

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

GENTEX CORPORATION and INDIGO  
TECHNOLOGIES, LLC,

Plaintiffs,

THALES VISIONIX, INC.,

Involuntary Plaintiff,

v.

FACEBOOK, INC. and FACEBOOK  
TECHNOLOGIES, LLC,

Defendants.

Case No.: 6:21-cv-00755

**JURY TRIAL DEMANDED**

**COMPLAINT FOR PATENT INFRINGEMENT**

Plaintiffs Gentex Corporation (“Gentex”) and Indigo Technologies, LLC (“Indigo”) file this Complaint for Patent Infringement and Demand for Jury Trial against Facebook, Inc. (“Facebook”) and Facebook Technologies, LLC (“Facebook Technologies”) and allege the following:

**NATURE OF THE ACTION**

1. This is a civil action for infringement under the patent laws of the United States, 35 U.S.C. § 101 *et seq.*, to redress Defendants’ unauthorized and knowing use of Plaintiffs’ patented virtual reality and motion tracking technologies in Defendants’ Oculus Rift S, Oculus Quest, and Oculus Quest 2 products (collectively, with their respective related instructions, systems, services, and software, the “Accused Products”).

2. Gentex is the exclusive field-of-use licensee of U.S. Patent Nos. 6,757,068 (the “’068 patent”), 7,301,648 (the “’648 patent”), 8,224,024 (the “’024 patent”), 6,922,632 (the

“’632 patent”), and 7,725,253 (the “’253 patent”) (collectively, the “Asserted Patents”) in the market of consumer electronic products in the fields of entertainment and gaming, with the right to sue for infringement thereof in its exclusive fields-of-use.

3. Defendants have infringed and continue to infringe, directly and indirectly, one or more claims of each of the Asserted Patents by making, using, selling, and offering to sell the Accused Products. Plaintiffs seek monetary damages to compensate for the harm caused by such infringement.

### **THE PARTIES**

4. Plaintiff Gentex Corporation is a Delaware corporation with its principal place of business in Carbondale, Pennsylvania.

5. Plaintiff Indigo Technologies, LLC is a Pennsylvania limited liability company with its principal place of business in Simpson, Pennsylvania. Indigo is wholly owned by Gentex. Indigo was previously the exclusive field-of-use licensee of the Asserted Patents in the fields of entertainment and gaming, with the right to sue for infringement thereof in its exclusive field of use. Indigo assigned its rights under its exclusive field-of-use license to Gentex effective July 1, 2021, including the right to sue for infringement before the date of the assignment.

6. Involuntary Plaintiff Thales Visionix, Inc. is a Delaware corporation with its principal place of business at 22605 Gateway Center Drive, Clarksburg, Maryland 20871. Thales Visionix is the assignee and sole and exclusive owner of the Asserted Patents. Thales Visionix is named as an involuntary plaintiff because it is the owner of the Asserted Patents and may have an interest therein. Pursuant to the license agreement Thales Visionix entered into with Indigo, Thales Visionix is obligated to join this action as a party plaintiff but has declined to do so, and Thales Visionix is outside the Court’s jurisdiction.

7. Defendant Facebook, Inc. is a Delaware Corporation with its principal place of

business at 1 Hacker Way, Menlo Park, CA 94025.

8. Defendant Facebook Technologies, LLC is a Delaware limited liability company with its principal place of business at 1601 Willow Road, Menlo Park, CA 94025. On information and belief, Facebook Technologies, LLC is a wholly owned subsidiary of Facebook, Inc.

### **JURISDICTION AND VENUE**

9. This case arises under the Patent Act, 35 U.S.C. § 101 *et seq.* This Court has original jurisdiction over this controversy under 28 U.S.C. §§ 1331 and 1338.

10. This Court has personal jurisdiction over Defendants under the Texas Long Arm Statute because, among other things, Defendants “recruit[] Texas residents, directly or through an intermediary located in this state, for employment inside or outside this state.” Tex. Civ. Prac. & Rem. Code § 17.042(3).

11. This Court has personal jurisdiction over Facebook, including because Facebook does continuous and systematic business in this District, including by selling the Accused Products to residents of this District that Facebook knew would be used within this District in an infringing manner, and by soliciting business from residents of this District.

12. Facebook is also subject to personal jurisdiction in this Court because, among other things, it has a regular and established place of business at its offices in this District, including multiple Facebook offices located in Austin, and elsewhere in Texas.

13. Facebook’s newest Austin office is in a large office building known as “Third + Shoal,” occupying 256,500 square feet on 11 stories at 607 West Third Street, Austin, Texas

78703.<sup>1</sup> Facebook also maintains or has maintained offices at 300 West Sixth Street, Austin, Texas 78701, 11601 Alterra Parkway, Austin, Texas 78758, and the Parmer Innovation Center at 13011 McCallen Pass, Austin, Texas 78753.<sup>2</sup> Facebook's multiple offices in Austin, Texas constitute regular and established places of business.

14. Facebook has also reportedly leased the entire 320,000 square foot Domain 12 building in Austin,<sup>3</sup> and is seeking to lease another 1,000,000 square feet in Austin.<sup>4</sup>

15. As of August 2020, Facebook had over 1,300 employees in Austin across its multiple offices.<sup>5</sup> Facebook's Austin employees work in at least the following teams: AR/VR, Advertising Technology, Business Development & Partnerships, Communications & Public Policy, Software Engineering, Legal, Enterprise Engineering, People & Recruiting, Design & User Experience, Infrastructure, Data & Analytics, and Sales & Marketing.<sup>6</sup> Facebook is

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<sup>1</sup> Erin Edgemon, *First look: Facebook Headcount Swells as Social Media Giant Opens New Austin Office*, <https://www.bizjournals.com/austin/news/2019/09/04/first-look-facebook-headcount-swells-as-social.html> (Sept. 4, 2019).

<sup>2</sup> *Id.*

<sup>3</sup> Paul Thompson, *Facebook Still Hiring in Austin; No Plans To Give Up Splashy Office Space Around Town, Top Local Exec Says*, <https://www.bizjournals.com/austin/news/2020/08/01/facebook-still-growing-in-austin-pandemic.html> (August 1, 2020); Will Anderson & Marissa Luck, *Facebook To Eat Up Big Chunk Of Austin's Second Downtown, Sources Say*, <https://www.bizjournals.com/austin/news/2018/09/06/facebook-to-eat-up-big-chunk-of-austins-second.html> (Sept. 6, 2018).

<sup>4</sup> Kathryn Hardison, *Sources: Facebook Wants 1M More Square Feet Downtown*, <https://www.bizjournals.com/austin/news/2020/12/04/facebook-could-be-expanding-again-in-austin.html?s=print> (Dec. 4, 2020).

<sup>5</sup> Paul Thompson, *Facebook Still Hiring in Austin; No Plans To Give Up Splashy Office Space Around Town, Top Local Exec Says*, <https://www.bizjournals.com/austin/news/2020/08/01/facebook-still-growing-in-austin-pandemic.html> (August 1, 2020).

<sup>6</sup> Facebook, *Jobs in Austin, TX*, [https://www.facebook.com/careers/locations/austin/?p\[offices\]\[0\]=Austin%2C%20TX&offices\[0\]=Austin%2C%20TX&results\\_per\\_page=100#](https://www.facebook.com/careers/locations/austin/?p[offices][0]=Austin%2C%20TX&offices[0]=Austin%2C%20TX&results_per_page=100#) (last visited Mar. 13, 2021).

currently advertising about 273 jobs in Austin,<sup>7</sup> including multiple openings in “VR and AR”— i.e., virtual reality and augmented reality.<sup>8</sup>

16. On information and belief, the “VR and AR” team includes employees who work on the Accused Products. For example, Facebook is recruiting for multiple positions at “Facebook Reality Labs,” including in Austin, Texas, which includes responsibility for “Oculus” products and “AR and VR software and content.”<sup>9</sup>

17. Based on publicly-available information, since 2012, Facebook has employed approximately 289 recipients of H-1B visas who work in Austin.<sup>10</sup>

18. Facebook, directly and through agents, regularly conducts, solicits, and transacts business in this District and elsewhere in Texas, including through sales of the Accused Products and by providing services related to the Accused Products.

