

In the United States Court of Federal Claims

SCIENCE APPLICATIONS
INTERNATIONAL CORPORATION,

Plaintiff,

v.

THE UNITED STATES,

Defendant,

and

MICROSOFT CORPORATION,

Intervenor-Defendant,

and

L3 TECHNOLOGIES, INC.,

Third-Party Defendant.

No. 17-cv-825

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Matthew D. Tanner, United States Department of Justice, Civil Division, Washington, D.C. argued for Defendant. With him on the briefs were *Brian M. Boynton*, Principal Deputy Assistant Attorney General, Washington, D.C.; and *Scott Bolden*, *Hayley A. Dunn*, and *Gary L. Hausken* of the United States Department of Justice, Civil Division, Washington, D.C.

Ahmed J. Davis and *Thomas L. Halkowski* of Fish & Richardson P.C., Washington, D.C. argued for Intervenor-Defendant. With them on the briefs were *W. Freeman, Jr.*, *Daniel Y. Lee*, and *Laura*

¹ This Memorandum and Order was filed under seal, in accordance with the Protective Order entered in this case (ECF No. 34) and was publicly reissued after incorporating all appropriate redactions proposed by the parties (ECF No. 425-1). The two versions are substantively identical, except for the publication date and this footnote.

C. Whitworth of Fish & Richardson P.C., Washington, D.C.; and *John Thornburgh*, Fish & Richardson P.C., San Diego, C.A.

William C. Bergmann of Baker & Hostetler LLP, Washington, D.C. argued for Third-Party Defendant. With him on the briefs were *Charles C. Carson* of Baker & Hostetler LLP, Washington, D.C.; and *Phillip D. Wolfe* of Baker & Hostetler LLP, Philadelphia, P.A.

MEMORANDUM AND ORDER

I. Introduction

On June 19, 2017, Plaintiff Science Applications International Corporation (SAIC) filed the present action alleging literal patent infringement pursuant to 28 U.S.C. § 1498(a) against Defendant the United States (the Government). Complaint (ECF No. 1) (Compl.) ¶¶ 1–3. SAIC contends that the Government has infringed several of SAIC’s patents including “by entering into contracts with Plaintiff’s competitors for the manufacture and subsequent use of night vision goggle weapon systems with specialized heads up displays that allegedly use Plaintiff’s patented technology.” *Sci. Applications Int’l Corp. v. United States*, 148 Fed. Cl. 268, 269 (2020); *see* Compl. ¶¶ 2, 37. Though this case has persisted through six years of extensive litigation, and involves staggeringly high contract values of over ██████████,² at its heart rests cutting-edge technology emblematic of American ingenuity and critical to the safety of military men and women across the globe.

This Court has issued several opinions throughout the course of this litigation, familiarity with which is presumed.³ *See, e.g., Sci. Applications Int’l Corp. v. United States*, 135 Fed. Cl. 661

² *See* Hearing Transcript, dated July 26, 2021 (ECF No. 191) at 8:7–17 (referencing ██████████ contract between the Government and Microsoft).

³ Since its inception in June 2017, this action has been reassigned four times to different judges. *See Sci. Applications Int’l Corp.*, 148 Fed. Cl. at 270; *see also* ECF No. 25 (Notice of Reassignment, dated April 5, 2018); ECF No. 68 (Notice of Reassignment, dated June 21, 2019); ECF No. 85 (Notice of Reassignment, dated July 23, 2019); ECF No. 113 (Notice of Reassignment to undersigned judge, dated February 27, 2020).

(2018); *Sci. Applications Int'l Corp. v. United States*, 154 Fed. Cl. 594 (2021) (*Markman* Opinion or *Markman Op.*); *Sci. Applications Int'l Corp. v. United States*, 156 Fed. Cl. 486 (2021); *Sci. Applications Int'l Corp. v. United States*, 161 Fed. Cl. 373 (2022); *Sci. Applications Int'l Corp. v. United States*, 162 Fed. Cl. 213 (2022); *Sci. Applications Int'l Corp. v. United States*, 163 Fed. Cl. 257 (2022). The following seven motions are pending before this Court and are ripe for adjudication:

- Intervenor-Defendant Microsoft Corporation's Motion for Summary Judgment of Invalidity Based on Indefiniteness (ECF No. 339) (MSFT MSJ Inv.)⁴;
- Plaintiff SAIC's Motion for Partial Summary Judgment of Infringement by the Government and for Summary Judgment regarding the Desert's Edge Prior Art Status (ECF No. 340) (SAIC MSJ Inf.)⁵;
- Third-Party Defendant L3 Technologies, Inc.'s Motion for Summary Judgment of Non-Infringement (ECF No. 341) (L3 MSJ NI)⁶;
- Defendant the United States and Third-Party Defendant L3 Technologies, Inc.'s Joint Motion for Summary Judgment of Invalidity Based on Indefiniteness (ECF No. 342) (L3/Gov. MSJ Inv.)⁷;

⁴ See SAIC's Opposition to Intervenor-Defendant Microsoft Corporation's and the United States' and Third-Party Defendant L3 Technologies, Inc.'s Motions for Summary Judgment of Invalidity Based on Indefiniteness (ECF No. 364) (MSFT MSJ Inv. – SAIC Resp.); Intervenor-Defendant Microsoft Corporation's Reply in Support of its Motion for Summary Judgment of Invalidity Based on Indefiniteness (ECF No. 374) (MSFT MSJ Inv. – MSFT Reply).

⁵ See Defendants' Combined Opposition to SAIC's Motions for Partial Summary Judgment of Infringement by the Government and Prior Art Status of Desert's Edge (ECF No. 359) (SAIC MSJ Inf. – Def. Resp.); SAIC's Reply to Defendants' Combined Opposition to SAIC's Motion for Partial Summary Judgment of Infringement by the Government and Prior Art Status of Desert's Edge (ECF No. 372) (SAIC MSJ Inf. – SAIC Reply).

⁶ See SAIC's Opposition to Third-Party Defendant L3 Technologies, Inc.'s Motion for Summary Judgment of Non-Infringement (ECF No. 361) (L3 MSJ NI – SAIC Resp.); Third-Party Defendant L3 Technologies, Inc.'s Reply in Support of L3's Motion for Summary Judgment of Non-Infringement (ECF No. 376) (L3 MSJ Inv. – L3 Reply).

⁷ See SAIC's Opposition to Defendant the United States of America's and Third-Party Defendant L3 Technologies, Inc.'s Motion for Summary Judgment of Invalidity Based on Indefiniteness (ECF No. 360) (L3/Gov. MSJ Inv. – SAIC Resp.); Defendant the United States' and Third-Party

- Intervenor-Defendant Microsoft Corporation’s Motion for Summary Judgment of Non-Infringement (ECF No. 343) (MSFT MSJ NI)⁸;
- Plaintiff SAIC’s Motion to Strike Untimely Non-Infringing Alternatives and Non-Infringement Theories (ECF No. 352) (SAIC MTS)⁹;
- All Defendants’ Joint Motion to Strike the Declaration of SAIC's Infringement Expert, Dr. Bajaj, Expressing New Infringement Opinions (ECF No. 377) (Def. MTS).¹⁰

Briefing of the above motions concluded on April 20, 2023. *See* Scheduling Order, dated December 14, 2022 (ECF No. 333); Unopposed Motion for Extension of Time (ECF No. 378); Minute Order, dated April 14, 2023 (granting unopposed Motion to extend briefing deadline to April 20, 2023). The Court heard argument on these motions on June 22, 2023 (Oral Argument). *See* Minute Order, dated April 27, 2023 (setting Oral Argument); Oral Argument Transcript, dated June 22, 2023 (ECF No. 400) (OA Tr.). On September 28, 2023, the Court ruled on the pending motions and certified a partial judgment pursuant to Rule 54(b). *See* ECF Nos. 401, 402. Subsequently, the parties moved pursuant to Rules 59 and 60 to alter or amend the Court’s September 28, 2023 Memorandum and Order and entry of partial judgment. *See* ECF Nos. 409

Defendant L3 Technologies, Inc.’s Reply in Support of Their Motion for Summary Judgment of Invalidity Based on Indefiniteness (ECF No. 373) (L3/Gov. MSJ Inv. – L3/Gov. Reply).

⁸ *See* SAIC’s Opposition to Microsoft Corporation’s Motion for Summary Judgment of Non-Infringement (ECF No. 362) (MSFT MSJ NI – SAIC Resp.); Intervenor-Defendant Microsoft Corporation’s Reply in Support of Its Motion for Summary Judgment of Non-Infringement (ECF No. 375) (MSFT MSJ NI – MSFT Reply).

⁹ *See* Defendants’ Opposition to SAIC’s Motion to Strike Non-Infringing Alternatives and Non-Infringement Theories (ECF No. 367) (SAIC MTS – Def. Resp.); SAIC’s Reply in Support of its Motion to Strike Untimely Non-Infringing Alternatives and Non-Infringement Theories (ECF No. 382) (SAIC MTS – SAIC Reply).

¹⁰ *See* SAIC’s Opposition to Defendants’ Motion to Strike the Declaration of SAIC’s Infringement Expert, Dr. Bajaj, Expressing New Infringement Opinions (ECF No. 390) (Def. MTS – SAIC Resp.); Reply in Support of Defendants’ Motion to Strike the Declaration of SAIC’s Infringement Expert, Dr. Bajaj, Expressing New Infringement Opinions (ECF No. 391) (Def. MTS – Def. Reply).

and 412. On February 13, 2024, this Court granted Plaintiff's Rule 59 Motion, denied Defendants' Rule 60 Cross-Motion, and accordingly ordered the Clerk of Court to (1) strike from the docket the Court's September 28, 2023 Memorandum and Order, and (2) vacate the Court's entry of partial judgment. *See* ECF No. 420. As a result, the above-listed seven motions are pending once again. The present Memorandum and Order addressing these now-pending motions is substantively identical to the Court's now-stricken September 28, 2023 opinion, excepting this paragraph and Section V (Conclusion). A background summary pertinent to the pending motions follows.

A. Background

a. The Alleged Infringing Parties

The Government has entered into several contractual arrangements with various parties to develop and manufacture the accused technology. Specifically, on May 9, 2014, the Government, acting by and through the Department of the Army (the Army), awarded two contracts for the procurement of the Enhanced Night Vision Goggle-III (ENVG-III) and the Family of Weapon Sights – Individual (FWS-I) to BAE Systems, Inc. (BAE) and DRS Networks & Imaging Systems, LLC (DRS). Compl. ¶¶ 2, 37. Neither BAE nor DRS have joined this suit. Additionally, on November 20, 2018, Intervenor-Defendant Microsoft Corporation (Microsoft) entered into a contract with the Government to develop an [REDACTED], which includes implementation of the [REDACTED] feature relevant to SAIC's infringement claims. *See* Microsoft's Unopposed Motion to Intervene Pursuant to Rule 24 (ECF No. 59) at 1.¹¹ On April 30, 2019, Microsoft filed an unopposed Motion to Intervene in this action

¹¹ Citations throughout this Memorandum and Order reference the ECF-assigned page numbers, which do not always correspond to the pagination within the document.

under Rule 24 of the Rules of the United States Court of Federal Claims (Rules), which this Court granted on May 6, 2019. *See id.*; Order, dated May 6, 2019 (ECF No. 60) (granting Microsoft’s Motion to Intervene).

Similarly, on May 30, 2019, the Army entered into two separate other transaction agreements (OTAs) with L3 Technologies, Inc. (L3) and Harris Corporation (Harris) to develop a prototype for an Enhanced Night Vision Goggle-Binocular (ENVG-B) that also requires implementation of the accused [REDACTED]. *See* Order, dated May 12, 2020 (ECF No. 120) at 3. Defendant filed a Motion to Notify L3 and Harris as interested third parties pursuant to Rule 14(b) on March 10, 2020, which this Court granted on May 12, 2020. *See* Motion to Notify Interested Party L3 Technologies, Inc. and Harris Corporation Pursuant to RCFC 14(b) (ECF No. 114); Order, dated May 12, 2020 (ECF No. 120) (granting Defendant’s Motion to Notify L3 and Harris). Accordingly, Rule 14(b) notices were issued to L3 and Harris, care of Elbit Systems of America, LLC (Elbit),¹² on May 12, 2020. *See* Notice to Third Parties (L3 Technologies, Inc. and Harris Corporation) pursuant to Rule 14(b)(1) (ECF No. 122). On July 14, 2020, L3 filed its Answer to SAIC’s Complaint, entering the case as a third-party defendant. L3 Technologies, Inc. Answer (ECF No. 131). In contrast, Elbit filed a Notice with the Court declining to file any third-

¹² Though the Government awarded Harris one of the May 30, 2019 OTAs, the division of Harris responsible for developing the company’s night vision technology was spun-off and purchased by Elbit Systems of America, LLC (Elbit), which is the U.S. subsidiary of Elbit Systems, Ltd. *See* Order, dated May 12, 2020 (ECF No. 120) at 3 n.1. Accordingly, this Court references Elbit as the relevant party in interest throughout the remainder of this Memorandum and Order. This choice is consistent with the parties’ understanding, as reflected in their briefing. *See, e.g.*, SAIC MSJ Inf. at 9 n.1; SAIC MSJ Inf. – Def. Resp. at 7 (“SAIC’s motion for partial summary judgment against the Government is based on the flawed premise that there is no fact or expert evidence to rebut SAIC’s allegations of infringement against the DRS ENVG-III and the Elbit ENVG-B systems.”).

party pleadings. *See* Notice by Elbit Systems of America, LLC, dated July 29, 2020 (ECF No. 135).

In sum, the Government has contracted at various times with several parties for the development, manufacture, and procurement of the accused night vision goggles technology at issue in this action. From these arrangements, SAIC has specifically accused the following devices of infringement:

[the] █████ systems provided by Microsoft Corporation (“Microsoft”), ENVG-B systems provided by L3 Technologies, Inc. (“L3”) with the support of its subcontractor BAE Systems, Inc. (“BAE”), ENVG-III systems provided by BAE, ENVG-B systems provided by Elbit Systems of America, LLC (“Elbit”) with the support of its subcontractor DRS Networks & Imaging Systems, LLC (“DRS”), and ENVG-III systems provided by DRS.

SAIC MSJ Inf. at 9 n.1. As noted, of the parties that contracted with the Government to develop the accused night vision goggle technology, only Microsoft and L3 opted to join this action as Intervenor-Defendant and Third-Party Defendant, respectively.

b. The Soldier Enhanced Rapid Engagement and Vision in Ambient Lighting (SERVAL) Patents

SAIC originally alleged infringement of the SERVAL family of patents, which consist of the following four patents: U.S. Patent Nos. 7,787,012 (ECF No. 1-1 at 1–19) (the ’012 patent); 8,817,103 (ECF No. 1-1 at 20–37) (the ’103 patent); 9,229,230 (ECF Nos. 340-6, 343-2, 344-1, 352-1, 361-12, 362-1) (the ’230 patent); and 9,618,752 (ECF Nos. 1-1 at 93–146, 359-2, 361-11) (the ’752 patent) (collectively, the SERVAL patents). On August 6, 2021, this Court issued its claim construction opinion (*Markman* Opinion) construing several terms included in the challenged patents. *See Markman Op.*, 154 Fed. Cl. at 639. The Court’s constructions consisted of the following definitions:

- The terms “video images” / “video source image” / “video data of images” are construed as “digital, analog, or nonstandard video frames” (*Markman Op.*, 154 Fed. Cl. at 614–19, 639);

- The term “transparent display” is construed as “a display that has the effect of being transparent or translucent, allowing simultaneous viewing of the underlying visual field and other images or information” (*Markman Op.*, 154 Fed. Cl. at 619–24, 639);
- The term “overlay” is construed “in accordance with its plain and ordinary meaning, ‘e.g., Overlaying: positioned over or upon. Overlay/overlays: are over or upon/is over or upon’” (*Markman Op.*, 154 Fed. Cl. at 624–27, 639);
- The term “based on a comparison of data from the first and second video source images” is construed as “based on a comparison of image data (e.g., content and contrast) from the first and second video source images” (*Markman Op.*, 154 Fed. Cl. at 627–29, 639);
- The term “motion data” is construed as “data indicative of motion, including at least orientation data” (*Markman Op.*, 154 Fed. Cl. at 629–34, 639); and
- The terms “in registration with” / “registering” (the Registration Terms) are construed as indefinite under 35 U.S.C. § 112 (*Markman Op.*, 154 Fed. Cl. at 634–39).

As a result of this Court’s construction of the “in registration with” and “registering” terms as indefinite, the parties stipulated and jointly moved the Court for entry of summary judgment that “all claims of U.S. Patent Nos. 7,787,012 (the ’012 patent), 8,817,103 (the ’103 patent), and 9,618,752 (the ’752 patent), as well as claims 3, 17 and 31 of U.S. Patent No. 9,229,230 (the ’230 patent) are invalid as a result of the Court’s findings of indefiniteness under Pre-AIA 35 U.S.C. § 112.” Joint Stipulation of Invalidity and Motion for Partial Summary Judgment Regarding the Asserted Patents (ECF No. 208) (Joint Stipulation) at 2. Accordingly, the only patent remaining at issue in this action is the ’230 patent, exclusive of dependent claims 3, 17, and 31. *See id.*

c. The ’230 Patent

The ’230 patent, issued on January 5, 2016, identifies two inventors, General John Richard Scales and Michael Harris Rodgers, and one assignee, Science Applications International Corporation of McLean, VA. *See Markman Op.*, 154 Fed. Cl. at 604; *see generally* ’230 patent. The ’230 patent includes forty-two total claims, three of which are independent claims: claims 1, 15, and 29. *Id.* at 604–05 (citing ’230 patent at 24:25–30:42).

Claim 1 of the '230 patent recites:

1. A system, comprising:

a first video source configured to generate images representing portions of an external environment;

a second video source, movable independent of the first video source, configured to generate images representing portions of the external environment;

a video display; and

a controller coupled to the first and second video sources and to the display, wherein the controller is configured to

(a) receive video images from the first video source and from the second video source,

(b) receive motion data indicative of motion of the first and second video sources,

(c) identify, based on the received motion data, a part of a first video source image that potentially represents a portion of the external environment represented in a part of a second video source image;

(d) evaluate, based on a comparison of data from the first and second video source images, the identification performed in operation (c); and

(e) display at least a portion of the first video source image and at least a portion of the second video source image such that the second video source image portion overlays a corresponding region of the first video source image portion, wherein the corresponding region represents a portion of the external environment represented in the second video source portion.

'230 patent at 24:25–51.¹³ Claims 2 through 14 of the '230 patent depend ultimately on independent system claim 1. *See id.* at 24:52–26:26.

¹³ For clarity and consistency within this opinion, this Court adopts the following naming convention:

- Claim limitation “(a) receive video images from the first video source and from the second video source” is referenced as “claim limitation 1(a).” '230 patent at 24:34–35.
- Claim limitation “(b) receive motion data indicative of motion of the first and second video sources” is referenced as “claim limitation 1(b).” '230 patent at 24:36–37.
- Claim limitation “(c) identify, based on the received motion data, a part of a first video source image that potentially represents a portion of the external environment represented

The second independent claim in the '230 patent, claim 15, repeats claim limitations 1(a) through 1(e) in gerund form and framed as a method claim, reciting:

15. A method, comprising:

- (a) receiving video images from a first video source and from a second video source representing portions of an external environment;
- (b) receiving motion data indicative of motion of the first and second video sources;
- (c) identifying, based on the received motion data, a part of a first video source image that potentially represents a portion of the external environment represented in a part of a second video source image;
- (d) evaluating, based on a comparison of data from the first and second video source images, the identification performed in step (c); and
- (e) displaying at least a portion of the first video source image and at least a portion of the second video source image such that the second video source image portion overlays a corresponding region of the first video source image portion, wherein the corresponding region represents a portion of the external environment represented in the second video source portion.

Id. at 26:27–47. Claims 16 through 28 of the '230 patent depend ultimately on claim 15. *Id.* at 26:48–28:16.

in a part of a second video source image” is referenced as “claim limitation 1(c).” '230 patent at 24:38–41.

- Claim limitation “(d) evaluate, based on a comparison of data from the first and second video source images, the identification performed in operation (c)” is referenced as “claim limitation 1(d).” '230 patent at 24:42–44.
- Claim limitation “(e) display at least a portion of the first video source image and at least a portion of the second video source image such that the second video source image portion overlays a corresponding region of the first video source image portion, wherein the corresponding region represents a portion of the external environment represented in the second video source portion” is referenced as “claim limitation 1(e).” '230 patent at 24:45–51.

This same convention likewise applies to the corresponding claim limitations recited in independent claims 15 and 29. For example, claim limitation “(c) identifying, based on the received motion data, a part of a first video source image that potentially represents a portion of the external environment represented in a part of a second video source image” found in independent claim 15 is referenced as “claim limitation 15(c).” '230 patent at 26:33–36.

Finally, the third independent claim in the '230 patent, claim 29, recites the same method steps as claims 1 and 15, except it is framed as a “non-transitory machine-readable medium having machine executable instructions for performing a method.” *Id.* at 28:17–18. It recites in full:

29. A non-transitory machine-readable medium having machine-executable instructions for performing a method, comprising:

- (a) receiving video images from a first video source and from a second video source representing portions of an external environment;
- (b) receiving motion data indicative of motion of the first and second video sources;
- (c) identifying, based on the received motion data, a part of a first video source image that potentially represents a portion of the external environment represented in a part of a second video source image;
- (d) evaluating, based on a comparison of data from the first and second video source images, the identification performed in step (c); and
- (e) displaying at least a portion of the first video source image and at least a portion of the second video source image such that the second video source image portion overlays a corresponding region of the first video source image portion, wherein the corresponding region represents a portion of the external environment represented in the second video source portion.

Id. at 28:17–38. Claims 30 through 42 of the '230 patent depend ultimately on claim 29. *Id.* at 28:39–30:42.

The '230 patent summarizes its purported invention as follows. *See generally* '230 patent; *Markman Op.*, 154 Fed. Cl. at 604–09. “[A] computer receives images from two video sources,” one “within a pair of goggles worn by a user” and the other “mounted to a rifle carried by the user.” '230 patent at 1:58–64. These video sources are independently movable and “generate[] images that represent a portion of the external environment within [their] field of view.” *Id.* Sensors coupled with the two video sources “provide data to the computer that indicates the spatial orientations of those sources.” *Id.* at 1:64–66. The computer uses data from these sensors to determine “a location for placing a video image (or portion thereof) from a second of the sources (e.g., a rifle-mounted source) in the video image from a first of the sources (e.g., a goggles-

mounted source).” *Id.* at 1:67–2:3. The device then compares “[d]ata from the two images . . . in order to evaluate the location determined from the sensor data. The sensor-based location is either confirmed, or a new location is found based on additional image comparisons.” *Id.* at 2:6–9. “Once a location is selected (either a confirmed sensor-based location or a location found using image comparison), the two images are displayed such that the second source image (or a portion of that image) overlays a corresponding portion of the first source image.” *Id.* at 2:9–14.

In summary, the ’230 patent contemplates a two-step alignment process in which the computer “first uses data from motion sensors to help align images from two different sources,” then “compar[es] the content of the images themselves to evaluate whether the alignment is correct and to adjust the alignment as necessary” prior to displaying those images. *See Markman Op.*, 154 Fed. Cl. at 608 (citing ’230 patent at 2:6–17). This two-step alignment process is touted as an improvement over the previous methods embodied in the ’012 patent and ’103 patent, which relied solely on orientation data to align incoming images. *See id.* at 607–08 (citing ’012 patent claims 1, 17; ’103 patent, claim 1). This is because, as the ’230 patent acknowledges, “‘many low-cost [inertial measurement unit (IMU)] sensors experience bias drift over time’ that ‘can result in relative orientation errors of several degrees per hour.’” *Id.* at 608 (citing ’230 patent at 1:38–41) (alterations in original).

The invention claimed in the ’230 patent “is illustrated by way of example, and not by way of limitation,” through numerous figures included within the specification, each of which are accompanied by written descriptions. *See* ’230 patent at 2:35–3:20. For example, Figure 4 of the ’230 patent, pictured below, provides an example of a displayed image resulting from the two-step alignment process.

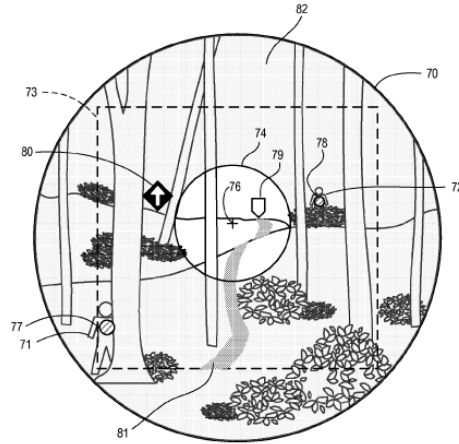


FIG. 4

See Markman Op., 154 Fed. Cl. at 608–09 (describing how the invention achieves the image in Figure 4); *see also* '230 patent at 6:54–7:25. “The [heads-up display] portion of user display 70 is shown as a rectangular region 73 in the center portion of the goggles [field of view].” *Id.* at 7:3–5. “[O]verlaid on [the heads-up display] 73 is a weapon view 74 corresponding to (and generated from) the scope image.” *Id.* at 7:6–8. “[T]he location and rotation of weapon view 74 within user display 70 is determined by computer 30 based on output from sensors 13 and 18 and based on comparison of the scope image with the goggles image.” *Id.* at 7:19–22. “As rifle 19 is moved, scope images (or portions thereof) are dynamically positioned within user display 70 so as to indicate where scope 17 (and thus rifle 19) is pointing.” *Id.* at 7:22–25.

