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Attorneys for Plaintiff INTREPID AUTOMATION, INC.

UNITED STATES DISTRICT COURT

SOUTHERN DISTRICT OF CALIFORNIA

INTREPID AUTOMATION, INC., a Delaware Corporation; Plaintiff, v. 3D SYSTEMS CORPORATION, a Delaware Corporation; and 3D SYSTEMS, INC., a California Corporation. Defendants.	**'24CV2262 BEN AHG** **COMPLAINT FOR PATENT INFRINGEMENT** **DEMAND FOR JURY TRIAL**

COMPLAINT

Plaintiff Intrepid Automation, Inc. ("Intrepid") brings this action for patent infringement against Defendants 3D Systems Corporation and 3D Systems, Inc. (collectively, "3DS" or "3D Systems") and alleges as follows:

INTRODUCTION

1. This is an exceptional case of willful patent infringement by 3DS. In the latest chapter of 3DS's brazen, anticompetitive scheme to drive a smaller competitor with more advanced technology out of the marketplace, 3DS announced the impending commercial release of the PSLA 270, a blatant knock off of Intrepid's DLP multiprojection 3D printer sold as "Range" and known internally as "Valkyrie." 3DS's launch of the PSLA 270 is the culmination of a 3.5-year strategy to impede Intrepid's market entry and claim Intrepid's ground-breaking technology as 3DS's own.

2. When 3DS learned of Intrepid's highly-confidential, in-development DLP multiprojection technology from a 3DS employee who, under the guise of seeking employment at Intrepid, breached his confidentiality agreement with Intrepid, 3DS (i) internally discussed the disruptive impact Intrepid's technology would have to 3DS and its relationship with a large aerospace customer; (ii) studied Intrepid's issued patents; (iii) filed a baseless trade secret misappropriation lawsuit against Intrepid (and its founders) designed to weaponize litigation with the stated intent of burying Intrepid in legal fees and starving it of funding; (iv) gained further access to Intrepid's not-yet-commercially available systems through discovery in the trade secret case; and (v) obscured the development of the PSLA 270 from Intrepid during discovery in the trade secret case.

3. On November 7, 2024, 3DS announced the PSLA 270 as the first product in a "family" of multiprojection DLP printers that 3DS asserts will redefine the marketplace. But the PSLA 270 employs Intrepid's multiprojection technology and is the product of 3DS's willful infringement of Intrepid's patents.

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4. Upon information and belief, 3DS has also developed and is testing at least two additional infringing additive manufacturing systems, a version of the PSLA 270 with at least four projectors and a multiprojector Bioprinter.

5. Through this action, Intrepid seeks, among other relief, to preliminarily and permanently enjoin 3DS from making, using, offering to sell, or selling within the United States products, including but not limited to the PSLA 270, that practice the inventions of Intrepid's patents, as detailed below.

NATURE OF THE ACTION

6. This is a civil action arising under 35 U.S.C. § 271 for 3DS's infringement of Intrepid's United States Patent Nos. 11,014,301 and 11,338,511.

7. As set forth in the Local Rule 40.1(f) Notice, to be filed contemporaneously with the filing of this Complaint, this action is related to a case pending in this District between 3DS and Intrepid Automation and its founders, captioned *3D Systems, Inc. v. Wynne et al.*, 3:21-cv-01141-AGS-DDL (hereafter, the "Trade Secrets Case"). The Trade Secrets Case involves allegations by 3DS that Intrepid Automation and its founders misappropriated alleged trade secrets (including with respect to the technology at issue in the present Complaint) and counterclaims by Intrepid Automation against 3DS and one of its employees, specifically related to the technology at issue in the present Complaint.

THE PARTIES

8. Plaintiff Intrepid Automation, Inc. is a Delaware corporation with a principal place of business at 7867 Dunbrook Road A, San Diego, CA 82126.

9. Defendant 3D Systems Corporation is a Delaware corporation with one or more physical places of business within this District, including at 16550 W Bernardo Drive, Building 5, Suite 500, San Diego, California, 92127, from which it regularly conducts business related to this action.

10. Upon information and belief, 3D Systems Corporation employees work full-time from this facility.

11. Defendant 3D Systems, Inc. is a California corporation with one or more physical places of business within this District, including at 16550 W. Bernardo Drive, Building 5, Suite 500, San Diego, California, 92127, from which it regularly conducts business related to this action.

12. Upon information and belief, 3D Systems, Inc. employees work full-time from this facility.

13. Upon information and belief, 3D Systems Corporation regularly executes employment contracts with employees that work at facilities in San Diego, including the W. Bernardo Drive campus. For example, when 3DS hired Ben Wynne, Christoper Tanner, Robert Mueller, Jamie Etcheson, and Ivan Chousal (former 3DS employees and Intrepid's founders) to work in San Diego, 3D Systems Corporation was signatory to the employment agreements with each of these California employees.

14. 3D Systems Corporation directs, controls or is otherwise responsible for the operations and activities of Defendant 3D Systems, Inc.

JURISDICTION AND VENUE

15. This is a civil action arising under 35 U.S.C. § 271.

16. This Court has subject matter jurisdiction over the matters pleaded herein under 28 U.S.C. §§ 1331 and 1338(a).

17. This Court has general and specific personal jurisdiction over Defendants because they conduct substantial business in the forum, directly and/or through intermediaries, including: (i) at least a portion of the infringing activity alleged herein; and (ii) regularly doing or soliciting business, engaging in other persistent courses of conduct and/or deriving substantial revenue from goods and services provided to persons in this Judicial District, and (iii) having a regular and established place of business in this State and this Judicial District.

18. Intrepid's cause of action arises, in part, from Defendants' presence in, contacts with, and activities in this Judicial District and the State of California. Upon

information and belief, Defendants regularly conduct and solicit business in, engage in other persistent course of conduct in, and/or derive substantial revenue from goods and services provided to residents of this Judicial District and the State of California.

19. Venue is proper for all Defendants in this Judicial District under 28 U.S.C. §§ 1391(b), (c), and 1400(b). Defendants maintain and operate a regular and established place of business in this Judicial District at 16550 W. Bernardo Drive, Building 5, Suite 500, San Diego, California, 92127. Below is a photo of the front of 3DS's W. Bernardo Drive facility in San Diego, which the undersigned counsel visited for a forensic inspection during the Trade Secrets Case.

