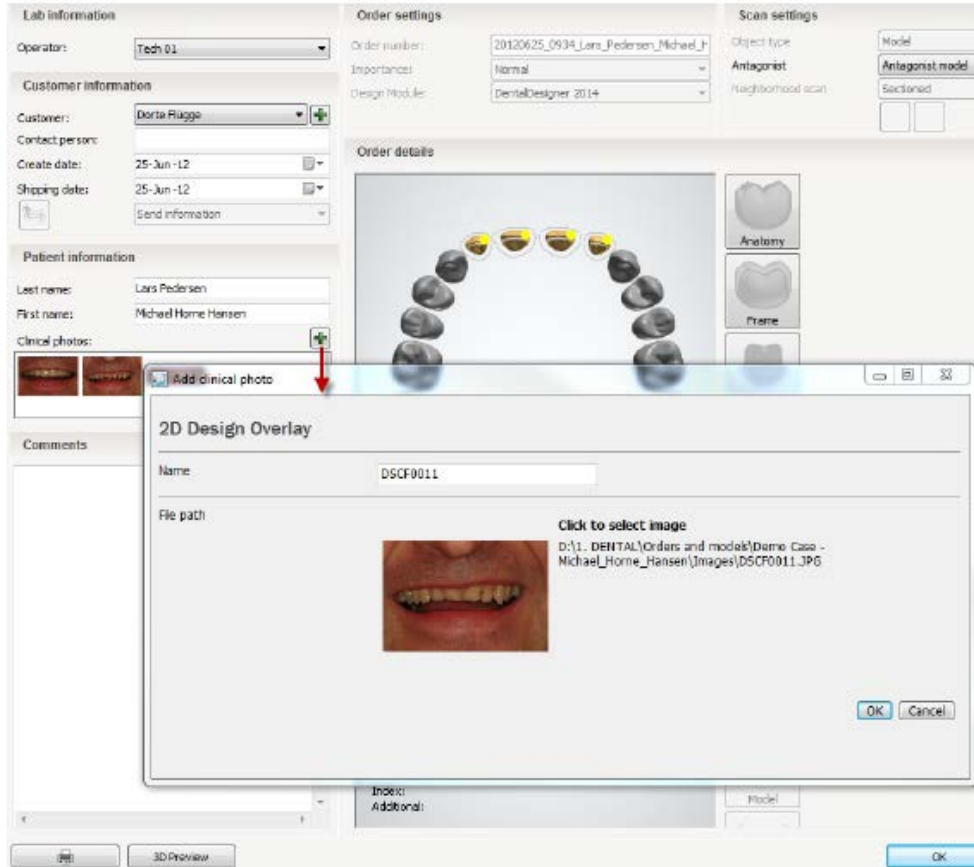
Patient photographs, X-Ray panoramics,
ceph tracing.

(See, e.g., 3Shape marketing material (3Shape website, available at:

<https://www.3shape.com/en/software/ortho-system#myModal>.)

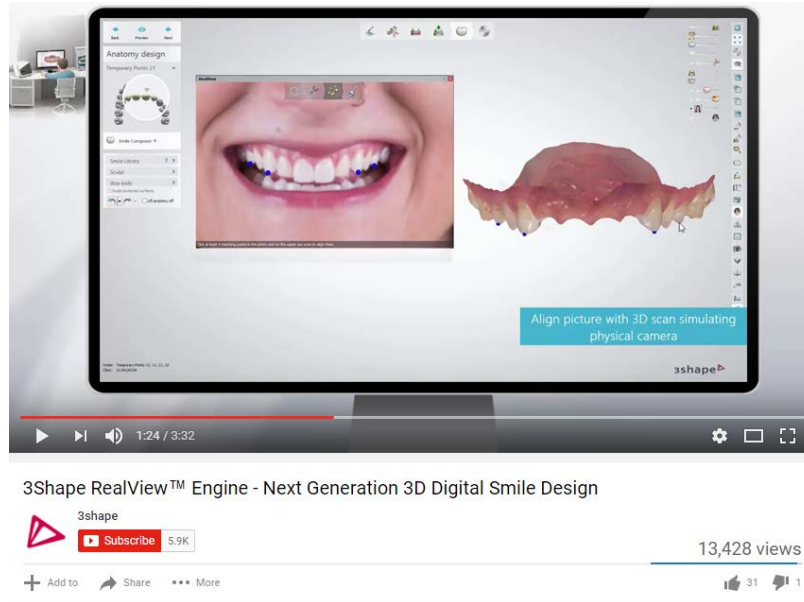
• **Patient Information**

1. Type in the patient's first and last names in the corresponding fields.
2. Click the **Add clinical photo**  button to attach the 2D images of the patient's smile. Thus, you will be able to use these images during modelling (see chapter RealView Engine™ for details).
3. Name your 2D image (otherwise the original image name will be applied after the upload).
4. Browse for your image and click **Open**.