Additionally, Figures 5A and 5B, pictured below, depict a flow chart “explaining the operation of system 10.” *Id.* at 7:46–47; *see Markman Op.*, 154 Fed. Cl. at 609.

[Continued on next page]

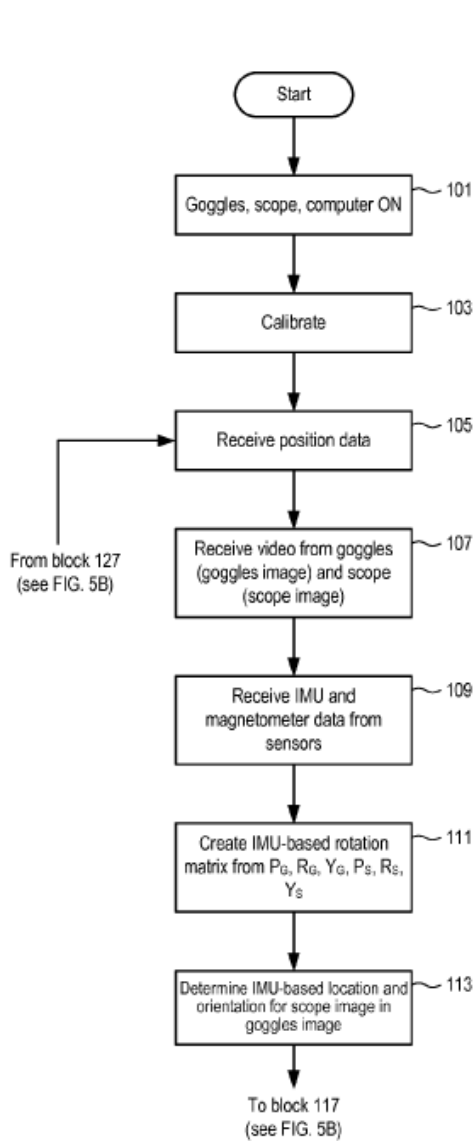


FIG. 5A

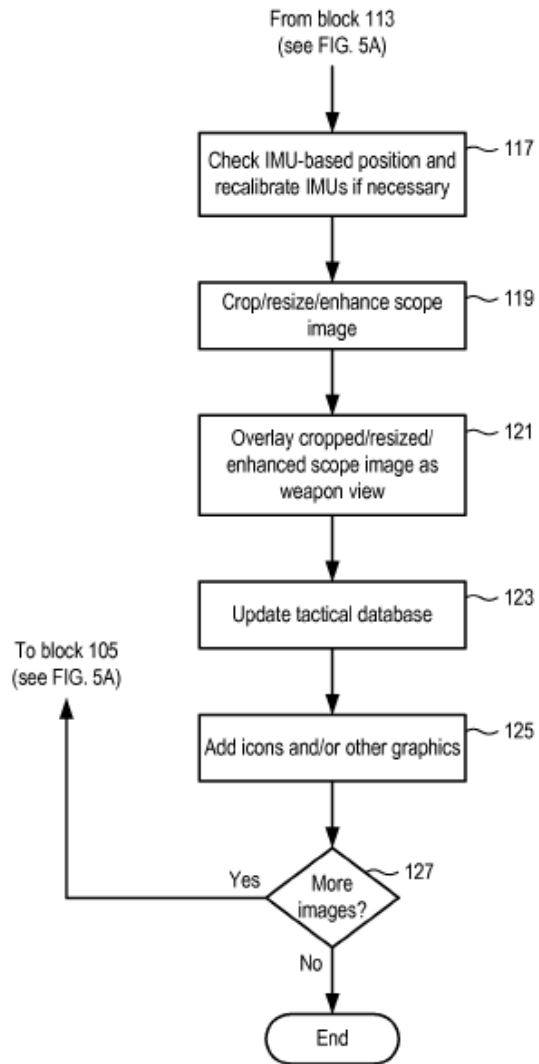


FIG. 5B

Likewise, Figures 7 and 14, also pictured below, portray examples of potential embodiments for the “evaluate” operation recited in claim limitations 1(d), 15(d), and 29(d). See ’230 patent at 2:55–56 (“[Figure] 7 is a flow chart providing additional details for [block 117] in the flow chart of [Figures] 5A and 5B.”); *id.* at 3:4–5 (“[Figure] 14 is a flow chart for an alternate image comparison algorithm.”).

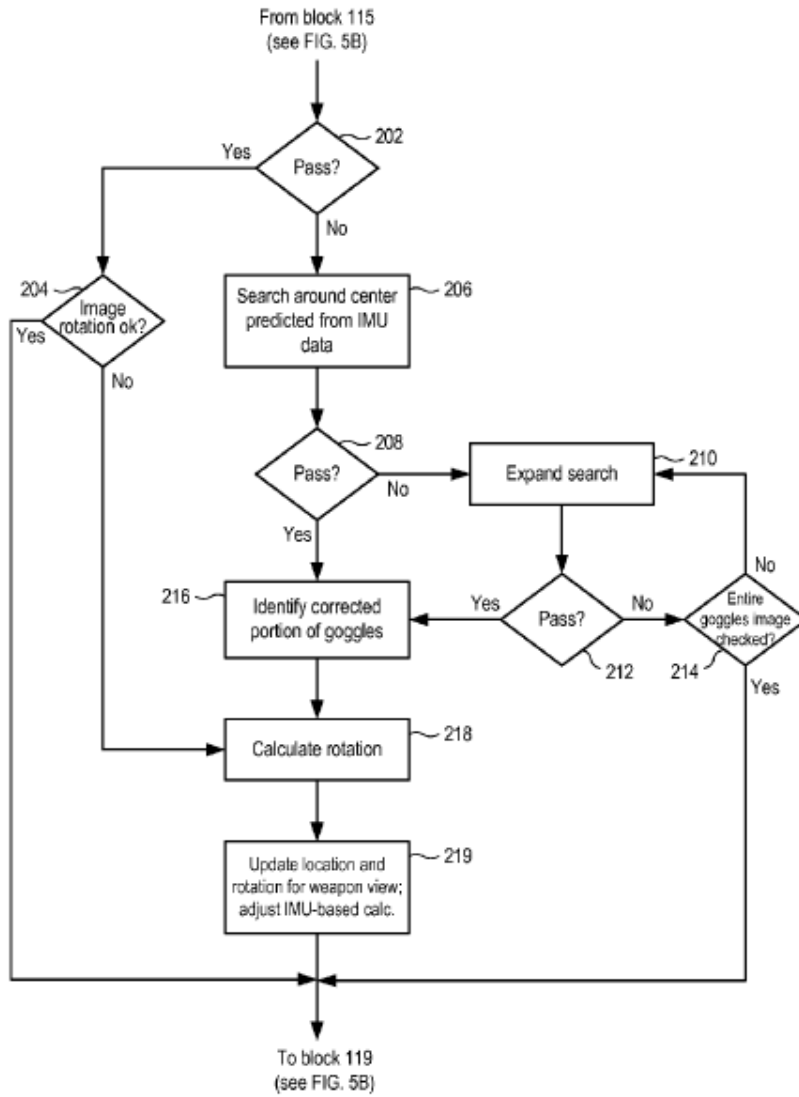


FIG. 7

[Continued on next page]

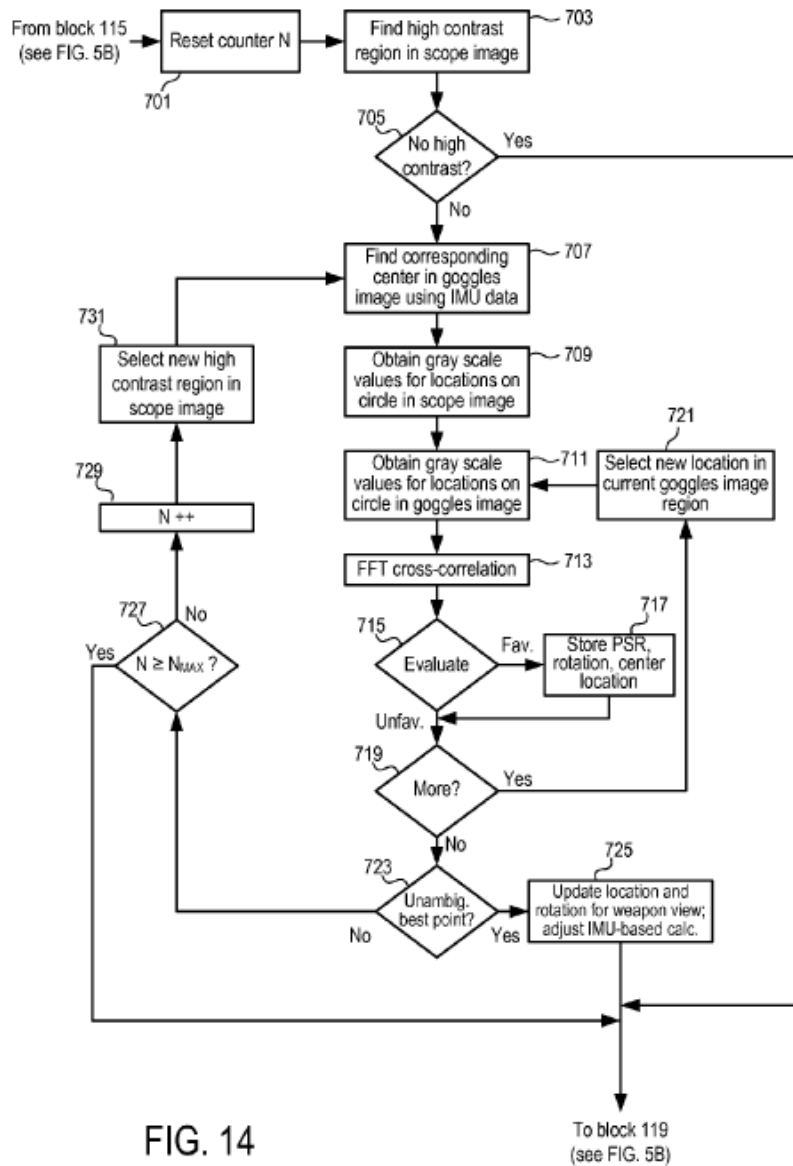


FIG. 14

B. Summary of Rulings

For the reasons stated in this Memorandum and Order, the Court orders the following disposition of the parties' seven pending motions. Plaintiff SAIC's Motion to Strike Untimely Non-Infringing Alternatives and Non-Infringement Theories (ECF No. 352) is **DENIED in part**, solely as it pertains to Microsoft's non-infringement theory. Defendants' Joint Motion to Strike the Declaration of SAIC's Infringement Expert, Dr. Bajaj, Expressing New Infringement Opinions (ECF No. 377) is **GRANTED**. Intervenor-Defendant Microsoft Corporation's Motion for

Summary Judgment of Invalidity Based on Indefiniteness (ECF No. 339) is **DENIED**. Defendant the United States and Third-Party Defendant L3 Technologies, Inc.’s Joint Motion for Summary Judgment of Invalidity Based on Indefiniteness (ECF No. 342) is **DENIED**. Intervenor-Defendant Microsoft Corporation’s Motion for Summary Judgment of Non-Infringement (ECF No. 343) is **GRANTED**. Third-Party Defendant L3 Technologies, Inc.’s Motion for Summary Judgment of Non-Infringement (ECF No. 341) is **DENIED**. Plaintiff SAIC’s Motion for Partial Summary Judgment of Infringement by the Government (ECF No. 340) is **DENIED**. Plaintiff SAIC’s Motion for Summary Judgment regarding the Desert's Edge Prior Art Status (ECF No. 340) is **DENIED as MOOT**.

II. Motions to Strike

The parties have filed dueling motions to strike related to their summary judgment motions.

First, on March 13, 2023, SAIC filed a Motion to Strike urging this Court to strike one of Microsoft’s non-infringement theories (SAIC’s Motion to Strike).¹⁴ *See* SAIC MTS. Specifically, SAIC alleges Microsoft¹⁵ untimely and inadequately disclosed its non-infringement theory that “the claims require an order of operation and that [Microsoft’s] accused products do not meet this

¹⁴ SAIC’s Motion to Strike also contested the timeliness of Defendants’ non-infringing alternatives theories. The Court addressed that portion of SAIC’s Motion in a separate opinion (ECF Nos. 415 (sealed), 419 (public)).

¹⁵ Although L3 likewise raised a non-infringement argument centered on the alleged order of the ’230 patent claim limitations in its Motion for Summary Judgment of Non-Infringement (ECF No. 341 at 40–44), SAIC did not move to strike L3’s ordering theory as untimely. *See generally* SAIC MTS at 23–33 (repeatedly addressing “Microsoft’s” allegedly untimely ordering theory); SAIC MTS – Def. Resp. at 19 n. 6 (noting that “SAIC’s motion to strike the ‘order of the claims non-infringement theory’ is directed to Microsoft and not the other Defendants . . . and only accuses Microsoft of untimely disclosure”); Oral Argument Transcript, dated June 22, 2023 (ECF No. 400) (OA Tr.) at 30:17–19 (when questioned by the Court why SAIC did not move to strike L3’s ordering arguments, SAIC counsel acknowledged SAIC “responded in the summary judgment motion as opposed to separately filing a motion to strike”).

order,” (the ordering theory).¹⁶ SAIC MTS at 7. SAIC contends Microsoft failed to adequately disclose its ordering theory until after the close of fact discovery and that Microsoft’s ordering theory evolved over time such that Microsoft’s initial disclosures did not provide SAIC with adequate notice. *See, e.g.*, SAIC MTS at 28 (“SAIC seeks only to hold Microsoft to what it disclosed in its final non-infringement contentions, rather than allowing Defendants to raise new theories and evidence in support of those theories at the rebuttal expert report or summary judgment phase.”). Accordingly, SAIC moves to strike the following items from the record and to preclude Microsoft “from presenting these theories at trial to the extent that they put forward new or changed theories that Defendants did not include in their final contentions”:

- a. Paragraphs 7, 11–19, 23, 24, 26–30, and 65–70 from Appendix D to Dr. John Villasenor’s Rebuttal Expert Report on Infringement (ECF No. 343-11, 350-1, 352-5, 362-12) (Villasenor Appendix D or Villasenor App. D);
- b. Paragraphs 18–25 of Dr. Hany Farid’s Rebuttal Expert Report on Infringement (ECF No. 343-13, 350-9, 352-14, 362-15) (Farid Report or Farid Rpt.); and
- c. Paragraphs 2.a–2.e of the Declaration of Microsoft witness [REDACTED] (ECF No. 343-4, 352-15) ([REDACTED] Declaration or [REDACTED] Decl.).

See SAIC MTS at 9, 34.

Second, on April 12, 2023, Defendants jointly filed a corresponding Motion to Strike (Defendants’ Motion to Strike) seeking to exclude from the record the March 29, 2023 supplemental declaration of SAIC’s infringement expert, Dr. Chandrajit Bajaj, that SAIC attached as Exhibit C to SAIC’s opposition to Microsoft’s Motion for Summary Judgment of Non-

¹⁶ *See* MSFT MSJ NI at 6 (arguing “the Asserted Claims require the ‘identify’, ‘evaluate’, and ‘display’ operations be performed in that order on pairs of the received images” and asserting the “Microsoft Accused Products never perform the three basic operations in the order required by the claims on an incoming pair of images”) (emphasis in the original).

Infringement.¹⁷ *See generally* Def. MTS; *see generally* Declaration of Chandrajit Bajaj, dated March 29, 2023 (ECF No. 362-3) (Supplemental Bajaj Declaration or Supp. Bajaj Decl.). Defendants characterize the Supplemental Bajaj Declaration as a “new and untimely supplemental expert report expressing new opinions” and urge the Court to “preclude SAIC from offering any evidence related to such opinions either in opposing summary judgment or at trial.” Def. MTS at 5, 16. In the alternative, Defendants seek reasonable time to respond to the Supplemental Bajaj Declaration with “its own expert testimony, take Dr. Bajaj’s deposition, file any Rule 702/*Daubert* motions, and renew its summary judgment motions to the extent needed.” *Id.* at 23.

Having considered the parties’ arguments, applicable law, and the record, this Court **DENIES** SAIC’s Motion to Strike (ECF No. 352), solely as it pertains to Microsoft’s non-infringement theory, and **GRANTS** Defendants’ Motion to Strike (ECF No. 377). The Supplemental Bajaj Declaration (ECF No. 362-3) is accordingly stricken from the record. SAIC is precluded from relying on any opinions expressed in the Supplemental Bajaj Declaration, both in opposing Defendants’ summary judgment motions and at trial.¹⁸

¹⁷ Although SAIC only attached the Supplemental Bajaj Declaration as an exhibit to its brief opposing Microsoft’s Motion for Summary Judgment of Non-Infringement, SAIC cites the Supplemental Bajaj Declaration extensively throughout its briefs opposing Microsoft’s and L3’s respective Motions for Summary Judgment for Non-Infringement. *See* MSFT MSJ NI – SAIC Resp. at 14, 29–31, 33–34, 38–41; L3 MSJ NI – SAIC Resp. at 10–11, 14–15, 24, 27, 32, 35, 37, 41–42, 46. SAIC likewise relied on the contents of the Supplemental Bajaj Declaration at certain points during Oral Argument. *See, e.g.*, OA at 107:15–17 (SAIC counsel acknowledging SAIC’s antecedent basis argument relied on the Supplemental Bajaj Declaration).

¹⁸ In a Joint Status Report (JSR) dated January 27, 2023, the parties agreed that any Motions to Strike expert opinions, or portions thereof, would be filed in conjunction with their dispositive motions. *See* JSR, dated January 27, 2023 at 2; *see infra* Discussion Section II(C)(b) (addressing the parties’ decision-making process on this issue). Accordingly, consistent with the parties’ preference as stated in the JSR, this Court considers the parties’ respective Motions to Strike in conjunction with their respective Motions for Summary Judgment.

A. Background

The parties have engaged in vigorous discovery practice throughout this litigation. The parties' actions in both fact and expert discovery as related to the present Motions to Strike are no exception. Background relevant to (a) SAIC's Motion to Strike, and (b) Defendants' Motion to Strike is explained further below.

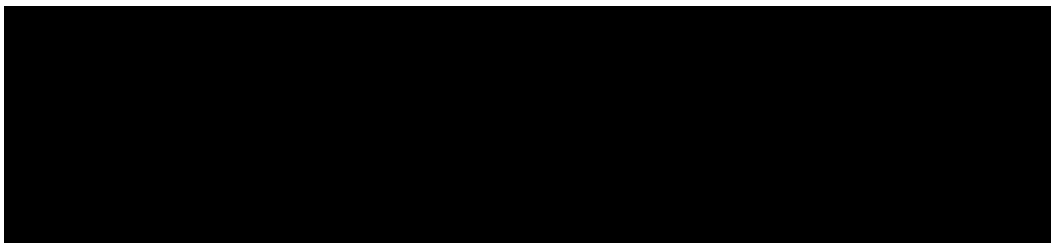
a. Relevant Background Regarding SAIC's Motion to Strike – SAIC Interrogatory No. 5 and Microsoft's Response

The timeliness and thoroughness of both SAIC Interrogatory No. 5 and Microsoft's Response to that interrogatory are at the heart of SAIC's Motion to Strike. This issue is not new to this Court; indeed, it was the subject of prior, vigorous motion practice before this Court. A review of the litigation history on this issue is relevant to adjudication of this Motion.

SAIC first requested disclosure of Microsoft's non-infringement theories on June 24, 2019, when it served contention Interrogatory No. 5 on Microsoft. Plaintiff SAIC's First Set of Interrogatories to Microsoft Corp. (ECF No. 352-11) at 3–4. Interrogatory No. 5 reads as follows:

If you contend that the Accused Products do not infringe, describe that contention in detail and include in Your answer: (a) an identification of the claim element or elements of the Asserted Patents that are allegedly not present in or practiced by the Accused Products; (b) an identification by Bates number of all Documents You rely on to support such a non-infringement defense; and (c) an identification of the three individuals at Microsoft who are most knowledgeable about the structure, function, and operation of the Accused Products or components thereof relevant to Your non-infringement defense.

Id. Microsoft initially responded to Interrogatory No. 5 on July 24, 2019, listing a standard set of objections to the interrogatory and further stating:



[REDACTED]

Microsoft's Response to SAIC's First Set of Interrogatories (ECF No. 352-12) at 3–4. Microsoft later supplemented its response to Interrogatory No. 5 on June 30, 2020 (June 30, 2020 Supplement), asserting [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] Microsoft's First Supplemental Response to Interrogatory No. 5, dated June 30, 2020 (ECF No. 367-18) at 11; *see id.* [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

On April 14, 2022, SAIC moved to compel Microsoft to further supplement its responses to Interrogatory No. 5 and provide greater clarity on its substantive non-infringement positions. *See* SAIC's Motion to Compel Discovery (ECF No. 265) (SAIC Motion to Compel); Microsoft's Response to SAIC's Motion to Compel Discovery and Cross-Motion to Compel Infringement Contentions (ECF No. 268); SAIC's Reply in Support of its Motion to Compel Discovery (ECF No. 271). In its Response to SAIC's Motion to Compel, Microsoft cross-moved to compel SAIC to provide "meaningful infringement contentions," alleging the infringement contentions SAIC had submitted to date failed to provide adequate explanation of how Microsoft's accused devices infringe. *See* Microsoft's Response to SAIC's Motion to Compel Discovery and Cross-Motion to

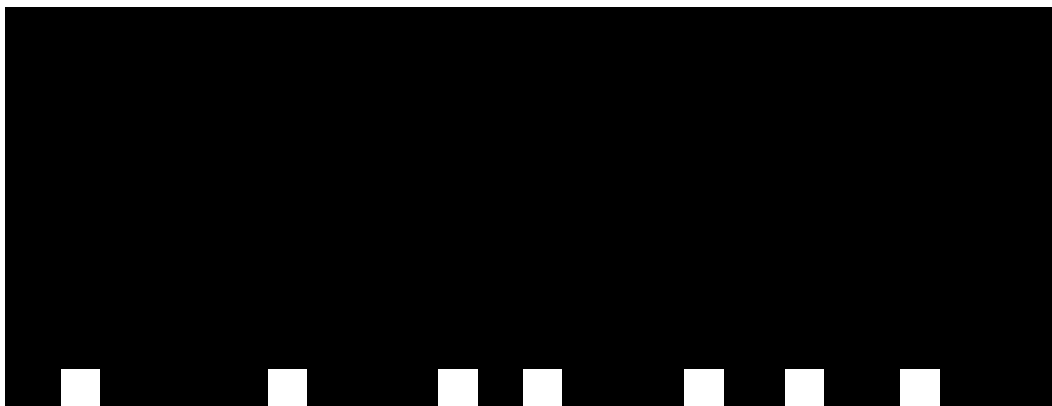
Compel Infringement Contentions (ECF No. 268) at 2; SAIC's Response to Microsoft's Cross-Motion to Compel Infringement Contentions (ECF No. 274); Microsoft's Reply in Support of its Motion to Compel Infringement Contentions (ECF No. 276).

On June 1, 2022, this Court heard oral argument on SAIC's and Microsoft's respective Motions to Compel. *See* Hearing Transcript, dated June 1, 2022 (ECF No. 281) (June 1, 2022 Tr.). During the hearing, the Court issued a detailed oral ruling denying both parties' motions. *Id.* at 68:7; *see* Order, dated June 1, 2022 (ECF No. 278). In doing so, the Court ordered Microsoft to provide an updated response to Interrogatory No. 5 by June 15, 2022. June 1, 2022 Tr. at 68:11–15 (ordering Microsoft to “tighten up [its] response to Interrogatory 5, to be more explanatory at this time, to the extent possible.”); *see* Order, dated June 1, 2022 (ECF No. 278). Additionally, the Court encouraged SAIC to further clarify its own infringement contentions, noting that while the contentions submitted up to that date passed muster relative to Microsoft's Motion to Compel, the question remained whether the current form of the contentions would prove sufficiently detailed to qualify as final infringement contentions. June 1, 2022 Tr. at 68:23–70:14. The Court cautioned both parties to “overgeneralize at [their] own peril,” and warned that the Court intended to “hold both sides to” the information contained in their final contentions and interrogatory responses. *Id.* at 69:16–17; *id.* at 69:19–20 (the Court noting both parties will be “stuck with” the information contained in their final contentions and interrogatory responses). The Court finally made clear that it would not “allow Microsoft to spring a new noninfringement theory on SAIC” beyond the theories Microsoft would disclose in what the Court referenced as its “final supplement[] to Interrogatory 5.” *Id.* at 70:3–10.