19. In particular, Facebook has committed and continues to commit acts of infringement in violation of 35 U.S.C. § 271, and has made, used, marketed, distributed, offered for sale, and sold infringing products in Texas, including in this District, and engaged in infringing conduct within and directed at or from this District. The infringing Accused Products and related services have been and continue to be distributed and used in this District.

20. This Court has personal jurisdiction over Facebook Technologies, including

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<sup>7</sup> *Id.*

<sup>8</sup> Facebook, *Jobs in AR/VR*, [https://www.facebook.com/careers/areas-of-work/arvr/?p\[teams\]\[0\]=AR%2FVR&teams\[0\]=AR%2FVR&offices\[0\]=Austin%2C%20TX#openpositions](https://www.facebook.com/careers/areas-of-work/arvr/?p[teams][0]=AR%2FVR&teams[0]=AR%2FVR&offices[0]=Austin%2C%20TX#openpositions) (last visited June 1, 2021).

<sup>9</sup> Facebook, *Digital Design Engineer, Facebook Reality Labs*, <https://www.facebook.com/careers/v2/jobs/2280933422206464/> (last visited June 1, 2021); Facebook, *Privacy Product Strategist, Facebook Reality Labs*, <https://www.facebook.com/careers/v2/jobs/725356615060171/> (last visited June 4, 2021).

<sup>10</sup> <https://h1bdata.info/index.php?em=facebook&job=&city=austin&year=All+Years> (last visited July 22, 2021).

because Facebook Technologies does continuous and systematic business in this District, including by selling the Accused Products to residents of this District that Facebook Technologies knew would be used within this District in an infringing manner, and by soliciting business from residents of this District.

21. This Court has personal jurisdiction over Facebook Technologies, in part because Facebook Technologies does continuous and systematic business in this District, including by selling the Accused Products to residents of this District that Facebook Technologies knew would be used within this District in an infringing manner, and by soliciting business from residents of this District.

22. In particular, Facebook Technologies has committed and continues to commit acts of infringement in violation of 35 U.S.C. § 271, and has made, used, marketed, distributed, offered for sale, and sold infringing products in Texas, including in this District, and engaged in infringing conduct within and directed at or from this District, including through the Oculus website.<sup>11</sup> The infringing Accused Products and related services have been and continue to be distributed and used in this District.

23. Facebook Technologies is a wholly owned subsidiary of Facebook that markets, sells, and offers for sale the Accused Products, including on the Oculus website. On information and belief, Facebook Technologies works in concert with Facebook and/or induces and/or is induced by Facebook to make, use, sell, or offer to sell the Accused Products throughout the United States, or import such products into the United States.

24. Facebook does not separately report revenue from Facebook Technologies in its filings to the Securities and Exchange Commission, but reports combined revenue from its

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<sup>11</sup> <https://www.oculus.com/>

various products including the Accused Products. In particular, Facebook reports “Other revenue” which includes revenue from delivery of consumer hardware devices.<sup>12</sup> For 2020, Facebook reported \$1.796 billion of “Other revenue.” On information and belief, a substantial portion of Facebook’s “Other revenue” was attributable to sales and deliveries of the Accused Products. For example, Facebook CEO Mark Zuckerberg has confirmed that sales of the Oculus Quest 2 drove a 156% increase in Facebook’s non-advertising revenue.<sup>13</sup>

25. On information and belief, Facebook not only owns but also operates Facebook Technologies, including cooperative development and support of Facebook Technologies sales and services. For example, Facebook requires users of the Oculus Quest 2 to use a Facebook login and agree to Facebook’s terms of services.<sup>14</sup> On information and belief, since 2019, Oculus data, including which applications users use, has been used to provide advertisements on Facebook for linked Oculus and Facebook accounts. In short, the Accused Products are “Facebook’s apps and technologies.”<sup>15</sup>

26. Venue is proper in this District under 28 U.S.C. § 1391 and § 1400(b) because a substantial part of the events or omissions giving rise to the claims occurred in this District, and because Defendants have committed acts of infringement in this District and have a regular and

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<sup>12</sup> Facebook 2020 10-K, <https://sec.report/Document/0001326801-21-000014/> (Jan. 28, 2021).

<sup>13</sup> Ben Lang, *Zuckerberg: Quest 2 ‘on track to be first mainstream VR headset’, Next Headset Confirmed*, <https://www.roadtovr.com/zuckerberg-quest-2-mainstream-vr-headset-facebook-q4-2020-earnings/> (Jan. 27, 2021).

<sup>14</sup> Oculus Blog, *A Single Way to Log Into Oculus and Unlock Social Features*, <https://www.oculus.com/blog/a-single-way-to-log-into-oculus-and-unlock-social-features/> (Aug. 18, 2020). Facebook has made “it clear that the Oculus platform is provided by Facebook and will include information on how our users’ data is managed.” *Id.*; see Harry Baker, *Everything You Need To Know: Facebook Login, User Data and Privacy on Oculus Headsets*, <https://uploadvr.com/facebook-login-privacy-data-quest-2/> (Jan. 31, 2021).

<sup>15</sup> Oculus Blog, *A Single Way to Log Into Oculus and Unlock Social Features*, <https://www.oculus.com/blog/a-single-way-to-log-into-oculus-and-unlock-social-features/> (Aug. 18, 2020).

established place of business in this District.

## **FACTUAL BACKGROUND**

### **I. INTERSENSE AND ERIC FOXLIN'S INVENTIONS IN SOURCELESS VIRTUAL REALITY**

27. Eric Foxlin is a prolific inventor and entrepreneur named on 27 United States patents in the fields of inertial tracking and virtual reality. Mr. Foxlin's innovations began at the Research Laboratory of Electronics at the Massachusetts Institute of Technology, where he helped develop the world's first inertial human motion tracker.

28. In 1996 Mr. Foxlin founded the company Intersense, Inc. and became its Chief Technology Officer. Intersense became the first company in the world to exploit inertial sensors in human-machine interaction.

29. Intersense was acquired by, and became a subsidiary of, Gentex in 2011.<sup>16</sup> Mr. Foxlin continued to lead Intersense after that acquisition.

30. In 2012, Intersense was acquired by the Thales Group, a global technology and defense company. Intersense became Thales Visionix, Inc., and operated as a subsidiary of Thales Group. Mr. Foxlin became the Director of Advanced Programs at Thales Visionix and continued to lead development of inertial tracking systems, including systems to aid flight pilot situational awareness.

### **II. THE ASSERTED PATENTS**

31. U.S. Patent 6,757,068 (the "'068 patent") is entitled "Self-Referenced Tracking" and issued on June 29, 2004. A true and correct copy of the '068 patent is attached as Exhibit A to this Complaint. Gentex is the exclusive field-of-use licensee of the '068 patent in the market

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<sup>16</sup> Press Release, *Gentex Corporation Announces Acquisition of Intersense Incorporated*, <https://www.gentexcorp.com/gentex-corporation-announces-acquisition-of-intersense-incorporated/> (Nov. 21, 2011).

of consumer electronic products in the fields of entertainment and gaming, with the right to sue for infringement thereof in its exclusive fields-of-use. The '068 patent is valid and enforceable under the United States patent laws.

