IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
SHERMAN DIVISION

SELECT RESEARCH, LTD., Plaintiff, v. AMAZON.COM, INC., AMAZON.COM SERVICES, LLC, AMAZON EU S.À.R.L., and BODY LABS LLC Defendants.	)	Civil Action No. 4:23-cv-865 **JURY TRIAL DEMANDED**

COMPLAINT FOR PATENT INFRINGEMENT, MISAPPROPRIATION OF TRADE SECRETS, AND BREACH OF CONTRACT

Plaintiff Select Research, Ltd. ("SRL"), by and through its attorneys, for its Complaint against Amazon.com, Inc., Amazon.com Services, LLC, Amazon EU S.à.r.l., and Body Labs LLC (collectively "Amazon") allege as follows:

I. Parties

1. Plaintiff SRL is a corporation organized and existing under the legal system of England and Wales, with a principal place of business located at Malvern Hills Science Park, Geraldine Road, Malvern, England, UK, WR14 3SZ.

2. Defendant Amazon.com, Inc. is a Delaware corporation with a principal place of business located at 410 Terry Avenue North, Seattle, Washington 98109-5210, which may be

served with process via its registered agent Corporation Service Company, 251 Little Falls Drive, Wilmington, Delaware 19808.

3. Defendant Amazon.com Services, LLC is a Delaware corporation with a principal place of business located at 410 Terry Avenue North, Seattle, Washington 98109-5210. Amazon.com Services LLC is registered to do business in the State of Texas and may be served with process via its registered agent in Texas, Corporation Service Company dba CSC-Lawyers Incorporating Service Company at 211 E. 7th Street, Suite 620, Austin, TX 78701-3218. Amazon.com Services LLC is a wholly owned subsidiary of Amazon.com, Inc.

4. Defendant Amazon EU S.à.r.l. is a Luxembourg-based entity, which is a European Headquarters of Amazon located at Avenue John F. Kennedy 38 1855, Luxembourg, Luxembourg. Amazon EU S.à.r.l. is a wholly owned subsidiary of Amazon.com, Inc.

5. Defendant Body Labs LLC ("Body Labs") is a Delaware limited liability company with a principal place of business located at 37 E 18th St., FL8, New York City, New York 10003-2001.[1] Body Labs may be served with process via its registered agent Corporation Service Company, 251 Little Falls Drive, Wilmington, Delaware 19808.

II. Jurisdiction and Venue

6. Jurisdiction is proper in this Court under 28 U.S.C. §§ 1331 and 1338(a) as this is a claim for infringement of U.S. patents pursuant to 35 U.S.C. §§ 1 et seq., including 35 U.S.C. § 271.

7. This Court has personal jurisdiction over Amazon. Amazon regularly conducts business and has committed acts of patent infringement and/or has induced acts of patent

[1] Body Labs LLC was previously incorporated as Body Labs Inc. but converted to Body Labs LLC in September of 2017.

infringement by others in this District and/or has contributed to patent infringement by others in this District, the State of Texas, and elsewhere in the United States.

8. Venue is proper in this Judicial District pursuant to 28 U.S.C. §§ 1391 and 1400(b) because, among other things, upon information and belief Amazon maintains regular and established physical places of business in Texas and in the Eastern District of Texas, directly or through intermediaries.

9. Upon information and belief, Amazon, by itself and/or through its subsidiaries, operates one or more "Fulfillment Centers" within this Judicial District including, at least, Fulfillment Centers located in Denton County at 15201 Heritage Parkway, Fort Worth, Texas 76177 and 4121 International Parkway, Carrollton, Texas, 75007.

10. Upon information and belief, Amazon has a regular and established place of business in this Judicial District including, at least, a distribution facility located at 1649 W. Frankford Road, Carrollton, Texas 75007.

11. Amazon offered and offers its products and/or services, including those accused of infringement below, to customers and potential customers located in Texas and in this District.

12. Amazon is subject to personal jurisdiction in this District, has a regular and established place of business in this District including Amazon Fulfillment Centers in this District and throughout Texas, has purposely transacted business involving the Accused Products in this District, including sales to one or more customers in Texas, has employees in this District, and certain of the acts complained of herein occurred in this District.

13. Amazon is subject to this Court's jurisdiction pursuant to due process and/or the Texas Long Arm Statute due at least to its substantial business in this State and District, including (a) at least part of its past infringing activities, (b) regularly doing or soliciting business in Texas,

and/or (c) engaging in persistent conduct and/or deriving substantial revenue from goods and services provided to customers in Texas.

III. SRL's Intellectual Property and Amazon's Misappropriation and Infringement

a. SRL's Body Volume Innovations and Inventions

14. SRL has been developing a Body Volume system for healthcare since 2006. Specifically, SRL has been a pioneer in the area of 3-D body imaging involving use of a Body Volume Index ("BVI"™) to calculate an indicator of human health. Since its founding in 1994, SRL has been at the forefront of the research, development, and deployment of such technology, including its "Body Volume Index API," "BVI Pro," and "myBVI" products.