On June 14, 2022, the Court issued a Scheduling Order establishing June 30, 2022 as the deadline for final infringement and invalidity contentions. Scheduling Order, dated June 14, 2022

(ECF No. 285) (June 14, 2022 Scheduling Order) at 1. The Court also (i) ordered Microsoft to serve its Final Supplemental Response to Interrogatory No. 5 by July 21, 2022, and (ii) ordered SAIC to submit any additional written discovery regarding Microsoft’s Final Supplemental Response by August 1, 2022. *Id.* at 1–2. Although the fact discovery period was scheduled to end on August 9, 2022, the Court specifically carved out a period of 30 additional days for Microsoft to respond to any written discovery from SAIC regarding Microsoft’s Final Supplemental Response to Interrogatory No. 5. *Id.* at 2 (setting August 9, 2022 as the deadline for fact discovery but noting that “[n]otwithstanding this fact discovery deadline, Microsoft shall have 30 days to respond to Plaintiff’s written discovery, if any, regarding Microsoft’s Final Supplemental Response to Plaintiff’s Interrogatory No. 5”).

Consistent with the Scheduling Order, Microsoft served its Final Supplemental Response to Interrogatory No. 5 on July 21, 2022. *See* Microsoft’s Fourth Supplemental Response to SAIC’s Interrogatory No. 5 (ECF Nos. 352-10, 362-11, 367-12, 375-3) (July 21, 2022 Supplement)¹⁹ at 4–30. As part of its July 21, 2022 Supplement, Microsoft explained that its devices do not infringe the “display” claim limitation of claims 1, 15, and 29 of the ’230 patent because SAIC



¹⁹ The July 21, 2022 Supplement is entered into the record under various ECF numbers. *See* ECF Nos. 352-10, 362-11, 367-12, 375-3. Accordingly, for consistency in this opinion, all page number citations for the July 21, 2022 Supplement reference the document submitted through ECF No. 367-12.

[REDACTED]

Id. at 19–20.

On July 29, 2022, after receipt of Microsoft’s Final Supplemental Response, SAIC deposed L3’s Rule 30(b)(6) witness, Jason Coffman. *See* Deposition of Jason Coffman, dated July 29, 2022 (ECF Nos. 367-3, 344-10) (Coffman Depo. Tr.). Two days later, the Court’s August 1, 2022 deadline for SAIC to submit additional written discovery pertaining to Microsoft’s July 21, 2022 Supplement passed without SAIC submitting additional interrogatory requests, despite the Court’s express invitation to do so. *See* June 14, 2022 Scheduling Order at 2; SAIC MTS – Def. Resp. at 21 (“This August 1st opportunity for SAIC to serve additional discovery regarding Microsoft’s noninfringement defenses, however, came and went without SAIC serving **any** such additional written discovery.”) (emphasis in original); OA Tr. at 14:12–13:5 (SAIC counsel acknowledging SAIC did not take additional written discovery pertaining to Microsoft’s July 21, 2022 Supplement). Instead, on August 4, 2022, two weeks after receiving Microsoft’s July 21, 2022 Final Supplemental Response, SAIC deposed Microsoft’s Rule 30(b)(6) witness, software engineer [REDACTED]. *See* Deposition of [REDACTED], dated August 4, 2022 (ECF No. 350-7, 362-5, 366-3, 367-6, 343-25) ([REDACTED] Depo. Tr.). Fact discovery concluded on August 9, 2022. June 14, 2022 Scheduling Order at 2.

b. Relevant Background Regarding Defendants’ Motion to Strike – Dr. Bajaj’s Supplemental Expert Report

The timeliness of a supplemental expert report authored by SAIC’s expert is at the heart of Defendants’ Motion to Strike. On September 13, 2022, the parties filed a joint Motion to Amend the Schedule for Expert Discovery. *See* ECF No. 315. On September 14, 2023, the Court issued an Amended Scheduling Order, granting the parties’ motion and extending certain expert discovery deadlines. *See* Scheduling Order, dated September 14, 2022 (ECF No. 316) (September

14, 2022 Scheduling Order). In accordance with this schedule, on September 30, 2022, the parties served opening expert reports pursuant to Rule 26(a)(2)(B). *See id.* at 1. At that time, SAIC served its opening expert report on infringement prepared by Dr. Chandrajit Bajaj. *See* Opening Expert Report of Dr. Chandrajit Bajaj, Ph.D. on Infringement of U.S. Patent No. 9,229,230 (ECF Nos. 340-3, 361-3, 362-9, 372-13) (Bajaj Opening Report or Bajaj Op. Rpt.).²⁰ Dr. Bajaj also attached an appendix to his opening report to separately address his infringement opinions regarding Microsoft's accused devices. *See* Opening Expert Report of Dr. Chandrajit Bajaj, Ph.D. on Infringement – Appendix A (ECF No. 343-24, 362-4) (Bajaj Appendix A or Bajaj App. A). Similarly, Defendants timely served their opening report on invalidity prepared by Dr. John Villasenor. *See* Opening Expert Report of Dr. John Villasenor Regarding Invalidity of SAIC's U.S. Patent No. 9, 229, 230 (ECF No. 340-21, 343-10) (Villasenor Opening Report or Villasenor Op. Rpt.).

The parties exchanged rebuttal expert reports on November 23, 2022. *See* Order, dated November 16, 2022 (ECF No. 326) (amending deadline for rebuttal expert reports to November 23, 2023 upon parties' consent motion (ECF No. 325)); SAIC MTS at 27. Specifically, Defendants timely served their rebuttal expert report, prepared by Dr. John Villasenor, contesting infringement. *See* Rebuttal Expert Report of Dr. John Villasenor Regarding SAIC's U.S. Patent No. 9,229,230 (ECF No. 340-4, 343-29) (Villasenor Rebuttal Report or Villasenor Reb. Rpt.). Dr. Villasenor likewise attached two appendices to his rebuttal expert report separately addressing his

²⁰ On November 15, 2022, SAIC filed an unopposed Motion for Leave to Amend Opening Expert Reports on Infringement and Damages. ECF No. 325. On November 16, 2022, this Court granted SAIC's unopposed Motion for Leave to Amend for good cause shown. Order, dated November 16, 2022 (ECF No. 326). Subsequently, SAIC served Dr. Bajaj's Amended Opening Report on Infringement, dated November 4, 2023. *See* Amended Opening Expert Report of Dr. Chandrajit Bajaj, Ph.D. on Infringement of U.S. Patent No. 9,229,230 (ECF Nos. 341-1, 353-6, 376-2) (Bajaj Amended Opening Report or Bajaj Am. Op. Rpt.).

non-infringement opinions for L3's and Microsoft's respective accused devices. *See* Rebuttal Expert Report of Dr. John Villasenor Regarding SAIC's U.S. Patent No. 9,229,230 – Appendix C (ECF Nos. 340-4, 344-3, 350-6, 352-7, 364-8, 366-1) (Villasenor Appendix C or Villasenor App. C); Rebuttal Expert Report of Dr. John Villasenor Regarding SAIC's U.S. Patent No. 9,229,230 – Appendix D (ECF Nos. 343-11, 340-4, 350-1, 352-5, 362-12) (Villasenor Appendix D or Villasenor App. D). Additionally, Microsoft served a second rebuttal expert report authored by Dr. Hany Farid analyzing Microsoft's source code. *See* Rebuttal Expert Report of Dr. Hany Farid Regarding Microsoft's █████ Source Code (ECF Nos. 343-13, 350-9, 352-14, 362-15) (Farid Report). At this time, SAIC also served its rebuttal expert report on invalidity prepared by Dr. Chandrajit Bajaj. *See* Expert Report of Dr. Chandrajit Bajaj, Ph.D., in Response to Dr. Villasenor's Report on Invalidity of U.S. Patent No. 9,229,230 (ECF Nos. 340-17, 343-28, 344-18, 364-2, 372-15) (Bajaj Rebuttal Report or Bajaj Reb. Rpt.). Expert discovery closed on December 13, 2022. *See* Order, dated November 16, 2022 (ECF No. 326) at 2.²¹

Subsequently, the parties filed motions for summary judgment and, relevant to the present Motions, SAIC filed its Response to Microsoft's Motion for Summary Judgment of Non-Infringement on March 29, 2023. *See generally* MSFT MSJ NI – SAIC Resp. Attached as an exhibit to its Response, SAIC included a previously undisclosed, supplemental declaration of Dr. Chandrajit Bajaj, dated March 29, 2023. *See* Supp. Bajaj Decl. In this 29-page substantive declaration, Dr. Bajaj offered, in support of SAIC, new and previously undisclosed theories of

²¹ On December 13, 2022, the parties filed a Joint Stipulation and Motion for Leave to Extend the Deadline of Certain Depositions. ECF No. 331. Specifically, the parties “stipulate[d] and jointly move[d] the Court for leave” to allow SAIC to take the depositions of fact witness Dr. Rohan Loveland and declarant Ms. Hsieh-Yee on December 16 and 20, 2022, respectively. *Id.* at 1. This Court granted the parties' joint Motion for Leave on December 13, 2022. Minute Order, dated December 13, 2022.

infringement pertaining to Microsoft’s ordering theory of non-infringement (¶¶ 18–45), a never-before-raised doctrine of equivalents theory of infringement (¶¶ 46–64), and additional commentary on (1) whether L3’s accused devices satisfy the patent claims’ “overlay” operation, and (2) the [REDACTED] (¶¶ 65–72). *See id.* ¶¶ 18–72. The Supplemental Bajaj Declaration is the subject of Defendants’ Motion to Strike. *See* Def. MTS at 5 (“Defendants respectfully request that the Court strike the new and untimely supplemental expert report expressing new opinions of Plaintiff SAIC’s technical expert – Dr. Cha[n]drajit Bajaj – submitted with SAIC’s summary judgment opposition briefs.”).

B. Applicable Legal Standards – Motions to Strike

On July 2, 2018, the United States Court of Federal Claims adopted the “Patent Rules of the United States Court of Federal Claims” (Local Patent Rules). Rules at Appendix J. These Local Patent Rules were not in effect at the time Plaintiff filed this case, and all parties agree such rules do not govern the present action. *See* Hearing Transcript, August 27, 2020 (ECF No. 139) at 19:17–23:17, 28:2–17. The Local Patent Rules, therefore, are not binding authority for this case. All other Rules remain binding.

Rule 33 lists the requirements that govern interrogatories between parties. *See* Rule 33. Under Rule 33(b)(3), “[e]ach interrogatory must, to the extent it is not objected to, be answered separately and fully in writing under oath.” Rule 33(b)(3). During fact discovery, parties may issue contention interrogatories, which are “designed to discover the factual basis of the allegations in a complaint, answer, or counterclaim, or to determine the theory of the opposing party’s case.” *Contention Interrogatory*, Black’s Law Dictionary (11th ed. 2019).

Rule 26(a)(2) addresses required disclosures related to a party’s expert witnesses. *See* Rule 26(a)(2). Under this rule, an expert’s report must contain “a complete statement of all opinions

the [expert] will express and the basis and reasons for them.” Rule 26(a)(2)(B)(i). “A party must make these disclosures at the times and in the sequence that the court orders.” Rule 26(a)(2)(D).

Rule 26(e)(1) imposes a duty on parties to supplement their interrogatory responses and expert reports in certain circumstances. *See* Rule 26(e)(1). The rule states that “[a] party who has made a disclosure under [Rule] 26(a)—or who has responded to an interrogatory, request for production, or request for admission—must supplement or correct its disclosure or response . . . in a timely manner if the party learns that in some material respect the disclosure or response is incomplete or incorrect, and if the additional or corrective information has not otherwise been made known to the other parties during the discovery process or in writing” or “as ordered by the court.” Rule 26(e)(1)(A)–(B). “For an expert whose report must be disclosed under [Rule] 26(a)(2)(B), the party's duty to supplement extends both to information included in the report and to information given during the expert's deposition.” Rule 26(e)(2).

Failure to comply with any of these disclosure requirements can result in sanctions. Under Rule 37(c)(1), “[i]f a party fails to provide information or identify a witness as required by [Rule] 26(a) or (e), the party is not allowed to use that information or witness to supply evidence on a motion, at a hearing, or at a trial, unless the failure was substantially justified or is harmless.” Rule 37(c)(1). The extent of the sanction imposed, if any, is at the discretion of the trial court. *See* Rule 37(c)(1)(A)–(C) (“In addition to *or instead of* [the exclusion] sanction, the court, on motion and after giving an opportunity to be heard . . . *may* order payment of the reasonable expenses, including attorney’s fees, caused by the failure . . . [and] *may* impose other appropriate sanctions. . . .”) (emphasis added); *see, e.g., Precision Pine & Timber, Inc. v. United States*, No. 98-720 C, 2001 WL 1819224, at *3 (Fed. Cl. Mar. 6, 2001) (citing *Adkins v. United States*, 816 F.2d 1580, 1581–82 (Fed. Cir. 1987)) (“The decision on whether to impose discovery sanctions, either

pursuant to its inherent authority or under existing Rules of the Court of Federal Claims rests within the sound discretion of the Court.”); *Bowman Constr. Co. v. United States*, No. 18-1822C, 2020 WL 1970546, at *3 (Fed. Cl. Apr. 23, 2020) (quoting *Ingalls Shipbuilding, Inc. v. United States*, 857 F.2d 1448, 1450 (Fed. Cir. 1988)) (“The decision whether to impose discovery sanctions rests within the sound discretion of the trial court.”).

To avoid sanctions, the party that failed to meet its discovery obligations bears the burden to demonstrate its failure was either “substantially justified or harmless.” Rule 37(c)(1); *see, e.g., Zoltek Corp. v. United States*, 71 Fed. Cl. 160, 167 (2006) (“Circuit courts applying the federal rule have held that the sanction of exclusion is automatic and mandatory unless the party violating [Rule] 26 shows that the violation was justified or harmless.”); *Scott Timber, Inc. v. United States*, 93 Fed. Cl. 221, 226 (2010) (noting “the burden is on the offending party to show that its violation was either justified or harmless” and citing as support cases from the First, Fifth, and Seventh Circuits). The court has wide discretion to determine whether a non-disclosing party’s conduct was “substantially justified or harmless.” *See, e.g., Hanover Ins. Co. v. United States*, 137 Fed. Cl. 479, 483 (2018) (citing *Cohen v. United States*, 100 Fed. Cl. 461, 468 (2011)).

This Court may consider a variety of factors to determine whether a disclosure failure was “substantially justified or harmless,” or whether such conduct warrants sanctions. These factors include (1) prejudice or surprise to the opposing party; (2) ability to cure that prejudice or surprise; (3) the importance of the challenged evidence; (4) the extent to which admitting the evidence would disrupt trial; (5) the non-disclosing party’s explanation for their conduct; and (6) whether the party acted in bad faith or willfully.²² *See, e.g., SAIC*, 163 Fed. Cl. at 272–73; *MicroStrategy*

²² Though some courts have required a showing of willfulness or bad faith prior to imposing sanctions, such a requirement is not universally applied. *See, e.g., SAIC v. United States*, 162 Fed. Cl. 257, 272 n.19 (2022) (discussing decisions by various circuits and whether those courts

Inc., v. Bus. Objects, S.A., 429 F.3d 1344, 1357 (Fed. Cir. 2005) (quoting *Southern States Rack & Fixture, Inc. v. Sherwin-Williams Co.*, 318 F.3d 592, 596 (4th Cir. 2003)) (five-factor test that included surprise, ability to cure surprise, disruption of trial, the importance of the testimony, and the party's explanation for its failure to disclose); *David v. Caterpillar, Inc.*, 324 F.3d 851, 857 (7th Cir. 2003) (four-factor test considering prejudice or surprise to the party, the ability to cure surprise, the likelihood of disruption to trial, and the bad faith or willfulness of the non-disclosing party); *Hitkansut LLC v. United States*, 127 Fed. Cl. 101, 107 (2016) (“[T]he court may consider surprise to the other party, whether there is opportunity to cure that surprise, the proponent's need for the evidence at trial, or other factors.”); *Banks v. United States*, 75 Fed. Cl. 294, 298–99 (2007) (summarizing the various tests that courts have applied and adopting the approach applied by the Third, Seventh, and Tenth Circuits).

required a showing of willfulness). Typically, courts will not sanction by dismissing a case, or imposing a sanction tantamount to dismissal, absent a showing of willfulness or bad faith. *See, e.g., Intelligent Invs., Inc. v. United States*, No. 2021-2310, 2022 WL 17075056, at *1 (Fed. Cir. Nov. 18, 2022) (“[W]e conclude that the Claims Court abused its discretion by dismissing the case without finding that the noncompliance was willful or in bad faith. . . .”); *Securiforce Int'l Am. LLC v. United States*, 127 Fed. Cl. 386, 396 (2016) (quoting *Ingalls Shipbuilding, Inc. v. United States*, 857 F.2d 1448, 1451 (Fed. Cir. 1988)) (noting sanctions such as “de facto dismissal” necessitate a showing of bad faith or willfulness, although Rule 37 does not explicitly state such a requirement). However, courts have not demonstrated a clear consensus whether demonstration of bad faith or willfulness is necessary prior to imposing lesser sanctions. *Compare Toyrrific, LLC v. Karapetian*, 606 Fed. Appx. 365 (9th Cir. 2015) (declining to affirm evidentiary exclusion for a Rule 26 violation that had no evidence of bad faith) *with Zoltek*, 71 Fed. Cl. at 168 (refusing to require showing of bad faith and “instead choosing to subsume it into the justification requirement in analyzing the explanation for the party's failure to disclose”). Instead, courts consider whether the sanction is proportionate to the offending party’s discovery conduct. *See, e.g., Adasa Inc. v. Avery Dennison Corp.*, 55 F.4th 900, 917 (Fed. Cir. 2022) (“And, while district courts may impose [discovery] sanctions for deterrent effects, the size of the award must bear a reasonable relationship to the harm that occurred.”); *Salgado v. Gen. Motors Corp.*, 150 F.3d 735, 740 (7th Cir. 1998) (refusing to grant dismissal sanctions that were not “proportionate to the circumstances surrounding [the] party's failure to comply with discovery rules”) (quoting *Melendez v. Illinois Bell Tel. Co.*, 79 F.3d 661, 672 (7th Cir. 1996)); *Canvs Corp. v. United States*, 104 Fed. Cl. 727, 733 (2012) (acknowledging that the discovery sanction imposed was a “fair and appropriate sanction proportional to the misconduct in question”).

C. Discussion – Motions to Strike

SAIC and Microsoft have filed dueling Motions to Strike that share common subject matter. Both Motions to Strike relate to a non-infringement argument that Microsoft and L3 have each raised in their respective Motions for Summary Judgment for Non-Infringement. *See generally* MSFT MSJ NI; L3 MSJ NI. Microsoft and L3 each contend in summary judgment briefing that their respective accused devices do not infringe the asserted claims because their products do not perform the patent’s operations in the order allegedly required by the patent. *See* MSFT MSJ NI at 29–38; L3 MSJ NI at 40–44. In responding to this argument, as noted, SAIC attached the Supplemental Bajaj Declaration as an exhibit to its brief opposing Microsoft’s Motion for Summary Judgment of Non-Infringement, expressing novel theories of infringement. *See* MSFT MSJ NI – SAIC Resp. at 6 (listing the Supplemental Bajaj Declaration as Exhibit C); Supp. Bajaj Decl.

SAIC now moves to strike Microsoft’s ordering theory of non-infringement as untimely. SAIC MTS at 23–33. Defendants likewise filed their own joint Motion to Strike, urging this Court to strike the Supplemental Bajaj Declaration from the record and preclude SAIC from relying on any theories raised therein. *See generally* Def. MTS. This Court addresses each Motion to Strike in turn below.²³

a. SAIC’s Motion to Strike Microsoft’s Ordering Theory of Non-Infringement

SAIC asserts this Court should strike all references to Microsoft’s ordering theory of non-infringement on the basis that Microsoft purportedly failed to timely disclose its theory with

²³ The parties have expressed many overlapping arguments in their briefing across the two Motions to Strike. As a result, this Court considers and references the parties’ arguments raised collectively within all six briefs in ruling on each Motion to Strike.

sufficient detail to provide SAIC with adequate notice. According to SAIC, Microsoft’s ordering theory has changed throughout the course of the litigation, as “Microsoft’s expert reports and summary judgment motion . . . deviate substantially from Microsoft’s prior disclosures.” SAIC MTS at 24; SAIC MTS – SAIC Reply at 19 [REDACTED] disclosed in Microsoft’s final supplemental response is distinct from the ‘ordering’ defense it now asserts.”²⁴ SAIC argues Microsoft’s purported failure to timely disclose the precise details of its ordering theory deprived SAIC the opportunity to pursue adequate discovery on the issue. *See, e.g.*, SAIC MTS at 33 (asserting Microsoft’s theory “should have been disclosed at a time when SAIC could pursue rebuttal discovery.”); MSFT MSJ NI – SAIC Resp. at 9 (“SAIC had no chance to gather fact discovery to rebut this argument or to have its experts fully analyze and respond to the issue.”). Thus, SAIC states that it “seeks only to hold Microsoft to what it disclosed in its final non-infringement contentions, rather than allowing Defendants to raise new theories and evidence in support of those theories at the rebuttal expert report or summary judgment phase.” SAIC MTS at 28.

1. Timeliness of Microsoft’s Disclosures

The nuances of SAIC’s timeliness claims have evolved throughout briefing and at Oral Argument. Specifically, SAIC’s position on when it first learned of Microsoft’s ordering theory (i.e., that claim limitations (c), (d), and (e) must occur in that order for its Accused Products to infringe) has shifted. SAIC acknowledges that Microsoft disclosed a version of its ordering theory

²⁴ *See* SAIC MTS – SAIC Reply at 19 [REDACTED]

[REDACTED] (quoting July 21, 2022 Supplement at 19–20).

in its July 21, 2022 Supplement. *See, e.g.*, SAIC MTS at 7 (noting Microsoft’s final non-infringement contentions “provide[d] an insufficient conclusory statement that the claims require an order of operation and that the accused products do not meet this order”); *id.* at 29 (“Before the July 21st date of its final contentions, Microsoft had never disclosed to SAIC that Microsoft believes that claim elements (c), (d), and (e) have an order.”); *id.* (“Defendants further should have at least provided SAIC with some notice before their final contentions, not served until July 21, 2022, a mere three and a half weeks before the close of fact discovery.”); *id.* at 33 (“The new theories raised in Defendants’ final contentions, rebuttal expert reports, and in [REDACTED] declaration should have been disclosed at a time when SAIC could pursue rebuttal discovery.”). However, SAIC challenges the July 21, 2022 Supplement as untimely because “SAIC could no longer serve discovery requests that would have to be answered before the close of fact discovery.” SAIC MTS at 26. SAIC doubles down on this position later in its Motion to Strike, stating that “[b]y the time SAIC received those [July 21, 2022] contentions, it could no longer serve fact discovery requests because fact discovery closed less than 30 days thereafter and thus could no longer obtain additional information on the accused instrumentalities.” *Id.* at 29–30 (citing Rule 34(b)(2)(a)’s requirement that parties receiving requests for production be granted 30 days to respond to such requests).

However, in contrast, SAIC *also* asserts it first learned of Microsoft’s ordering theory after fact discovery closed on August 9, 2022. *See* OA Tr. at 15:10–13 (Court: “[B]ut [Microsoft’s ordering theory] was disclosed in the final contention in July.” SAIC Counsel: “Respectfully, it was not . . .”). Sometimes, SAIC also states it first learned of Microsoft’s ordering theory through Microsoft’s rebuttal expert reports. *See, e.g.*, MSFT MSJ NI – SAIC Resp. at 36 (“Microsoft failed to disclose this new non-infringement argument in its response to SAIC’s non-infringement

contention interrogatory, and instead, presented it substantially for the first time in Dr. Villasenor’s expert rebuttal report.”); *id.* at 9 (“Microsoft sandbagged, withholding its noninfringement contention based on this theory until its rebuttal expert reports.”) (emphasis omitted); SAIC MTS at 7 (contending Microsoft’s experts “present[ed] new non-infringement arguments for the first time in their rebuttal expert reports”); *id.* (“[R]ebuttal expert reports are too late to disclose the basis for a new claim construction theory.”). At other times, SAIC alleges it first learned of Microsoft’s ordering theory through Microsoft’s Motion for Summary Judgment of Non-Infringement. *See, e.g.*, SAIC MTS at 31 (arguing “Microsoft seeks to advance new theories in its motion for summary judgment.”); Def. MTS – SAIC Resp. at 5 (“It was Defendants who injected untimely theories into this case by raising a new non-infringement theory in their summary judgment motion and supporting it with new declarations from their fact and expert witnesses.”) (emphasis omitted); MSFT MSJ NI – SAIC Resp. at 9 (asserting the ordering theory construction was “first requested by Microsoft at the summary judgment phase”); OA Tr. at 19:15–17 (SAIC Counsel: “[I]t was only with the motion for summary judgment, which included [REDACTED] declaration, that we got any details.”).

However, regardless of when SAIC alleges it first learned of Microsoft’s ordering theory, each of SAIC’s assertions is incorrect and contrary to the record. The record contains a salmagundi of evidence demonstrating Microsoft timely and adequately disclosed its ordering theory during fact discovery and in accord with the Court’s schedule. During its June 1, 2022 hearing, this Court warned all parties that it intended to “hold both sides to” the information contained in their final contentions and interrogatory responses. June 1, 2022 Tr. at 69:16–17. Thus, Microsoft may rely on the theories described in its July 21, 2022 Supplement, which Microsoft timely served

according to the Court’s June 14, 2022 Scheduling Order and prior to the end of fact discovery on August 9, 2022. *Id.* at 69:19–20; *see* June 14, 2022 Scheduling Order at 2.