32. The '068 patent claims are directed to patent-eligible inventions. They recite, among other things, specifically configured head-mounted tracking systems and methods of use that are advantageously sourceless—that is, they can be used anywhere with no set-up of an external source that is not on the user's body, making the systems more accessible, intuitive, and easy-to-use. The systems and methods of the '068 patent claims also include specific configurations and methods to address problems that arise in the unique context of virtual reality devices, including specific and novel methods of correcting for tracking errors in systems that do not use an external source—for example, the “drift” of the position of one sensor relative to another. These claimed configurations and methods constituted new and inventive tracking concepts enabling immersive visualization even in unprepared environments and thus provided advantages over the prior art. It was not well-understood, routine, or conventional to configure or use a head-mounted tracking system as claimed in the '068 patent at the time of the patent's effective filing date.

33. U.S. Patent 7,301,648 (the “'648 patent”) is entitled “Self-Referenced Tracking” and issued on November 27, 2007. A true and correct copy of the '648 patent is attached as Exhibit B to this Complaint. Gentex is the exclusive field-of-use licensee of the '648 patent in the market of consumer electronic products in the fields of entertainment and gaming, with the right to sue for infringement thereof in its exclusive fields-of-use. The '648 patent is valid and enforceable under the United States patent laws.

34. The '648 patent claims are directed to patent-eligible inventions. They recite,

among other things, methods of using specifically configured head-mounted tracking systems that are advantageously sourceless—that is, they can be used anywhere with no set-up of an external source that is not on the user’s body, making the systems more accessible, intuitive, and easy-to-use. The methods of the ’648 patent claims also include specific methods to address problems that arise in the unique context of virtual reality devices, including specific and novel methods of correcting for tracking errors in systems that do not use an external source—for example, the drift of the position of one sensor relative to another. These claimed methods constituted new and inventive tracking concepts enabling immersive visualization even in unprepared environments and thus provided advantages over the prior art. It was not well-understood, routine, or conventional to configure or use a head-mounted tracking system as claimed in the ’648 patent at the time of the patent’s effective filing date.

35. U.S. Patent 8,224,024 (the “’024 patent”) is entitled “Tracking Objects with Markers” and issued on July 27, 2012. A true and correct copy of the ’024 patent is attached as Exhibit C to this Complaint. Gentex is the exclusive field-of-use licensee of the ’024 patent in the market of consumer electronic products in the fields of entertainment and gaming, with the right to sue for infringement thereof in its exclusive fields-of-use. The ’024 patent is valid and enforceable under the United States patent laws.

36. The ’024 patent claim is directed to a patent-eligible invention. It recites a specific improvement to tracking an object using both pitch information from a sensor on the object and coordinate information from two points on an object. This method improved upon prior tracking methods that required more than two points on an object, and thus provided advantages over the prior art that required more cameras and/or tracking markers. The claimed method thus makes it possible to use small or inexpensive cameras in combination with inertial

sensors to still achieve six-degree-of-freedom tracking performance—tracking along three rotational and three translational axes—by integrating information from an inertial sensor. It was not well-understood, routine, or conventional to track an object as claimed in the '024 patent at the time of the patent's effective filing date.

37. U.S. Patent 6,922,632 (the "'632 patent") is entitled "Tracking, Auto-Calibration, and Map-Building System" and issued on July 26, 2005. A true and correct copy of the '632 patent is attached as Exhibit D to this Complaint. Gentex is the exclusive field-of-use licensee of the '632 patent in the market of consumer electronic products in the fields of entertainment and gaming, with the right to sue for infringement thereof in its exclusive fields-of-use. The '632 patent is valid and enforceable under the United States patent laws.

38. The '632 patent claims are directed to patent-eligible inventions. The claims recite specific improvements to tracking systems, including by applying sensor configuration information to update the estimated position and orientation of an object, and thus provided advantages over the prior art. Among other things, the claims enable versatile functionalities such that the system can, for example, switch between simultaneous tracking and other applications. It was not well-understood, routine, or conventional to implement sensor configuration information to track an object as claimed in the '632 patent at the time of the patent's effective filing date.

39. U.S. Patent 7,725,253 (the "'253 patent") is entitled "Tracking, Auto-Calibration, and Map-Building System" and issued on May 25, 2010. A true and correct copy of the '253 patent is attached as Exhibit E to this Complaint. Gentex is the exclusive field-of-use licensee of the '253 patent in the market of consumer electronic products in the fields of entertainment and gaming, with the right to sue for infringement thereof in its exclusive fields-of-use. The '253

patent is valid and enforceable under the United States patent laws.

40. The '253 patent claims are directed to patent-eligible inventions. The claims recite a specific improvement to tracking systems, including by applying sensor configuration information to update the estimated position and orientation of an object, and thus provided advantages over the prior art. Among other things, the claims enable versatile functionalities such that the system can, for example, switch between simultaneous tracking and other applications. It was not well-understood, routine, or conventional to implement sensor configuration information to track an object as claimed in the '253 patent at the time of the patent's effective filing date.

41. The Asserted Patents claim, among other things, specific implementations of solutions to problems in tracking and monitoring systems. For example, the patents describe specific advantages achieved by the claimed systems and methods compared to conventional tracking systems. *E.g.*, Ex. A, '068 patent at 1:10-45; Ex. B, '648 patent at 1:17-52; Ex. C, '024 patent at 2:27-3:25; Ex. D, '632 patent at 2:35-46; Ex. E, '253 patent at 2:36-47.

42. The Asserted Patents further claim inventive concepts that are substantially more than abstract ideas. For example, the claimed technologies were not well-understood, routine, or conventional, and they achieve specific technological advances. *E.g.*, Ex. A, '068 patent at 1:35-45; Ex. B, '648 patent at 1:40-52; Ex. C, '024 patent at 2:27-3:25; Ex. D, '632 patent at 2:35-46; Ex. E, '253 patent at 2:36-47.

### **III. THE ACCUSED PRODUCTS**

43. Facebook entered the market for virtual reality devices with its acquisition of Oculus VR, Inc., which was announced in March 2014.<sup>17</sup> Facebook originally disclosed that it

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<sup>17</sup> *Facebook to Acquire Oculus*, <https://about.fb.com/news/2014/03/facebook-to-acquire-oculus/> (Mar. 25, 2014).

acquired Oculus for \$2 billion, but later confirmed that it paid hundreds of millions of dollars more than that.<sup>18</sup> The acquisition closed on July 21, 2014.

44. The first virtual reality device marketed by Defendants was the Oculus Rift, which was released in 2016. Unlike the Accused Products, the Oculus Rift used external sensors for tracking, as shown below:<sup>19</sup>



45. Defendants' next virtual reality device was the Oculus Quest. Defendants announced the Oculus Quest no later than September 26, 2018, began taking preorders no later than April 30, 2019,<sup>20</sup> and began delivering the Oculus Quest to customers on May 21, 2019, when Defendants began offering the Oculus Quest for retail sale.

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<sup>18</sup> Lisa Maria Garza, *Facebook's Zuckerberg Questioned at Trial over Virtual-Reality Technology*, Reuters (Jan. 17, 2017), <https://www.reuters.com/article/us-facebook-zuckerberg/facebook-zuckerberg-questioned-at-trial-over-virtual-reality-technology-idUSKBN1512GO>.

<sup>19</sup> *How Do I Set Up My Play Area for Oculus Rift and Rift S?*, Oculus Support, <https://support.oculus.com/1814957818761397/>; Dominic Brennan, *Oculus Cuts Price of Rift Sensors to \$59*, RoadToVR (Mar. 3, 2017), <https://www.roadtovr.com/oculus-cuts-price-rift-sensors-59/>.