THE ASSERTED PATENTS AND RELEVANT TECHNOLOGY

20. On May 25, 2021, United States Patent No. 11,014,301 entitled Multiple Image Projection System for Additive Manufacturing (the "'301 Patent") was duly issued to Intrepid Automation after full and fair examination. Plaintiff is the lawful owner of all right, title, and interest in and to the '301 Patent, including the right to recover for infringement thereof. A copy of the '301 Patent is attached as Exhibit 1.

21. On May 24, 2022, United States Patent No. 11,338,511 entitled Multiple Image Projection Method for Additive Manufacturing (the "'511 Patent") was duly issued to Intrepid Automation after full and fair examination. Plaintiff is the lawful owner of all right, title, and interest in and to the '511 Patent, including the right to recover for infringement thereof. A copy of the '511 Patent is attached as Exhibit 2.

22. The '301 Patent and '511 Patent (collectively referred to herein as the "Asserted Patents") claim inventions related to additive manufacturing systems, and

associated methods, comprising an image system including a plurality of image projectors that project a composite image onto a build area within a resin pool.

23. The technology of the Asserted Patents differs from traditional stereolithography, frequently abbreviated as "SLA." Stereolithography refers to methods, apparatuses, and systems for making solid objects by successively "printing" thin layers of a curable material, e.g., a UV curable material, one on top of another.

24. Traditional SLA devices employ a laser to successively expose thin layers of photocurable resin to UV light to harden or "cure" the resin one layer at a time. Because the laser exposes a small amount of resin to UV light at a time, the devices maneuver the laser spot so it traces the outline of the desired layer onto the result. Then the laser spot must also be wiggled back and forth over the full area inside the perimeter part, "crayoning in" the interior. The steps above will cause a thin, cured hard layer of a part to be created. When the first layer is completed, the SLA system needs to move on to subsequent layers, which are ultimately fused together to make a three-dimensional part.

25. The SLA of the Asserted Patents differs from traditional SLA in several respects. In place of using a laser to emit the UV light used to cure the photoreactive resin, the systems and methods of the Asserted Patents utilize image projectors to project UV light. In certain embodiments, the image projectors employ Digital Light Processing or "DLP." In so-called "projective SLA" 3D printers and print systems, the projectors can emit UV light as an image, which enables the resin to be cured one layer at a time.

26. For this reason, projective SLA 3D printers and printer systems can have a significant speed advantage over conventional, laser-based SLA 3D printers and printer systems, particularly when printing complex or intricate parts. Laser-based systems expose a very small amount of resin at a time; the system must outline and

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"fill in" the entirety of the layer. The larger and more intricate the design, the longer it takes a laser-based system to compete the layer.

27. In contrast, DLP projective SLA systems expose the entire layer at a single time. Regardless of how intricate the part design, each layer will take roughly the same amount of time.

28. The Asserted Patents describe and claim advances in projective SLA, including the coordinated use of multiple image projectors, to enable the use of projective SLA to print large parts. One of the problems faced by prior art projective SLA systems and methods was that as the size of the image projected by a single projector increases, the pixel size increases proportionally. If used for projective SLA, the increased pixel size decreases the resolution of the final part, negatively affecting part accuracy and surface finish. Ex. 1, '301 Patent at 1:18-34.

29. Increasing the size of the image projected by a single projector also has the negative affect of reducing the projected energy density, which, if used in projective SLA, further slows the print process as each layer would require a longer exposure time. Therefore, as prior art projective SLA systems were used for larger layer sizes, the speed advantage that full layer exposing achieves over conventional methods is reduced. Ex. 1, '301 Patent at 1:18-34.

30. More practically, as of the priority date of the Asserted Patents, all then-existing, commercial projective SLA printer systems employed a small build area to prevent the problems caused by the enlargement of projected images. As of 2018, the use of projective SLA technology in connection with large format (i.e., large build area) 3D printing was not commercially viable.

31. The Asserted Patents describe and claim inventions that enable the use of projective SLA technology with large-format printers and printer systems. The Asserted Patents claim the use of multiple image projectors, each of which projects a sub-image, which sub-images are arranged in an array to form a single composite image. The properties of each sub-image and/or the composite image are adjusted by

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a display subsystem that employs a set of digital filters, comprising (i) an irradiance mask that normalizes irradiance, (ii) a gamma adjustment mask that adjusts sub-image energy based on the reactivity of the resin and/or maps pixel intensity values to the addressable range of reactivity values of the resin, (iii) a warp correction filter that provides geometric correction; and (iv) one or more blending bars to adjust pixel intensity at areas in which sub-images overlap.

32. Because the systems and methods of the Asserted Patents utilize multiple image projectors to project a composite image onto the build area, they enable the use of large illumination areas with high pixel density (i.e., resolution) and high energy density. Such systems and methods are advantageous over conventional systems that increase the build area by magnifying an image from a single projector, which reduces the resolution and the projected energy density in the build area. Ex. 1, '301 Patent at 3:57-67,

33. As the Asserted Patents describe, the use of the particular, claimed sub-system would permit the manufacture or use of an additive manufacturing system that could employ any number of projectors, from two to *n* projectors. *See e.g.*, Ex. 1, '301 Patent at Fig. 8D.

34. Intrepid Automation has designed, offered for sale, and sells its own DLP multiprojection projective SLA 3D print system, internally called "Valkyrie" and sold commercially as "Range." Range is depicted in the image below.

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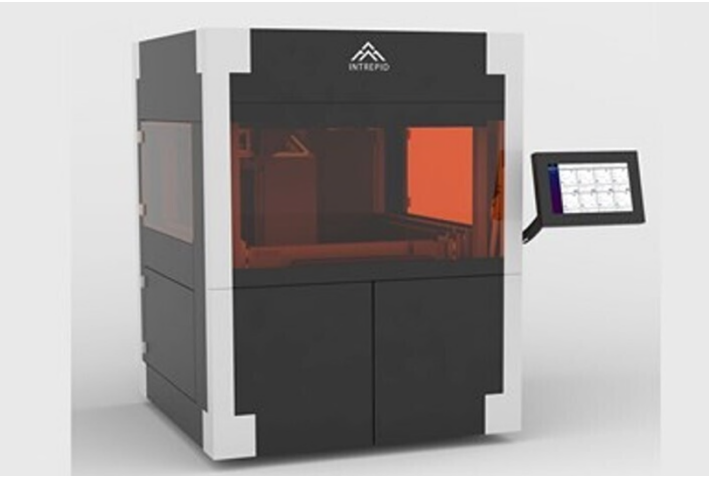
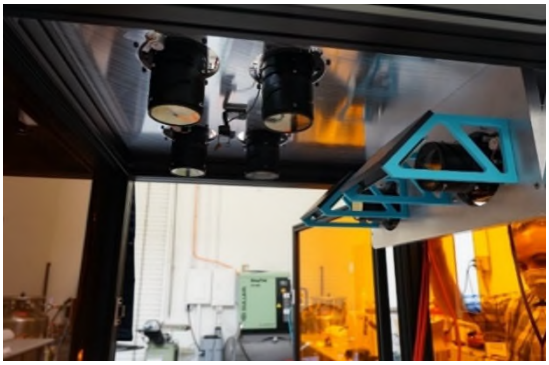