Indeed, SAIC’s assertion that Microsoft’s July 21, 2022 Supplement was somehow untimely due to alleged timing restraints under Rule 34(b)(2)(a) is preposterous, which even a cursory inspection of the record clearly evinces. This Court’s June 14, 2022 Scheduling Order *specifically* granted SAIC the opportunity to serve additional written discovery regarding Interrogatory No. 5 by August 1, 2022, irrespective of Rule 34(b)(2)(a) considerations. *See* June 14, 2022 Scheduling Order at 2; *see also* Rule 6(b) (noting that deadlines may be altered via court order). Even more importantly, the Court *specifically* carved out a 30-day period for Microsoft to respond to any new written discovery served by SAIC regarding Interrogatory No. 5, “[n]otwithstanding [the August 9, 2022] fact discovery deadline.” *Id.* For SAIC to now assert that it was precluded from pursuing additional written discovery regarding Microsoft’s July 21, 2022 Supplement due to the disclosure’s proximity to the August 9, 2022 fact discovery deadline defies reason and is blatantly contradicted by the record.

2. Sufficiency of Microsoft’s Disclosures

With the disclosure’s timeliness confirmed, the only question that remains is whether Microsoft’s July 21, 2022 Supplement provided adequate notice of the ordering theory that Microsoft raises in its Motion for Summary Judgment of Non-Infringement. *See* MSFT MSJ NI at 33–42. This Court holds that it did.

Microsoft argues in its Motion for Summary Judgment of Non-Infringement that “the Asserted Claims require the ‘identify’, ‘evaluate’, and ‘display’ operations be performed in that order on pairs of the received images” and asserts the “Microsoft Accused Products never perform the three basic operations in the order required by the claims on an incoming pair of images.”

MSFT MSJ NI at 6 (emphasis in the original). Microsoft asserts it adequately disclosed this theory in the following excerpt from its July 21, 2022 Supplement:



SAIC MTS – Def. Resp. at 20–21 (emphasis omitted) (quoting MSFT July 21, 2022 Supplement).²⁵

²⁵ Microsoft also argues it disclosed its ordering theory even earlier in the litigation than its July 21, 2022 Supplement. Specifically, Microsoft asserts that its June 30, 2020 Supplement to SAIC’s Interrogatory No. 5 disclosed Microsoft’s position that its Accused Products do not complete the display operation [redacted] SAIC MTS – Def. Resp. at 19–20 (quoting June 30, 2020 Supplement). Microsoft’s June 30, 2020 Supplement included the following disclosures:



SAIC MTS – Def. Resp. at 19–20 (quoting June 30, 2020 Supplement at 11). Whether this Court agrees Microsoft’s June 30, 2020 Supplement could be construed as properly disclosing Microsoft’s ordering theory is inconsequential. This Court provided Microsoft a final opportunity to supplement its response to Interrogatory No. 5 by July 21, 2022, and Microsoft did so. *See* July

SAIC contends that, “[e]ven if timely, Microsoft’s [July 21, 2022] final contentions are not sufficient.” SAIC MTS at 30. According to SAIC, “Microsoft’s final contentions [did] not provide *any* explanation of why it believes that the claims must be performed in a particular order,” nor did Microsoft “cite to any documents or testimony” supporting its theory. *Id.* (emphasis in original). This, according to SAIC, is despite that SAIC’s Interrogatory No. 5 “specifically requested that any non-infringement theory be ‘described in detail’ and that Microsoft provide ‘an identification by Bates number of all Documents [it] rel[ies] on to support such a non-infringement defense.’” *Id.* (quoting SAIC’s First Set of Interrogatories to Microsoft Corp. (ECF No. 352-11) at 3–4) (alterations in original). Thus, according to SAIC, Microsoft’s July 21, 2022 Supplement “provide[d] an insufficient conclusory statement that the claims require an order of operation and that the accused products do not meet this order.” SAIC MTS at 7.

In addition to challenging the alleged brevity of Microsoft’s July 21, 2022 Disclosure, SAIC denounces what it views as the evolution of Microsoft’s ordering theory between fact discovery and summary judgment briefing. SAIC MTS – SAIC Reply at 19 (“The [REDACTED] disclosed in Microsoft’s final supplemental response is distinct from the ‘ordering’ defense it now asserts.”). Specifically, SAIC contends that Microsoft’s initial disclosures addressed a [REDACTED] [REDACTED], which asserted that [REDACTED]

[REDACTED] SAIC MTS – SAIC Reply at 19 (quoting one sentence from Microsoft’s July 21,

21, 2022 Supplement; *Woods v. DeAngelo Marine Exhaust, Inc.*, 692 F.3d 1272, 1280 (Fed. Cir. 2012) (“Rule 26(e) requires that as theories mature and as the relevance of various items of evidence changes, responses to interrogatories, and particularly contention interrogatories, be corrected or supplemented to reflect those changes.”). Further, this Court afforded SAIC the opportunity to serve additional written discovery devoted solely related to Microsoft’s July 21, 2022 Supplement before August 1, 2022, an opportunity that SAIC did *not* take. *See* June 14, 2022 Scheduling Order. Given these circumstances and Microsoft’s timeliness, Microsoft may reasonably rely on the theories included in its July 21, 2022 Supplement, regardless of the theories or information contained in any preceding disclosures.

2022 Supplement, which stated that [REDACTED]

[REDACTED]

[REDACTED] Now, according to SAIC, Microsoft’s ordering theory has shifted and “reads the claims to require one specific order of operations on one particular pair of frames.” *Id.* According to SAIC, because Microsoft allegedly has so drastically altered its theory at the summary judgment phase, SAIC was prevented from pursuing adequate discovery regarding Microsoft’s ordering theory expressed in its Motion for Summary Judgment of Non-Infringement. *See, e.g.*, OA Tr. at 15:3–5 (responding to the Court’s inquiry as to why SAIC opted not to seek additional written discovery regarding Microsoft’s July 21, 2022 Supplement, SAIC counsel responded that SAIC “didn’t know that [it] needed to take discovery on a theory that [Microsoft] hadn’t disclosed at that time”).

SAIC repeatedly references the existence of the [REDACTED] Declaration as further proof that Microsoft’s ordering theory has evolved between its July 21, 2022 Supplement and its summary judgment briefing. *See, e.g.*, SAIC MTS at 7 (arguing Microsoft “further change[d] [its ordering] theory in the declaration from fact witness, [REDACTED], submitted with Microsoft’s motion for summary judgment”); *id.* at 31–32 (“The inclusion of [the [REDACTED]] declaration shows that Microsoft could not support its summary judgment motion on what had previously been disclosed in this case.”). SAIC asserts the information contained in the [REDACTED] Declaration was not provided to SAIC during fact or expert discovery. *See* Def. MTS – SAIC Resp. at 8 [REDACTED] [REDACTED] provides six pages of discussion, none of which can be found in any of Microsoft’s non-infringement contentions.”); *id.* at 13 (arguing Microsoft “flipped the order contemplated by the governing scheduling orders” by allegedly disclosing its ordering theory during expert discovery and “only later providing the facts and theories to support that contention through” the [REDACTED]

Declaration, “several months after the close of expert discovery”); OA Tr. at 17:18–20 (SAIC Counsel: “What they do not disclose in these expert reports are any of the facts that were later included in [REDACTED] declaration.”). SAIC further alleges Microsoft’s purported failure to timely disclose its theory prevented SAIC from adequately preparing to depose [REDACTED] on August 4, 2022 and from adequately responding to Microsoft’s ordering theory in the Bajaj Opening Report. *See, e.g.*, SAIC MTS at 33 (“Had Microsoft timely provided SAIC with what is stated in [the [REDACTED] Declaration], SAIC could have prepared for its deposition of [REDACTED] to address these theories.”); *id.* at 32 (“SAIC should have had a full and fair opportunity to depose [REDACTED] on the subject matter of his declaration.”).

For many reasons, SAIC’s various arguments for why Microsoft’s disclosures proved insufficient leave much to be desired. SAIC correctly notes that infringement contentions and contention interrogatories allow parties to “narrow and sharpen the issues” or “crystallize” the theories relevant to a case, “thereby confining discovery.” *Woods v. DeAngelo Marine Exhaust, Inc.*, 692 F.3d 1272, 1280 (Fed. Cir. 2012); *see O2 Micro Int’l Ltd. v. Monolithic Power Sys., Inc.*, 467 F.3d 1355, 1364–65 (Fed. Cir. 2006) (“[D]iscovery is designed to allow the defendant to pin down the plaintiff’s theories of liability and to allow the plaintiff to pin down the defendant’s theories of defense . . .”). Yet, Microsoft’s disclosures met this burden. For example, Microsoft’s July 21, 2022 Supplement methodically explained how its accused products do not infringe each of the Asserted Claims and claim limitations. Microsoft’s disclosures provided substantial discussion regarding how its devices do not meet the “identify,” “evaluate,” and “display” claim limitations, and explicitly identified the claim limitations when doing so. *See* July 21, 2022 Supplement at 6–20. Indeed, Microsoft discloses the challenged excerpt to address precisely why Microsoft’s devices do not infringe the “display” operation outlined in claim limitation (e):

because its products do not [REDACTED]

[REDACTED] July 21, 2022 Supplement at 19–20 (emphasis added).

Thus, Microsoft’s disclosure reflected a reasonable and logical flow through the claim limitations at issue in this case and was not indicative of any hide-the-ball tactics, as SAIC suggests. *See* OA Tr. at 16:16–21 (SAIC counsel complaining Microsoft disclosed its ordering theory through “one sentence in 69 pages of contentions”).

Microsoft likewise cited its source code to support its ordering theory and identified specific operations in the code that, at the time, it believed would demonstrate [REDACTED]

[REDACTED] *See* July 21, 2022 Supplement at 19–20. Indeed, SAIC’s criticisms that Microsoft’s expert reports addressed different elements of Microsoft’s source code than were originally disclosed in Microsoft’s July 21, 2022 Supplement are unpersuasive. *See* SAIC MTS at 7 (“Defendants’ expert reports and the declaration submitted with Microsoft’s non-infringement motions for summary judgment rely on different source code.”). The precise nuances of a party’s theories frequently become clearer as information becomes available through fact and expert discovery. *See, e.g., Digit. Reg of Tex., LLC v. Adobe Sys., Inc.*, No. CV 12-01971-CW, 2014 WL 1653131, at *5 (N.D. Cal. Apr. 24, 2014) (“In patent litigation, expert reports are expected to provide more information than is contained in infringement contentions.”); *Apple Inc. v. Samsung Elecs. Co., Ltd.*, No. 5:12-cv-0630-LHK-PSG, 2014 WL 12917334, at *1 (N.D. Cal. Jan. 9, 2014) (noting it is entirely permissible for expert reports to clarify the theories previously set forth in contentions, as “[t]he scope of contentions and expert

reports are not . . . coextensive”) (internal quotations omitted); *Fenner Invs., Ltd. v. Hewlett-Packard Co.*, No. 6:08–CV–273, 2010 WL 786606, at *2 (E.D. Tex. Feb. 26, 2010) (acknowledging “[i]nfringement contentions need not disclose specific evidence nor do they require a plaintiff to prove its infringement case,” but expert reports must include “a complete statement of the expert’s opinions, the basis and reasons for them, and any data or other information considered when forming them”) (internal quotations and citations omitted).

Importantly, Microsoft did not raise a new theory in its Motion for Summary Judgment of Non-Infringement. Microsoft’s summary judgment motion reflects the same theory expressed in Microsoft’s July 21, 2022 Supplement, which clearly states that its accused devices do not infringe the “display” claim limitation because they do not

[REDACTED]

July 21, 2022 Supplement at 19–20 (emphasis added). This disclosure provided clear notice to SAIC of Microsoft's theory that its accused products do not infringe because they do not perform the “identify,” “evaluate,” and “display” operations in that order. *See* MSFT MSJ NI at 33 (“The Plain Meaning of the Claims Requires That ‘Identify’, ‘Evaluate’, and ‘Display’ Be Performed in That Order on the Same Pair of Digital Image Frames”) (emphasis in original). Microsoft indicated its accused devices [REDACTED]

[REDACTED]

[REDACTED] July 21, 2022 Supplement at 20. Said differently, Microsoft simply listed its [REDACTED] as an *example* of its argument that Microsoft’s devices do not perform the “display” operation in the patent’s contemplated order,

which the July 21, 2022 Supplement itself makes clear. *Id.* [REDACTED] [REDACTED] (emphasis added); OA Tr. at 22:17–18 (Microsoft counsel noting the July 21, 2022 Supplement mentions [REDACTED] systems to add “factual context” to its ordering theory). Thus, SAIC unreasonably places undue emphasis on a single sentence in SAIC’s July 21, 2022 Supplement and ignores the broader context in which that sentence appears. SAIC’s insinuation that Microsoft’s theory has morphed from focusing on [REDACTED] into focusing on the processing of a single pair of frames merely reveals SAIC’s failure to grasp the nuances of Microsoft’s ordering theory. It does not, however, raise any credible concerns regarding the sufficiency of Microsoft’s prior disclosures.

Further, and most crucially, SAIC’s concerns over the [REDACTED] Declaration are unfounded: SAIC had ample opportunity to question [REDACTED] regarding the information incorporated in the [REDACTED] Declaration during his Rule 30(b)(6) deposition, and much of the information contained in the [REDACTED] Declaration was disclosed to SAIC during fact discovery.

[REDACTED] in Microsoft’s accused devices.

See [REDACTED] Decl. ¶ 1. The [REDACTED] Declaration, therefore, [REDACTED]

[REDACTED] *Id.* ¶ 2. [REDACTED] describes

how Microsoft’s devices use [REDACTED]

[REDACTED] *Id.* ¶¶ 2.a–2.b. The

[REDACTED] Declaration further explains [REDACTED]

██████████ *Id.* ¶ 2.c. ██████████
██████████
██████████ (emphasis in original).

Microsoft designated ██████████ as its Rule 30(b)(6) witness to discuss the precise topics contemplated in the ██████████ Declaration, including both the ██████████
██████████

██████████ *See* Plaintiff's Amended Notice of Deposition Pursuant to Fed. R. Civ. P. 30(B)(6) to Intervenor Microsoft Corporation (ECF No. 367-13) (SAIC's Rule 30(b)(6) Depo. Notice) ¶¶ 24, 28; Email from Thomas Halkowski, dated June 21, 2022 (ECF No. 367-14) (Halkowski Email) at 2 (listing the topics to which ██████████ can testify, including topics 24 and 28).²⁶ ██████████

²⁶ Microsoft designated ██████████ as the Rule 30(b)(6) witness for a wide variety of topics. *See* Halkowski Email at 2 (designating ██████████ the Rule 30(b)(6) witness for “[t]opics: 8-10, 12-14, 16-17, 18 (excluding ‘marketing’), 19-26, 27 (excluding details regarding delivery & number of units delivered); 28-29, 31, 42, 43-45, 46 (as to technical issues), 48, 49, 53, 54 (pending receipt of material from SAIC), 57”). Accordingly, SAIC received notice that ██████████ would have relevant knowledge regarding the following topics, among many others:

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deposition occurred on August 4, 2022, which afforded SAIC two weeks between receiving Microsoft’s July 21, 2022 Supplement (which consisted of a paragraph) and the deposition date to prepare. *See generally* June 14, 2022 Scheduling Order; [REDACTED] Depo. Tr.; Def. MTS – Def. Reply at 9 (“SAIC also had the opportunity to depose [REDACTED] at length about the source code and how it operates, to the extent it had any other questions regarding the order of operations in the accused [REDACTED] products.”). Yet, SAIC chose not to meaningfully question [REDACTED] on Microsoft’s ordering theory, even though the burden was on SAIC—not Microsoft—to probe these issues with [REDACTED] during his deposition. *See* OA Tr. at 38:3–5 (Microsoft Counsel: “[I]t was up to them to ask [REDACTED] questions.”); SAIC MTS at 33 (SAIC acknowledging that the statements within the [REDACTED] Declaration fall “squarely within SAIC’s Interrogatory No. 5”).

Nevertheless, disclosure of much of the information contained in the [REDACTED] Declaration naturally occurred during [REDACTED] deposition, including the information that Microsoft’s accused devices [REDACTED]

[REDACTED]²⁷ Even further, evidence outside of [REDACTED] deposition

[REDACTED]

[REDACTED]

SAIC’s Rule 30(b)(6) Depo. Notice ¶¶ 18–19, 24–25, 28 (emphasis added).

²⁷ *See, e.g.*, [REDACTED] Depo. Tr. at 99:3–6 [REDACTED] *id.* at 110:6–111:5 [REDACTED]

testimony likewise addressed the information contained in the [REDACTED] Declaration. Two separate Microsoft documents, both disclosed during fact discovery, separately identified [REDACTED] [REDACTED]. See Microsoft Document MSFT-00222611 (ECF No. 343-5) at 4 (Microsoft presentation [REDACTED] [REDACTED]; Microsoft Document MSFT-00217246 (ECF No. 343-6) at 4 (Microsoft presentation [REDACTED] [REDACTED]). Considering all this information, SAIC's assertion that "it was only with the motion for summary judgment, which included [REDACTED] declaration, that [SAIC] got any details" regarding Microsoft's ordering theory is, at best, incorrect. OA Tr. at 19:15–17.

Perhaps SAIC did not recognize the strength of the arguments Microsoft raised in its July 21, 2022 Supplement regarding the required order of the '230 patent's claim limitations. However, SAIC cannot credibly claim it did not receive notice of Microsoft's arguments because the record reflects precisely the opposite. For example, SAIC's infringement expert, Dr. Bajaj, specifically cites the contested portion of Microsoft's July 21, 2022 Supplement in his initial expert report and notes, albeit briefly, his disagreement with Microsoft's position. See Bajaj App. A ¶ 154 (quoting Microsoft's July 21, 2022 Supplement) [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

██████████.²⁸ Likewise, Dr. Bajaj stated in his report his understanding that generally patent claims ██████████

██████████ though he refrains from expressing any view on what the '230 patent's claim language requires in this instance. *Id.* ¶ 205.

Thus, the record suggests that rather than lacking notice of Microsoft's theory, SAIC's expert acknowledged the theory and simply adopted a contrary position (i.e., that the Asserted Claims do not require the limitations be performed in a particular order), at least as it relates to Dr. Bajaj's opinions on infringement specifically.²⁹ Indeed, Dr. Bajaj appeared to confirm this position during his December 2, 2022 deposition—which occurred well-before summary judgment briefing—when Microsoft questioned Dr. Bajaj regarding the ordering of the claims. *See* Deposition of Chandrajit Bajaj, dated December 2, 2022 (ECF Nos. 343-21, 344-17, 353-5, 359-6, 362-10) (Bajaj Depo. Tr.). In response to Microsoft counsel's inquiry as to whether Dr. Bajaj believed ██████████ Dr. Bajaj stated his view that

²⁸ *See* Bajaj App. A ¶ 155 ██████████

██████████ (quoting the '230 Patent at 7:49–55.); *see also* Bajaj Op. Rpt. ¶ 79 ██████████

²⁹ Though Dr. Bajaj seemed to adopt the view that the claim limitations need not be performed in a particular order within the context of infringement, Dr. Bajaj offered contradictory opinions in his rebuttal expert report on invalidity. *See* Bajaj Reb. Rpt. at ¶¶ 405, 457, 458; *see also infra* Section IV(B)(b)(4) (discussing Dr. Bajaj's rebuttal opinions which appeared to adopt Microsoft's and L3's proposed claim construction regarding order).

[REDACTED]

[REDACTED] *Id.* at 87:24–88:6. Later in his deposition, Dr. Bajaj once again expressed his view that the operations outlined in the Asserted Claims [REDACTED]

[REDACTED] *Id.* at 117:21–118:14.³⁰

For the reasons stated, this Court holds that Microsoft’s July 21, 2022 Supplement timely and sufficiently disclosed the ordering theory of non-infringement raised in Microsoft’s Motion for Summary Judgment of Non-Infringement. Accordingly, SAIC’s Motion to Strike, solely as it relates to Microsoft’s ordering theory of non-infringement, is **DENIED**.

b. Defendants’ Motion to Strike the Supplemental Bajaj Declaration

As noted, Defendants have jointly moved to strike the Supplemental Bajaj Declaration from the record because it constitutes a “new and untimely supplemental expert report expressing new opinions” on infringement and was filed “[w]ithout consent or leave of Court.” Def. MTS at 5–6. According to Defendants, SAIC made a “calculated choice in withholding disclosure of these opinions until the midst of summary judgment briefing.” *Id.* at 16. Thus, Defendants assert SAIC willfully “violated the disclosure and timing requirements of [Rules] 26(a)” and 26(e) by failing to submit a complete opening expert report on infringement and by supplementing that report in an untimely manner.³¹ *Id.* at 16–17. Further, Defendants contend that “SAIC has not shown that

³⁰ See Bajaj Opening Report ¶ 79 [REDACTED]

³¹ Defendants likewise accuse SAIC of violating the Court’s June 14, 2022 Scheduling Order because “the Court required SAIC to show ‘good cause in a motion filed with this Court’ before serving new expert opinions.” Def. MTS at 17 (quoting June 14, 2022 Scheduling Order at 3). Defendants quote the Court’s Scheduling Order out of context, as the quoted statement pertained to deposition testimony rather than expert reports. The June 14, 2022 Scheduling Order allocated 70 hours of deposition testimony for each party and limited individual Rule 30(b)(1) or 30(b)(6)

its failure to disclose all of Dr. Bajaj’s opinions is both ‘substantially justified [or] harmless.’” *Id.* at 17. Defendants allege they are prejudiced by SAIC’s introduction of the Supplemental Bajaj Declaration, and such “prejudice cannot be cured,” or “at the very least, would require a setback of nearly six months” to cure. *Id.* at 5.

SAIC does not dispute that the Supplemental Bajaj Declaration contained previously undisclosed theories and even acknowledges that the Supplemental Bajaj Declaration qualifies as a supplemental expert report. *See* Def. MTS – SAIC Resp. at 14 (“Dr. Bajaj supplemented his expert report . . .”). Instead, SAIC raises several arguments for why it was justified in submitting the Supplemental Bajaj Declaration when it did so and how it did so. SAIC argues Defendants “injected untimely theories into the case by raising a new non-infringement theory in their summary judgment motion[s] and supporting it with new declarations from their fact and expert witnesses.” *Id.* at 5 (emphasis omitted); *id.* at 6 (noting the Supplemental Bajaj Declaration “responds only to the new evidence Defendants relied on in their summary judgment motions”). SAIC criticizes Defendants for belatedly raising new claim construction theories at the summary judgment phase and challenges the declarations of Dr. Villasenor, [REDACTED], and Jason Coffman that Microsoft and L3 included with their summary judgment motions. *See id.* at 6–7, 14 (“Dr. Bajaj supplemented his expert report because Microsoft served a new declaration from [REDACTED] and Dr. Villasenor, and L3 served a new declaration from Mr. Coffman with their

witness depositions to a maximum of seven hours. June 14, 2022 Scheduling Order at 2–3. In relevant part, the Court noted that “[t]he parties may only exceed these limits by showing good cause in a motion filed with this Court.” *Id.* at 3. In other words, if a party wished to exceed the 70-hour or 7-hour time limits for deposition testimony, that party was required to file a motion and demonstrate good cause to receive such an extension. Therefore, though this Court may agree the Supplemental Bajaj Declaration was procedurally lacking, the deficiency does not emanate from such a purported violation of this Court’s June 14, 2022 Scheduling Order. *See supra* Section II(C)(b); Def. MTS – SAIC Resp. at 15–16.

motions for summary judgment.”); Declaration of John Villasenor, dated February 24, 2023 (ECF Nos. 343-9, 344-3) (Villasenor Declaration or Villasenor Decl.); [REDACTED] Decl.; Declaration of Jason Coffman, dated February 22, 2023 (ECF No. 344-19) (Coffman Declaration or Coffman Decl.). SAIC claims that “but for the new declarations, Dr. Bajaj would not have needed to submit his declaration in response.” Def. MTS – SAIC Resp. at 16.

This Court agrees with Defendants. As an initial matter, SAIC failed to meet its disclosure requirements under Rules 26(a)(2) and 26(e) by submitting the Supplemental Bajaj Declaration as an exhibit to its brief opposing Microsoft’s Motion for Summary Judgment of Non-Infringement. Rule 26(a)(2)(B)(i) requires that an expert’s report contain “a complete statement of all opinions the witness will express and the basis and reasons for them.” Rule 26(a)(2)(B)(i). Thus, by the Court’s September 30, 2022 deadline for opening expert reports pursuant to Rule 26(a)(2)(B), SAIC, as the party carrying the burden to prove infringement in this action, was obligated to serve an opening expert report that encompassed the totality of its infringement theories. *See* September 14, 2022 Scheduling Order at 1 (extending the due date for opening expert reports on consent to September 30, 2022). By raising arguments not previously included in the Bajaj Opening Report or the Bajaj Appendix A, the Supplemental Bajaj Declaration reveals SAIC’s failure to comply with Rule 26(a)(2)(B)’s requirement to provide “a complete statement of all opinions the witness will express.” Rule 26(a)(2)(B)(i).