<sup>20</sup> Oculus Blog, *Game On: Oculus Quest and Rift S Pre-Orders Are Live! Shipping Begins May 21*, <https://www.oculus.com/blog/game-on-oculus-quest-and-rift-s-pre-orders-are-live-shipping-begins-may-21/> (Apr. 30, 2019).

46. Unlike the Oculus Rift, the Oculus Quest (pictured below) featured sourceless tracking. Reviewers praised “Facebook’s first standalone headset that offers [six-degrees-of-freedom] tracking on both the head and hands,” explaining that sourceless tracking (e.g., “inside-out tracking”) “is perhaps the most important element” of the device.<sup>21</sup>



47. Defendants released the Oculus Rift S around the same time as the Oculus Quest. Defendants announced the Oculus Rift S in March 2019, began taking preorders no later than April 30, 2019,<sup>22</sup> and began delivering the Oculus Rift S to customers on May 21, 2019, the same day as the Oculus Quest.

48. Like the Oculus Quest, the Oculus Rift S (pictured below) uses sourceless tracking, which reviewers have described as an important feature.<sup>23</sup>

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<sup>21</sup> E.g., Ben Lang, *Oculus Quest Review – The First Great Standalone VR Headset*, RoadToVR (May 21, 2019), <https://www.roadtovr.com/oculus-quest-review-the-first-great-standalone-vr-headset/>.

<sup>22</sup> Oculus Blog, *Game On: Oculus Quest and Rift S Pre-Orders Are Live! Shipping Begins May 21*, <https://www.oculus.com/blog/game-on-oculus-quest-and-rift-s-pre-orders-are-live-shipping-begins-may-21/> (Apr. 30, 2019).

<sup>23</sup> Ben Lang, *Oculus Rift S Revealed with Inside-out Tracking, Resolution Bump, & New Ergonomics*, RoadToVR (Mar. 20, 2019), <https://www.roadtovr.com/oculus-rift-s-specs-release-date-announcement-gdc-2019/>.



49. Defendants’ most recent virtual reality product is the Oculus Quest 2. Defendants announced and began taking pre-orders for the Oculus Quest 2 on September 16, 2020, and began delivering the Oculus Quest 2 to customers on October 13, 2020, when Defendants began offering the Oculus Quest 2 for retail sale.

50. Like the Oculus Quest, the Oculus Quest 2 (pictured below) is a standalone headset, and like the Quest and Rift S, it uses sourceless tracking. As with the Quest, Reviewers singled out the Quest 2’s sourceless (i.e., “inside-out”) tracking system for praise.<sup>24</sup>

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<sup>24</sup> Ben Lang, *Oculus Quest 2 Review – The Best Standalone Headset Gets Better in (Almost) Every Way*, RoadToVR (Oct. 13, 2020), <https://www.roadtovr.com/oculus-quest-2-review-better-in-almost-every-way/2/>; Oculus Quest 2, Facebook Technologies, <https://www.oculus.com/quest-2/>.



51. Facebook’s CEO Mark Zuckerberg has announced that he believes that the Oculus Quest 2 is “on track to be the first mainstream virtual reality headset.”<sup>25</sup>

#### **IV. DEFENDANTS’ NOTICE OF THE ASSERTED PATENTS AND CONTINUED INFRINGEMENT**

52. Defendants have been on actual notice of the Asserted Patents since long before this Complaint and have continued to infringe directly and indirectly the Asserted Patents with actual knowledge or reckless disregard for the fact that their actions constitute acts of infringement.

53. For example, Facebook performed detailed due diligence in connection with its \$2-plus-billion-dollar acquisition of Oculus VR, Inc. in 2014. Facebook’s CEO has testified that Facebook employees conducted “technical diligence ... trying to learn about the virtual reality field” before the acquisition, and that diligence lasted for “months.”<sup>26</sup> Mr. Zuckerberg further testified that investigation into “intellectual property” was an “automatic[] thing” that would

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<sup>25</sup> Ian Hamilton, *Mark Zuckerberg: Quest 2 ‘Is On Track To Be The First Mainstream VR Headset’*, RoadToVR (Jan. 27, 2021), <https://uploadvr.com/mark-zuckerberg-quest-2-mainstream/>.

<sup>26</sup> *Zenimax Media Inc. v. Oculus VR Inc.*, No. 14-cv-01849, ECF No. 928, at 618:14-18, 667:23-668:23 (N.D. Tex. Jan. 17, 2017).

have been examined before closing the deal with Oculus.<sup>27</sup>

54. On information and belief, Facebook became aware of and reviewed each of the Asserted Patents during due diligence and investigation into virtual reality technology and intellectual property prior to its 2014 acquisition of Oculus VR, Inc.

55. The Asserted Patents and named inventor Eric Foxlin are prominently known and widely cited in the virtual reality field, and should have surfaced in any diligent search, as described publicly by Facebook's CEO.

56. On information and belief, Defendants also became aware of the Asserted Patents during prosecution of their own patents. On information and belief, Defendants share a legal department and knowledge of the Asserted Patents through their patent prosecution activities, which are ultimately controlled by Facebook.

57. Defendants have had actual knowledge of the '024 patent since no later than May 31, 2018, when Facebook cited U.S. Patent App. Pub. No. 2007/0081695 corresponding to the '024 patent during prosecution of Facebook's own U.S. Patent No. 10,594,396, naming as inventors Chiyun Xia, Harvard Keese Harding, Jr., Chien-Chung Chen, and Ferze Daligues Patawaran.<sup>28</sup> On information and belief, knowing the relevance of that publication to their own technology, Defendants identified and reviewed the '024 patent upon issuance.

58. Defendants have had actual knowledge of the '253 patent since no later than May 31, 2018, when Facebook cited the '253 patent during prosecution of Facebook's own U.S. Patent No. 10,594,396.<sup>29</sup> On information and belief, knowing the relevance of the '253 patent to their own technology, this prosecution put Defendants on notice of other patents in the same

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<sup>27</sup> *Id.* at 671:1-22.

<sup>28</sup> U.S. Patent Application 15/986,148, Information Disclosure Statement (May 31, 2018).

<sup>29</sup> *Id.*

family as the '253 patent at the same time, including at least the '632 patent which is the parent of the '253 patent and listed on the face of the '632 patent.

59. Defendants have had actual knowledge of the '068 patent since no later than April 17, 2019, when Facebook Technologies cited U.S. Patent App. Pub. No. 2002/0024675 corresponding to the '068 patent during prosecution of Facebook Technologies' own U.S. Patent No. 10,514,545, naming as inventor Renzo De Nardi.<sup>30</sup> Facebook Technologies again cited the same U.S. Patent App. Pub. No. 2002/0024675 corresponding to the '068 patent in October 2019 during prosecution of Facebook Technologies' own U.S. Patent No. 10,572,002, naming inventors Renzo De Nardi and Richard Andrew Newcombe.<sup>31</sup> And in May 2019, the Patent Examiner cited the same U.S. Patent App. Pub. No. 2002/0024675 corresponding to the '068 patent during prosecution of still another Facebook Technologies patent, U.S. Patent No. 10,528,133, also naming Renzo De Nardi and Richard Andrew Newcombe as inventors.<sup>32</sup> On information and belief, knowing the relevance of U.S. Patent App. Pub. No. 2002/0024675 to their own technology, Defendants identified and reviewed the '068 patent upon issuance. In addition, on information and belief, knowing the relevance of U.S. Patent App. Pub. No. 2002/0024675 and the corresponding '068 patent to their own technology, Defendants identified and reviewed the other patents in the same family as the '068 patent at the same time, including at least the '648 patent, which had already issued by the time of the relevant prosecutions discussed herein and would have been easily identified when viewing the '068 patent on the website of the United States Patent and Trademark Office.