35. Range employs six high resolution DLP projectors, each of which projects a sub-image onto a build area on a resin pool. Four of Range's projectors project downward directly onto the build area; two of Range's projectors project horizontally onto bounce mirrors which redirect the light downward to the build area. The configuration of the projectors on Range is shown in the image below, which, although taken of a test bed as opposed to the final production version (in which it is difficult to see the precise configuration), accurately represents Range's projector configuration.



36. The six sub-images projected on the build area are arranged in an array and overlap at certain areas, creating a single composite image of uniform light intensity. Range creates the uniform composite image through the use of a display

subsystem, which employs a set of digital filters to adjust the properties of the projected sub-images as well as the composite image as a whole.

37. The Range display sub-system uses one or more digital filters that masks irradiance, normalizing pixel intensity within each sub-image and across the entire composite image.

38. The Range display sub-system uses one or more digital filters that perform gamma adjustment, adjusting energy based on the reactivity of the resin by mapping pixel intensity values to the addressable range of reactivity values of the resin.

39. The Range display sub-system uses one or more digital filters that perform warp correction, providing geometric correction to each of the sub-images.

40. The Range display sub-system uses one or more digital filters that employ blending bars, adjusting pixel intensity in areas of the sub-images that overlap with other sub-images, to ensure unform pixel intensity across the composite image, even in areas of overlap.

41. By employing the inventions claimed in the Asserted Patents, Range is able to quickly and accurately produce large parts, as well as a large volume of small parts. For both applications, Range projects a single, composite image upon its 760 x 660 mm (approximately 30 inches by 26 inches) build area to cure one layer at a time.

42. In the image on the left immediately below, the Range's six projectors have projected sub-images that are arranged in an array to form a single composite image depicting the Intrepid logo. In the image on the right, the Range's six projectors have projected sub-images that are arranged in an array to form a single

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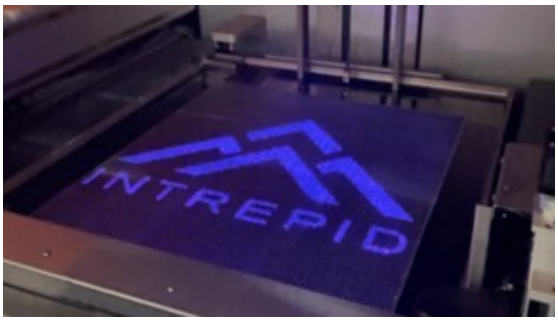
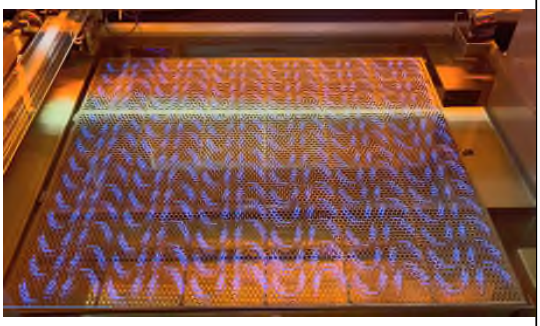
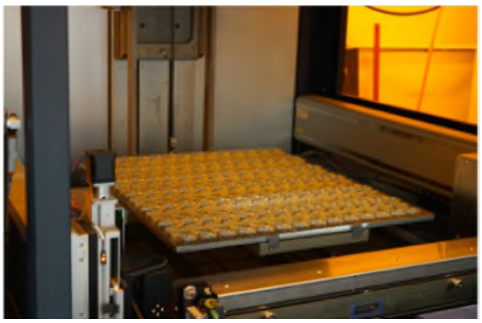
composite image depicting 169 small parts, namely dental aligners. In each case, the composite image is being projected onto a build platform within a vat of resin.





43. As the Range completes a print cycle, it sequentially exposes images layer-by-layer until the print process is complete.

44. The image at the left immediately below shows a completed print job in which the Range has printed Intrepid's logo. The image on the right shows a completed print job in which the Range has printed 169 dental aligners.



45. Because the duration of the exposure of each layer is roughly the same regardless of the size or intricacy of the layer being printed, Range is exceedingly fast. The 169 dental aligners depicted in the image on the above right were printed during a forensic inspection conducted by 3DS and its lawyers of Intrepid's Range system in the Trade Secrets Case. The entire print process took just over 25 minutes.

46. In contrast, the engine propeller depicted below is much "taller," requiring the printing of many more layers and consequently, more time.

47. Upon information and belief, Range is currently the only commercially available DLP multiprojection 3D print system on the market.

3DS's Announced Launch of its Infringing PSLA 270

48. About a year ago, at the Formnext conference in Germany, 3DS teased the PSLA 270, including unveiling a machine or mock-up at the conference. Ex. 3, Nov. 2023 Press Release.

49. Intrepid's former Vice President of Research and Development attended the 2023 Formnext conference and observed the display related to the PSLA 270, which was a non-functional mock-up at the time. However, from what was observed, 3DS appeared to be promoting a two-projector, vat-based DLP multiprojection system with a medium-sized build area.

50. Below is an image of the PSLA 270 advertising display as it appeared at the Formnext 2023 conference.

51. Upon information and belief, the PSLA 270 displayed at Formnext 2023 was non-functional.

52. Upon information and belief, 3DS was still developing the functionality of the PSLA 270 between the Formnext 2023 conference and September 2024.