5. Click **OK** to add the 2D image to **Clinical photos**.
6. Double-click the image to view/edit it or right-click the image to delete it.

(See, e.g., 3Shape Dental System 2014 User Manual at Chapter 2.2, available at <https://3shape.widen.net/view/pdf/owrhsyt18z/Dental-System-User-Manual-2.9.9.4-B-EN.pdf?t.download=true&u=6xmdhr.>)



(See, e.g., 3Shape marketing video (3Shape YouTube channel, available at:

<https://www.youtube.com/watch?v=kePJSttidLU.>)



(Id.)



(Id.)

93. 3Shape possesses knowledge of and is aware of the '175 patent by virtue of, at a minimum, filing this Complaint and, on information and belief, had prior knowledge of the '175 patent by virtue of the prior business dealings between 3Shape and Align and other facts described above.

94. 3Shape also has been and is now actively inducing infringement of one or more claims of the '175 patent, either literally or under the doctrine of equivalents.

95. On information and belief, 3Shape A/S alone and/or acting in concert with, directing and/or authorizing 3Shape US to make, use, sell or offer for sale in the United States or import into the United States the TRIOS, TRIOS 3, and/or the related Dental System software products, possesses an affirmative intent to actively induce infringement by others. On information and belief, 3Shape A/S induces 3Shape US to infringe.

96. On information and belief, 3Shape US alone and/or acting in concert with, directing and/or authorizing 3Shape A/S to make, use, sell or offer for sale in the United States

or import into the United States the TRIOS, TRIOS 3, and/or the related Dental System software products, possesses an affirmative intent to actively induce infringement by others.

97. 3Shape has intended, and continues to intend to induce infringement of the '175 patent by others and has knowledge, with specific intent, that the inducing acts would cause infringement or has been willfully blind to the possibility that its inducing acts would cause the infringing acts. For example, 3Shape is aware that the features claimed in the '175 patent are features in the TRIOS, TRIOS 3, and/or the related Dental System software products and are features used by others that purchase TRIOS, TRIOS 3, and/or the related Dental System software products and, therefore, that purchasers and end users will infringe the '175 patent by using the TRIOS, TRIOS 3, and/or the related Dental System software products. 3Shape actively induces infringement of the '175 patent with knowledge and the specific intent to encourage that infringement by, *inter alia*, disseminating the TRIOS, TRIOS 3, and/or the related Dental System software products and providing promotional materials, marketing materials, training materials, instructions, product manuals, user guides, and technical information (including but not limited to the marketing materials and videos described in this Count of the Complaint) to others including, but not limited to, resellers, distributors, customers, dentists, orthodontists, dental and orthodontic labs, and/or other end users of the TRIOS, TRIOS 3, and/or the related Dental System software products. Those third parties directly infringe the '175 patent by making, using, selling, offering for sale, and/or importing the TRIOS, TRIOS 3, and/or the related Dental System software products.

98. 3Shape also has been and is now contributing to the infringement of one or more claims of the '175 patent, either literally or under the doctrine of equivalents.

99. 3Shape has actively, knowingly, and intentionally contributed and continues to actively, knowingly, and intentionally contribute to the infringement of the '175 patent by having sold or offered to sell and continuing to sell or offer for sale the TRIOS, TRIOS 3, and/or the related Dental System software products within in the United States and/or by importing the TRIOS, TRIOS 3, and/or the related Dental System software products into the United States, with knowledge that the infringing technology in the TRIOS, TRIOS 3, and/or the related Dental System software products is especially made and/or especially adapted for use in infringement of the '175 patent. 3Shape has contributed to the infringement by others with knowledge that the infringing technology in the TRIOS, TRIOS 3, and/or the related Dental System software products is a material part of the patented invention, and with knowledge that the infringing technology in the TRIOS, TRIOS 3, and/or the related Dental System software products is not a staple article of commerce suitable for substantial non-infringing use, and with knowledge that others including, but not limited to, resellers, distributors, customers, dentists, orthodontists, dental and orthodontic labs, and/or other end users of the TRIOS, TRIOS 3, and/or the related Dental System software products, infringe and will continue to infringe the '175 patent because, due to their specific designs, the accused products and components thereof do not have any substantial non-infringing uses. 3Shape has such knowledge at least because the claimed features of the '175 patent are used by others including, but not limited to, resellers, distributors, customers, dentists, orthodontists, dental and orthodontic labs, and/or other end users of the TRIOS, TRIOS 3, and/or the related Dental System software products.