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<sup>30</sup> U.S. Patent Application 15/835,846, Information Disclosure Statement (Apr. 17, 2019).

<sup>31</sup> U.S. Patent Application 15/919,887, Information Disclosure Statement (Oct. 22, 2019).

<sup>32</sup> U.S. Patent Application 15/919,869, Non-Final Rejection & List of References (May 31, 2019).

60. In addition to the foregoing, on July 8, 2020, counsel for Gentex contacted Defendants' counsel responsible for technology transactions regarding Oculus products, including the Accused Products, by email to identify the Asserted Patents and inquire about whether Defendants would agree to take a license. That email attached the '068 and '648 patents, as well as the full list of patents within the exclusive field-of-use, including the Asserted Patents. On information and belief, Facebook communicated these materials internally and reviewed the Asserted Patents at that time. Facebook responded, but the parties did not reach any agreement.

61. On January 26, 2021, counsel for Gentex and Indigo again contacted Defendants and informed them that the Accused Products infringe one or more claims of each of the Asserted Patents. That correspondence enclosed over 70 pages of claim charts identifying how the Accused Products infringe one or more exemplary claims of each of the Asserted Patents. Despite such notice, and Defendants taking months to "investigate" the Asserted Patents and information regarding their infringement, Defendants did not take a license or stop their infringing activity with respect to the Accused Products.

62. Instead, Defendants continue to infringe directly and indirectly the Asserted Patents without authority and with actual knowledge or reckless disregard for the fact that their actions constitute infringement of the Asserted Patents. Defendants' infringement has been and continues to be within Gentex's exclusive fields-of-use.

63. Defendants' actions have caused harm, and continue to cause harm, to Plaintiffs.

**COUNT I: INFRINGEMENT OF U.S. PATENT 6,757,068**

64. Plaintiffs incorporate by reference and re-allege each of the foregoing paragraphs of this Complaint as if fully set forth herein.

65. Defendants have directly infringed, and continue to directly infringe, one or more

claims of the '068 patent, including at least claim 54, either literally or under the doctrine of equivalents, by making, using, selling, and offering for sale, without authority or license, the Accused Products in violation of 35 U.S.C. § 271(a). The Accused Products are non-limiting examples that were identified based on publicly available information, and Plaintiffs reserve the right to identify additional infringing activities, products, and services, including, for example, on the basis of information obtained during discovery.

66. Defendants have induced and continue to actively, knowingly, and intentionally induce infringement of one or more claims of the '068 patent, including at least claim 54, under 35 U.S.C. § 271(b) by actively encouraging others to make, use, sell, and offer to sell in the United States, the Accused Products in a manner specifically intended to infringe the '068 patent.

67. Defendants have contributed and continue to contribute to the infringement of one or more claims of the '068 patent, including at least claim 54, under 35 U.S.C. § 271(c) by offering to sell and selling a component of the Accused Products, or a material or apparatus for use in practicing a process claimed in the '068 patent, that constitutes a material part of the inventions, knowing the same to be especially made or especially adapted for use in an infringement of the '068 patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use.

68. For example, claim 54 of the '068 patent recites: A tracking system comprising a sourceless orientation tracker for mounting on a user's head, and a position tracker adapted to track a position of a first localized feature associated with a limb of the user relative to the user's head.

69. The Accused Products are, or contain, a tracking system. For example, the Accused Products are systems for tracking the position and orientation of objects.

70. The Accused Products include a sourceless orientation tracker for mounting on a user's head. For example, the Accused Products include a head-mounted display ("HMD") that is a sourceless orientation tracker and goes on a user's head.

71. The Accused Products include a position tracker adapted to track a position of a first localized feature associated with a limb of the user relative to the user's head. For example, the HMD is adapted to track a position of Oculus controllers or the user's hands relative to the user's head.<sup>33</sup>

72. Exhibit F includes a chart comparing exemplary claims of the '068 patent to the Accused Products and their use, and is hereby incorporated by reference.

73. The foregoing allegations are based on publicly available information and a reasonable investigation of the structure and operation of the Accused Products. Plaintiffs reserve the right to modify this description, including, for example, on the basis of information about the Accused Products that they obtain during discovery.

74. Defendants had actual knowledge of the '068 patent as described above in paragraphs 52 through 61, by July 21, 2014, or alternatively April 17, 2019, or alternatively July 8, 2020, or alternatively January 26, 2021.

75. Accordingly, before Defendants launched and began taking preorders for all of the Accused Products, Defendants had knowledge of, or were willfully blind to, the '068 patent and that their activities infringed one or more claims of the '068 patent. At the times the Accused Products launched, Defendants also knew or should have known that their users were

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<sup>33</sup> See, e.g., Facebook AI, *Powered by AI: Oculus Insight*, <https://ai.facebook.com/blog/powered-by-ai-oculus-insight/> (Aug. 22, 2019) ("Oculus Insight computes an accurate and real-time position for the headset and controllers every millisecond in order to translate your precise movements into VR, so you feel truly present. It uses SLAM to track the user's headset position, and constellation tracking to track the controller positions.").

infringing the '068 patent, and Defendants took actions with the specific intent for their users to do so, including as set forth in Exhibit F. These actions include specifically promoting and encouraging users to use the sourceless tracking methods and systems claimed in the '068 patent. Furthermore, the Accused Products are especially made and adapted to use in the sourceless tracking methods and systems claimed in the '068 patent, which Defendants promote as an important part of the Accused Products.

76. Moreover, by at least July 22, 2021, Plaintiffs disclosed, at least by filing this Complaint, the existence of the '068 patent and identified the Accused Products that infringe the '068 patent. Based on this disclosure, Defendants had further knowledge of, or were willfully blind to, the '068 patent and that their activities infringed the '068 patent. Since July 22, 2021, Defendants also knew or should have known that their users were infringing the '068 patent.

77. Defendants' direct and indirect infringement of the '068 patent has been, and continues to be, within Gentex's exclusive fields-of-use.

78. Defendants' infringement has damaged and continues to damage Plaintiffs in an amount yet to be determined, of at least a reasonable royalty.

79. Defendants have undertaken their infringing actions despite knowing that such actions infringed the '068 patent. As such, Defendants have willfully infringed and continue to willfully infringe the '068 patent.

80. This is an exceptional case. Plaintiffs are entitled to attorneys' fees and costs under 35 U.S.C. § 285 as a result of Defendants' infringement of the '068 patent.

**COUNT II: INFRINGEMENT OF U.S. PATENT 7,301,648**

81. Plaintiffs incorporate by reference and re-allege each of the foregoing paragraphs of this Complaint as if fully set forth herein.

82. Defendants have directly infringed, and continue to directly infringe, one or more

claims of the '648 patent, including at least claim 40, either literally or under the doctrine of equivalents, by using, without authority or license, the Accused Products in violation of 35 U.S.C. § 271(a). The Accused Products are non-limiting examples that were identified based on publicly available information, and Plaintiffs reserve the right to identify additional infringing activities, products, and services, including, for example, on the basis of information obtained during discovery.

83. Defendants have induced and continue to actively, knowingly, and intentionally induce infringement of one or more claims of the '648 patent, including at least claim 40 under 35 U.S.C. § 271(b) by actively encouraging others to make, use, sell, and offer to sell in the United States, the Accused Products in a manner specifically intended to infringe the '648 patent.

84. Defendants have contributed and continue to contribute to the infringement of one or more claims of the '648 patent, including at least claim 40 under 35 U.S.C. § 271(c) by offering to sell and selling a component of the '648 Accused Products, or a material or apparatus for use in practicing a process claimed in the '648 patent, that constitutes a material part of the inventions, knowing the same to be especially made or especially adapted for use in an infringement of the '648 patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use.