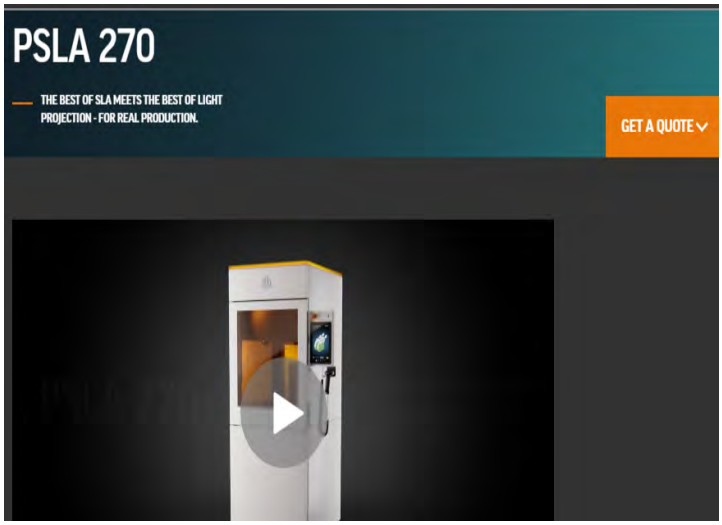
53. On information and belief, 3DS began publicly promoting the PSLA 270 in earnest in early November 2024.

54. On November 7, 2024, 3D Systems Corporation issued a press release "announc[ing] several new products it will showcase at Formnext 2024." Ex. 4. An excerpt of the November 7, 2024 press release is provided below.

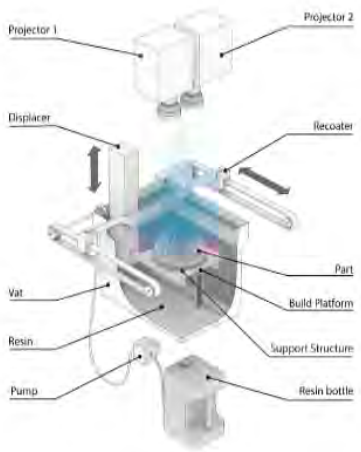
> **PSLA 270: The Speed of Light-projection, the Quality and Reliability OF SLA**
> The PSLA 270 is a high speed, projector-based SLA additive manufacturing solution that efficiently delivers mid-size, high quality parts with the most stable mechanical properties. This compact, cost-efficient, versatile mid-frame 3D printing solution provides unrivalled accuracy, and the first article success expected from SLA, with the incredible speed, and material portfolio of Figure 4 projector-based technology.

55. Among the products to be showcased, 3DS stated that it "is *introducing* next generation products in its Stereolithography (SLA) and Figure 4® portfolios – PSLA 270 full solution including the Wash 400 / Wash 400F and Cure 400…" Ex. 4 (emphasis added).

56. The November 7, 2024 press release included a hyperlink to the web page at https://www.3dsystems.com/3d-printers/PSLA 270/, a 3DS product webpage specific to the promotion of the PSLA 270. On or around November 7, 2024, 3DS's website included a webpage dedicated to the PLSA-270. Ex. 5. The 3DS product webpage for the PSLA 270 included a web button that allowed users to "Get a Quote." *See* Ex. 5.



57. The 3DS product webpage for the PSLA 270 includes a diagram of the PSLA 270 architecture, including two projectors projecting two side-by-side sub-images downward onto a build platform situated in or above a vat of resin. The text describing the diagram indicates that the PSLA 270 includes "dual high-resolution projectors" which are said to "deliver unmatched pixel efficiency, far surpassing traditional laser systems." *See* Ex. 5.

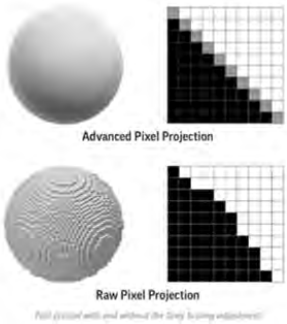


Projection-based SLA System

The PSLA 270 architecture merges the best of both worlds: the pixel productivity of projection-based technology and the buoyant, non-contact precision of SLA. Its dual high-resolution projectors deliver unmatched pixel efficiency, far surpassing traditional laser systems.

58. On information and belief, the image projection system of the PSLA 270 is controlled by a display subsystem, which controls the image projection system as a whole as well as each of the two high-resolution projectors.

59. The 3DS product webpage for the PSLA 270 also includes a diagram labelled "Advanced Pixel Projection" with an adjacent textbox entitled "Part Quality." The "Part Quality" includes text that states "PSLA 270 produces exceptional part quality and accuracy, a direct result of our ***trade secret pixel blending methods*** combined with precision projectors and innovative hardware configuration," as shown in the image below, which was taken from the 3DS product webpage. *See* Ex. 5.



Part Quality

PSLA 270 produces exceptional part quality and accuracy, a direct result of our trade secret pixel blending methods combined with precision projectors and innovative hardware configuration.

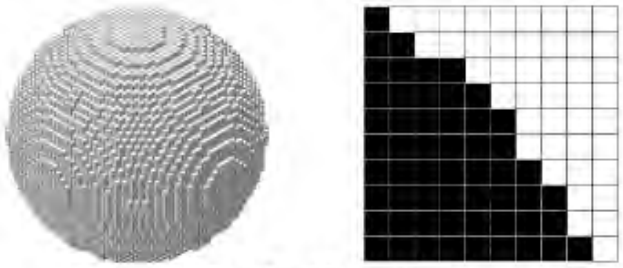
In order to guarantee best-in-class part quality, all our materials, print processes, image processing software, and printer hardware, are developed from +15yrs of 3D Systems' print process experience with pixels, ensuring seamless integration.

3D Systems' image processing software automatically adjusts the pixel edges with gray scaling techniques. This results in high-quality production-grade plastic parts with best-in-class surface quality.

60. Upon information and belief, the term "trade secret pixel blending methods" used on the 3DS product website for the PSLA 270 refers to techniques asserted by 3DS in the Trade Secrets Case as its alleged "edge-blending" trade secret, which was defined by 3DS to include the use of digital filters or masks that achieve warp correction, edge-blending bars, irradiance and gamma adjustment. *See* Ex. 6, at Second Supplemental Resp. to Rog. 3 at 14 (shown and annotated below).