While Rule 26(e)(1) creates a duty for parties to supplement an expert’s report, parties may only do so (1) “in a timely manner if the party learns that in some material respect the disclosure or response is incomplete or incorrect, and if the additional or corrective information has not otherwise been made known to the other parties during the discovery process or in writing,” or (2) “as ordered by the court.” Rule 26(e)(1). Accordingly, a supplemental report such as the

Supplemental Bajaj Declaration would only have been acceptable if it had timely responded to new facts that called into question the accuracy or completeness of the Bajaj Opening Report. *See* Rule 26(e)(1). A party may not *sua sponte* misapply Rule 26(e)(1) to revise and strengthen an expert's previously disclosed opinions to deflect credible challenges from an opponent. *See, e.g., Luke v. Fam. Care and Urgent Med. Clinics*, 323 F. App'x 496, 500 (9th Cir. 2009) ("Rule 26(e) creates a 'duty to supplement,' not a right. Nor does Rule 26(e) create a loophole through which a party who submits partial expert witness disclosures, or who wishes to revise her disclosures in light of her opponent's challenges to the analysis and conclusions therein, can add to them to her advantage after the court's deadline for doing so has passed."). Yet, that is precisely what SAIC did.

The Supplemental Bajaj Declaration does not correct or make complete Dr. Bajaj's existing infringement arguments; it presents entirely new, substantive opinions regarding infringement that were never previously presented. Indeed, SAIC goes so far as to use the Supplemental Bajaj Declaration to introduce a doctrine of equivalents theory of infringement that, by SAIC's own admission, was never raised at *any* point during fact or expert discovery. *See* OA Tr. at 35:14–18 (The Court: "Has SAIC ever raised the doctrine of equivalents theory and the reasoning for that theory prior to the Bajaj supplemental report? And if so, where?" SAIC Counsel: "We did not, Your Honor."). Allowing the Supplemental Bajaj Declaration to remain in the record would permit SAIC to pivot its entire theory of infringement at the summary judgment phase. Such a circumstance would be highly irregular and inappropriate where, as here, sophisticated parties have vigorously litigated this action for over six years. Accordingly, to permit SAIC's additional disclosures to remain in the record, SAIC must demonstrate it was "substantially justified" in presenting the Supplemental Bajaj Declaration or that the Supplemental Declaration was

“harmless.” *See* Rule 37(c)(1); *Scott Timber*, 93 Fed. Cl. at 226 (noting “the burden is on the offending party to show that its violation was either justified or harmless”). SAIC has failed to meet this burden.

SAIC contends it was justified in serving these new opinions during summary judgment due to the allegedly untimely disclosure of new information by Defendants, specifically Microsoft’s and L3’s ordering theories of non-infringement. Def. MTS – SAIC Resp. at 5. The ordering theories, however, cannot justify SAIC’s untimely supplemental expert report, as Microsoft and L3 clearly and sufficiently disclosed these theories to SAIC during fact discovery. As previously discussed, Microsoft timely disclosed its ordering theory in its July 21, 2022 Supplement. *See supra* Section II(C)(a)(1). Likewise, Defendants note that “L3 disclosed during fact discovery that in the ENVG-B system, [REDACTED]

[REDACTED] Def. MTS at 12 (quoting L3’s Supplemental Response to SAIC’s Interrogatory No. 7 (ECF Nos. 359-7, 361-15, 367-8, 376-1)³² at 9). Notably, however, SAIC does not to move to strike L3’s allegedly untimely ordering theory. *See* SAIC MTS; OA Tr. at 30:17–19 (when questioned by the Court why SAIC did not move to strike L3’s ordering arguments, SAIC counsel acknowledged SAIC “responded in the summary judgment motion as opposed to separately filing a motion to strike”). Instead, SAIC opted to slip a supplemental expert report into the record as an exhibit attached to a summary judgment brief, without seeking leave

³² L3’s Supplemental Response to SAIC’s Interrogatory No. 7 appears in the record under various ECF numbers. *See* ECF Nos. 359-7, 361-15, 367-8, 376-1. Accordingly, for consistency in this opinion, all page number citations for L3’s Supplemental Response to SAIC’s Interrogatory No. 7 reference the document submitted through ECF No. 367-8.

of court. Thus, even if, hypothetically, Microsoft or L3 had untimely disclosed their ordering theories, the way SAIC attempted to remedy L3's allegedly delayed disclosure is inappropriate.

Indeed, such conduct fails to comply with the procedures the parties agreed to undertake in the event any party raised new theories after discovery. *See* Def. MTS at 14. In a Joint Status Report (JSR) filed December 13, 2022, SAIC asserted that “Defendants disclosed new non-infringing alternative and new non-infringement theories in expert rebuttal reports on infringement and damages that were not previously disclosed during fact discovery.” JSR, dated December 13, 2022 (ECF No. 332) at 5. After receiving the parties' JSR, the Court held a status conference on December 14, 2022, during which the Court discussed scheduling related to any potential Rule 37 motion practice. *See* Status Conference Transcript, dated December 14, 2022 (ECF No. 336) at 18:9–19–22. The parties agreed to meet and confer regarding how they would address these allegedly newly raised non-infringement theories and non-infringing alternatives. *See* JSR, dated January 27, 2023 (ECF No. 337) at 2; *see* Def. MTS at 14. According to the parties' next JSR, dated January 27, 2023, “the Parties conferred about the procedures regarding motions to strike expert reports, or portions thereof, and hereby propose, subject to the Court's approval that: Motions to strike expert opinions, or portions thereof, may be filed as *Daubert* motions or motions *in limine*, as appropriate.” JSR, dated January 27, 2023 at 2.

At no point did SAIC indicate, either to Defendants or to the Court, that it planned or sought to prepare and serve supplemental expert reports on these issues. *See id.*; Def. MTS at 14 (“SAIC never alerted Defendants or the Court that it was going to, let alone wanted to, have its expert submit additional new opinions despite ample opportunity.”). This Court has discretion in conducting and overseeing the discovery process. *Florsheim Shoe Co., Div. of Interco, Inc. v. United States*, 744 F.2d 787, 797 (Fed. Cir. 1984) (“Questions of the scope and conduct of

discovery are, of course, committed to the discretion of the trial court.”); *Adkins v. United States*, 856 F.3d 914, 916 n.2 (Fed. Cir. 2017) (citing *Florsheim*, 744 F.2d at 797 and acknowledging that discovery issues like a motion to compel discovery are “committed to the discretion of the trial court”). As such, at minimum SAIC should have sought leave and notified the Court of its desire to supplement the record in this manner, even if Microsoft’s and L3’s arguments were untimely (which, they are not).

Additionally, the veracity of SAIC’s timeliness concerns is itself belied by the content of the Supplemental Bajaj Declaration, as the opinions expressed in the Declaration are not cabined to merely addressing the allegedly late-disclosed ordering theory. *See* Def. MTS – Def. Reply at 12 (citing Supp. Bajaj Decl. ¶¶ 65–72) (“Moreover, Dr. Bajaj’s new declaration is not aimed at addressing only the purportedly new facts and theories. . . . Specifically, Dr. Bajaj introduces entirely new opinions . . . regarding the ‘overlay’ claim element and the requirement in the asserted claims that the identify step is based on motion data.”); Def. MTS – SAIC Resp. at 10 n.4. For example, SAIC acknowledges that the Supplemental Bajaj Declaration “included a few supplemental opinions and pictures responding to L3’s ‘overlay’ non-infringement argument that were consistent with the opinions presented in Dr. Bajaj’s original report and that were offered in response to L3’s positions on this issue that were more fully developed and disclosed after Dr. Bajaj had submitted his opening report in order to crystalize the disputed issues for the Court.” Def. MTS – SAIC Resp. at 10 n.4. However, SAIC has not disputed the timeliness of L3’s disclosures related to its non-infringement theory centered on “overlay.” SAIC has likewise failed

to identify any specific new information pertaining to L3’s “overlay” claims that could justify supplementation of an expert report under Rule 26(e).³³

³³ The Supplemental Bajaj Declaration likewise provides new opinions regarding the Asserted Claims’ “identify based on motion data” requirement and whether L3’s devices infringe such a requirement. *See* Def. MTS at 12 (citing Supp. Bajaj Decl. ¶ 72). In its briefing, SAIC expresses concern about the timeliness of L3’s disclosures on this issue, suggesting L3 has raised a new claim construction issue in its Motion for Summary Judgment by addressing the initialization and jump features in its devices. *See, e.g.*, Def. MTS – SAIC Resp. at 10 (“L3 relies on an additional previously undisclosed order of operations argument that it now ties to the claims ‘identify’ element.”); *id.* at 10 n.4; L3 MSJ NI – SAIC Resp. at 36–37 (discussing the alleged untimeliness of L3’s theory regarding [REDACTED]). SAIC further alleges L3 has introduced “new defenses that apparently are additionally related to the order in which operations of the accused system are performed.” Def. MTS – SAIC Resp. at 10 n.4.

As an initial matter, SAIC misconstrues L3’s theory. [REDACTED]

[REDACTED] *See* L3 MSJ NI at 33–40 (“[T]he ’230 patent requires motion data for the ‘identify’ step and then requires that this step be separately checked via image data in the ‘evaluate’ step. . . . [REDACTED]

[REDACTED] Far from introducing a novel ordering theory, L3’s position is not only entirely consistent with the Court’s *Markman* Opinion construing these claim limitations, but it also is consistent with SAIC’s own acknowledgement that the “evaluate” operation must follow the “identify” operation. *See Markman Op.*, 154 Fed. Cl. at 628 (“[The] ’230 patent describes an improved two-step alignment method. This method first uses data from motion sensors to help align images from two different sources and then performs a second step of comparing the content of the images themselves; then, using that comparison to evaluate whether the alignment is correct, adjusts the alignment as necessary.”); OA Tr. at 121:10–11 (SAIC Counsel: “We don’t dispute that there’s a sequence required for steps (c) and (d)”); Def. MTS – SAIC Resp. at 6 n.3 (“SAIC does not dispute that elements (c) and (d) must [occur] in order because (d) refers to (c).”); MSFT MSJ NI – SAIC Resp. at 28 (SAIC agreeing “that the identify element must precede the evaluate element as the claim language of the evaluate element explicitly refers back to the identify element.”).

Further, L3 disclosed its position regarding the “identify based on motion data” claim language by responding to SAIC’s interrogatory on the subject, stating that [REDACTED]

[REDACTED] *See* L3’s Supplemental Response to SAIC’s Interrogatory No. 7 at 7–8; Def. MTS at 12–13. Additionally, SAIC deposed L3’s Rule 30(b)(6) witness, Mr. Coffman,

Further, SAIC's concerns over the [REDACTED] and Coffman Declarations likewise fail to justify the submission of the Supplemental Bajaj Declaration. Neither declaration incorporates any material that the parties had not already disclosed to SAIC prior to summary judgment. For example, Microsoft had already disclosed the information contained in the challenged portions of the [REDACTED] Declaration through production of Microsoft documents MSFT-00222611 [REDACTED] [REDACTED] and MSFT-00217246 [REDACTED]; production of the [REDACTED] source code; [REDACTED] 7-hour deposition; the Farid Report analyzing Microsoft's source code; and the Villasenor Appendix D expressing non-infringement opinions regarding Microsoft's accused devices. *See* Def. MTS at 9; *compare* [REDACTED] Decl. ¶¶ 2(a)–2(e) with [REDACTED] Depo. Tr. at 99:3–6 [REDACTED] [REDACTED], 110:6–111:5 [REDACTED]; Farid Rpt. ¶¶ 18–23; and Villasenor App. D ¶¶ 25–30. Indeed, SAIC received express notice from Microsoft prior to [REDACTED] deposition that he was available to testify on the precise subject matter discussed in the [REDACTED] declaration. *See* SAIC's Rule 30(b)(6) Depo. Notice ¶ 24 [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] (emphasis added); Halkowski Email at 2 (designating [REDACTED] as Microsoft's Rule 30(b)(6) witness for topic 24). The

regarding this precise defense. *See* Coffman Depo. Tr. at 232:7–233:7 [REDACTED] [REDACTED]. Thus, this Court considers SAIC's assertions regarding timeliness unfounded and inadequate to justify supplementing Dr. Bajaj's expert reports through the Supplemental Bajaj Declaration.

circumstances are similar for the Coffman Declaration. SAIC deposed Mr. Coffman, L3's Rule 30(b)(6) witness, on July 29, 2022, after L3 had already served its interrogatory responses, but failed to question Mr. Coffman regarding L3's ordering theory of non-infringement during his deposition. *See* Def. MTS at 12; *see* Coffman Depo. Tr. In stark contrast, due to the timing of SAIC's disclosure at the summary judgment stage, Defendants never had a meaningful opportunity to depose Dr. Bajaj on the new infringement theories expressed in his Supplemental Bajaj Declaration.

SAIC likewise attempts to argue that, like SAIC, Microsoft also attached a substantive declaration from its own expert, Dr. John Villasenor, in support of its Motion for Summary Judgment of Non-Infringement. *See, e.g.,* Def. MTS – SAIC Resp. at 8 (arguing Microsoft submitted a “declaration from their expert witness, Dr. John Villasenor, to confirm that he agrees with the way Microsoft has recast the opinions in his expert report”). However, SAIC's assertions mischaracterize the nature of Dr. Villasenor's Declaration. Contrary to SAIC's suggestions, the Villasenor Declaration does not contain *any* new substantive material or arguments regarding Microsoft's non-infringement theories. *See* generally Villasenor Decl. Instead, it merely provides a recitation of Dr. Villasenor's credentials and qualifications in the field and points to Dr. Villasenor's various expert reports he prepared and served during expert discovery in accordance with the Court's schedule. *See* Villasenor Decl. ¶ 7 (describing the various reports and appendices Dr. Villasenor has prepared throughout the course of this litigation).³⁴ A simple review of the record reveals that SAIC's “good for the goose, good for the gander” argument must fail. Indeed,

³⁴ Despite its clear indignation over the inclusion of the Villasenor Declaration, SAIC neither references nor challenges a similar non-substantive declaration of Microsoft's source code expert, Dr. Farid, that was likewise attached as an exhibit to Microsoft's Motion for Summary Judgment of Non-Infringement. *See* Declaration of Hany Farid, dated February 24, 2023 (ECF No. 343-12).

inclusion of the Villasenor Declaration likewise does not justify SAIC's decision to submit a substantive supplemental expert report, expressing entirely new theories of infringement, via summary judgment briefing.

For these reasons, this Court remains unconvinced by SAIC's proffered explanations for its conduct and concludes SAIC has failed to demonstrate the Supplemental Bajaj Declaration was "substantially justified or harmless." *See* Rule 37(c)(1). Accordingly, this Court must decide which sanction, if any, is appropriate to address SAIC's disclosure failures based on the various factors. *See MicroStrategy*, 429 F.3d at 1357; *Banks*, 75 Fed. Cl. at 298–99. As an initial matter, based on the arguments expressed in SAIC's briefing, this Court does not doubt the willfulness of SAIC's decision to supplement the record through the Supplemental Bajaj Declaration. *See, e.g.*, Def. MTS – SAIC Resp. at 14 ("Dr. Bajaj supplemented his expert report because Microsoft served a new declaration from ██████████ and Dr. Villasenor, and L3 served a new declaration from Mr. Coffman with their motions for summary judgment."). Indeed, SAIC's counsel is highly sophisticated, and SAIC's decision to serve such a supplemental report by attaching it as an exhibit in a response brief, rather than moving for leave of court, suggests even SAIC may have had concerns over the propriety and timing of the Supplemental Bajaj Declaration and its contents.

This Court likewise agrees with Defendants that SAIC's conduct has clearly surprised and prejudiced Defendants. *See* Def. MTS at 5, 19–20. Through the Supplemental Bajaj Declaration, SAIC filed a supplemental expert report on March 29, 2023, nearly four months after the December 13, 2022 close of expert discovery. *See* Supp. Bajaj Decl.; September 14, 2022 Scheduling Order at 2. Such prejudice cannot be meaningfully cured without reopening expert discovery to (1) allow Defendants' experts to serve their own supplemental rebuttal reports, and (2) allow Defendants to depose Dr. Bajaj regarding his new theories. Def. MTS at 5, 19–20. Furthermore, Defendants

would likewise need additional time to update their summary judgment briefing to respond to Dr. Bajaj's new infringement positions. *Id.* Each of these tasks would substantially delay the progress of this case and prove exceptionally disruptive to both the Court's trial schedule and disposition of summary judgment in this case.

This case is now six years old and has been before four different judges of this court. As noted, the parties have vigorously litigated this case through their sophisticated counsel. Discovery is closed, and the case must resolve either via trial or motion practice. Indeed, it is SAIC who has repeatedly expressed its desire to promptly proceed to trial in this action. *See, e.g.*, JSR, dated December 13, 2022 (ECF No. 332) at 4 (expressing SAIC's desire for "efficient resolution," asserting mediation offers a means to reach resolution "without delaying progress toward trial," and refusing to consent to a stay pending mediation because "[t]his case has been pending for over 5 years"); Status Conference Transcript, dated December 14, 2022 (ECF No. 336) at 21:4–15 (in discussing when this Court should set a trial date, SAIC counsel indicating SAIC "would like to push [the case] forward" and emphasizing "the case has been going on five years"). SAIC cannot now credibly insinuate delay for the purpose of keeping the Supplemental Bajaj Declaration in the record.

Importantly, SAIC has had ample opportunity prior to submission of the Supplemental Bajaj Declaration to develop and disclose alternative theories of infringement against Microsoft and L3. *See generally* June 14, 2022 Scheduling Order; September 14, 2022 Scheduling Order; Bajaj Op. Rpt.; Bajaj App. A. Further, many arguments and theories remain available to SAIC apart from those articulated in the Supplemental Bajaj Declaration. Thus, should this Court impose a sanction that would render the theories disclosed in the Supplemental Bajaj Declaration unavailable to combat Microsoft's and L3's non-infringement theories, such an exclusion would

not rise to “de facto” dismissal of SAIC’s case. *Ingalls Shipbuilding*, 857 F.2d at 1451 (“[A] trial court’s discretion to impose sanctions is not unfettered, especially when the de facto result of the sanction is dismissal.”); *Securiforce Int’l Am., LLC v. United States*, 127 Fed. Cl. 386, 396 (2016) (quoting *Ingalls Shipbuilding*, 857 F.2d at 1451).

Based on these considerations, and in light of the prejudice and delay SAIC’s untimely submission will cause, this Court holds that the sanction of exclusion of the Supplemental Bajaj Declaration is appropriate in this case and is proportionate to SAIC’s conduct. *See, e.g., Cheese Sys., Inc. v. Tetra Pak Cheese and Powder Sys., Inc.*, 725 F.3d 1341, 1354–55 (Fed. Cir. 2013) (holding a trial court did not abuse its discretion in striking portions of a supplemental expert declaration that a party served two months after the close of discovery, after the expert had been deposed, and after the opposing party had already filed a motion for summary judgment); *O2 Micro*, 467 F.3d at 1368–69 (affirming trial court’s decision to exclude a party’s supplemental expert reports that were served after the discovery deadline and introduced new infringement theories into the case).

D. Conclusion – Motions to Strike

For the foregoing reasons, this Court **DENIES** SAIC’s Motion to Strike (ECF No. 352), solely as it pertains to Microsoft’s non-infringement theory, and **GRANTS** Defendants’ Motion to Strike (ECF No. 377). The Supplemental Bajaj Declaration (ECF No. 362-3) is accordingly **STRICKEN** from the record. SAIC is precluded from relying on any opinions expressed in the Supplemental Bajaj Declaration, both in opposing Defendants’ summary judgment motions and at trial.

III. Motions for Summary Judgment of Invalidity Based on Indefiniteness

Microsoft contends it is entitled to summary judgment on the basis that the '230 patent is invalid based on indefiniteness. *See generally* MSFT MSJ Inv. Specifically, Microsoft contends that the terms “represent,” “potentially represent,” and “overlays a corresponding region” found in the '230 patent’s three independent claims are indefinite, rendering the '230 patent invalid. *See, e.g., id.* at 28. Similarly, the Government and L3 jointly move for summary judgment of invalidity based on indefiniteness. *See generally* L3/Gov. MSJ Inv. The Government and L3’s Joint Motion is brief: it adopts the arguments Microsoft raises in its own Motion and adds limited commentary to specifically address indefiniteness concerns regarding the '230 patent claims asserted against L3 and the Government. *See id.* at 2 (“[T]he Government and L3 incorporate by reference the arguments in Defendant-Intervenor Microsoft Corporation’s Motion for Summary Judgment of Invalidity Based on Indefiniteness The deficiencies identified in Microsoft’s Motion apply with equal force to each of the claims asserted against the Government and L3, including claims 1, 5, 12, 18, 29, 30, 37, and 39.”).³⁵

For the reasons addressed below, Microsoft’s Motion for Summary Judgment of Invalidity Based on Indefiniteness (ECF No. 339) is **DENIED**. The Government and L3’s Joint Motion for Summary Judgment of Invalidity Based on Indefiniteness (ECF No. 342) is likewise **DENIED**.

³⁵ Similarly, in responding to the Government and L3’s Joint Motion, SAIC adopts the arguments included in its Response to Microsoft’s Motion for Summary Judgment addressing indefiniteness and provides limited commentary to rebut the unique arguments raised in the Government and L3’s Motion. *See* L3/Gov. MSJ Inv. – SAIC Resp. at 2 (“The Government and L3’s follow-on motion should be denied for the same reasons as those articulated in SAIC’s opposition to Microsoft’s motion for summary judgment SAIC incorporates by reference the arguments in its opposition to Defendant Microsoft’s motion for summary judgment as though fully set forth herein.”).

A. Background – Motions for Summary Judgment of Invalidity Based on Indefiniteness

As noted, at its inception, this action involved four patents, all of which belonged to the SERVVAL family of patents: U.S. Patent Nos. 7,787,012 (the '012 patent), 8,817,103 (the '103 patent), 9,229,230 (the '230 patent), and 9,618,752 (the '752 patent). *See* Compl. ¶ 2, 37. In its August 6, 2021 *Markman* Opinion, this Court construed the terms “in registration with” and “registering” recited in certain claims from the '012 patent,³⁶ the '103 patent,³⁷ the '752 patent,³⁸

³⁶ Claim 1(3) of the '012 patent recites:

1. A method of registering video images with an underlying visual field comprising the steps of . . . (3) displaying the video images in positions on the transparent display that overlay portions of the visual field represented by the displayed video images, wherein boundaries of the displayed video images are in registration with boundaries of portions of the visual field represented by the displayed video images.

'012 patent at 9:63–10:10 (emphasis added). Additionally, Claim 17(4) of the '012 patent recites:

17. A method of registering video images with an underlying visual field comprising the steps of . . . (4) registering the portion of the video feed with the underlying visual field

Id. at 10:48–60 (emphasis added).

³⁷ Claim 1 of the '103 patent recites:

1. A system comprising . . . a computer adapted to receive sensor data from the first and second orientation sensors, to receive the video feed from the video camera, and to display the video images, on the transpar[e]nt display and based on the received sensor data, in positions that overlay portions of the visual field represented by the displayed video images wherein boundaries of the displayed video images are in registration with boundaries of portions of the visual field represented by the displayed video images, and wherein the computer is adapted to determine a source orientation of the video camera, and determine a display orientation of the transparent display.

'103 patent at 10:6–30.

³⁸ Claims 1, 7, and 13 of the '752 patent each recite the phrase “in registration with” in system, method, and non-transitory machine-readable medium claims, respectively. In each of these claims, the pertinent claim limitation states as follows:

and '230 patent.³⁹ See *Markman Op.*, 154 Fed. Cl. at 634–39. The Court ruled that the terms “in registration with” and “registering” were indefinite because “the patents fail to provide objective

displaying at least a portion of the first image and the selected part of the second image such that the selected part of the second image replaces the selected part of the first image and is *in registration with* regions of the first image surrounding the selected part of the first image.

'752 patent at 25:2–34 (claim 1) (emphasis added) (“A system, comprising . . .”); *id.* at 26:19–45 (claim 7) (emphasis added) (“A method comprising . . .”); *id.* at 27:31–59 (claim 13) (emphasis added) (“A non-transitory machine-readable medium having machine executable instructions for performing a method comprising . . .”).

³⁹ Claim 3 of the '230 patent recites:

3. The system of claim 2, wherein operation (c) includes using the received motion data to determine an amount by which the second video source image portion should be rotated relative to the first video source image portion so that the second video source image portion is *in registration with* areas of the first video source image portion adjacent to the corresponding region, and operation (d) includes determining, based on a phase shift of the first video source image relative to the second video source image, a rotation of the second video source image region relative to the first video source image.

'230 patent at 24:58–25:3 (emphasis added). Additionally, claim 17 of the '230 patent recites:

17. The method of claim 16, wherein step (c) includes using the received motion data to determine an amount by which the second video source image portion should be rotated relative to the first video source image portion so that the second video source image portion is *in registration with* areas of the first video source image portion adjacent to the corresponding region, and step (d) includes determining, based on a phase shift of the first video source image relative to the second video source image, a rotation of the second video source image region relative to the first video source image.