15. SRL's 3-D body imaging technology is highly valuable. SRL has expended significant resources in money and engineering time over more than fifteen years to perfect its BVI technology, which has become the industry leader in the healthcare field. Among other things, SRL developed a new online system in which two digital photographs of a person could be sent to an online server to be processed to create a 3-D scan and predict body volume, body composition, and generate other measurements of a person. The integrated new server system was configured to receive the digital images from a remote data collection device, such as a mobile phone or tablet. As part of its development, a comprehensive and extensive set of 3-D scans that had been compiled by SRL were stored in the online server.

b. SRL's Patents

16. On February 12, 2013, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 8,374,671 (the "'671 Patent") entitled "Health Indicator." A true and correct copy of the '671 Patent is attached hereto as Exhibit A. SRL has been assigned the '671 Patent. The '671 Patent claims priority to provisional application No. US 2009/0099457 filed on April 16, 2009. Richard Barnes is listed as the sole inventor of the '671 Patent.

17. On April 18, 2023, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 11,631,501 (the "'501 Patent") entitled "Body Composition Prediction Tools." A true and correct copy of the '501 Patent is attached hereto as Exhibit B. SRL has been assigned the '501 Patent. The '501 Patent claims priority to provisional application No. US 62/491,764 filed on April 28, 2017. Richard Barnes is listed as the sole inventor of the '501 Patent.

18. SRL is the sole and exclusive owner of all right, title, and interest to and in the '671 and '501 Patents, and holds the exclusive right to take all actions necessary to enforce its rights to the '671 and '501 Patents, including the filing of this patent infringement lawsuit. SRL also has the right to recover all damages for past, present, and future infringement of the '671 and '501 Patents and to seek injunctive relief as appropriate under the law.

19. The technology of the '671 and '501 Patents was developed by SRL. The '671 and '501 Patents generally describe devices and methods for obtaining a measure of whether or not a person has a healthy body mass for their size and/or shape and determining the associated health risk. More specifically, the '671 and '501 Patents are directed to improvements over previous health related metrics that either failed to take account of an individual's body fat percentage and other body composition outputs, or that were generally inaccurate, time consuming, or intrusive. The '671 Patent taught this improvement, for example, in an embodiment where a three-dimensional model of a person is obtained based on a body scan of that person, volumes of different body parts are calculated based on that model, and a health indication is calculated based on those body part volumes along with body composition data. The '501 Patent taught this improvement, for example, in an embodiment where a three-dimensional model of a user is created based on at least two unique photographs of that user, body composition information is retrieved from a database based on the three-dimensional model and demographic information of the user,

and a health indicator value is returned to the user based on the retrieved body composition information.

c. SRL's Trade Secrets

20. Throughout years of development and significant investments in research and development, SRL developed extensive trade secrets related to body volume and body composition prediction.

21. SRL's trade secrets related to the development of the SRL's technology, as relevant to this action, to include at least the following, individually and in combination, (collectively, the "SRL Trade Secrets"):

- proprietary 3-D scan files;
- know-how concerning key elements to accurately calculate and generate a body volume avatar; and
- know-how concerning how to implement an online system whereby two digital photographs of a person could be sent to an online server to be processed to generate a 3-D model of a person, predict body volume, predict body composition, and generate other measurements of a person.

22. SRL developed each category of the SRL Trade Secrets over fifteen years of extensive development and engineering work, involving expensive and time-consuming trial and error testing and evaluation.

23. Each category of the SRL Trade Secrets is commercially valuable to SRL because of its secrecy.

24. SRL has taken extensive steps to protect its trade secret information, including placing confidentiality and non-compete obligations on SRL's employees and contracting parties; entering into confidentiality agreements prior to sharing any confidential information with other third parties; physically securing SRL's operating facilities; and employing password protection and other computer security technologies.

25. None of the SRL Trade Secrets is publicly available. Nor can they, on information and belief, be determined through public means.

d. Communications With Body Labs and Amazon

26. Body Labs is a company that was formed in New York in 2013 that operated in the 3-D body measurement field. By November 2014, Body Labs was unable to calculate body fat percentage.[2] Accordingly, in early 2015, Body Labs sought to enter into discussions with SRL in order to leverage SRL's extensive knowledge and expertise in estimating body fat from images.

27. SRL and Body Labs entered into a non-disclosure agreement on or around February 16, 2015 ("NDA 1"), attached hereto as Exhibit C.

28. NDA 1 required Body Labs to keep confidential SRL information and documents confidential, to not copy, reproduce or use SRL information and documents obtained pursuant to NDA 1 for purposes outside the scope of the agreement, or disclose SRL information and documents obtained pursuant to NDA 1 for the benefit of third parties without SRL's permission and formal agreement.

29. Under the terms of NDA 1, SRL shared the SRL Trade Secrets with Body Labs, including proprietary 3-D scan files owned by SRL.

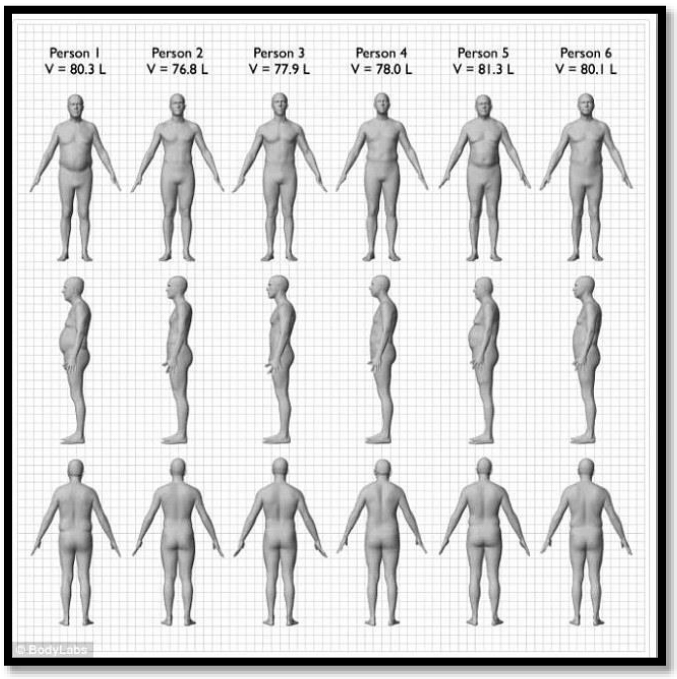
30. On or around February 26, 2015, Richard Barnes of SRL, and Jonathan Schwartz, of Body Labs, had a telephone call where Mr. Barnes disclosed the SRL Trade Secrets and other confidential information with Mr. Schwartz.