85. For example, claim 40 of the '648 patent recites: A method comprising: mounting a first sourceless orientation tracker on a user's head; mounting a second sourceless orientation tracker on a body part of the user other than the user's head; and utilizing angular rate and linear acceleration signals from said first and second trackers to derive a differential inertial signal representative of a motion of the body part relative to the head.

86. Defendants induce or contribute to users practicing a method. For example,

Defendants encourage, direct, or promote users of the Accused Products to carry out the claimed method steps.

87. Defendants encourage, direct, or promote users of the Accused Products to mount a first sourceless orientation tracker on a user's head. For example, Defendants have marketed, distributed, offered for sale, and sold the Accused Products which include a head-mounted display ("HMD") that is a sourceless orientation tracker that goes on a user's head. The Accused Products are especially adapted to carry out this process and have no substantial noninfringing uses.

88. Defendants encourage, direct, or promote users of the Accused Products to mount a second sourceless orientation tracker on a body part of the user other than the user's head. For example, Defendants have marketed, distributed, offered for sale, and sold the Accused Products which include a second sourceless orientation tracker (e.g., controllers) on a body part of the user other than the user's head (e.g., the hands). The Accused Products are especially adapted to carry out this process and have no substantial noninfringing uses.

89. Defendants encourage, direct, or promote users to use the Accused Products to utilize angular rate and linear acceleration signals from said first and second trackers to derive a differential inertial signal representative of a motion of the body part relative to the head. For example, Defendants have marketed, distributed, offered for sale, and sold the Accused Products which utilize angular rate (e.g., angular velocity) and linear acceleration signals from the HMD and controllers to derive a differential inertial signal representative of a motion of the user's body part (e.g., the hands) relative to the head. The Accused Products are especially adapted to carry out this process and have no substantial noninfringing uses.

90. Exhibit G includes a chart comparing exemplary claims of the '648 patent to the

Accused Products and their use, and is hereby incorporated by reference.

91. The foregoing allegations are based on publicly available information and a reasonable investigation of the structure and operation of the Accused Products. Plaintiffs reserve the right to modify this description, including, for example, on the basis of information about the Accused Products that they obtain during discovery.

92. Defendants had actual knowledge of the '648 patent as described above in paragraphs 52 through 61, by July 21, 2014, or alternatively April 17, 2019, or alternatively July 8, 2020, or alternatively January 26, 2021.

93. Accordingly, before Defendants launched and began taking preorders for all of the Accused Products, Defendants had knowledge of, or were willfully blind to, the '648 patent and that their activities infringed the one or more claims of the '648 patent. At the times the Accused Products launched, Defendants also knew or should have known that their users were infringing the '648 patent, and Defendants took actions with the specific intent for their users to do so, including as set forth in Exhibit G. These actions include specifically promoting and encouraging users to use the sourceless tracking methods claimed in the '648 patent. Furthermore, the Accused Products are especially made and adapted to use in the sourceless tracking methods claimed in the '648 patent, which Defendants promote as an important part of the Accused Products.

94. Moreover, by at least July 22, 2021, Plaintiffs disclosed, at least by filing this Complaint, the existence of the '648 patent and identified the Accused Products that infringe the '648 patent. Based on this disclosure, Defendants had knowledge of, or were willfully blind to, the '648 patent and that their activities infringed the '648 patent. Since July 22, 2021, Defendants also knew or should have known that their users were infringing the '648 patent.

95. Defendants' direct and indirect infringement of the '648 patent has been, and continues to be, within Gentex's exclusive fields-of-use.

96. Defendants' infringement has damaged and continues to damage Plaintiffs in an amount yet to be determined, of at least a reasonable royalty.

97. Defendants have undertaken their infringing actions despite knowing that such actions infringed the '648 patent. As such, Defendants have willfully infringed and continue to willfully infringe the '648 patent.

98. This is an exceptional case. Plaintiffs are entitled to attorneys' fees and costs under 35 U.S.C. § 285 as a result of Defendants' infringement of the '648 patent.

**COUNT III: INFRINGEMENT OF U.S. PATENT 8,224,024**

99. Plaintiffs incorporate by reference and re-allege each of the foregoing paragraphs of this Complaint as if fully set forth herein.

100. Defendants have directly infringed, and continue to directly infringe, claim 1 of the '024 patent, either literally or under the doctrine of equivalents, by using, without authority or license, the Accused Products in violation of 35 U.S.C. § 271(a). The Accused Products are non-limiting examples that were identified based on publicly available information, and Plaintiffs reserve the right to identify additional infringing activities, products, and services, including, for example, on the basis of information obtained during discovery.

101. Defendants have induced and continue to actively, knowingly, and intentionally induce infringement of claim 1 of the '024 patent under 35 U.S.C. § 271(b) by actively encouraging others to make, use, sell, and offer to sell in the United States, the Accused Products in a manner specifically intended to infringe the '024 patent.

102. Defendants have contributed and continue to contribute to the infringement of claim 1 of the '024 patent under 35 U.S.C. § 271(c) by offering to sell and selling a component

of the '024 Accused Products, or a material or apparatus for use in practicing a process claimed in the '024 patent, that constitutes a material part of the inventions, knowing the same to be especially made or especially adapted for use in an infringement of the '024 patent, and is not a staple article or commodity of commerce suitable for substantial noninfringing use.

103. Claim 1 of the '024 patent recites: A method comprising obtaining a camera image from a camera and processing said camera image in a data processor by computing the spatial location and azimuth of an object from the locations, in said camera image, of exactly two points on the object, and information about an orientation of the object, and generating one or more signals representative of the location and azimuth of the object, wherein computing the azimuth of the object comprises: receiving coordinate information for images, on an imaging device of a camera, of two points on an object, receiving pitch information from a sensor on the object, using the coordinate information and the pitch information to obtain candidate values for the azimuth of the object, selecting one azimuth value based on an evaluation of the candidate azimuth values in equations relating the coordinate information and pitch information to distances of the points from the camera.

104. Defendants induce or contribute to users practicing a method comprising obtaining a camera image from a camera and processing said camera image in a data processor. For example, Defendants encourage, direct, or promote users of the Accused Products to use the Accused Products to obtain a camera image from a camera (e.g., a camera on the HMD) and process said camera image in a data processor (e.g., the processor in the HMD (Oculus Quest, Oculus Quest 2) or operably connected to the HMD (Oculus Rift S)).

105. Defendants encourage, direct, or promote users to use the Accused Products to compute the spatial location and azimuth of an object from the locations, in said camera image,

of exactly two points on the object, and information about an orientation of the object, and generate one or more signals representative of the location and azimuth of the object. For example, Defendants have marketed, distributed, offered for sale, and sold the Accused Products, which include an HMD with a data processor (Oculus Quest, Oculus Quest 2) or an HMD operably connected to a data processor (Oculus Rift S) that computes the spatial location and azimuth of an object from the locations, in said camera image, of exactly two points on the object (e.g., two infrared markers on the controllers), and information about an orientation of the object, and generate one or more signals representative of the location and azimuth of the object.<sup>34</sup> The Accused Products are especially adapted to carry out this process and have no substantial noninfringing uses.