'230 patent at 26:52–62 (emphasis added). Finally, claim 31 of the '230 patent recites:

31. The non-transitory machine-readable medium of claim 30, wherein step (c) includes using the received motion data to determine an amount by which the second video source image portion should be rotated relative to the first video source image portion so that the second video source image portion is *in registration with* areas of the first video source image portion adjacent to the corresponding region, and step (d) includes determining, based on a phase shift of

criteria for a [person of ordinary skill in the art (POSITA)] to determine with reasonable certainty when registration is accomplished.” *Id.* at 634.

B. Applicable Legal Standards – Motions for Summary Judgment of Invalidity Based on Indefiniteness

Rule 56 states that a party “may move for summary judgment, identifying each claim or defense . . . on which summary judgment is sought,” and the Court shall grant summary judgment “if the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law.” Rule 56(a). The movant bears the initial burden of “informing the district court of the basis for its motion” and demonstrating “the absence of a genuine issue of material fact.” *Celotex Corp. v. Catrett*, 477 U.S. 317, 323 (1986). Summary judgment is appropriate when, “drawing all justifiable inferences in the non-movant’s favor, ‘there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law.’” *Akzo Nobel Coatings, Inc. v. Dow Chem. Co.*, 811 F.3d 1334, 1338–39 (Fed. Cir. 2016) (quoting *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 255 (1986)). Challenges to a patent’s invalidity, including invalidity based on indefiniteness, may be addressed at the summary judgment phase. *See, e.g., Biosig Instruments, Inc. v. Nautilus, Inc.*, 783 F.3d 1374 (Fed. Cir. 2015) (on remand from *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898 (2014)) (considering district court’s grant of summary judgment based on indefiniteness); *Ibormeith IP, LLC v. Mercedes-Benz USA, LLC*, 732 F.3d 1376 (Fed. Cir. 2013) (affirming district court’s decision granting summary judgment for invalidity based on indefiniteness).

the first video source image relative to the second video source image, a rotation of the second video source image region relative to the first video source image.

’230 patent at 28:44–56 (emphasis added).

The Federal Circuit has made clear that “[i]n the face of an allegation of indefiniteness, general principles of claim construction apply.” *Enzo Biochem, Inc. v. Applera Corp.*, 599 F.3d 1325, 1332 (Fed. Cir. 2010) (quoting *Young v. Lumenis, Inc.*, 492 F.3d 1336, 1346 (Fed. Cir. 2007)) (alterations in original) (internal citations omitted). Issues of indefiniteness, like claim construction, are questions of law that may sometimes require subsidiary factfinding by the trial court. *Niazi Licensing Corp. v. St. Jude Med. S.C., Inc.*, 30 F.4th 1339, 1346 (Fed. Cir. 2022) (“Definiteness is a question of law”); *Cox Commc’ns., Inc. v. Sprint Commc’n. Co. LP*, 838 F.3d 1224, 1288 (Fed. Cir. 2016) (“The ultimate conclusion that a claim is indefinite under 35 U.S.C. § 112, ¶ 2 is a legal conclusion, which we review de novo. . . . As in claim construction, we review a district court’s underlying factual determinations for clear error.”) (citing *Eidos Display, LLC v. AU Optronics Corp.*, 779 F.3d 1360, 1364 (Fed. Cir. 2015) and *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 574 U.S. 318, 330–31 (2015)); *Akzo*, 811 F.3d at 1343 (citing *Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1370 (Fed. Cir. 2014)) (“Indefiniteness is a question of law that we review de novo . . . subject to a determination of underlying facts.”); *Icon Health & Fitness, Inc. v. Polar Electro Oy*, 656 F. App’x 1008, 1013 (Fed. Cir. 2016) (quoting *Biosig Instr., Inc. v. Nautilus, Inc.*, 783 F.3d 1374, 1378 (Fed. Cir. 2015)) (citing *Teva Pharms.*, 574 U.S. at 326) (acknowledging that a court’s legal conclusions regarding indefiniteness and claim construction are both questions of law that may “have factual underpinnings”). “Any fact critical to a holding on indefiniteness . . . must be proven by the challenger by clear and convincing evidence.” *Cox Comms.*, 838 F.3d at 1228 (quoting *Intel Corp. v. VIA Techs., Inc.*, 319 F.3d 1357, 1366 (Fed. Cir. 2003)) (internal quotation marks omitted); see *SRAM Corp. v. AD-II Eng’g, Inc.*, 465 F.3d 1351, 1357 (Fed. Cir. 2006) (“[A] moving party seeking to invalidate a patent at summary judgment must submit such clear and convincing evidence of facts underlying invalidity that no reasonable

jury could find otherwise.”); *Apple Comput., Inc. v. Articulate Sys., Inc.*, 234 F.3d 14, 20 (Fed. Cir. 2000) (“Summary judgment of invalidity . . . must be predicated on facts established by clear and convincing evidence.”).

Every patent’s specification must “conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.” 35 U.S.C. § 112, ¶ 2.⁴⁰ Accordingly, a patent is deemed invalid for indefiniteness “if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention.” *Nautilus v. Biosig Instruments, Inc.*, 572 U.S. 898, 901 (2014); *id.* at 908 (“[D]efiniteness is to be evaluated from the perspective of someone skilled in the relevant art.”). Said differently, “[w]hether a claim is invalid for indefiniteness requires a determination whether those skilled in the art would understand what is claimed when the claim is read in light of the specification.” *Takeda Pharm. Co. Ltd. v. Zydus Pharms. USA, Inc.*, 743 F.3d 1359, 1366 (Fed. Cir. 2014) (quoting *Morton Int’l, Inc. v. Cardinal Chem. Co.*, 5 F.3d 1464, 1470 (Fed. Cir. 1993)); *Enzo Biochem*, 599 F.3d at 1332 (noting indefiniteness inquiries, like claim construction, “involve[] consideration of primarily the intrinsic evidence, *viz.*, the claim language, the specification, and the prosecution history”) (internal quotations omitted). “The internal coherence and context assessment of the patent, and whether it conveys claim meaning with reasonable certainty, are questions of law.” *Sonix Tech. Co. Ltd. v.*

⁴⁰ Paragraph 2 of 35 U.S.C. § 112 was replaced with newly designated 35 U.S.C. § 112(b) when § 4(c) of the America Invents Act (“AIA”) took effect on September 16, 2012. *See* Pub.L. No. 112–29. The parties agree that this case involves the pre-AIA version of 35 U.S.C. § 112, as the application resulting in the ’230 patent was filed before that date. *See Markman Op.*, 154 Fed. Cl. at 613 n.9 (citing the *Markman* Hearing Transcript, dated December 15, 2020 (ECF No. 159) at 98:9–15).

Publ'ns Int'l, Ltd., 844 F.3d 1370, 1376 (Fed. Cir. 2017) (quoting *Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 789 F.3d 1335, 1342 (Fed. Cir. 2015)).

However, “[a]s the Supreme Court explained in *Nautilus*, language has ‘inherent limitations.’” *Niazi Licensing*, 30 F.4th at 1346 (quoting *Nautilus*, 572 U.S. at 909). Though “a patent must be precise enough to afford clear notice of what is claimed, thereby ‘appris[ing] the public of what is still open to them,’ . . . ‘the certainty which the law requires in patents is not greater than is reasonable, having regard to their subject-matter.’” *Nautilus*, 572 U.S. at 899 (alteration in original) (quoting *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 389 (1996) and *Minerals Separation, Ltd. v. Hyde*, 242 U.S. 261, 270 (1916)); *id.* at 910 (acknowledging the indefiniteness standard “mandates clarity, while recognizing that absolute precision is unattainable”). Thus, “a patentee need not define his invention with mathematical precision in order to comply with the definiteness requirement.” *Niazi Licensing*, 30 F.4th at 1347 (quoting *Guangdong Alison Hi-Tech Co. v. Int’l Trade Comm’n*, 936 F.3d 1353, 1359 (Fed. Cir. 2019)) (internal quotations omitted); *Sonix Tech.*, 844 F.3d at 1377 (same).

C. Discussion – Motions for Summary Judgment of Invalidity Based on Indefiniteness

Microsoft⁴¹ alleges that the ’230 patent is invalid because the terms “represents,” “potentially represents,” and “overlays a corresponding region” that are found in claims 1, 15, and 29 are indefinite (collectively, the Challenged Terms). MSFT MSJ Inv. at 21–22. Claim 1, which

⁴¹ As L3 and the Government have adopted Microsoft’s arguments regarding indefiniteness, this Court frames its discussion around the arguments raised in Microsoft’s Motion and separately addresses any unique arguments raised in the Government and L3’s Joint Motion. *See infra* Section III(C)(d).

the parties agree is representative on the issue of indefiniteness,⁴² recites the Challenged Terms as follows:

(c) identify, based on the received motion data, a part of a first video source image that **potentially represents** a portion of the external environment **represented** in a part of a second video source image;

(d) evaluate, based on a comparison of data from the first and second video source images, the identification performed in operation (c); and

(e) display at least a portion of the first video source image and at least a portion of the second video source image such that the second video source image portion **overlays a corresponding region** of the first video source image portion, wherein the **corresponding region represents** a portion of the external environment **represented** in the second video source portion.

'230 Patent at 24:38–51 (emphasis added).

Microsoft raises two arguments in support of its position that the Challenged Terms are indefinite. First, Microsoft suggests that these terms “suffer from the same defects that led the Court to hold [the terms] ‘in registration with’ [and] ‘registering’ to be indefinite” in its claim construction opinion. MSFT MSJ Inv. at 22; *see Markman Op.*, 154 Fed. Cl. at 634–39. Thus, Microsoft argues this Court should apply the same reasoning to the Challenged Terms as it did in deeming the Registration Terms indefinite. *See, e.g.*, MSFT MSJ Inv. – MSFT Reply at 7–8 (“Thus, the Court’s findings of indefiniteness of the ‘registration’ terms are instructive to a finding that the ’230 patent specification fails to provide any objective criteria to determine with reasonable certainty whether the claimed representation and overlay is accomplished.”). Second,

⁴² *See* MSFT MSJ Inv. – SAIC Resp. at 14 (“Solely for purposes of responding to this motion on indefiniteness, SAIC agrees that the limitations of Claim 1 are exemplary of the challenged limitations in each of asserted claims.”); Villasenor Op. Rpt. ¶ 229 (“Claim 1 of the ’230 Patent includes the following limitations that are relevant for my opinion on indefiniteness . . . Claims 15 and 29 include substantively identical limitations. Therefore, while I refer to claim 1 in my discussion below for brevity, my opinion applies in equal force to claims 15 and 29 and their dependent claims.”).

Microsoft asserts that the '230 patent is indefinite because it does not disclose any objective criteria, methodology, or other description “by which to measure or know whether the [Challenged Terms] are satisfied.” MSFT MSJ NI at 28; *see id.* at 28–29 (arguing the '230 patent “(1) fails to disclose parameters for acceptable degrees of error or inform a POSITA the extent of alignment of the overlaid images required by the claims; and (2) does not contain any objective criteria or other description by which to measure or know whether the [Challenged Terms] are satisfied”).⁴³ Central to this argument is Microsoft’s position that the Challenged Terms are terms of degree that are “context-dependent and measurable.” *Id.* at 27–28.

Based on the '230 patent’s intrinsic evidence, extrinsic evidence, and relevant case law, this Court holds that Microsoft has failed to provide clear and convincing evidence to support its Motion. Accordingly, this Court finds that the Challenged Terms are not indefinite.

a. Prior Holdings Regarding the Registration Terms Are Not Controlling as Pertaining to the Challenged Terms

Microsoft’s arguments equating the Challenged Terms and the Registration Terms invalidated in this Court’s *Markman* Opinion are inapposite. Microsoft asserts this Court should construe the Challenged Terms as indefinite by applying the same reasoning it applied in its *Markman* Opinion when construing the terms “in registration with” and “registering.” *Id.* at 5, 20–25; *Markman Op.*, 154 Fed. Cl. at 634–39. According to Microsoft, though “the asserted claims of the '230 patent use the word ‘represent’ rather than ‘registration,’ [] they refer to the

⁴³ *See* MSFT MSJ Inv. at 29 (“[T]he crucial aspect of the alleged invention is evaluating in claim element (d) the ‘potential representation’ identified in claim element (c) to ensure that it is a ‘corresponding region’ and an actual ‘representation,’ which is displayed in claim element (e). Yet, the '230 patent fails to provide a POSITA with objective criteria for evaluating whether and when a ‘potential representation’ is accurate enough to be considered a ‘corresponding region’ and an actual ‘representation’ that is to be displayed by the system of claim 1 of the '230 patent.”) (emphasis omitted).

same concept.” MSFT MSJ Inv. at 5 (“The remaining asserted claims require overlaying one image on top of another such that the two images ‘potentially represent’ or ‘represent’ the same portion of the external environment in the area of overlap. ‘Representation’ thus refers to the same indefinite idea as ‘registration.’”); *id.* at 15 (“Whether one image ‘potentially represents’ or ‘represents’ a portion of another, and whether one image has a ‘corresponding region’ in another, all refer to the same concept [as ‘registration’].”). Thus, according to Microsoft, this Court’s previous holdings on indefiniteness pertaining to the Registration Terms should inform how this Court interprets the Challenged Terms. MSFT MSJ Inv. – MSFT Reply at 7–8 (“Thus, the Court’s findings of indefiniteness of the ‘registration’ terms are instructive to a finding that the ’230 patent specification fails to provide any objective criteria to determine with reasonable certainty whether the claimed representation and overlay is accomplished.”). However, an inspection of the intrinsic evidence and the record reveals that this Court’s previous holdings on indefiniteness are not dispositive on the present issue.

“Different claim terms are presumed to have different meanings.” *MicroStrategy Inc., v. Bus. Objects Americas*, 238 F. App’x 605, 609 (Fed. Cir. 2007) (citing *CAE Screenplates Inc. v. Heinrich Fiedler GmbH & Co. KG*, 224 F.3d 1308, 1317 (Fed. Cir. 2000) (“In the absence of any evidence to the contrary, we must presume that the use of these different terms in the claims connotes different meanings.”)). Simply put, “represent” and “registration” are different terms with different meanings that, accordingly, invoke different definiteness considerations. The intrinsic record suggests a POSITA would agree the Challenged Terms and the Registration Terms convey different meanings and merit their own definiteness analyses. For example, none of the ’230 patent’s independent claims, which contain the Challenged Terms and are asserted in this action,

reference any of the Registration Terms.⁴⁴ See '230 patent at 24:34–51, 26:27–47, 28:17–38. In contrast, the term “in registration with” is used in three of the '230 patent’s dependent claims: claims 3, 17, and 31.⁴⁵

A patent’s other claims, both asserted and unasserted, can be “valuable sources of enlightenment as to the meaning of a claim term.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1314 (Fed. Cir. 2005) (en banc) (citing *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)). “Differences among claims can [] be a useful guide in understanding the meaning of particular claim terms. . . . For example, the presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim.” *Id.* at 1314–15 (citing *Laitram Corp. v. Rexnord, Inc.*, 939 F.2d 1533, 1538 (Fed. Cir. 1991) and *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 910 (Fed. Cir. 2004)). Thus, a POSITA would understand the recitation of dependent claims with limitations involving the term “in registration with” to indicate those precise limitations or concepts are not present in independent claims 1, 15, and 29. Said differently, the inclusion of dependent claims with limitations centered on “registration” provides intrinsic evidence suggesting the independent claims’ Challenged Terms harbor a different, or nuanced, meaning as compared to the Registration Terms previously deemed indefinite. See also Bajaj Reb. Rpt. ¶ 898 (“Accordingly, because dependent claims of the '230 patent, such as Claim 3, incorporate the term ‘registration,’ the independent claims are to be read as encompassing different claim scope.”) (emphasis omitted).

⁴⁴ Microsoft acknowledges this point, as it must. See MSFT MSJ Inv. at 21 (“[T]he remaining asserted claims of the '230 Patent do not recite the term ‘register’ . . .”).

⁴⁵ See *supra* note 39 (listing claims 3, 17, and 31 from the '230 patent).

Despite such intrinsic evidence, to support its argument, Microsoft repeatedly references extrinsic evidence which it claims establishes an unmistakable connection between the Challenged Terms and the Registration Terms. MSFT MSJ Inv. at 22–25. Microsoft has identified SAIC’s document titled “System Functional Analysis,” which SAIC has previously referenced to prove conception and reduction to practice of the ’230 patent. *Id.*; MSFT MSJ Inv. – MSFT Reply at 8–9; SAIC’s System Functional Analysis (ECF No. 343-18). [REDACTED]

[REDACTED] SAIC’s System Functional Analysis (ECF No. 343-18) at 4. Microsoft likewise references deposition testimony by ’230 patent inventor and Rule 30(b)(6) witness, General John Scales, regarding his understanding of the System Functional Analysis document. MSFT MSJ Inv. at 22–25 (citing various excerpts from Deposition of John Scales, dated August 9, 2022 (ECF No. 343-17, 344-15, 353-4, 365-9, 364-1) (Scales Depo. Tr.)). Specifically, Microsoft emphasizes statements by General Scales which equated [REDACTED] to the “evaluate” operation in claim limitation 1(d). MSFT MSJ Inv. at 23–24 (citing Scales Depo. Tr. at 143:17–145:5, 160:12–161:9)

[REDACTED] General Scales (speaking for SAIC) thus confirmed the close association of the ’230 patent with the other three invalidated patents.”). Dr. Villasenor likewise relies considerably on General Scales’ testimony regarding the System Functional Analysis in rendering his opinion that the “‘evaluate’ step of the ’230 Patent suffers from the same indefiniteness issue present in the invalid claims that expressly recite ‘registration.’” Villasenor Op. Rpt. ¶¶ 238, 231–36 (emphasis omitted). Yet, SAIC’s System Functional Analysis document, and General Scales’ testimony regarding the same, are items extrinsic to the patent, as is Dr. Villasenor’s expert report addressing

the same materials. *Phillips*, 415 F.3d at 1318 (“We have viewed extrinsic evidence in general as less reliable than the patent and its prosecution history in determining how to read claim terms . . .”).

Indeed, Microsoft offers limited discussion of the intrinsic record to support its contention that the Challenged Terms and the Registration Terms require comparable indefiniteness conclusions. *See* MSFT MSJ Inv. at 20–25; MSFT MSJ Inv. – MSFT Reply at 6–8; *see generally* Villasenor Op. Rpt. ¶¶ 226–38. In his Opening Report, Dr. Villasenor opines that “the ‘evaluate’ step of the ’230 patent suffers from the same indefiniteness issue present in the invalid claims that expressly recite ‘registration.’” *Id.* ¶ 238 (emphasis omitted). Yet, Dr. Villasenor’s Opening Report offers only limited engagement with the ’230 patent’s intrinsic evidence to support such an assertion. Indeed, Dr. Villasenor supports his conclusion that the “evaluate” operation is indefinite by noting, in somewhat conclusory fashion, that claim 1’s “outcome,” or the “display” operation recited in claim limitation 1(e), “requires” the system to perform a “registration.” *Id.* ¶ 237; MSFT MSJ Inv. – MSFT Reply at 7 (“As the ’230 patent builds on the concept of ‘registration’ to determine whether the overlay scope image represents the same part of the external environment, the defects identified by the Court regarding that concept apply here as well.”). Microsoft does not, however, explain how or why Dr. Villasenor’s opinion should overcome the presumption, evident in the intrinsic record, that different claim terms have different meanings. *See MicroStrategy*, 238 F. App’x at 609. Nor does Microsoft acknowledge the juxtaposition between the independent claims, which reference the Challenged Terms, and the dependent claims, which reference the Registration Terms. *Phillips*, 415 F.3d at 1314–15. Such conclusory expert testimony, focused primarily on analyzing evidence extrinsic to the patent, is insufficient to meet Microsoft’s high clear and convincing burden required for proof of invalidity. *See id.* at 1318

("[C]onclusory, unsupported assertions by experts as to the definition of a claim term are not useful to a court."); *Cox Commc 'ns.*, 838 F.3d at 1228.

For the foregoing reasons, this Court rejects Microsoft's assertions that the construction of the Registration Terms applies automatically to the Challenged Terms. This Court must instead undertake an indefiniteness analysis unique to the Challenged Terms to determine whether the '230 patent fails to provide objective boundaries sufficient to avoid indefiniteness concerns.

b. The '230 Patent's Written Description Includes Sufficient Objective Criteria to Avoid Indefiniteness Concerns

Microsoft contends the '230 patent fails to provide sufficient detail or objective criteria such that a POSITA would not know when an alignment has transitioned from a "potential representation" to an actual representation that displays a "corresponding region" of the external environment. MSFT MSJ Inv. at 27 ("The language of the '230 patent claims lacks any definition of the degree of alignment of the overlaid images representing the external environment and therefore fails to set out with reasonable certainty the scope of the claimed invention."); *id.* at 28 ("Consulting the specification does not inform a POSITA with reasonable certainty of the scope of the claimed invention of the '230 patent. . . . [T]he '230 patent: (1) fails to disclose parameters for acceptable degrees of error or inform a POSITA the extent of alignment of the overlaid images required by the claims; and (2) does not contain any objective criteria or other description by which to measure or know whether the [Challenged Terms] are satisfied."). Thus, the question that remains is whether Microsoft has met its burden to provide clear and convincing evidence that the Challenged Terms, when "read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention." *Nautilus*, 572 U.S. at 901. The answer is no; Microsoft has not met its burden here.

Claim limitations 1(c), 1(d), and 1(e) do not recite specific accuracy measures to define when the device has achieved a successful alignment (e.g., by specifically identifying tolerable variances, or error rates, in degrees or pixels). *See, e.g., Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 789 F.3d 1335, 1338 (Fed. Cir. 2015) (patent claim reciting a specific measurement of a copolymer’s molecular weight, “about 5 to 9 kilodaltons”). Instead, the patent simply indicates that the system must perform the motion-based identification and image-based evaluation in claim limitations 1(c) and 1(d) such that the output of the system depicts a “corresponding region” that “represents” a single, uniform portion of the external environment. ’230 patent at 24:38–44. Microsoft alleges this purported lack of objective criteria in the claim language renders the patent indefinite because terms of degree, like the Challenged Terms, must be defined by objective boundaries.⁴⁶ *See* MSFT MSJ Inv. at 25–28; MSFT MSJ Inv. – MSFT Reply at 12–16. However,

⁴⁶ The parties dispute whether the Challenged Terms qualify as terms of degree. *Compare* MSFT MSJ Inv. at 27 (“Like the ‘registration’ terms, the ‘represent / corresponding’ terms are terms of degree and subjective.”) *with* MSFT MSJ Inv. – SAIC Resp. at 34 (“The ‘a corresponding region’ / ‘corresponding region represents’ terms are not subjective or terms of degree.”) *and* Bajaj Reb. Rpt. ¶ 900 (“[N]othing in the terms ‘identify,’ ‘evaluate,’ or ‘display’ indicates that they are terms of degree.”). Microsoft argues that the Challenged terms are “purely subjective wherein the sufficient degree of alignment of the overlaid images depends on the point of view of the individual soldier using the device and ‘on the unpredictable vagaries of any one person’s opinion.’” MSFT MSJ Inv. at 28 (quoting *Intellectual Ventures I, LLC v. T-Mobile USA, Inc.*, 902 F.3d 1372, 1381 (Fed. Cir. 2018)); MSFT MSJ Inv. – MSJ Reply at 10–12. In contrast, SAIC argues that the terms are not terms of degree, but instead convey “functional” language. MSFT MSJ Inv. – SAIC Resp. at 23–25 (“Limitations 1(c) and 1(e) recite functional requirements (‘identify’ and ‘display’) that describe computer operations (a controller configured to evaluate a motion data identification of the orientations of image sensors based on an image data comparison) that produce machine outputs (an overlaid display).”).

For purposes of this Court’s indefiniteness analysis, however, this is a distinction without a difference. Whether the Challenged Terms qualify as terms of degree or functional terms, the inquiry this Court must perform is identical. In either case, the Court must look to the claims and the specification to discern whether the details included therein give POSITAs notice of the claims’ scope. *See Enzo Biochem, Inc. v. Applera Corp.*, 599 F.3d 1325, 1332–33 (Fed. Cir. 2010) (“When a ‘word of degree’ is used, the court must determine whether the patent provides ‘some standard for measuring that degree.’ . . . Similarly, when a claim limitation is defined in ‘purely functional

while “[t]rue, descriptive words (or terms of degree) in a claim may inherently result in broader claim scope than a claim defined with mathematical precision,” “a claim is not indefinite just because it is broad.” *Niazi Licensing*, 30 F.4th at 1347. “[C]laim language employing terms of degree has long been found definite where it provided enough certainty to one of skill in the art when read in the context of the invention.” *Id.* (quoting *Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1370 (Fed. Cir. 2014)) (internal quotation marks omitted). “As with any question of claim construction, the intrinsic record—the patent’s claims, written description, and prosecution history—along with any relevant extrinsic evidence can provide or help identify the necessary objective boundaries for claim scope.” *Id.* at 1349 (citing *Guangdong*, 936 F.3d at 1360). In particular, examples in a patent’s written description can “help[] provide sufficient guidance to render the claims not invalid as indefinite.” *Id.*; *Nevro Corp. v. Boston Sci. Corp.*, 955 F.3d 35, 39 (Fed. Cir. 2020) (quoting *Enzo Biochem. Inc. v. Applera Corp.*, 599 F.3d 1325, 1335 (Fed. Cir. 2010)) (acknowledging that ambiguity in claim language may be “resolved where the patent ‘provides a general guideline and examples sufficient to enable a person of ordinary skill in the art to determine the scope of the claims’”).