31. In June 2015, Body Labs released a software product named the "Body Volume API" including a "Body Slider" as part of a "BodyKit" package. The "Body Slider" feature

[2] https://www.youtube.com/watch?v=t4Ahm3Zw368 at 14:30-14:45 ("What we have to work with are surfaces, that's all we have, we don't have x-rays of thousands of people, we only have surfaces, we don't have the fat content, we only have surfaces."); *id.* at 29:27-29:34 ("There's no body fat percentage that comes with it unfortunately, we would love that.").

allowed a user to manually manipulate a 3-D displayed image of their body to simulate how their body would appear with a larger or smaller diameter, according to the known Body Mass Index (BMI) scale. The "Body Volume API" feature allowed a user to calculate the volume of specific body parts.[3]

32. On July 7, 2015, the Daily Mail published an on-line article[4] stating that Body Labs "has created a graphic revealing scans of six people to show how the same BMI can look very different on different bodies," and including the below image with "V" meaning body volume and "L" meaning liters, measuring the amount of body volume in that body:



33. In or around July 2015, SRL became aware of this article and Body Labs' product. Richard Barnes arranged a telephone call with Jonathan Schwartz of Body Labs for July 24, 2015. During this telephone call, Mr. Barnes and Mr. Schwartz discussed Body Labs' potential improper

[3] https://www.forbes.com/sites/tjmccue/2015/08/24/body-labs-provides-3-d-models-of-human-body-and-tools-to-analyze-it/?sh=1ec55f3123dd.
[4] https://www.dailymail.co.uk/sciencetech/article-3152862/The-graphic-reveals-BMI-useless-Scientists-reveal-radically-different-body-shapes-readings.html.

use of SRL's Trade Secrets in violation of NDA 1 and potential improper use of SRL's patented technology.

34. In or around August 2015, Mr. Schwartz contacted Mr. Barnes and stated that Body Labs would immediately cease using SRL's patented and trade secret technology, cease development of its body volume API software offering, and would cease any further commercial use of the "Body Slider."

35. In late August 2015, Body Labs did cease development and commercial release of the Body Volume API and retracted the "Body Slider" feature of its "BodyKit" software product from any commercial use by third parties going forward.

36. On information and belief, on or around October 4, 2017, Amazon acquired Body Labs for between $70 million and $100 million. The acquisition was effectuated through a merger between Body Labs and Doppel Mergersub Inc., which is wholly owned by Amazon, on September 29, 2017.

37. On or around May 3, 2018, Amazon EU S.à.r.l. entered into a mutual nondisclosure agreement with SRL ("NDA 2"), attached hereto as Exhibit D.

38. NDA 2 required Amazon to keep SRL information and documents confidential, to not use SRL information and documents obtained pursuant to NDA 2 for purposes outside the scope of the agreement, and to not disclose SRL information and documents obtained pursuant to NDA 2 to third parties without SRL's permission.

39. On May 15, 2018, Richard Barnes of SRL met with Jess Watts, an employee of Amazon, at the Amazon headquarters in central London. Under NDA 2, Richard Barnes discussed SRL Trade Secrets and confidential information with Jess Watts, including a presentation that disclosed certain SRL Trade Secrets and confidential information.

40. On information and belief, shortly thereafter, Jess Watts disclosed SRL Trade Secrets and confidential information, including the presentation from the May 15, 2018 meeting, by email, to Amazon employees in the United States under NDA 2.

41. SRL engaged PricewaterhouseCoopers LLP ("PwC") in March 2020 to draft a presentation to share with potential investors for the business under executed nondisclosure agreements. The presentation includes certain SRL Trade Secrets and confidential information, and disclosures of the '671 and '501 Patents.

42. On information and belief, PwC distributed this presentation to Amazon pursuant to NDA 2 in early July 2020.

e. Launch of Amazon's Halo

43. On August 27, 2020, Amazon released the Halo.

44. The Halo included a digital features provided by Amazon on the Halo App called "Body" which measured body composition in the form of body fat percentage from two digital images taken by the Halo customer using their own smartphone device, and a "Body Slider."

45. On information and belief, the Halo's "Body" feature is based on and includes Body Labs' "Body Slider" feature, or a variant thereof, and the SRL Trade Secrets and confidential information obtained pursuant to NDA 1 and/or NDA 2.

46. On information and belief Amazon incorporated software developed, but then retracted, by Body Labs and the SRL Trade Secrets and confidential information obtained pursuant to NDA 1 and/or NDA 2 into the Halo software.

47. On April 26, 2023, Amazon announced that it would cease supporting the Halo effective July 31, 2023.[5]

[5] https://www.aboutamazon.com/news/company-news/amazon-halo-discontinued.