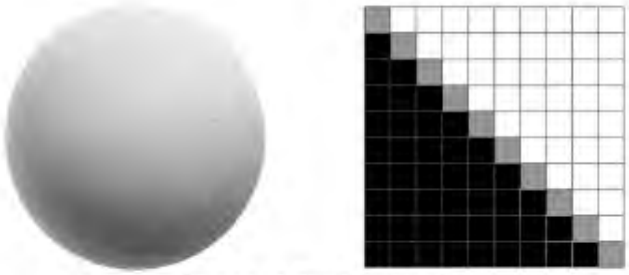
> [redacted] 3DS's edge blending algorithms and methods comprise multiple permutations of proprietary forms of geometric distortion correction or digital filters or masks, that achieve or comprise warp correction, pixel blending, edge blending bars, stitching, irradiance, and gamma adjustment. [redacted]

61. The diagram above in paragraph 59 shows an illustration of "Raw Pixel Projection," which is reproduced below. *See* Ex. 5. The diagram shows two grids of squares which are meant to depict pixels. In the "Raw Pixel Projection" grid, there are only two colors of pixels (white and black aka "monochrome"), which are intended to illustrate a zoomed in view of a contour or edge boundary of a single layer. Due to the square shape of the pixels, a smooth, curved surface appears instead jagged and rough.



Raw Pixel Projection

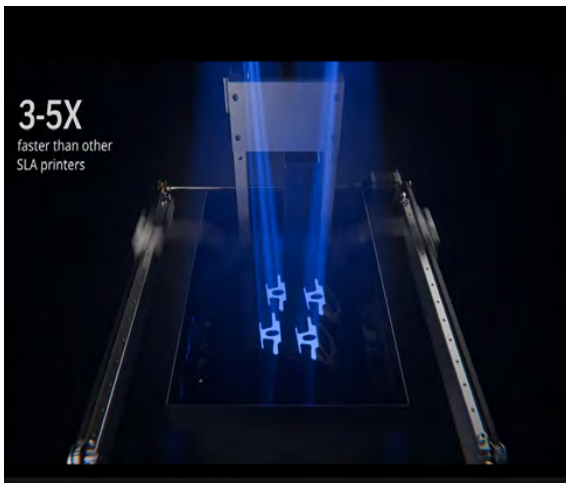
62. In the "Advanced Pixel Projection" chart on the PSLA 270 product website (reproduced below, see Ex. 5), the pixel values have been adjusted. Instead of just black pixels and the white pixels, the graphic introduces gray pixels in order to smooth out the previously jagged layer boundary. Fundamentally, what the "Advanced Pixel Projection" graphic is intended to show is that anti-aliasing techniques are used to minimize the sharp, jagged edges that would be created using solely black and white pixels. Claim 1 of the '301 Patent claims the use of a gamma adjustment filter in order to employ accurate calculations to optimize antialiasing techniques to smooth out jagged edges.



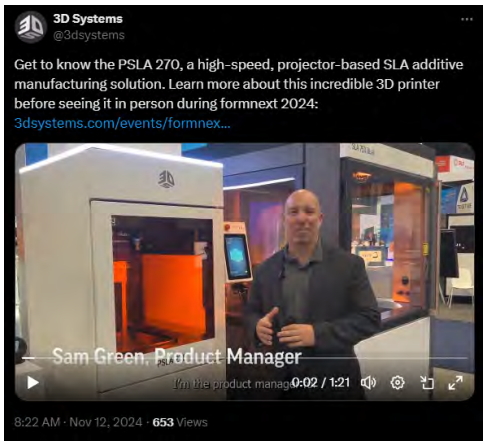
Advanced Pixel Projection

63. The 3DS product webpage for the PSLA 270 includes a video promotion of the PSLA 270, a screenshot of which is pasted below. The video shows an animation of the PSLA 270 that shows sub-images projected by a plurality of projectors upon a build platform situated on or in a vat of resin. The video illustrates the use of the PSLA 270 to print a number of successive layers. The video shows the sub-images overlapping to form a composite image. Upon information and belief, the overlapping portions of the sub-images are blended by the PSLA 270 using a digital

filter to employ an edge-blending bar at the overlapping portion of one or more of the sub-images.



64. On November 12, 2024, 3DS posted to the 3D Systems Corporation website a video entitled "Get to know the PSLA 270, a high-speed, projector-based SLA additive manufacturing solution that efficiently delivers mid-size, high-quality…." Ex. 7. November 12, 2024 @3DSystems tweet. In the video, Sam Green, Product Manager for SLA and Figure 4 3D printing at 3D Systems" "introduces" the PSLA 270, as shown in the images below.



65. On November 7, 2024, 3DS stated in a press release that general availability for the PSLA 270 is anticipated for the first quarter of 2025. Ex. 4.

66. On November 14, 2024, 3DS announced via press release that Sauber Motorsports, a Swiss motorsport engineering company, "intends to add 10 3D Systems 3D printers — eight SLA 750 Dual and two PSLA 270 — to its manufacturing workflow." Ex. 8, Nov. 14, 2024 Press Release.

67. 3DS's PSLA 270 is a smaller, cheaper, inferior knock-off of Intrepid's Range printer system. Moreover, based on the publicly available information regarding the system, the PSLA 270 infringes each limitation of each Asserted Patent.

3DS's Other, In-Development Multiprojection 3D Printers

68. Upon information and belief, PSLA 270 is not the only DLP multiprojection printer system that 3DS has under development and/or in testing. 3DS considers the PSLA 270 to be the first in a product line of DLP multiprojection 3D printers, including large-format printers with more projectors and a larger build area than PSLA 270.

69. As 3DS's Product Manager, Sam Green, discusses in the video above at paragraph 64, the PSLA 270 is not a large-format device, despite using multiprojection technology that would permit 3DS to build a much larger print engine. According to the PSLA 270 product website, its build area is 242 mm x 265 mm (approximately 9.5 in x 10.5 in.). Range's build platform is roughly 2.8 times the size of the build platform on the PSLA 270.

70. Upon information and belief, 3DS has a number of customers, including in the aerospace industry, that demand a large-format printer system with a large build area, as opposed to the mid-size build area offered by the PSLA 270.

71. On November 27, 2024, Jeffrey Graves, CEO of 3D Systems Corporation, described the PSLA 270 to investors as "the first of what will be a family of new projector-over-VAT printing systems…" Ex. 9, Transcript of 11/27/2024 Q3 2024 Earnings Conference Call, available at

https://seekingalpha.com/article/4740729-3d-systems-corporation-ddd-q3-2024-earnings-call-transcript.

72. On information and belief, as part of its "family of new projector-over-vat printing systems," 3DS is currently testing large-format version of the PSLA 270, with four or more projectors.

73. Green, 3DS's Product Manager for SLA and Figure 4 3D Printing, was overheard at the Rapid 2024 conference discussing a multiprojector, large-format DLP printer under development at 3DS.

74. Upon information and belief, the large-format version works the same way as the PSLA 270 but uses four or more image projectors pointing downward to a larger build platform located in or on a vat of resin.