100. On information and belief, 3Shape knew or should have known of the '175 patent and has acted, and continues to act, in an egregious and wanton manner by infringing '175 patent. On information and belief, 3Shape's infringement of the '175 patent has been and

continues to be willful and deliberate. The market for intraoral scanners and related dental and orthodontic software products is small and contains a limited number of competitors, with Align being a known pioneer with whom 3Shape has great familiarity. The companies have worked together in the past and 3Shape has had ample access to Align's technology. Upon information and belief, 3Shape knowingly developed and sold its competitive knockoff products in an infringing manner that was known to 3Shape or was so obvious that 3Shape should have known about this infringement.

101. On information and belief, despite knowing that its actions constituted infringement of the '175 patent and/or despite knowing that that there was a high likelihood that its actions constituted infringement of the patent, 3Shape nevertheless continued its infringing actions, and continues to make, use and sell its infringing products.

102. 3Shape's acts of infringement have injured and damaged Align.

103. 3Shape's wrongful conduct has caused Align to suffer irreparable harm resulting from the loss of its lawful patent rights to exclude others from making, using, selling, offering to sell and importing the patented inventions. Upon information and belief, 3Shape will continue these infringing acts unless enjoined by this Court.

PRAYER FOR RELIEF

WHEREFORE, Align respectfully requests that this Court:

- a. enter a judgment that Align is the owner of all right, title, and interest in and to the patents-in-suit, together with all the rights of recovery under such patents for past and future infringement thereof;
- b. enter a judgment that 3Shape has infringed each of the patents-in-suit;
- c. enter a judgment that the patents-in-suit are valid and enforceable;

d. permanently enjoin 3Shape, their parents, subsidiaries, affiliates, agents, servants, employees, attorneys, representatives, successors and assigns, and all others in active concert or participation with them from infringing the non-expired patents-in-suit;

e. order an award of damages to Align in an amount adequate to compensate Align for 3Shape's infringement, said damages to be no less than a reasonable royalty;

f. enter a judgment that the infringement was willful and treble damages pursuant to 35 U.S.C. § 284;

g. order an accounting to determine the damages to be awarded to Align as a result of 3Shape's infringement, including an accounting for infringing sales not presented at trial and award additional damages for any such infringing sales;

h. assess pre-judgment and post judgment interest and costs against 3Shape, together with an award of such interest and costs, in accordance with 35 U.S.C. § 284;

i. render a finding that this case is "exceptional" and award to Align its costs, expenses and reasonable attorneys' fees, as provided by 35 U.S.C. § 285; and

j. grant such other and further relief as the Court may deem proper and just.

DEMAND FOR A JURY TRIAL

Align hereby respectfully requests a trial by jury of all issues so triable, pursuant to FED.

R. Civ. P. 38.

OF COUNSEL:

Blair M. Jacobs
Christina A. Ondrick
Elizabeth Bernard
Allan M. Soobert
PAUL HASTINGS LLP
2050 M St. NW
Washington, DC 20036
(202) 551-1700

Thomas A. Counts
Grant Margeson
PAUL HASTINGS LLP
101 California Street
Forty-Eighth Floor
San Francisco, CA 94111
(415) 856-7077

Rebecca Weinstein Bacon
Reid M. Bolton
Mark L. Levine
Anastasiya Maione
Steven E. Derringer
William D. Gohl
Michael J. Valaik
BARTLIT BECK LLP
54 West Hubbard Street, Suite 300
Chicago, IL 60654
(312) 494-4400

Daniel C. Taylor
John M. Hughes
Joseph C. Smith, Jr.
Katherine L.I. Hacker
Sundeep K. (Rob) Addy
BARTLIT BECK LLP
1801 Wewatta Street, Suite 1200
Denver, CO 80202
(303) 592-3100

Dated: August 7, 2020

/s/ Jeff Castellano

John W. Shaw (No. 3362)
Karen E. Keller (No. 4489)
Jeff Castellano (No. 4837)
SHAW KELLER LLP
I.M. Pei Building
1105 North Market Street, 12th Floor
Wilmington, DE 19801
(302) 298-0700
jshaw@shawkeller.com
kkeller@shawkeller.com
jcastellano@shawkeller.com
Attorneys for Plaintiff