106. Defendants encourage, direct, or promote users to use the Accused Products to compute the azimuth of the object by receiving coordinate information for images, on an imaging device of a camera, of two points on an object, receiving pitch information from a sensor on the object, using the coordinate information and the pitch information to obtain candidate values for the azimuth of the object, selecting one azimuth value based on an evaluation of the candidate azimuth values in equations relating the coordinate information and pitch information to distances of the points from the camera. For example, Defendants have marketed, distributed, offered for sale, and sold the Accused Products which compute the azimuth of the object (e.g., a controller) by receiving coordinate information for images, on an imaging device of a camera, of two points on an object (e.g., two infrared markers on the controllers), receiving pitch information from a sensor on the object (e.g., the controllers' inertial

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<sup>34</sup> See, e.g., Andrew Melim, Oculus Blog, *Tracking Technology Explained: LED Matching*, [https://developer.oculus.com/blog/tracking-technology-explained-led-matching/?locale=en\\_US](https://developer.oculus.com/blog/tracking-technology-explained-led-matching/?locale=en_US) (Nov. 4, 2019).

sensors), using the coordinate information and the pitch information to obtain candidate values for the azimuth of the object, selecting one azimuth value based on an evaluation of the candidate azimuth values in equations relating the coordinate information and pitch information to distances of the points from the camera. The Accused Products are especially adapted to carry out this process and have no substantial noninfringing uses.

107. Exhibit H includes a chart comparing claim 1 of the '024 patent to the Accused Products and their use, and is hereby incorporated by reference.

108. The foregoing allegations are based on publicly available information and a reasonable investigation of the structure and operation of the Accused Products. Plaintiffs reserve the right to modify this description, including, for example, on the basis of information about the Accused Products that they obtain during discovery.

109. Defendants had actual knowledge of the '024 patent as described above in paragraphs 52 through 61, by July 21, 2014, or alternatively May 31, 2018, or alternatively July 8, 2020, or alternatively January 26, 2021.

110. Accordingly, before Defendants launched and began taking preorders for all of the Accused Products, Defendants had knowledge of, or were willfully blind to, the '024 patent and that their activities infringed claim 1 of the '024 patent. At the times the Accused Products launched, Defendants also knew or should have known that their users were infringing the '024 patent, and Defendants took actions with the specific intent for their users to do so, including as set forth in Exhibit H. These actions include specifically promoting and encouraging users to use the two-point tracking method claimed in the '024 patent. Furthermore, the Accused Products are especially made and adapted to use in the two-point tracking method claimed in the '024 patent, which Defendants promote as an important part of the Accused Products.

111. Moreover, by at least July 22, 2021, Plaintiffs disclosed, at least by filing this Complaint, the existence of the '024 patent and identified the Accused Products that infringe the '024 patent. Based on this disclosure, Defendants had knowledge of, or were willfully blind to, the '024 patent and that their activities infringed the '024 patent. Since July 22, 2021, Defendants also knew or should have known that their users were infringing the '024 patent.

112. Defendants' direct and indirect infringement of the '024 patent has been, and continues to be, within Gentex's exclusive fields-of-use.

113. Defendants' infringement has damaged and continues to damage Plaintiffs in an amount yet to be determined, of at least a reasonable royalty.

114. Defendants have undertaken their infringing actions despite knowing that such actions infringed the '024 patent. As such, Defendants have willfully infringed and continue to willfully infringe the '024 patent.

115. This is an exceptional case. Plaintiffs are entitled to attorneys' fees and costs under 35 U.S.C. § 285 as a result of Defendants' infringement of the '024 patent.

**COUNT IV: INFRINGEMENT OF U.S. PATENT 6,992,632**

116. Plaintiffs incorporate by reference and re-allege each of the foregoing paragraphs of this Complaint as if fully set forth herein.

117. Defendants have directly infringed, and continue to directly infringe, one or more claims of the '632 patent, including at least claim 66, either literally or under the doctrine of equivalents, by making, using, selling, and offering for sale, without authority or license, the Accused Products in violation of 35 U.S.C. § 271(a). The Accused Products are non-limiting examples that were identified based on publicly available information, and Plaintiffs reserve the right to identify additional infringing activities, products, and services, including, for example, on the basis of information obtained during discovery.

118. Defendants have induced and continue to actively, knowingly, and intentionally induce infringement of one or more claims of the '632 patent, including at least claim 66, under 35 U.S.C. § 271(b) by actively encouraging others to make, use, sell, and offer to sell in the United States, the Accused Products in a manner specifically intended to infringe the '632 patent.

119. Defendants have contributed and continue to contribute to the infringement of one or more claims of the '632 patent, including at least claim 66, under 35 U.S.C. § 271(c) by offering to sell and selling a component of the '632 Accused Products, or a material or apparatus for use in practicing a process claimed in the '632 patent, that constitutes a material part of the inventions, knowing the same to be especially made or especially adapted for use in an infringement of the '632 patent, and is not a staple article or commodity of commerce suitable for substantial noninfringing use.

120. For example, claim 66 of the '632 patent recites: A method comprising: receiving sensor configuration information indicating a set of sensing elements available to a tracking or navigation system; configuring a data processing module of the tracking or navigation system based on the sensor configuration information to selectively perform one of (a) receiving data from at least one inside-out bearing sensor, and updating an estimated pose of an object based on data received from the inside-out bearing sensor, (b) receiving data from at least one outside-in bearing sensor, and updating an estimated pose of an object based on data received from the outside-in bearing sensor, and (c) receiving data from at least one inside-out bearing sensor and at least one outside-in bearing sensor, and updating an estimated pose of an object based on data received from the outside-in bearing sensor and the inside-out bearing sensor.

121. Defendants induce or contribute to users practicing a method. For example,

Defendants encourage, direct, or promote users of the Accused Products to carry out the claimed method steps.

122. Defendants encourage, direct, or promote users to use the Accused Products to receive sensor configuration information indicating a set of sensing elements available to a tracking or navigation system. For example, Defendants have marketed, distributed, offered for sale, and sold the Accused Products, which receive sensor configuration information (e.g., information from the controllers) indicating a set of sensing elements available to a tracking or navigation system (e.g., the Oculus tracking system). The Accused Products are especially adapted to carry out this process and have no substantial noninfringing uses.

123. Defendants encourage, direct, or promote users to use the Accused Products to configure a data processing module of the tracking or navigation system based on the sensor configuration information to selectively perform one of (a) receiving data from at least one inside-out bearing sensor, and updating an estimated pose of an object based on data received from the inside-out bearing sensor, (b) receiving data from at least one outside-in bearing sensor, and updating an estimated pose of an object based on data received from the outside-in bearing sensor, and (c) receiving data from at least one inside-out bearing sensor and at least one outside-in bearing sensor, and updating an estimated pose of an object based on data received from the outside-in bearing sensor and the inside-out bearing sensor. For example, Defendants have marketed, distributed, offered for sale, and sold the Accused Products, which configure a data processing module (e.g., the HMD data processing module (Oculus Quest, Oculus Quest 2) or the data processing module operably connected to the Oculus Rift S HMD) of the tracking or navigation system based on the sensor configuration information to selectively perform one of (a) receiving data from at least one inside-out bearing sensor, and updating an estimated pose of

an object (e.g., the user's hands or the controllers) based on data received from the inside-out bearing sensor, (b) receiving data from at least one outside-in bearing sensor, and updating an estimated pose of an object (e.g., the user's hands or the controllers) based on data received from the outside-in bearing sensor, and (c) receiving data from at least one inside-out bearing sensor and at least one outside-in bearing sensor, and updating an estimated pose of an object (e.g., the user's hands or the controllers) based on data received from the outside-in bearing sensor and the inside-out bearing sensor). The Accused Products are especially adapted to carry out this process and have no substantial noninfringing uses.

124. Exhibit I includes a chart comparing exemplary claims of the '632 patent to the Accused Products and their use, and is hereby incorporated by reference.

125. The foregoing allegations are based on publicly available information and a reasonable investigation of the structure and operation of the Accused Products. Plaintiffs reserve the right to modify this description, including, for example, on the basis of information about the Accused Products that they obtain during discovery.

126. Defendants had actual knowledge of the '632 patent as described above in paragraphs 52 through 61, by July 21, 2014, or alternatively May 31, 2018, or alternatively July 8, 2020, or alternatively January 26, 2021.