75. As such, upon information and believe, the large-format version of the PSLA 270 infringes the Asserted Patents for the same reason that that PSLA 270 infringes.

76. Further, on information and belief, 3DS is currently testing or using bioprinting solution for regenerative medicine (the "Bioprinter").

77. On information and belief, the Bioprinter under development or in testing is a multiprojection printer system which infringes one or more claims of the Asserted Patents.

78. On April 26, 2022, Matthew Gelber and Jordan Miller, two 3DS employees, filed a patent application on behalf of 3DS entitled "Systems and Methods for Performing Optically Calibrated Large-Area Microstereolithography," U.S. Patent Pub. No. 2022/0339882 (the "Gelber Application"). Ex. 10.

79. The Gelber Application discloses the use of a multiprojection projective SLA printer system for prototyping and small-scale production of plastic components using extremely high-resolution exposures. Upon information and belief, the system being described in the Gelber Application is the Bioprinter.

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80. The Bioprinter, as disclosed in the Gelber Application, is an additive manufacturing system, including (i) an image projection system with multiple projectors which project sub-images arranged in an array with overlapping sub-images to form a composite image and (ii) a display subsystem controlling the image projection system and each of the projectors. *See, e.g.*, Ex. 10, Gelber Application at [002, 031-32, 38] and figs. 5-6.

81. Upon information and belief, the Bioprinter display sub-system uses various digital filters to adjust sub-image properties and alignment, including an irradiance mask, gamma adjustment mask, warp correction filter, and a blending bar at areas of sub-image overlap.

82. Upon information and belief, the Bioprinter operates similarly to the PSLA 270 with respect to the technology claimed in the Asserted Patents. For example, on the November 27, 2024 Earnings Call, 3DS CEO Graves stated that the PSLA 270's technology "is an outgrowth of our work in regenerative medicine," a reference to the Bioprinter. Ex. 9.

83. As such, on information and belief, the Bioprinter infringes at least one claim of each of the Asserted Patents.[1]

84. The PSLA 270, the large format multiprojection 3D printer(s) in the PSLA 270 family, and the 3DS Bioprinter are collectively referred to herein as "the Accused Instrumentalities."

[1] Based on the description of the Bioprinter in the Gelber Application, it appears that the Bioprinter is configured to move the plurality of sub-images to different portions of the build area during an exposure of a layer of an object being manufactured. *See* Ex. 10, Gelber Application at [0061], [0080]. If discovery reveals that the Bioprinter includes this functionality, Intrepid reserves the right to move to amend the Complaint to assert additional patents, including U.S. Patent No. 10,780,640.

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FACTS RELATED TO WILLFUL INFRINGEMENT

85. In August 2017, Ben Wynne, Christopher Tanner, Jamie Etcheson, Ivan Chousal and Robert Mueller, the architects behind 3DS's Figure Four printer system, resigned from 3DS to form their own company, Intrepid, and began developing new, breakthrough technologies in additive manufacturing.

86. 3DS immediately began to monitor patent filings by Intrepid, including obtaining copies of all published Intrepid patent applications and patents as soon as they were publicly available.

87. As confirmed in the Trade Secrets Case, Keith Roberson, 3DS's Chief IP counsel, obtained a copy of Intrepid's U.S. Pat. Pub. No. 2020/0031051 on January 30, 2020, the same day that the application published. This patent application matured as U.S. Pat. No. 10,780,640, the first patent to issue within the family of the Asserted Patents. *See* Trade Secrets Case, Dkt. 563 ¶ 95.

88. Upon information and belief, Roberson obtained and reviewed each of the patent publications that matured as the Asserted Patents within days of their publication.

89. 3DS had knowledge of Range (then called Valkyrie) when it was still in development and not yet announced to the public. In late-January 2021, Evan Kuester, a 3DS employee, visited Intrepid, ostensibly to interview for a position at Intrepid. On January 26, 2021, after signing an NDA, Kuester toured Intrepid's facilities and was shown Intrepid's highly confidential unreleased products, test beds, samples, and technologies.

90. As part of the tour, Kuester viewed a test bed – i.e., a technology demonstration machine – that Intrepid considered a "proof of concept" of a DLP multiprojection print engine with six projectors projecting sub-images that are "stitched together" to form a composite image to be printed. Kuester observed that Intrepid had successfully developed a specific implementation of edge-blending, featuring geometric correction, irradiance mask filters, and gamma adjustment mask

filters referenced in its patents. Moreover, the number of projectors and the structure of the Intrepid test bed made it clear that Intrepid intended to and had the capability to deploy its multiprojection technology in large-format, vat-based printer system that could be scaled to an extremely large size. Finally, Kuester knew that because the multiprojector system being tested employed DLP instead of SLA technology, the new printer would be much faster than anything 3DS had in the marketplace or even under development at that time.

91. In the days following his visit to Intrepid, Kuester continued to request detailed information from Intrepid regarding the specs and throughput of the new large-format DLP multiprojector system in development. Three days after his tour, Kuester asked Intrepid via text message, "Do you have a way to generate a rough build for that large format machine?" He followed this with another message, "Am I allowed to know an approximate mm per hour build speed?"

92. On February 15, 2021, Kuester abruptly changed course and told Intrepid he would be staying at 3DS.

93. When Kuester informed 3DS regarding his intention to resign from 3DS and join Intrepid, 3DS offered Kuester additional consideration to stay, including an increased salary, an enhanced title, and/or potentially lucrative stock options.

94. Kuester disclosed to one or more 3DS employees that he had signed an NDA and, in violation of the NDA, he disclosed, on information and belief, the existence of the DLP multiprojection Test Bed, as well as its general principles of operation.

95. Additionally, Kuester informed one or more 3DS employees that they should take a careful look at Intrepid's patents and published patent applications to learn the details of how Intrepid was able to develop a commercially viable multiprojection 3D print system.

96. On or just prior to February 24, 2021 – just over a week after Kuester informed Intrepid that he intended to stay at 3D Systems, Aaron Wood, 3DS's

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Director of Material Sales, searched for, identified, and shared via email a number of patents that were assigned to Intrepid, including U.S. Pat. No. 10,780,640. Upon review of these patents, Wood ascertained that Kuester's information regarding Intrepid's proof of concept of multiprojector technology in large format printing was, indeed, a dire threat to 3D Systems' business, particularly with respect to an important 3DS aerospace client.

97. Wood requested immediate analysis on how Intrepid's new technology stacked up to existing 3DS equipment used for this client, stating that it is "vitally important" that they get additional knowledge to combat the impending threat that this new technology posed.