COUNT I: MISAPPROPRIATION OF TRADE SECRETS UNDER THE DEFEND TRADE SECRETS ACT (DTSA) (18 U.S.C. § 1836 ET SEQ.) (AGAINST ALL DEFENDANTS)

48. SRL incorporates the preceding paragraphs 1-47 of this Complaint as if fully set forth herein.

49. Each of the Defendants has committed trade secret misappropriation in violation of the Defend Trade Secrets Act, 18 U.S.C. § 1836 et seq.

50. SRL, through years of investment and development work, developed the SRL Trade Secrets, described in detail, supra §§ III.a-III.c.

51. All of the SRL Trade Secrets derive economic value from their secrecy.

52. SRL employs the SRL Trade Secrets for commercial use in interstate commerce.

53. SRL has and continues to take reasonable measures to protect the confidentiality of the SRL Trade Secrets, including, through requiring employees and consultants to sign confidentiality agreements, employing physical security, encryption and the other measures described supra § III.c.

54. Each Defendant owed and/or continues to owe contractual obligations to SRL, both by contract and operation of law, not to use or disclose the SRL Trade Secrets.

55. On information and belief, each Defendant had and still does have access to the SRL Trade Secrets.

56. Each of the Defendants, through improper means, wrongfully disclosed the SRL Trade Secrets in order to develop the Amazon Halo.

57. Each of the Defendants, through improper means, wrongfully used the SRL Trade Secrets to develop the infringing Amazon Halo.

58. The Amazon Halo has been used in interstate commerce.

59. On information and belief, Amazon received and misused the SRL Trade Secrets. This misuse was undertaken by Amazon knowing or having reason to know that Body Labs had conveyed them and used them through improper means, and in violation of legal obligations owed to SRL.

60. Amazon impermissibly acquired and accessed, and continues to impermissibly have access to the SRL Trade Secrets.

61. Each of the Defendants misappropriated the SRL Trade Secrets willfully and maliciously.

62. Each of the Defendants continue to misappropriate and improperly disclose the SRL Trade Secrets willfully and maliciously.

63. For years, the Defendants were aware of their misappropriation of SRL's trade secrets, but concealed it. The Amazon Halo itself was unavailable and unknown to SRL until after its public launch on August 27, 2020. As a result, SRL did not discover Defendants' misappropriation of the SRL Trade Secrets until October 2020, when SRL was able to access publicly available information about the Amazon Halo that was being sold in the United States. Analysis of the product revealed, for the first time, that the Amazon Halo was substantially similar to SRL's products and the SRL Trade Secrets.

64. SRL is being irreparably harmed by the Defendants' ongoing misappropriation, in addition to pecuniary harm it has suffered.

65. As set forth through this Complaint, acts in furtherance of this offense were committed in the United States.

COUNT II: MISAPPROPRIATION OF TRADE SECRETS UNDER THE TEXAS UNIFORM TRADE SECRETS ACT (TUTSA) (TEX. CIV. PRAC. & REM. CODE

§ 134A.001 ET SEQ.)
(AGAINST ALL DEFENDANTS)

66. SRL incorporates the preceding paragraphs 1-65 of this Complaint as if fully set forth herein.

67. Each of the Defendants has committed trade secret misappropriation in violation of the Texas Uniform Trade Secrets Act, Tex. Civ. Prac. & Rem. Code § 134A.001 et seq.

68. SRL, through years of investment and development work, developed the SRL Trade Secrets, described in detail, supra §§ III.a-III.c.

69. All of the SRL Trade Secrets derive economic value from their secrecy.

70. SRL employs the SRL Trade Secrets for commercial use.

71. SRL has and continues to take reasonable measures to protect the confidentiality of the SRL Trade Secrets, including, through requiring employees and consultants to sign confidentiality agreements, employing physical security, encryption and the other measures described supra § III.c.

72. Each Defendant misappropriated and used or disclosed the SRL Trade Secrets and proprietary information without authorization and in violation of a contractual relationship with SRL to maintain the confidentiality of the SRL Trade Secrets and proprietary information.

73. On information and belief, Amazon received and misused the SRL Trade Secrets knowing or having reason to know that Body Labs conveyed them and used them through improper means, and in violation of legal obligations owed to SRL.

74. Amazon impermissibly acquired and accessed, and continues to impermissibly have access to the SRL Trade Secrets.

75. Each of the Defendants misappropriated the SRL Trade Secrets willfully and maliciously.

76. Each of the Defendants continues to misappropriate and improperly disclose the SRL Trade Secrets willfully and maliciously.

77. SRL is being irreparably harmed by the Defendants' ongoing misappropriation, in addition to pecuniary harm it has suffered.

78. Defendants willfully and maliciously misappropriated the SRL Trade Secrets and proprietary information. Therefore, pursuant to the Texas Uniform Trade Secrets Act, SRL is entitled to recover exemplary damages. Additionally, pursuant to the Texas Uniform Trade Secrets Act, SRL also seeks its reasonable attorney's fees.

79. Pursuant to the Texas Uniform Trade Secrets Act, SRL also is entitled to injunctive relief.

80. SRL is entitled to its reasonable attorneys' fees and other costs pursuant to Chapter 38 and/or Section 134A.005 of the Texas Civil Practice & Remedies Code, or other applicable laws.