As an initial matter, both Microsoft and SAIC agree that the system recited in claim 1 is designed to evaluate, using image data, a preliminary motion-based alignment of video frames, and then display those frames using a corrected alignment. *See, e.g.*, MSFT MSJ Inv. at 29 (“[T]he

terms,’ a determination of whether the limitation is sufficiently definite is ‘highly dependent on context (e.g., the disclosure in the specification and the knowledge of a person of ordinary skill in the relevant art area.’”) (quoting *Seattle Box Co., Inc. v. Indus. Crating & Packing, Inc.*, 731 F.2d 818, 826 (Fed. Cir. 1984) and *Halliburton Energy Servs., Inc. v. M-I LLC*, 514 F.3d 1244, 1255 (Fed. Cir. 2008)). Thus, regardless of whether the Challenged Terms qualify as terms of degree or as functional terms, this Court must decide whether the claims and specification provide sufficient boundaries and guidance to ameliorate any indefiniteness concerns for the Challenged Terms.

crucial aspect of the alleged invention is evaluating in claim element (d) the ‘potential representation’ identified in claim element (c) to ensure that it is a ‘corresponding region’ and an *actual* ‘representation,’ which is displayed in claim element (e).”) (emphasis in original); MSFT MSJ Inv. – SAIC Resp. at 25 (“Limitation 1(c) is met when a controller executes an algorithm that uses motion data associated with independently movable video sources to identify the relative orientation of the video sources. Limitation 1(e) is met when a controller displays images after an image data analysis algorithm finds a ‘match’ point between (prior or current) image frame pairs that is used to confirm or adjust a rotation matrix that determines how images are overlaid.”).

Indeed, the patent’s intrinsic record confirms the parties’ understanding. *See, e.g.*, ’230 patent at 2:6–15 (“Data from the two images are then compared in order to evaluate the location determined from the sensor data. The sensor-based location is either confirmed, or a new location is found based on additional image comparisons. Once a location is selected (either a confirmed sensor-based location or a location found using image comparison), the two images are displayed such that the second source image (or a portion of that image) overlays a corresponding portion of the first source image.”); *id.* at 7:19–22 (“[T]he location and rotation of weapon view 74 within user display 70 is determined by computer 30 based on output from sensor 13 and 18 and based on comparison of the scope image with the goggle image.”); *id.* at 18:38–42 (“Other embodiments also include numerous variations on the above-described methods for using a comparison of a scope image and a goggles image to check an IMU-based location and rotation for that scope image within that goggles image.”).⁴⁷ The specification clearly contemplates the following two-step

⁴⁷ *See* OA Tr. at 58:8–19 (SAIC Counsel: “[W]e take in IMU data. We perform calculations that are -- we do these rotational matrices. It's all laid out in the specification. Because there's error and drift in these sensors, it's potential, it may be and subject to the evaluation step. Then once we evaluate that data, the image comparisons, and use that to line up with the IMU, then we get to the output, which is the display step (e).” The Court: “and at that point, that’s sort of a final

alignment process that results in an aligned and displayed image: (1) attempt to align video images using motion data; (2) confirm or correct the motion-based alignment using an image-based check; then (3) display as the output two aligned images overlaid to depict a single, shared view of the external environment.

The specification provides examples for how the device may perform the initial motion-based identification outlined in claim limitation 1(c). For example, the specification provides an exemplary embodiment of the “identify” operation in the flow chart depicted in Figure 5A and its accompanying written descriptions. *See id.* at 7:46–10:3. The specification describes how in “block 111, the pitch, roll and yaw angle values from (goggles) IMU 13 and the pitch, roll and yaw angle values from (scope) IMU 18 are used to create an IMU-based rotation matrix. The IMU-based rotation matrix is then used in block 113 to calculate a location (i.e., horizontal and vertical position) and an image rotation for the scope image within the goggles image.” *Id.* at 8:35–41. The patent acknowledges that “[r]otation matrices and the use of same to place and orient one image within another are known in the art and/or would be readily apparent to persons of ordinary skill in the art once such persons are provided with the information contained” in the patent’s written description. *Id.* at 8:42–46. The specification likewise includes Figures 6A through 6H, which illustrate the use of motion data to identify a part of a weapon image that “potentially represents” part of the goggles image. *See id.* at 8:58–10:3. Further, Figure 8H and its accompanying written description describe an exemplary embodiment in which the device

representation, I’ll call it?” SAIC Counsel: “That’s the output.”); *id.* at 77:7–13 (SAIC Counsel: “‘Potentially represents’ is the first step. . . . The first one is we look at IMU data. The second is we confirm that through a comparison of images, and in this way we crosscheck it. And then it comes to the display step if it passes.”).

identifies a part of the goggles image where the scope image should be placed based on the IMU sensor's received motion data. *Id.* at 13:10–34.

Importantly, the '230 patent's specification confirms in several ways that the operations described in claim limitations 1(c) and 1(d) identify two video frames using motion data that *may, or may not*, “represent” the same portion of the external environment, then evaluate those frames using image data to confirm or improve the accuracy of the alignment. For example, the specification makes repeated references to the lack of reliability associated with motion data and the motion-based alignments created through claim limitation 1(c). *See, e.g.*, '230 patent at 1:38–44 (“[M]any low-cost IMU sensors experience bias drift over time. Such drift can result in relative orientation errors of several degrees per hour. In order to prevent such errors from accumulating, the IMU sensors must be periodically recalibrated. This recalibration typically requires user action and can disrupt system operation.”); *id.* at 8:60–63 (“FIGS. 6A through 6H assume data from sensors 13 and 18 is accurate (*e.g., not significantly affected by bias drift*) and that weapon view 74 is generated based on the IMU sensor data only.”) (emphasis added); *id.* at 10:16–21 (“Although IMU-based orientation determination is relatively simple from a computational standpoint and is generally quite robust over short periods of time, IMUs can have certain disadvantages. For example, IMUs have bias drift rates and may be susceptible to significant overshoot if moved rapidly.”); *id.* at 10:26–29 (“By checking the IMU-based position and image rotation calculations using an image comparison, the manner in which data from IMU sensors is used can be periodically recalibrated and the effects of bias drift, etc. reduced.”); *id.* at 13:27–34 (“[Figure] 8H shows goggles image 82 and a portion 311 of goggles image 82 where computer 30 now intends (*relying on inaccurate IMU-based information*) to place the scope image 302. . . . For convenience, the *correct position* of scope image 302 within goggles image 82 is shown with a different type of

broken line.”) (emphasis added). These repeated references to the inherent unreliability of motion data reinforce the expectation reflected in the specification that the initial motion-based identification of video frames may not succeed in producing a proper alignment and will require additional processing.

Additionally, the specification specifically acknowledges that the invention’s displayed output can be based on either a confirmed sensor-based location or a new location found using image comparison. *See id.* at 2:6–15 (“Data from the two images are then compared in order to evaluate the location determined from the sensor data. The sensor-based location is *either confirmed, or a new location is found* based on additional image comparisons. Once a location is selected (*either a confirmed sensor-based location or a location found using image comparison*), the two images are displayed such that the second source image (or a portion of that image) overlays a corresponding portion of the first source image.”) (emphasis added); *id.* at 10:21–29 (“To address [bias drift] concerns, the relative orientation of goggles 11 and scope 17 can be *independently deduced* by processing image data from image generator 57 and scope 17 if there is sufficient image content and contrast and if similar imaging technologies . . . are used.”) (emphasis added); *id.* at 13:10–21 (“[A] failed *image-based check* in block 202 indicates that *the IMU-based location for scope image 302 within goggles image 82 may be incorrect*. In other words, the scope image and the part of the goggles image over which computer 30 intends (based on IMU data) to overlay the scope image do not sufficiently represent the same part of the external environment. In such a case, computer 30 proceeds on the ‘no’ branch from block 202 to block 206. In block 206, computer 30 attempts to find the *proper* location for scope image center 305 within goggles image 82 by comparing scope image 302 with different parts of goggles image 82.”) (emphasis added); *see supra* Section I(A)(c) (depicting Figure 7). Thus, the specification appears to

contemplate scenarios in which the motion-based identification fails to result in a proper alignment such that it is abandoned in favor of an image-based alignment. This would indicate to a POSITA that the “identify” operation in claim limitation 1(c) merely requires the device attempt an initial identification based on motion data to locate parts of two images that may overlap.

The specification suggests that whether the motion-based alignment in claim limitation 1(c) has succeeded or failed is indiscernible *until* the device performs the image-based check recited in claim limitation 1(d).⁴⁸ *See, e.g., id.* at 10:5–7 (“In block 117 [of FIG. 5B], the IMU-based calculation for position and rotation of weapon view 74 within display 70 is *checked using an image-based method.*”) (emphasis added); *id.* at 11:39–42 (“If the image-based check passes, the values for the IMU-based rotation matrix (and thus, the center for weapon view 74 *predicted* by that IMU-based rotation matrix) are *verified.*”) (emphasis added). Similarly, the device will only display a pair of images *after* it has undergone an image-based evaluation to confirm the alignment’s correctness. *See, e.g., id.* at 2:9–15 (“Once a location is selected (either a confirmed sensor-based location or a location found using image comparison), the two images are displayed such that the second source image (or a portion of that image) overlays a corresponding portion of the first source image.”); *id.* at 15:22–25 (noting that after the system has completed the image-based check of the motion-based alignment, the “computer 30 proceeds to block 119 of FIG. 5B. In block 119, the scope image is cropped, resized and/or rotated. The resulting image is then

⁴⁸ Indeed, the “evaluate” operation informs the “identify” operation to such an extent that the specification even contemplates embodiments in which the image-based evaluations are used to “adjust” the way the device performs later iterations of the “identify” operation. *See, e.g.,* ’230 patent at 2:15–17 (“Locations obtained using image comparisons are used to calibrate (adjust) the manner in which subsequent sensor-based locations are determined.”); *id.* at 10:26–29 (“By checking the IMU-based position and image rotation calculations using an image comparison, the manner in which data from IMU sensors is used can be periodically recalibrated and the effects of bias drift, etc. reduced.”).

overlaid on the goggles image as the weapon view (block 121.”); *id.* at 17:54–57 (“Once the proper location and orientation for the scope image are deduced, the scope image can be magnified and cropped prior to overlay as the weapon view.”). Therefore, whether the ’230 patent includes adequate objective criteria describing when an alignment has transitioned from a potential representation to an actual representation that displays a “corresponding region” of the external environment depends on the description of the “evaluate” operation.

As noted, one way a patent may resolve any indefiniteness concerns inherent in the claim language is by providing examples in the written description that guide a POSITA’s understanding of the claim’s scope. *See Niazi Licensing*, 30 F.4th at 1349–50; *Nevro*, 955 F.3d at 39. The specification provides a detailed overview of the “evaluate” operation and describes multiple available methods for performing the image-based analysis used to correct the initial motion-based alignment. For example, Figures 5B, 7, and 14 depict flowcharts which outline exemplary embodiments of the “evaluate” operation. ’230 patent at 10:4–15:32, 17:48–23:54; *see supra* Section I(A)(c) (depicting Figures 5A, 5B, 7, and 14). These figures are accompanied by both written descriptions and illustrations in Figures 8A through 8K, 13A and 13B, and 15 through 22, which further elaborate on potential methods to confirm and correct a motion-based alignment using image data. *Id.*

The specification discusses a method for performing the image-based check that relies on the Brouwer’s Fixed Point Theorem, which is well-known to POSITAs in the field. *Id.* at 10:47–60.⁴⁹ The specification explains that “[t]he Brouwer fixed point can be found by scanning and

⁴⁹ ’230 patent at 10:47–60 (“In at least some embodiments, image-based position calculation relies on Brouwer’s Fixed Point Theorem. This theorem holds that a continuous mapping from a planar region onto itself is guaranteed to have one point whose coordinates are left unchanged by the mapping. If the scope image is a dilated, translated and rotated distortion of the goggles image, then there will be at least one point in the goggles image that has the same position in both the

comparing a goggles image and a scope image and determining a location where a rotationally invariant similarity metric is maximized,” and notes that “[o]ne such metric is the peak to sidelobe ratio (PSR) of a cross correlation of two linear signals.” *Id.* at 11:1–5. Figure 7 provides an example of an embodiment that employs the Brouwer’s Fixed Point Theorem. Under this embodiment, “computer 30 performs an image-based check on a point of interest in the portion of the goggles image identified (using IMU data from sensors 13 and 18) as corresponding to the center of the scope image. ‘Point of interest’ refers to a point in an image (a center of a portion of the goggles image in the current example) that is being evaluated as possibly corresponding to a point on the other image (the center of the scope image in the current example).” *Id.* at 11:32–39. To perform the image-based check of a particular point of interest, the device performs a series of calculations to determine PSRs for a region of an identified goggles image and regions of an identified scope image centered on a point of interest. *See id.* at 12:5–16 (“As part of the image-based check of point 304, several PSRs are calculated using a region of goggles image portion 303 and regions of scope image 302. As seen in FIG. 8C, a first PSR calculation is based on a cross correlation using the pixel intensity values of the equally-sized annular regions 308 and 309 respectively centered on the center points 304 and 305 of goggles image portion 303 and scope image 302.”). The PSR value determined from the first calculation is “then compared to PSRs calculated for annular regions centered on locations around” the original point of interest. *Id.* at 12:16–19.

“Point 304 passes the image-based check (i.e., the assumption that points 304 and 305 are the Brouwer fixed point is validated)” once the computer determines that all the PSR values “are

goggles and scope images. . . . The location of the fixed point constrains the solution of the proper orientation of the scope image relative to the goggles image up to a twist rotation.”).

within an acceptable range of one another. An acceptable PSR range will depend on the characteristic performance of the sensor technology (microbolometer, etc.) being used in the imaging sources (scope 17 and array 56 in the present example), as well as on peculiarities of a given manufacturer's implementation of a particular class of sensor.” *Id.* at 12:32–45. Though “[d]etermining an acceptable range is within the routine ability of a person of ordinary skill in the art once such a person is provided with the information contained” in the specification, the specification nevertheless suggests examples for how a POSITA may determine whether the relevant PSRs are within an “acceptable range.” *See, e.g., id.* at 12:42–48 (“The acceptable PSR range for a given combination of a goggles sensor type and a scope sensor type can be determined by comparing a series of exemplar images obtained using samples of those two sensor types.”).

Once the image-based check for the IMU-based center of the weapon view passes, the device likewise assesses whether there is a “roll difference” between the two images by “calculat[ing] the phase shift of the scope image and goggles image and deduc[ing] a twist rotation from the phase shift.” *Id.* at 12:65–13:1. The specification informs that the devices’ previous IMU-based rotation is “verified” when “the difference between the twist rotation and the IMU-based roll difference is within acceptable limits (e.g., *less than five degrees*).” *Id.* at 12:64–13:6 (emphasis added). Following this verification, the “operation proceeds to block 119 of [Figure] 5B,” which addresses the “display” operation. *Id.* Thus, through its description of Figure 7, the specification has provided objective criteria, based on both PSR and degrees, that a POSITA may use to determine acceptable error rates in the “evaluate” operation such that the displayed image would “represent” a “corresponding region” of the external environment.

The specification likewise recites a second example for the image-based check performed in the “evaluate” operation: Figure 14. *See id.* at 19:51–23:54. Figure 14 is an alternative image-

based evaluation process and is accompanied by Figures 15 through 22, which provide illustrations of the operations outlined in Figure 14. *Id.* at 19:52–54 (“Various blocks in the [Figure] 14 flow chart will be further explained using diagrams and plots in [Figures] 15-22.”). The alternative embodiment in Figure 14 analyzes high-contrast regions in the scope and goggles images to determine the appropriate alignment. *Id.* at 20:15–20 (“In block 703, computer 30 searches image 603 for a square region 610 in which the pixels inside the region 610 have a high degree of contrast. In particular, computer 30 searches for the square region 610 in which the standard deviation of pixel gray-scale values is maximized.”). The device then determines whether the region identified is of “sufficiently high contrast,” meaning that the “standard deviation for gray-scale values within [the region]” is “sufficiently high.” *Id.* at 20:35–40. The specification explains that a POSITA can determine a sufficiently high standard deviation value “for a given combination of goggles and scope imaging array types based on a series of test images.” *Id.* at 20:40–43. The devices then obtain gray-scale values for a series of pixels encircling center points located in the selected scope and goggles image regions and performs various calculations using this image data. *Id.* at 20:66–21:67.

One such calculation is to perform “a discrete Fast Fourier Transform (FFT) on each data set (i.e., a discrete FFT on the 128 scope image values and a discrete FFT on the 128 goggles image values).” *Id.* at 21:58–61. The system uses these FFTs in further calculations to “obtain data that allows peak-to-sidelobe ratio (PSR) comparisons.” *Id.* at 21:62–67. The patent informs that if a PSR is “relatively large (e.g., 3 or higher),” the “center points of the scope image region and of the goggles image region to which it was compared . . . represent the same part of the external environment.” *Id.* at 22:1–6. The device repeats these processes to determine whether other points within the goggles and scope image regions should be “checked as possibly

coinciding” with one another. *Id.* at 22:28–51. This occurs until a stop condition is reached, which could include, for example, once “every other point [in a region] in both the horizontal and vertical directions” has been analyzed, or when the system has performed analysis over a “pattern” of locations that “reaches the sides of [the region] along the horizontal plane.” *Id.* at 22:42–51.

“Once a stop condition is reached and there are no more points to select within” the region, the computer determines “if any of the data sets (with each set containing a PSR, rotation and center point location) . . . is unambiguously the best.” *Id.* at 22:52–56. The specification explains that “[i]n at least some embodiments, the ‘best’ data set is one in which the PSR is a predetermined percentage above the other stored PSRs. The percentage by which a ‘best’ point should exceed others depends on the characteristics of the imaging technology involved, but one example value is an excess of 10%.” *Id.* at 22:56–61. The system updates the IMU-derived alignment based on the position and rotation of the scope image region within the goggles image “resulting from the unambiguously best data set.” *Id.* at 22:62–23:1.

The specification’s written descriptions, figures, and illustrations are informative and, along with the claim language, provide sufficient guidance to render the Challenged Terms, and their associated claims, not invalid as indefinite. *Niazi Licensing*, 30 F.4th at 1349–50. The claimed invention contemplates a system that performs a series of motion-based and image-based analyses to generate an aligned image in a soldier’s HUD, and the specification makes clear that there are multiple methods available for performing the claims’ required operations.⁵⁰ Of

⁵⁰ See *Ball Metal Beverage Container Corp. v. Crown Packaging Tech., Inc.*, 838 F. App’x 538, 542 (Fed. Cir. 2020) (“That the record evidence indicates that multiple different methodologies exist for measuring a parameter recited in a claim does not by itself render a claim indefinite. . . . We have explained that ‘the mere possibility of different results from different measurement techniques’ does not render a claim indefinite.”) (quoting *Takeda Pharms. Co. Ltd. v. Zydus Pharms. USA Inc.*, 743 F.3d 1359, 1366–67 (Fed. Cir. 2014)).

particular importance, Figures 5B, 7, and 14 and their accompanying descriptions inform a POSITA of at least two potential methods for performing the image-based check that determines when an approved alignment has been found: one applying the Brouwer’s Fixed Point Theorem, and the other assessing the level of contrast in the scope and goggles images. ’230 patent at 10:47–60, 19:51–23:54. The patent likewise provides additional commentary for how these processes can be altered while remaining within the scope of the claimed invention. *See, e.g., id.* at 23:23–25 (“As with the algorithm described in connection with [Figure] 7, numerous variations on the algorithm of [Figure] 14 are within the scope of the invention.”).⁵¹

Further, the ’230 patent’s written description provides examples of objective criteria that can be used to measure error rates and specific values of those criteria that would “pass” the image-based check. For example, the specification reiterates more than once that “rotationally invariant similarity metrics,” such as the peak-to-sidelobe ratio, are appropriate measures for assessing the degree of alignment between the goggles and scope images.⁵² *See, e.g., id.* at 11:1–4, 21:62–67.

⁵¹ *See, e.g.,* ’230 patent at 23:25–48 (“The search pattern of block 721, the sizes of image regions evaluated, and various other parameters can be varied. As but one example, the above-described algorithm employs center 604 as one reference point and point 607 as a corresponding reference point. In other embodiments, a point other than the center of the scope image can be used as the initial reference point. As another example, individual pixel gray-scale values are the image element data points used in the FFT analyses. Other image element data points could be used (e.g., an average of gray-scale values for several pixels clustered around a point, wavelength (color) information if sensors provide color information). As yet another example, the diamonds in [Figures] 17A through 17C have a particular dimensioned arrangement relative to the reference point (center 604) and the corresponding reference point (point 607). In other embodiments, different arrangements (e.g., oval, square, concentric rings, etc.) and/or different dimensions (e.g., closer to or farther from the reference point and corresponding reference point) can be used. In still some other embodiments, data sets are stored in block 717 for only the five highest (or some other predetermined number of highest) PSR values. In some embodiments, the scope image has a small number of possible FOVs (e.g., 9° diagonal or 18° diagonal).”).

⁵² *See* ’230 patent at 11:11–17 (“Numerous definitions of PSR are known in the art and can be used in different embodiments. For example, PSR can be defined as $(\text{PEAK}-\text{mean})/\sigma$, where PEAK is a peak cross correlation value for the centers of the two annular regions, and where mean

Figure 7 also describes a second version of acceptable alignment metrics, this time in terms of degrees. *Id.* at 12:64–13:6. Finally, the specification provides POSITAs with examples of precise metrics for when an alignment successfully “represent[s] the same part of the external environment,” such as when the PSR is 3 or higher or when the difference between the image-based and IMU-based rotations is within five degrees. *Id.* at 22:1–6, 12:64–13:6. Thus, the specification provides a POSITA with examples for when claim limitation 1(e) has been met such that the scope and goggles images have been properly aligned to depict a “corresponding region” of the external environment.

In sum, these examples provide a POSITA with sufficient guidance regarding not only examples of methods that could be used to practice the claims, but also metrics relevant to measuring the success or failure of the device in practicing the claims. Thus, the examples included in the ’230 patent’s specification provide POSITAs sufficient guidance regarding the scope of the Challenged Terms, eliminating indefiniteness concerns. *See Niazi Licensing*, 30 F.4th at 1349 (deeming the term “pliable” definite because “the written description contains numerous examples of a ‘pliable’ inner catheter”); *Sonix Techs.*, 844 F.3d at 1378–79 (deeming the written description sufficient to provide objective boundaries because it included exemplary designs and specific examples describing the challenged term).⁵³

and σ are the respective mean and standard deviations of cross correlation values for the annular regions.”).

⁵³ Microsoft argues SAIC’s position regarding functional language and the operations in claim limitations 1(c), 1(d), and 1(e) ignores the fact that the invention is inextricably linked to human users. MSFT MSJ Inv. – MSFT Reply at 10–12. Microsoft notes that “[c]entral to the invention is the use of a *heads-up* display, which is inherently and explicitly tied to a human user, as demonstrated by both the claim language itself and the specification.” *Id.* at 10–11 (emphasis in original). Thus, according to Microsoft, the Challenged Terms “are not purely functional language divorced from the perception of a human user . . . [and] the ’230 patent must provide objective boundaries to account for the user’s perception.” *Id.* at 11–12. In so arguing, Microsoft states that

c. The Extrinsic Evidence Supports the Court’s Holding on Objective Boundaries

The extrinsic evidence confirms this Court’s finding that the ’230 patent does not fail to “inform, with reasonable certainty, those skilled in the art about the scope of the invention.”

the Challenged Terms “are purely subjective wherein the sufficient degree of alignment of the overlaid images depends on the point of view of the individual soldier using the device and ‘on the unpredictable vagaries of any one person’s opinion.’” *Id.* at 12 (citing *Intellectual Ventures*, 902 F.3d at 1381); MSFT MSJ Inv. at 28.

The Federal Circuit has regularly distinguished between terms that depend “on the predictable vagaries of any one person’s opinion,” and those that do not. To that end, *Sonix Technology Co., Ltd. v. Publications International, Ltd.* is instructive on this issue. 844 F.3d 1370 (Fed. Cir. 2017). There, the Federal Circuit explained that whether a term is considered subjective frequently depends on whether the terms “turn[] on a person’s tastes or opinion.” *Id.* at 1378. The Circuit noted that in *Datamize, LLC v. Plumtree Software, Inc.*, it had previously deemed the term “aesthetically pleasing” as subjective because it “implicates matters of taste or preference,” and is based on “a value judgment that inherently varies from person to person.” *Id.* (citing *Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342 (Fed. Cir. 2005)). The Federal Circuit similarly noted that the term “in an unobtrusive manner that does not distract,” which was at issue in the case *Interval Licensing LLC v. AOL, Inc.*, “implicates a person’s individual focus, concentration, attentiveness, or similar mental state at a given moment, or even opinions, affecting what is or is not distracting.” *Id.* (citing *Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364 (Fed. Cir. 2014)). In contrast, the Circuit deemed the term at issue in the *Sonix Technology* case, “visually negligible,” definite because the term had “an objective baseline through which to interpret the claims” (i.e., “what can be seen by the normal human eye”), and the patent’s written description “provide[d] guidance on how to create visually-negligible indicators, and specific examples that provide points of comparison for the result.” *Id.* at 1378–79.