98. 3DS's Stacie Hoche, Director of SLA Product Management, responded to Wood's email and indicated that she understood facts about the Intrepid system that were not public, including that Intrepid's products are built to order based on customer requirements such that data regarding speed, size, and other attributes may vary by client and by how the product was built.

99. Patrick Dunne, Kuester's boss at the time, asked what the Intrepid patents had to do with the aerospace customer and suggested that what Intrepid was doing was derivative of 3DS's single-projector DLP printer, Figure Four. Dunne was referred to Craig White, 3DS's Director of Sales, who could bring Dunne up to speed about the implications of Intrepid's technology to the aerospace customer.

100. Hoche disabused Dunne of his incorrect assumption that Intrepid's products were similar to 3DS's Figure Four. Hoche told Dunne that Intrepid's new printer system was a custom built, vat-based DLP multiprojection system with a large print area. Hoche stated that her expectation is that Intrepid's new machine was fast.

101. Hoche understood what Kuester understood during his tour of Intrepid. 3D Systems' printers used old technology whereby a single or multiple lasers trace the outline and the surface of the layer to be printed. In contrast, Intrepid's innovative method used patented modular DLP-based technology to project an entire layer at a

time. Hoche understood from Kuester and Intrepid's patents that the Intrepid's multiprojection, large-format system would be significantly faster than 3D Systems' laser-based, large-format systems.

102. Months later, Kuester acknowledged that, despite all of 3DS's efforts and acquisitions in the market, Intrepid's printer systems far outstripped anything 3DS had. Kuester wrote to Scott Turner nearly a year after 3DS filed the Trade Secrets Case complaining that 3DS "bought TWO FDM companies but don't have the money to invest in just buying Intrepid Automation and getting a machine that would actually make us money."

103. Turner's response to Kuester indicated that 3DS preferred destroying Intrepid to purchasing it. "We have not let up on the fab 5 [the founders of Intrepid]. Let's see what happens as funding gets harder and legal fees grow."

104. In the meantime, using information acquired from Kuester and its review of Intrepid's patents, including the Asserted Patents, 3DS began exploring development of a multiprojector system to eventually compete with or supplant Intrepid, using knowledge of the proof of concept, specific implementation observed by Kuester, the specifications of the Intrepid large format DLP printer system obtained by Kuester, along with Intrepid's patents.

105. On information and belief, 3DS used the Asserted Patents as a roadmap to develop its own multiprojector system, which ultimately became the PSLA 270, the current, in-development large format multiprojection system, and the multiprojection bioprinter.

106. Given that Intrepid had already developed its multiprojection system, 3DS needed to slow down and impede the commercialization of Intrepid's DLP multiprojection system, to give it time to try to bring its own purported solution to market. To slow Intrepid's development, in May 2021, 3DS filed the Trade Secrets Case, a lawsuit against Intrepid and its founders alleging trade secret misappropriation. Among the alleged trade secrets asserted by 3DS in the Trade

Secrets Case was its supposed "edge-blending" trade secret, which not coincidentally, was described with reference to terminology, concepts, and techniques elaborated in the Asserted Patents.

107. 3DS asserted in the Trade Secrets Case that its alleged "edge-blending" trade secret included, among other things, the use of digital filters or masks to achieve irradiance uniformity, warp correction, gamma adjustment, and pixel blending using blending bars.

108. Upon information and belief, 3DS did not draft its description of the alleged edge-blending trade secret in the Trade Secrets case with reference to any technology developed by 3DS. Instead, on information and belief, 3DS drafted its description of the alleged edge-blending trade secret by copying specific terms disclosed in Intrepid's patents in an attempt to claim ownership of Intrepid's patents, including the Asserted Patents.

109. Discovery in the Trade Secrets Case has confirmed that, until its November 2024 announcement, 3DS had never developed a viable multiprojection system, let alone one that employed digital filters or masks to achieve irradiance uniformity, warp correction, or gamma adjustment.

110. 3DS's expert, having reviewed 3DS's source code, confirmed that none of the code used by 3DS's failed attempt at multiprojection technology included any functionality related to warp correction or gamma adjustment. *See* Trade Secret Case at Dkt. 531 at ECF Page 18 (citing expert testimony).

111. Further, 3DS and its counsel failed to produce a single document regarding the PSLA 270 during discovery in the Trade Secrets Case, despite the fact that Intrepid requested documents related to the development and operation of any 3D printer that employed any of the asserted trade secrets, including the alleged edge-blending trade secret.

112. Having obfuscated 3DS's development of the PSLA 270 throughout discovery in the Trade Secret Case, as noted above, 3DS teased the launch of the

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PSLA 270 at Formnext in November 2023, just weeks after fact discovery closed in the Trade Secrets Case.

113. Upon information and belief, the timing of 3DS's teaser of the PSLA 270 just following the close of fact discovery in the Trade Secret Case was not coincidental but was, instead, part of a plan to obsure information relevant in the Trade Secret Case while continuing to develop the PSLA 270.

114. Upon information and belief, 3DS has substantial documentation, including technical information, marketing information, and competitive analyses, regarding the PSLA 270 that were not produced in the Trade Secrets Case that will likely provide direct evidence of 3DS's willful infringement of the Asserted Patents.

COUNT I – INFRINGEMENT OF U.S. PATENT NO. 11,014,301

(Against All Defendants)

115. Plaintiff incorporates by reference Paragraphs 1 to 114 above as if fully set forth herein.

116. The PSLA 270 includes functionality and features that collectively practice each and every limitation of, at minimum, Claim 1 of the '301 Patent.

117. Upon information and belief, each of the Accused Instrumentalities includes functionality and features that collectively practice each and every limitation of, at minimum, Claim 1 of the '301 Patent.

118. 3DS has infringed one or more claims of the '301 Patent under 35 U.S.C. § 271, either literally and/or under the doctrine of equivalents, directly and/or indirectly.

119. 3DS has infringed the '301 Patent by performing, without authority, one or more of the following acts during the relevant time periods: making, using, offering to sell, or selling within the United States products that practice the inventions of the '301 Patent, including but not limited to the Accused Instrumentalities that, on information and belief, 3DS is currently manufacturing, testing, or offering for sale to limited customers.

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120. 3DS had knowledge of U.S. Patent Pub. No. 2020/0031051, the first publication within the family of the ’301 Patent, on January 30, 2020, the same day the application published.