COUNT III: BREACH OF CONTRACT NDA 1
(AGAINST ALL DEFENDANTS)

81. SRL incorporates the preceding paragraphs 1-80 of this Complaint as if fully set forth herein.

82. Defendants owed confidentiality and additional non-competition obligations to SRL under NDA 1.

83. NDA 1 is a valid contract supported by consideration.

84. SRL has at all times performed under NDA 1.

85. Defendants were contractually obligated to maintain all SRL information under NDA 1, including the SRL Trade Secrets, in confidence and not to disclose any such information for the benefit of itself or any third party, except with the express permission of SRL.

86. Defendants have breached their contract with SRL by, as described above, disclosing SRL's confidential information under NDA 1, including the SRL Trade Secrets.

87. At no point has SRL given the Defendants express or implied permission to transmit SRL's information under NDA 1.

88. SRL has and continues to experience damage from Defendants' contractual breaches.

89. Amazon is bound by NDA 1 by being a third party beneficiary of the Confidential Information disclosed.

COUNT IV: BREACH OF CONTRACT NDA 2
(AGAINST AMAZON.COM, INC., AMAZON.COM SERVICES, LLC., AMAZON EU S.A.R.L.)

90. SRL incorporates the preceding paragraphs 1-89 of this Complaint as if fully set forth herein.

91. Defendants have and continue to owe confidentiality obligations to SRL under NDA 2.

92. NDA 2 is a valid contract supported by consideration.

93. SRL has at all times performed under NDA 2.

94. Defendants continue to be contractually obligated to maintain all SRL information under NDA 2, including the SRL Trade Secrets, in confidence and not to disclose any such information to any third party and not to use any such information, except with the express permission of SRL.

95. Defendants have breached their contract with SRL by, as described above, disclosing SRL's confidential information under NDA 2, including the SRL Trade Secrets.

96. At no point has SRL given the Defendants permission to transmit SRL's information under NDA 2.

97. SRL has and continues to experience damage from Defendants' contractual breaches.

COUNT V: INFRINGEMENT OF THE '671 PATENT (35 U.S.C. § 271)
(AGAINST AMAZON.COM, INC., AMAZON.COM SERVICES, LLC.)

98. SRL incorporates the preceding paragraphs 1-97 of this Complaint as if fully set forth herein.

99. SRL has not licensed or otherwise authorized Amazon to make, use, offer for sale, sell, or import any products that embody the inventions of the '671 Patent.

100. Amazon has directly infringed the '671 Patent, either literally or under the doctrine of equivalents, without authority and in violation of 35 U.S.C. § 271, by making, using, offering to sell, selling, and/or importing into the United States products that satisfy each and every limitation of one or more claims of the '671 Patent. Upon information and belief, these products include at least the Halo, which comprises a health indicating device, a body scanner, a body volume calculator, and a body database. The Halo includes at least all versions and variants of the Halo app.

101. For example, Amazon has directly infringed at least claim 1 of the '671 Patent by making, using, offering to sell, selling, and/or importing into the United States products that comprise a health indicator device comprising: body scanner; body volume calculator; body database; and health calculating device wherein said body scanner is configured to obtain a three-dimensional model of a person; said body volume calculator is configured to calculate from said three-dimensional model first volume comprising a first body part of said person and a second volume comprising a second body part of said person; said health calculating device is configured to calculate an indication of the health of said person using the body composition of said person by retrieving composition data from said body database and incorporating said composition data

into said first volume and said second volume and calculating said indication using a ratio of said incorporated first volume to said incorporated second volume.

102. The Halo comprises a health indicator device. For example, the Halo service calculates a user's body fat percentage, which is a health indicator. *See e.g.*, https://www.amazon.science/latest-news/the-science-behind-the-amazon-halo-band-body-feature ("With Amazon Halo, a health and wellness membership, individuals can measure their own body fat percentage (BFP) and track it through a personalized 3D model."); *id.* ("One of the most important breakthroughs of the Body feature is that it grants easy access to a health indicator that is much more useful than body mass index (BMI), notes Antonio Criminisi, senior manager of applied science on the Halo team.").

103. The Halo comprises a body scanner. For example, the Halo service utilizes a user's smartphone camera as a body scanner. *See e.g.*, https://www.amazon.science/latest-news/the-science-behind-the-amazon-halo-band-body-feature ("This level of scanning is usually only possible with expensive and sophisticated machines, but Halo's Body feature makes it available to anyone with a smartphone via the Halo app."); *id.* ("The body scan images used to build the 3D avatar and to measure BFP are automatically deleted from the cloud after processing and, after that, they only live on the customer's phone unless they have explicitly opted in to cloud backup.").

104. The Halo comprises a body volume calculator. For example, the Halo service calculates certain features measured from images such as body shape, which on information and belief includes body volume. *See e.g.*, https://www.amazon.science/latest-news/the-science-behind-the-amazon-halo-band-body-feature ("Borrowing the idea of indirect measurement, we challenged ourselves to build a computer vision system that can accurately predict BFP via visual features measured from images such as overall body shape and details of the body such as muscle

definition and fat folds."); *id.* ("The network analyzes the overall shape and details of the body from the images to extract visual features that are relevant to body composition.").

105. The Halo comprises a body database. For example, the Halo service's convolutional neural networks use data from DXA scans and synthetic 2D silhouettes. *See e.g.*, https://www.amazon.science/latest-news/the-science-behind-the-amazon-halo-band-body-feature ("[D]ata from actual DXA scans is used to fine-tune this network via semi-supervised learning."); *id.* ("The synthetic images were generated using graphics-rendering software that utilizes 3D models to generate their corresponding 2D silhouettes. Then they used these synthetic examples to train the system to predict 3D models from the silhouettes."); *see also* https://www.medrxiv.org/content/10.1101/2021.06.10.21258595v1.full.pdf at 8 ("The training dataset is a separate repository consisting of front and back photos of participants taken from a smartphone, associated with %BF ground truth."); *id.* at 9 ("[T]ransfer learning is applied to fine-tune this model using DXA %BF data.").