127. Accordingly, before Defendants launched and began taking preorders for all of the Accused Products, Defendants had knowledge of, or were willfully blind to, the '632 patent and that their activities infringed one or more claims of the '632 patent. At the times the Accused Products launched, Defendants also knew or should have known that their users were infringing the '632 patent, and Defendants took actions with the specific intent for their users to do so, including as set forth in Exhibit I. These actions include specifically promoting and

encouraging users to use the tracking methods and systems claimed in the '632 patent.

Furthermore, the Accused Products are especially made and adapted to use in the tracking methods and systems claimed in the '632 patent, which Defendants promote as an important part of the Accused Products.

128. Moreover, by at least July 22, 2021, Plaintiffs disclosed, at least by filing this Complaint, the existence of the '024 patent and identified the Accused Products that infringe the '632 patent. Based on this disclosure, Defendants had knowledge of, or were willfully blind to, the '632 patent and that their activities infringed the '632 patent. Since July 22, 2021, Defendants also knew or should have known that their users were infringing the '632 patent.

129. Defendants' direct and indirect infringement of the '632 patent has been, and continues to be, within Gentex's exclusive fields-of-use.

130. Defendants' infringement has damaged and continues to damage Plaintiffs in an amount yet to be determined, of at least a reasonable royalty.

131. Defendants have undertaken their infringing actions despite knowing that such actions infringed the '632 patent. As such, Defendants have willfully infringed and continue to willfully infringe the '632 patent.

132. This is an exceptional case. Plaintiffs are entitled to attorneys' fees and costs under 35 U.S.C. § 285 as a result of Defendants' infringement of the '632 patent.

**COUNT V: INFRINGEMENT OF U.S. PATENT 7,725,253**

133. Plaintiffs incorporate by reference and re-allege each of the foregoing paragraphs of this Complaint as if fully set forth herein.

134. Defendants have directly infringed, and continue to directly infringe, one or more claims of the '253 patent, including at least claim 1, either literally or under the doctrine of equivalents, by making, using, selling, and offering for sale, without authority or license, the

Accused Products in violation of 35 U.S.C. § 271(a). The Accused Products are non-limiting examples that were identified based on publicly available information, and Plaintiffs reserve the right to identify additional infringing activities, products, and services, including, for example, on the basis of information obtained during discovery.

135. Defendants have induced and continue to actively, knowingly, and intentionally induce infringement of one or more claims of the '253 patent, including at least claim 1, under 35 U.S.C. § 271(b) by actively encouraging others to make, use, sell, and offer to sell in the United States, the Accused Products in a manner specifically intended to infringe the '253 patent.

136. Defendants have contributed and continue to contribute to the infringement of one or more claims of the '253 patent, including at least claim 1, under 35 U.S.C. § 271(c) by offering to sell and selling a component of the '253 Accused Products, or a material or apparatus for use in practicing a process claimed in the '253 patent, that constitutes a material part of the inventions, knowing the same to be especially made or especially adapted for use in an infringement of the '253 patent, and is not a staple article or commodity of commerce suitable for substantial noninfringing use.

137. For example, claim 1 of the '253 patent recites: A tracking system comprising: an estimation subsystem; and a sensor subsystem coupled to the estimation subsystem and configured to provide configuration data to the estimation subsystem and to provide measurement information to the estimation subsystem for localizing an object; wherein the estimation subsystem is configured to update a location estimate for the object based on configuration data and measurement information accepted from the sensor subsystem.

138. The Accused Products are or contain a tracking system. For example, the Accused Products are systems for tracking the location of objects.

139. The Accused Products are or contain an estimation subsystem. For example, Defendants have marketed, distributed, offered for sale, and sold the Accused Products, which include an estimation subsystem (e.g., the HMD processor (Oculus Quest, Oculus Quest 2) or the processor operably connected to the Oculus Rift S HMD).

140. The Accused Products are or contain a sensor subsystem coupled to the estimation subsystem and configured to provide configuration data to the estimation subsystem and to provide measurement information to the estimation subsystem for localizing an object. For example, Defendants have marketed, distributed, offered for sale, and sold the Accused Products, which include a sensor subsystem (e.g., the sensors of the HMD and/or controllers) coupled to the estimation subsystem and configured to provide configuration data to the estimation subsystem and to provide measurement information to the estimation subsystem for localizing an object (e.g., the controllers or the user's hands).

141. The Accused Products are or contain an estimation subsystem that is configured to update a location estimate for the object based on configuration data and measurement information accepted from the sensor subsystem. For example, Defendants have marketed, distributed, offered for sale, and sold the Accused Products, which include an estimation subsystem that is configured to update a location estimate for the object based on configuration data and measurement information accepted from the sensor subsystem.

142. Exhibit J includes a chart comparing exemplary claims of the '253 patent to the Accused Products and their use, and is hereby incorporated by reference.

143. The foregoing allegations are based on publicly available information and a reasonable investigation of the structure and operation of the Accused Products. Plaintiffs reserve the right to modify this description, including, for example, on the basis of information

about the Accused Products that they obtain during discovery.

144. Defendants had actual knowledge of the '253 patent as described above in paragraphs 52 through 61, by July 21, 2014, or alternatively May 31, 2018, or alternatively July 8, 2020, or alternatively January 26, 2021.

145. Accordingly, before Defendants launched and began taking preorders for all of the Accused Products, Defendants had knowledge of, or were willfully blind to, the '253 patent and that their activities infringed one or more claims of the '253 patent. At the times the Accused Products launched, Defendants also knew or should have known that their users were infringing the '253 patent, and Defendants took actions with the specific intent for their users to do so, including as set forth in Exhibit J. These actions include specifically promoting and encouraging users to use the tracking methods and systems claimed in the '253 patent. Furthermore, the Accused Products are especially made and adapted to use in the tracking methods and systems claimed in the '253 patent, which Defendants promote as an important part of the Accused Products.

146. Moreover, by at least July 22, 2021, Plaintiffs disclosed, at least by filing this Complaint, the existence of the '253 patent and identified the Accused Products that infringe the '253 patent. Based on this disclosure, Defendants had knowledge of, or were willfully blind to, the '253 patent and that their activities infringed the '253 patent. Since July 22, 2021, Defendants also knew or should have known that their users were infringing the '253 patent.

147. Defendants' direct and indirect infringement of the '253 patent has been, and continues to be, within Gentex's exclusive fields-of-use.

148. Defendants' infringement has damaged and continues to damage Plaintiffs in an amount yet to be determined, of at least a reasonable royalty.

149. Defendants have undertaken their infringing actions despite knowing that such actions infringed the '253 patent. As such, Defendants have willfully infringed and continue to willfully infringe the '253 patent.

150. This is an exceptional case. Plaintiffs are entitled to attorneys' fees and costs under 35 U.S.C. § 285 as a result of Defendants' infringement of the '253 patent.

**REQUEST FOR A JURY TRIAL**

151. Plaintiffs request a jury trial of all issues in this action so triable.

**PRAYER FOR RELIEF**

WHEREFORE, Plaintiffs respectfully request:

A. That Judgment be entered that Defendants have infringed one or more claims of the Asserted Patents, directly and indirectly, literally and under the doctrine of equivalents;

B. An award of damages sufficient to compensate Plaintiffs for Defendants' infringement under 35 U.S.C. § 284, including an enhancement of damages on account of Defendants' willful infringement;

D. That the case be found exceptional under 35 U.S.C. § 285 and that Plaintiffs be awarded their reasonable attorneys' fees;

E. Costs and expenses in this action;

F. An award of prejudgment and post-judgment interest; and

G. Such further relief as the Court may deem just and proper.

Dated: July 22, 2021

Respectfully submitted,

/s/ J. Mark Mann

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