121. On information and belief, 3DS had knowledge of the ’301 Patent as early as its date of publication when it was obtained and reviewed by Keith Roberson.

122. 3DS has contributed to the infringement of the ’301 Patent because 3DS knew the infringing aspects of its infringing products, including but not limited to the Accused Instrumentalities, were made for use in an infringement and were not staple articles of commerce suitable for substantial non-infringing uses.

123. On information and belief, 3DS has induced infringement of the ’301 Patent with knowledge of the ’301 Patent and that its acts, including without limitation, using, offering to sell, and selling within the United States, would aid and abet and induce infringement by customers, clients, partners, developers, and end users of the foregoing.

124. In particular 3DS’s actions that aided and abetted others such as customers, clients, partners, developers, and end users to infringe included advertisements, testing the Accused Instrumentalities, distributing the Accused Instrumentalities or prototypes thereof, providing instructional materials, training and other services regarding the Accused Instrumentalities. On information and belief, 3DS engaged in such actions with specific intent to cause infringement or with willful blindness to the resulting infringement because 3DS had actual knowledge of the ’301 Patent and knowledge that their acts were inducing infringement of the ’301 Patent since at least the date 3DS obtained the ’301 Patent.

125. 3DS’s acts of infringement have caused and, if continued, are likely to continue to cause damage to Intrepid and Intrepid is entitled to recover damages from 3DS in an amount subject to proof at trial.

126. 3DS has acted with disregard of Intrepid’s patent rights, without any reasonable basis for doing so, and has willfully infringed the ’301 Patent.

127. The foregoing is illustrative of 3DS's infringement of the '301 Patent. 3DS reserves the right to identify additional claims and Accused Instrumentalities in accordance with the Federal Rules of Procedure, the Court's local rules, and applicable scheduling Orders.

COUNT II – INFRINGEMENT OF U.S. PATENT NO. 11,338,511

(Against All Defendants)

128. Plaintiff incorporates by reference Paragraphs 1 to 114 above as if fully set forth herein.

129. The PSLA 270 includes functionality and features that, when in operation, collectively practice each and every limitation of, at minimum, Claim 1 of the '511 Patent.

130. Upon information and belief, each of the Accused Instrumentalities includes functionality and features that when in operation, collectively practice each and every limitation of, at minimum, Claim 1 of the '511 Patent.

131. 3DS has infringed one or more claims of the '511 Patent under 35 U.S.C. § 271, either literally and/or under the doctrine of equivalents, directly and/or indirectly.

132. 3DS has infringed the '511 Patent by performing, without authority, one or more of the following acts during the relevant time periods: making, using, offering to sell, or selling within the United States products that practice the inventions of the '511 Patent, including but not limited to the Accused Instrumentalities that, on information and belief, 3DS is currently manufacturing, testing, or offering for sale to limited customers.

133. 3DS had knowledge of U.S. Patent Pub. No. 2020/0031051, the first publication within the family of the '301 Patent, on January 30, 2020, the same day the application published.

134. Upon information and belief, 3DS had knowledge of the '511 Patent as early as its date of publication when it was obtained and reviewed by Keith Roberson.

135. 3DS has contributed to the infringement of the ’511 Patent because 3DS knew the infringing aspects of its infringing products, including but not limited to the Accused Instrumentalities, were made for use in an infringement and were not staple articles of commerce suitable for substantial non-infringing uses.

136. 3DS has induced infringement of the ’511 Patent with knowledge of the ’511 Patent and that its acts, including without limitation, using, offering to sell, and selling within the United States would aid and abet and induce infringement by customers, clients, partners, developers, and end users of the foregoing.

137. In particular, 3DS’s actions that aided and abetted others such as customers, clients, partners, developers, and end users to infringe included advertisements, testing the Accused Instrumentalities, distributing the Accused Instrumentalities or prototypes thereof, providing instructional materials, training, and other services regarding the Accused Instrumentalities. On information and belief, 3DS engaged in such actions with specific intent to cause infringement or with willful blindness to the resulting infringement because 3DS had actual knowledge of the ’511 patent and knowledge that their acts were inducing infringement of the ’301 since at least the date 3DS obtained the ’511 Patent.

138. 3DS’s acts of infringement have caused and, if continued, are likely to continue to cause damage to Intrepid and Intrepid is entitled to recover damages from 3DS in an amount subject to proof at trial.

139. 3DS has acted with disregard of Intrepid’s patent rights, without any reasonable basis for doing so, and has willfully infringed the ’511 Patent.

140. The foregoing is illustrative of 3DS’s infringement of the ’511 Patent. 3DS reserves the right to identify additional claims and Accused Instrumentalities in accordance with the Federal Rules of Procedure, the Court’s local rules, and applicable scheduling Orders.

PRAYER FOR RELIEF

141. WHEREFORE, Intrepid prays for the following relief:

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a. A judgment that U.S. Patent Nos. 11,014,301 and11,338,511 are valid and enforceable.

b. A judgment that 3DS has directly infringed, contributorily infringed, and induced the infringement of U.S. Patent Nos. 11,014,301, and 11,338,511.

c. A judgment that 3DS's infringement of U.S. Patent Nos. 11,014,301 and 11,338,511 has been willful.

d. An award of attorney fees incurred in prosecuting this action, on the basis that this is an exceptional case under 35 U.S.C. § 285;

e. An order preliminarily enjoining 3DS from making, using, offering to sell, or selling within the United States products that practice the inventions of U.S. Patent Nos. 11,014,301 and 11,338,511 during the pendency of this case up until final judgment.

f. An order permanently enjoining 3DS from making, using, offering to sell, or selling within the United States products that practice the inventions of U.S. Patent Nos. 11,014,301 and 11,338,511.

g. In the absence of a preliminary injunction or, to the extent that sales were made prior to issuance of the injunction:

   i. A judgment and order requiring 3DS to pay Intrepid damages under 35 U.S.C. § 284, including supplemental damages for any continuing post-verdict infringement up until entry of final judgment, with an accounting, as needed, and treble damages for willful infringement as provided by 35 U.S.C. § 284.

   ii. A judgment and order requiring 3DS to pay Intrepid pre-judgment and post-judgment interest on the damages awarded.

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h. To the extent that a permanent injunction is not awarded, a judgment and order requiring that 3DS be awarded a compulsory ongoing license fee;

i. A judgment and order requiring 3DS to pay Intrepid the costs of this action, including all disbursements; and

j. Such other relief as the Court may deem just and proper.

Dated: December 4, 2024

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