106. The Halo comprises a health calculating device. For example, the Halo service's convolutional neural networks calculate body fat percentage, which is related to an individual's health. *See e.g.*, https://www.amazon.science/latest-news/the-science-behind-the-amazon-halo-band-body-feature ("With Amazon Halo, a health and wellness membership, individuals can measure their own body fat percentage (BFP) and track it through a personalized 3D model."); *id.* ("The input for the machine learning model is the photos captured from the smartphone, and the output is a number that tells you the body fat percentage.").

107. The Halo's body scanner is configured to obtain a three-dimensional model of a person. For example, the Halo service utilizes pictures taken from a user's smartphone camera to generate a 3D avatar of the user. *See e.g.*, https://www.amazon.science/latest-news/the-science-

behind-the-amazon-halo-band-body-feature ("Scientists on the Halo team undertook the ambitious goal of developing a tool capable of producing a 3D virtual representation of a customer's body from a simple set of smartphone photos."); *id.* ("[T]he Body feature can create personalized 3D body models of customers, so they can keep track of body changes in their health journey.").

108. The Halo's body volume calculator is configured to calculate from said three-dimensional model first volume comprising a first body part of said person and a second volume comprising a second body part of said person. For example, the Halo service allows a user to simulate how their bodies will change at different levels of body fat, which on information and belief requires measuring volumes of different body parts. *See e.g.*, https://www.amazon.science/latest-news/the-science-behind-the-amazon-halo-band-body-feature ("[T]he Body feature can create personalized 3D body models of customers, so they can keep track of body changes in their health journey. They can also simulate how their bodies will change at different levels of body fat."); *see also* https://www.medrxiv.org/content/10.1101/2021.06.10.21258595v1.full.pdf at 15 ("The front and back photos are then size-normalized and used as input to a second CNN model tasked with analyzing the overall shape and body details."); https://www.nature.com/articles/s41746-023-00909-5 ("Our group has introduced a smartphone application that is highly accurate and reproducible in quantifying a person's anthropometric dimensions, including circumferences, lengths, surface areas, and volumes.").

109. The Halo's health calculating device is configured to calculate an indication of the health of said person using the body composition of said person by retrieving composition data from said body database and incorporating said composition data into said first volume and said second volume and calculating said indication using a ratio of said incorporated first volume to

said incorporated second volume. For example, the Halo service's convoluted neural networks calculate a user's body fat percentage by utilizing data from DXA scans and synthetic 2D silhouettes which on information and belief uses a ratio among the volume of different body parts. *See e.g.*, https://www.amazon.science/latest-news/the-science-behind-the-amazon-halo-band-body-feature ("[W]hile Body doesn't have the same level of fidelity as traditional 3D scanners for things such as muscle definition, it has high accuracy for overall shape and body proportions that are relevant for long-term health."); *see also* https://www.medrxiv.org/content/10.1101/2021.06.10.21258595v1.full.pdf at 15 ("The CNN automatically extracts visual features relevant to body composition and then generates an estimate of %BF."); https://www.aboutamazon.com/news/devices/a-better-measure-of-health ("This DNN does not directly see body fat but analyzes the details of regions of the body known to be 'hot spots' for measuring body fat, like the torso, thighs, and mid-back, as well as the overall shape of your body from the scan images to accurately estimate your BFP."); https://www.nature.com/articles/s41746-023-00909-5 (describing Halo's ability to calculate waist to hip circumference ratio).

110. Amazon has indirectly infringed one or more claims of the '671 Patent by knowingly and intentionally inducing others, including Amazon customers and end-users of the Halo, to directly infringe, either literally or under the doctrine of equivalents, by making, using, offering to sell, selling, and/or importing into the United States products that include infringing technology.

111. Amazon, with knowledge that these products, or the use thereof, infringe the '671 Patent at least as of the date of this Complaint, knowingly and intentionally induced direct infringement of the '671 Patent by providing these products to customers and ultimately to end-

users for use in an infringing manner in the United States including, but not limited to, products that include infringing technology, such as the Halo. For example, Amazon's instruction manuals, websites, promotional materials, advertisements, and other information demonstrate to others, including customers, prospective customers, and distributors, how to use the Halo in an infringing manner. Upon information and belief, Amazon is aware that the normal and customary use of the Halo by customers, distributors, and others would infringe the '671 Patent.

112. Amazon induced infringement by others, including end-users, with the intent to cause infringing acts by others or, in the alternative, with the belief that there was a high probability that others, including end-users, infringe the '671 Patent, but while remaining willfully blind to the infringement.

113. SRL has suffered damages as a result of Amazon's direct and indirect infringement of the '671 Patent in an amount to be proved at trial.

COUNT VI: INFRINGEMENT OF THE '501 PATENT (35 U.S.C. § 271)
(AGAINST AMAZON.COM, INC., AMAZON.COM SERVICES, LLC.)

114. SRL incorporates the preceding paragraphs 1-113 of this Complaint as if fully set forth herein.

115. SRL has not licensed or otherwise authorized Amazon to make, use, offer for sale, sell, or import any products that embody the inventions of the '501 Patent.

116. Amazon has directly infringed the '501 Patent, either literally or under the doctrine of equivalents, without authority and in violation of 35 U.S.C. § 271, by making, using, offering to sell, selling, and/or importing into the United States products that satisfy each and every limitation of one or more claims of the '501 Patent. Upon information and belief, these products include at least the Halo, which comprises first and second computing devices, a camera, a data

collector, a calculator, and a body composition database. The Halo includes at least all versions and variants of the Halo app.

117. For example, Amazon has directly infringed at least claim 1 of the '501 Patent by making, using, offering to sell, selling, and/or importing into the United States products that comprise a system for performing a series of steps so as to provide a health indicator of an individual human being, the system comprising: (a) a camera operating on a first computing device, and arranged to capture at least two unique digital photographs of the individual, wherein the at least two unique digital photographs include a front-view image and a side-view image; (b) a data collector operating on a second computing device, and arranged to, after the at least two unique digital photographs are captured, receive the at least two unique digital photographs and demographic information of the individual from the first computing device via an internet connection, using a secure file transfer protocol connection, wherein the demographic information includes gender, and after receiving the at least two unique digital photographs, extract linear measurements indicative of body shape from the at least two unique digital photographs as received from the camera; and (c) a calculator, configured to: electronically receive the measurements and the demographic information from the data collector and generate a 3D model of the individual using the received measurements extracted from the captured at least two unique digital photographs; after the measurements and the demographic information are received, retrieve information from a body composition database, the body composition database comprising internal body composition data and corresponding body shape and demographic data of other individual human beings, the retrieved information being selected based on identifying a subset of data in the database based on the received demographic information, and matching the measurements received from the data collector to body shape data in the identified subset of data

in the database; after retrieving the information, determine a value for the health indicator by automatically synthesizing the measurements received from the data collector and the retrieved information from the body composition database; and return the health indicator value and the 3D model to the first computing device for display on a screen of the first computing device.

118. The Halo comprises a system for performing a series of steps so as to provide a health indicator of an individual human being. For example, the Halo service calculates a user's body fat percentage, which is a health indicator. *See e.g.*, https://www.amazon.science/latest-news/the-science-behind-the-amazon-halo-band-body-feature ("With Amazon Halo, a health and wellness membership, individuals can measure their own body fat percentage (BFP) and track it through a personalized 3D model."); *id.* ("One of the most important breakthroughs of the Body feature is that it grants easy access to a health indicator that is much more useful than body mass index (BMI), notes Antonio Criminisi, senior manager of applied science on the Halo team.").

119. The Halo comprises a camera operating on a first computing device, and arranged to capture at least two unique digital photographs of the individual, wherein the at least two unique digital photographs include a front-view image and a side-view image. For example, the Halo service utilizes front- and side-view photographs of a user taken by the user's smartphone camera. *See e.g.*, https://www.amazon.science/latest-news/the-science-behind-the-amazon-halo-band-body-feature ("The input for the machine learning model is the photos captured from the smartphone."); *see also* https://www.medrxiv.org/content/10.1101/2021.06.10.21258595v1.full.pdf ("Each participant was asked to stand in an 'A' pose and then had four photographs (front, back, left-side, and right-side profiles) taken with an iPhone-10 (Apple, Inc.) front-facing camera with their faces out of frame."); https://www.aboutamazon.com/news/devices/a-better-measure-of-health ("When

you're ready, the Amazon Halo app shows you exactly how to stand and guides you through taking four scan images—front, back, and each side.").

120. The Halo comprises a data collector operating on a second computing device, and arranged to, after the at least two unique digital photographs are captured, receive the at least two unique digital photographs and demographic information of the individual from the first computing device via an internet connection, using a secure file transfer protocol connection, wherein the demographic information includes gender, and after receiving the at least two unique digital photographs, extract linear measurements indicative of body shape from the at least two unique digital photographs as received from the camera. For example, the Halo service requests users to enter demographic information such as sex and age and extract linear measurements such as body shape. *See e.g.*, https://www.amazon.science/latest-news/the-science-behind-the-amazon-halo-band-body-feature ("The network analyzes the overall shape and details of the body from the images to extract visual features that are relevant to body composition."); *id.* ("The first [module] starts from the original photo to obtain a silhouette of the user by segmenting the person from the background, producing a black and white two-dimensional image of the body shape."); *see also* https://www.aboutamazon.com/news/devices/a-better-measure-of-health ("Amazon Halo helps you understand where your BFP stands in relation to people of the same sex and age, and the slider can help you visualize how your body could change as you gain or lose body fat.").

121. The Halo comprises a calculator, configured to electronically receive the measurements and the demographic information from the data collector and generate a 3D model of the individual using the received measurements extracted from the captured at least two unique digital photographs. For example, the Halo service utilizes a convoluted neural network to generate a 3D avatar of the user from pictures taken from a user's smartphone camera. *See e.g.*,

https://www.amazon.science/latest-news/the-science-behind-the-amazon-halo-band-body-feature ("Scientists on the Halo team undertook the ambitious goal of developing a tool capable of producing a 3D virtual representation of a customer's body from a simple set of smartphone photos."); *id.* ("[T]he Body feature can create personalized 3D body models of customers, so they can keep track of body changes in their health journey.").

122. The Halo is configured such that after the measurements and the demographic information are received, it retrieves information from a body composition database, which comprises internal body composition data and corresponding body shape and demographic data of other individual human beings, that is selected based on identifying a subset of data in the database based on the received demographic information, and matching the measurements received from the data collector to body shape data in the identified subset of data in the database. For example, the Halo service's convolutional neural networks are trained using data from DXA scans and synthetic 2D silhouettes to provide health indicating information based on a user's demographic information and measurements. *See e.g.*, https://www.amazon.science/latest-news/the-science-behind-the-amazon-halo-band-body-feature ("[D]ata from actual DXA scans is used to fine-tune this network via semi-supervised learning."); *id.* ("The synthetic images were generated using graphics-rendering software that utilizes 3D models to generate their corresponding 2D silhouettes. Then they used these synthetic examples to train the system to predict 3D models from the silhouettes."); *see also* https://www.medrxiv.org/content/10.1101/2021.06.10.21258595v1.full.pdf at 8 ("The training dataset is a separate repository consisting of front and back photos of participants taken from a smartphone, associated with %BF ground truth."); *id.* at 9 ("[T]ransfer learning is applied to fine-tune this model using DXA %BF data.").

123. The Halo is configured such that after retrieving the information, it determines a value for the health indicator by automatically synthesizing the measurements received from the data collector and the retrieved information from the body composition database. For example, the Halo service's convoluted neural networks calculate a user's body fat percentage by utilizing data from DXA scans and synthetic 2D silhouettes alongside the user's demographic information and measurements. *See e.g.*, https://www.medrxiv.org/content/10.1101/2021.06.10.21258595v1.full.pdf at 7-8 ("The body composition estimation algorithm consists of a bespoke convolutional neural network (CNN) that was trained to estimate %BF directly from two input photographs (front and back) of the user standing in an A pose."); https://www.amazon.science/latest-news/the-science-behind-the-amazon-halo-band-body-feature ("Scientists discuss the challenges in developing a system that can accurately estimate body fat percentage and create personalized 3D avatars of users from smartphone photos."); *id.* ("One of the most important breakthroughs of the Body feature is that it grants easy access to a health indicator that is much more useful than body mass index (BMI), notes Antonio Criminisi, senior manager of applied science on the Halo team.").

124. The Halo is configured such that it returns the health indicator value and the 3D model to the first computing device for display on a screen of the first computing device. For example, the Halo service allows users to view their body fat percentage and a 3D avatar of their body in the Halo app on their smartphone. *See e.g.*, https://www.amazon.science/latest-news/the-science-behind-the-amazon-halo-band-body-feature ("With Amazon Halo, a health and wellness membership, individuals can measure their own body fat percentage (BFP) and track it through a personalized 3D model."); https://www.aboutamazon.com/news/devices/a-better-measure-of-

health ("In seconds, you'll see your personalized 3D body model, BFP, and body model slider in the Amazon Halo app.").

125. Amazon has indirectly infringed one or more claims of the '501 Patent by knowingly and intentionally inducing others, including Amazon customers and end-users of the Halo, to directly infringe, either literally or under the doctrine of equivalents, by making, using, offering to sell, selling, and/or importing into the United States products that include infringing technology.

126. Amazon, with knowledge that these products, or the use thereof, infringe the '501 Patent at least as of the date of this Complaint, knowingly and intentionally induced direct infringement of the '501 Patent by providing these products to customers and ultimately to end-users for use in an infringing manner in the United States including, but not limited to, products that include infringing technology, such as the Halo. For example, Amazon's instruction manuals, websites, promotional materials, advertisements, and other information demonstrate to others, including customers, prospective customers, and distributors, how to use the Halo in an infringing manner. Upon information and belief, Amazon is aware that the normal and customary use of the Halo by customers, distributors, and others would infringe the '501 Patent.

127. Amazon induced infringement by others, including end-users, with the intent to cause infringing acts by others or, in the alternative, with the belief that there was a high probability that others, including end-users, infringe the '501 Patent, but while remaining willfully blind to the infringement.

128. SRL has suffered damages as a result of Amazon's direct and indirect infringement of the '501 Patent in an amount to be proved at trial.

Demand for Jury Trial

Plaintiff respectfully demands a jury trial pursuant to Fed. R. Civ. P. 38 on all issues so triable.

Prayer for Relief

WHEREFORE, SRL respectfully demands judgment in its favor and against Amazon as follows:

a) Entry of judgment that Amazon has misappropriated SRL's trade secrets;

b) Entry of judgment that Amazon breached NDA 1;

c) Entry of judgment that Amazon breached NDA 2.

d) Entry of judgment declaring that Amazon has directly and/or indirectly infringed one or more claims of the '671 and '501 Patents;

e) Entry of judgment declaring that Amazon's infringement of the '671 and '501 Patents is willful;

f) An award of damages adequate to compensate SRL for the infringement of the '671 and '501 Patents, but in no event less than a reasonable royalty as permitted by 35 U.S.C. § 284, together with pre-judgment interest from the date the infringement began, and post-judgment interest;

g) Enhanced damages as provided for under 35 U.S.C. § 284 in view of the knowing, willful, and intentional nature of Amazon's acts;

h) Awarding SRL its costs and expenses of this litigation, including reasonable attorneys' fees and disbursements, pursuant to 35 U.S.C. § 285 on the basis that this case is exceptional due to the conduct of Amazon; and

i) Such other equitable relief which may be requested and to which SRL is entitled; and

j) Such other and further relief as the Court deems just and proper.

Dated: September 27, 2023

/s/ *Melissa R. Smith*

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