These cases demonstrate that the Challenged Terms are not impermissibly subjective so as to render the asserted claims indefinite. Indeed, though Microsoft is correct that the claimed invention is intended for use by human users, whether the displayed image depicts the same portion of the external environment is an objective question that can be determined or measured by implementing the “evaluate” operation that is thoroughly described in the patent’s specification. Said differently, whether the device has successfully aligned the goggles and scope images to portray a unified picture of the external environment does not depend on the soldier’s tastes, opinions, preferences, or individual judgments. *See id.* at 1378. Further, Microsoft has not presented evidence demonstrating that a soldier’s perception of whether the device depicts an aligned image of the external environment varies substantially from person to person. *See id.* at 1379 (finding “visually negligible” definite and noting “Appellees have not provided evidence that human perception varies so significantly that reliance on it as a standard renders the claims indefinite”).

Nautilus, 572 U.S. at 901. For example, expert testimony from SAIC’s expert, Dr. Bajaj in both the Bajaj Rebuttal Report and from his deposition corroborate this Court’s understanding that the term “potentially” in claim limitation 1(c) requires an initial motion-based alignment that may, or may not, result in a valid representation and which requires additional image-based processing. *See* Bajaj Reb. Rpt ¶ 903 (“The ’230 Patent further explains that the part of the goggles image identified by the computer, shown in Fig. 8H as circle 311, does not need to be correct. In fact, in this embodiment, the part of the goggles image identified by the computer is incorrect, as it is based on motion data that is intended to be subjected to additional processes.”) (citing ’230 patent at 13:27–34); *id.* at ¶ 910 (“As the specification makes clear in Fig. 8H and its description, the “identify” step does not have to accurately identify the same part of two images. Instead, the claim explains that the identification of parts of the two images that overlap, according to the motion data, satisfies the limitation, regardless of how accurate that identification is.”) (citing ’230 patent at 13:27–34); Bajaj Depo. Tr. at 78:8–79:2 [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Further, Dr. Bajaj’s explanation of the way in which the exemplary embodiments included in the ’230 patent’s written description provides sufficient objective boundaries to avoid indefiniteness concerns. In his Rebuttal Report, Dr. Bajaj analyzed the various portions of the specification which, he asserts, provide POSITAs with reasonable certainty regarding the scope of the “identify,” “evaluate,” and “display” operations. *See* Bajaj Reb. Rpt. ¶¶ 910–17 (discussing the “identify” operation); *id.* ¶¶ 918–933 (discussing the “evaluate operation); *id.* ¶¶ 934–39

(discussing the “display” operation). Specifically, Dr. Bajaj agrees with this Court’s understanding that the specification’s description of the “evaluate” operation provides the lens through which a POSITA would understand when the device has transitioned from a potential representation to an actual representation worthy of display. *See, e.g., id.* ¶ 932 (“[T]he patent’s disclosure of exemplary methods for determining whether the image-based checks are successful and can then confirm or update the motion data-based identification is sufficient for a [POSITA] to understand when they have achieved the ‘evaluate’ step and can proceed to the ‘display’ step.”); *id.* ¶ 938 (“For example, Dr. Villasenor argues that ‘the ’230 Patent fails to provide a POSITA with objective criteria for evaluating under what circumstances “potential representation” is accurate enough to be considered an actual “representation” that is to be displayed by the system.’ But, as described in the preceding paragraphs of this section, this is precisely what is described in the image data comparisons that encompass part of the ‘evaluate’ step, and that are described in sufficient detail in the ’230 patent specification.”).

Dr. Bajaj’s Rebuttal Report likewise provided information regarding the extent to which a POSITA would be able to understand and perform the various processes described in the patent’s specification. For example, Dr. Bajaj confirmed the specification’s statement that rotational matrices are well-known in the art and cited various publications on the subject. *See id.* ¶¶ 914–17, 915 n.910. Dr. Bajaj opined that “a [POSITA] would understand the scope of the ‘identify’ limitation, and how to determine ‘a part of a first video source image that potentially represents a portion of the external environment represented in a part of a second video source image’ based on motion data, with reasonable certainty, because this limitation merely requires identifying a mathematical transformation comprising of, for example, rotation matrices, to determine whether the fields of view of the sensors (e.g., thermal sensors mounted to goggles and weapon) that are

rigidly attached near the motion sensors have any overlap, and if so, where.” *Id.* ¶ 917. Further, Dr. Bajaj explains how POSITAs would be able to understand how to calculate PSR metrics and evaluate accuracy variances using those metrics. *Id.* ¶ 925 n.923 (citing various publications supporting the proposition that POSITAs would be able to determine an acceptable PSR range). Dr. Bajaj similarly opined that a POSITA would understand the specification’s statement that an acceptable PSR value would be 3 or greater to describe “exemplary embodiments in which image-based checks yield matches with greater than 99% confidence.” *Id.* ¶¶ 926–27. Thus, according to Dr. Bajaj, a POSITA “could apply the patent’s teachings when using alternative methods for undertaking the image-based comparisons of the ‘evaluate’ step to achieve successful image-based checks.” *Id.* ¶ 927.

In contrast, the evidence presented by Microsoft, which bears the burden of proof on this motion, is far less extensive. In support of its arguments on the topic of objective criteria, Microsoft relies on opinions expressed in the Villasenor Opening Report. *See generally* Villasenor Op. Rpt. ¶¶ 239–49. Dr. Villasenor states that “the ’230 Patent fails to provide a POSITA with objective criteria for evaluating under what circumstances ‘potential representation’ is accurate enough to be considered an actual ‘representation’ that is to be displayed by the system embodying claim 1 of the ’230.” *Id.* ¶ 239. He notes that “a truly ‘perfect’ alignment where one image perfectly overlays the corresponding portion of another image without any differences likely cannot be achieved in a real system.” *Id.* (citing Deposition of Gregory Welch, dated July 17, 2019 (ECF Nos. 79-2, 343-20) (Welch Depo. Tr.) at 166:8; Deposition of Ulrich Neumann, dated July 11, 2019 (ECF No. 97-1, 343-22) (Neumann Depo. Tr.) at 186:24–187:11). Dr. Villasenor likewise references this Court’s prior *Markman* Opinion and testimony from Dr. Welch to note that “the acceptable degree of alignment (or misalignment) between two images is context-

dependent” and that “different registration methods used for different tasks produce different results.” *Id.* ¶ 240 (quoting *Markman Op.*, 154 Fed. Cl. at 635 and Welch Depo. Tr. at 209:10–17, 203:22–204:23). Indeed, Dr. Villasenor opines that “different persons of ordinary skill in the art may each have different criteria on the acceptable alignment,” without elaborating further on why this might be the case. *Id.* ¶ 241.

In his Opening Report, Dr. Villasenor identifies alternative methods for evaluating whether two images are sufficiently aligned that he alleges the ’230 patent did not contemplate, including establishing an “absolute misalignment threshold measured in number of pixels or subpixels” and “evaluating alignment . . . based on an angular measure at a specified distance.” *Id.* ¶¶ 242–43. However, Dr. Villasenor does not specifically address any of the exemplary embodiments or figures outlined in the ’230 patent’s specification, nor does he explain why those embodiments do not provide sufficient objective boundaries for the Challenged Terms at issue in Microsoft’s present Motion. *See generally id.* ¶¶ 239–49. Instead, to support his position that the ’230 patent lacks objective criteria, Dr. Villasenor repeatedly references extrinsic evidence in the form of (1) citations to this Court’s prior holdings regarding the Registration Terms,⁵⁴ and (2) testimony by

⁵⁴ *See, e.g.,* Villasenor Op. Rpt. ¶ 230 (summarizing this Court’s *Markman* holdings on the Registration Terms and noting the Challenged Terms “suffers from the same defect that led the Court to hold ‘in registration with’ / ‘registering’ to be indefinite”); *id.* ¶ 240 (arguing “the acceptable degree of alignment (or misalignment) between two images is context-dependent,” but supporting his assertion with statements from the *Markman* Opinion regarding the Registration Terms and deposition testimony from Dr. Welch regarding the term “registration”) (quoting *Markman Op.*, 154 Fed. Cl. at 635 (“Registration depends on the perspective of a particular application or user, the method of registration used, and the needs and precision required by the particular use in which the user is engaged.”) and Welch Depo. Tr. 209:10–17, 203:22–204:23); *id.* at ¶ 243 (“[T]he ’230 Patent specification’s discussion of 2.9 degrees in the context of parallax error is not useful to a POSITA in determining acceptable angular alignment of a system embodying claim 1 of the ’230 Patent. Moreover, I note the Court has found that ‘a POSITA could not rely on the disclosure of ‘2.9 degrees or less’ as an objective criterion for when registration is achieved.”) (quoting *Markman Op.*, 154 Fed. Cl. at 638).

various SAIC witnesses, whom Dr. Villasenor contends qualify as POSITAs, regarding the alleged ambiguity surrounding tolerable degrees of misalignment under the '230 patent.⁵⁵ *See, e.g.*, Villasenor Op. Rpt. ¶ 249 (“Therefore, Gen. Scales’ and Mr. Rodgers’ testimony corroborates my opinion that the failure of the ’230 Patent specification to provide reasonable guidance on the scope of the claim 1 of the ’230 Patent cannot be cured based on how a POSITA would understand the scope of the claim.”).

Evidence of this nature does not meet the clear and convincing threshold required to prove invalidity for indefiniteness. *See SRAM Corp.*, 465 F.3d at 1357 (“[A] moving party seeking to invalidate a patent at summary judgment must submit such clear and convincing evidence of facts underlying invalidity that no reasonable jury could find otherwise.”). Dr. Villasenor’s analysis is based almost entirely on extrinsic evidence, rather than on an analysis of the patent’s intrinsic evidence. *See Phillips*, 415 F.3d at 1318 (“We have viewed extrinsic evidence in general as less reliable than the patent and its prosecution history in determining how to read claim terms . . .”). Further, Microsoft asserts that testimony from General Scales and Mr. Rodgers provides insight into a POSITA’s ability to discern objective criteria from the patent’s written description. MSFT MSJ Inv. – MSFT Reply at 8–10. Yet, SAIC states that Microsoft has “mischaracterize[d] the nature and relevance of the testimony of inventors General John Scales and Michael Rodgers.” MSFT MSJ Inv. – SAIC Resp. at 20–22. First, SAIC asserts that the cited testimony from General Scales “relates to a physical embodiment of an earlier patent . . . not the scope of the claims of the ’230 patent.” *Id.* Additionally, SAIC notes that Mr. Rodgers’ testimony pertained “to his

⁵⁵ *See* Villasenor Op. Rpt. ¶ 241 (citing Welch Depo. Tr. at 170:2–18); *id.* ¶¶ 244–46 (citing Scales Depo. Tr. at 101:6–15, 101:17–102:12, 102:14–21); *id.* ¶ 248 (citing Deposition of Michael Rodgers, dated September 7, 2022 (ECF No. 343-23, 365-8) (Rodgers Depo. Tr.) at 187:18–188:19, 188:21–23).

interpretation of General Scales’ SERVVAL concept prior to Mr. Rodgers working on the image processing aspect” of the invention. *Id.* As SAIC is the non-moving party, this Court must draw “all justifiable inferences in the non-movant’s favor.” *See Akzo Nobel Coatings*, 811 F.3d at 1338–39. Additionally, much of the witness testimony and reasoning Dr. Villasenor relies on to support his conclusions addresses the Registration Terms, rather than the Challenged Terms. *See, e.g., Villasenor Op. Rpt.* ¶ 239 (citing Welch Depo. Tr. at 166:8 (“There is no perfect registration.”); Neumann Depo. Tr. at 186:24–187:11 (“[I]t’s fair to say there will be deviation, there will be error [in registration.]”); *id.* ¶ 240. As previously discussed, these are different terms with different definiteness implications. *See supra* Section III(C)(a).⁵⁶ For these reasons, Microsoft has failed to meet its burden.

⁵⁶ For example, Dr. Villasenor’s repeated reliance on this Court’s *Markman* Opinion and witness testimony discussing the Registration Terms proves problematic, as both parties’ experts have agreed that the term “registration” carries a nuanced and technical meaning among POSITAs in the field. *See* OA Tr. at 51:12–14 (Microsoft Counsel: “[T]he testimony of the experts during the claim construction phase was that registration itself is a term of art.”). During the *Markman* hearing, the parties presented substantial expert testimony from Drs. Ulrich Neumann and Gregory Welch, the Government’s and SAIC’s claim construction experts, respectively, regarding how the term “registration” has a specialized meaning to POSITAs in the field. *See Markman Op.*, 154 Fed. Cl. at 630; *see also Phillips*, 415 F.3d at 1318–19 (“We have . . . held that extrinsic evidence in the form of expert testimony [during claim construction] can be useful to a court . . . to establish that a particular term in the patent or the prior art has a particular meaning in the pertinent field.”). For example, “Dr. Neumann explained that ‘in a nutshell’ the field of registration involves computations designed to measure and address registration errors.” *Markman Op.*, 154 Fed. Cl. at 635 (quoting Neumann Depo. Tr. at 93:22–94:7). The expert testimony likewise suggested that “‘registration’ is understood on a continuum,” and that “there are a wealth of registration techniques with different variations and parameters.” *Id.* at 635, 637 (citing Neumann Depo. Tr. at 86:21–87:4, 120:25–129:16, 175:9–176:4, 181:5–8, 193:12–16; Welch Depo. Tr. at 203:22–212:16).

These various registration techniques, according to the experts, “yield different results in determining whether registration has occurred.” *Id.* at 635–36 (*citing* Neumann Depo. Tr. at 120:25–129:16; Welch Depo. Tr. at 203:22–212:16) (“What is considered proper alignment using one measurement technique will not be considered proper alignment using another technique.”). Thus, this expert testimony suggests the Registration Terms are terms of technical importance, or terms of art, in the relevant field. In contrast, Microsoft has not offered comparable testimony to

d. The Government and L3's Motion Suffers from the Same Inadequacies as Microsoft's Motion and Must Be Denied

In their Joint Motion, the Government and L3 argue that “[t]he deficiencies identified in Microsoft’s Motion apply with equal force to each of the claims asserted against the Government and L3, including claims 1, 5, 12, 18, 29, 30, 37, and 39.” L3/Gov. MSJ Inv. at 2. In particular, the Government and L3 assert that “dependent claims 37 and 39 of the ’230 Patent, which were not addressed in Microsoft’s motion, are also indefinite,” as these claims “depend[] directly from independent claim 29, which is fully addressed in Microsoft’s Motion.” *Id.*; OA Tr. at 81:25–82:4 (Government Counsel: “The Government and L3 don't have any independent basis for arguing that these claims are indefinite. It's simply the fruit of the poison tree. They depend [on] an independent claim that is indefinite, and so they are therefore indefinite.”). To the extent the Government and L3 rely on the arguments and evidence raised in Microsoft’s Motion, the Government and L3 have likewise failed to prove by clear and convincing evidence that the Challenged Terms are indefinite for the reasons described above. OA Tr. at 85:12–17 (The Court: “[I]f I end up denying Microsoft’s motion for summary judgment . . . would you acknowledge that [your motion] should be denied also?” Government Counsel: “Yes.”).

suggest any of the Challenged Terms would connote a similar technical significance or meaning to POSITAs in the field. See OA Tr. at 52:1–4 (Microsoft Counsel: “Here I don’t know that I would say that the term ‘represents’ in and of itself is a term of art. I don’t think we have any testimony in the record that would suggest that.”). This evidentiary discrepancy suggests that descriptions within the specification which may have been unsatisfactory to provide sufficient clarification regarding the Registration Terms may nevertheless prove sufficient for terms of lesser technical specificity, such as the Challenged Terms. Without further evidence from Microsoft to the contrary, this Court will not apply reasoning relevant to the Registration Terms as if it is dispositive on the issue of whether the ’230 patent provides objective criteria sufficient to explain the scope of the Challenged Terms.

The Government and L3 likewise raise two new arguments regarding dependent claims 37⁵⁷ and 39⁵⁸ that were not addressed in Microsoft’s Motion. First, the Government and L3 argue that “claim 37’s inclusion of calculating a peak to sidelobe ratio (‘PSR’) as part of the ‘evaluating’ step (d), without providing any objective bounds for assessing whether representation and coordination have been achieved, is insufficient to avoid indefiniteness.” L3/Gov. MSJ Inv. at 3. This argument, however, is irrelevant, as the specification includes substantial discussion of PSR that provides sufficient guidelines for a POSITA to know the scope of claim 37, including the presence of an example acceptable variance threshold stated in terms of PSR. *See, e.g.*, ’230 patent at 22:1–6 (explaining that when PSR is “relatively large (e.g., 3 or higher),” the “center points of the scope image region and of the goggles image region to which it was compared . . . represent the same part of the external environment”); *supra* Section I(A)(c). Additionally, Dr. Bajaj has submitted largely unrebutted, corroborating testimony suggesting a POSITA would understand how to perform calculations using PSR and would understand the degree of variance associated

⁵⁷ Claim 37 states:

37. The non-transitory machine-readable medium of claim 29, wherein step (d) includes
- (d1) selecting a first location in the first video source image and a second location in the second video source image,
 - (d2) calculating a peak to sidelobe ratio (PSR) using regions of the first and second video source images surrounding the first and second locations, and
 - (d3) assessing, using the PSR of step (d2), whether the first and second locations represent the same portion of the external environment.

’230 patent at 29:31–40.

⁵⁸ Claim 39 states: “39. The non-transitory machine-readable medium of claim 29, comprising additional instructions for performing steps that include adjusting, based on the evaluation of step (d), the manner in which the identification of step (c) is performed.” ’230 patent at 30:15–18.

with different PSR values. Bajaj Reb. Rpt. ¶¶ 925–27. Accordingly, the Government and L3’s argument on this issue is unavailing.

The second, additional argument the Government and L3 raise states that “claim 39’s recitation of ‘additional instructions for performing steps that include adjusting, based on the evaluation of step (d), the manner in which the identification of step (c) is performed’ adds no clarity to the indefinite independent claim from which it depends.” L3/Gov. MSJ Inv. at 2. Once again, this argument proves unavailing, as this Court has already confirmed that the ’230 patent’s written description provides sufficient detail to ameliorate indefiniteness concerns for the Challenged Terms. *See supra* Section III(C)(b).

D. Conclusion – Motions for Summary Judgment of Invalidity Based on Indefiniteness

For the foregoing reasons, this Court holds that the Challenged Terms, and their accompanying asserted claims, are not invalid as indefinite. Accordingly, Microsoft’s Motion for Summary Judgment of Invalidity Based on Indefiniteness (ECF No. 339) is **DENIED**. The Government and L3’s Joint Motion for Summary Judgment of Invalidity Based on Indefiniteness (ECF No. 342) is likewise **DENIED**.

IV. Motions for Summary Judgment of Infringement and Non-Infringement

Microsoft and L3 each filed Motions for Summary Judgment for Non-Infringement related to their respective accused devices. *See generally* MSFT MSJ NI; L3 MSJ NI. Additionally, SAIC filed its own Motion for Partial Summary Judgment of Infringement against the Government related to the DRS and Elbit accused devices. *See* SAIC’s Motion for Partial Summary Judgment

of Infringement by the Government and for Summary Judgment Regarding the Desert's Edge Prior Art Status (ECF No. 340) (SAIC MSJ Inf.).⁵⁹

Having considered the parties' arguments, applicable law, and the record, this Court **GRANTS** Microsoft's Motion for Summary Judgment of Non-Infringement (ECF No. 343), **DENIES** L3's Motion for Summary Judgment of Non-Infringement (ECF No. 341), and **DENIES** SAIC's Motion for Partial Summary Judgment of Infringement by the Government and for Summary Judgment Regarding the Desert's Edge Prior Art Status (ECF No. 340). This Court addresses each Motion in turn below.

A. Applicable Legal Standards – Motions for Summary Judgment of Infringement/Non-Infringement

Determining whether a device infringes an asserted patent claim requires a two-step inquiry. See *Gart v. Logitech, Inc.*, 254 F.3d 1334, 1339 (Fed. Cir. 2001); *Medgraph, Inc. v. Medtronic, Inc.*, 843 F.3d 942, 949 (Fed. Cir. 2016) (citing *Abbott Lab'ys. v. Sandoz, Inc.*, 566 F.3d 1282, 1288 (Fed. Cir. 2009)) (“Evaluation of summary judgment of noninfringement is a two-part inquiry . . .”). First, “a court construes the scope and meaning of the asserted patent claims.” *Medgraph*, 843 F.3d at 949; *Gart*, 254 F.3d at 1339 (same). “[C]laim construction is a question of law that is ‘exclusively within the province of the court.’” *Stern v. SeQual Techs., Inc.*, 840 F. Supp. 2d 1260, 1266 (W.D. Wash. 2012), *aff'd*, 493 F. App'x 99 (Fed. Cir. 2012) (quoting *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 372 (1996)).⁶⁰ Accordingly, a court has

⁵⁹ Though SAIC originally moved for summary judgment regarding the Desert's Edge prior art status (SAIC MSJ Inf. at 40–48), the parties have jointly stipulated that “the Desert's Edge references . . . will not be argued to qualify as prior art under any section of 35 U.S.C. § 102 in connection with these proceedings, and the references will not be relied upon as anticipatory or as part of an obviousness combination of references.” Joint Notice and Stipulation (ECF No. 398) at 1–2; see *infra* Section IV(F).

⁶⁰ See *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 574 U.S. 318, 326 (2015) (acknowledging that while “the ultimate issue of the proper construction of a claim should be treated as a question of

discretion to “engage in claim construction during various phases of litigation, not just in a *Markman* order.” *Conoco, Inc. v. Energy & Env’t Int’l, L.C.*, 460 F.3d 1349, 1359 (Fed. Cir. 2006); see *Wi-LAN USA, Inc. v. Apple Inc.*, 830 F.3d 1374, 1385 (Fed. Cir. 2016) (quoting *Conoco*, 460 F.3d at 1359) (“We have long held that a district court may ‘engage in rolling claim construction, in which the court revisits and alters its interpretation of the claim terms as its understanding of the technology evolves.”); *Level Sleep LLC v. Sleep Number Corp.*, 2020-1718, 2021 WL 2934816, at *3 (Fed. Cir. July 13, 2021) (acknowledging district court “was well within its power to clarify, supplement, and even alter its construction of [a claim limitation] in its summary judgment order”). During claim construction, a court’s “objective is to interpret the claims from the perspective of one of ordinary skill in the art.” *Dayco Prods., Inc. v. Total Containment, Inc.*, 258 F.3d 1317, 1324 (Fed. Cir. 2001); *Iridescent Networks, Inc. v. AT&T Mobility, LLC*, 933 F.3d 1345, 1350 (Fed. Cir. 2019) (citing *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–14 (Fed. Cir. 2005) (en banc)) (“Claim construction seeks to ascribe the meaning to a claim term as understood by a person of ordinary skill in the art at the time of invention.”).

Second, a court “compares the construed claims to the accused product or process.” *Medgraph*, 843 F.3d at 949; *Gart*, 254 F.3d at 1339 (same). Whether a product infringes is a question of fact. See *Medgraph*, 843 F.3d at 949. “An infringement issue is properly decided upon summary judgment when no reasonable jury could find that every limitation recited in the

law . . . in patent construction, subsidiary factfinding is sometimes necessary”); *id.* at 325 (“[I]t was proper to treat the ultimate question of the proper construction of the patent as a question of law in the way that we treat document construction as a question of law.”); *id.* at 320 (“When the district court reviews only evidence intrinsic to the patent, the judge's determination is solely a determination of law [W]here the district court needs to consult extrinsic evidence in order to understand, for example, the background science or the meaning of a term in the relevant art during the relevant time period, and where those subsidiary facts are in dispute, courts will need to make subsidiary factual findings about the extrinsic evidence.”).

properly construed claim either is or is not found in the accused device” *Gart*, 254 F.3d at 1339; *Medgraph*, 843 F.3d at 949 (“[A] grant of summary judgment of noninfringement is proper when no reasonable factfinder could find that the accused product contains every claim limitation or its equivalent.”). The moving party “bears the burden of showing that there are no material facts in dispute, and all reasonable inferences must be resolved in the non-movant’s favor.” *Herman v. William Brooks Shoe Co.*, 7 F. App’x 941, 943 (Fed. Cir. 2001) (citing *Rockwell Int’l Corp. v. United States*, 147 F.3d 1358, 1361–62 (Fed. Cir. 1998)); *McGinley v. Franklin Sports, Inc.*, 262 F.3d 1339, 1348 (Fed. Cir. 2001) (quoting *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 255 (1986)) (“For purposes of the motion, ‘[t]he evidence of the nonmovant is to be believed, and all justifiable inferences are to be drawn in his favor.’”). However, once the moving party has met its initial evidentiary burden, the non-moving party “can no longer rest on . . . mere allegations, but must set forth by affidavit or other evidence specific facts, which for purposes of the summary judgment motion will be taken as true.” *FastShip, LLC v. United States*, 892 F.3d 1298, 1307–08 (Fed. Cir. 2018) (quoting *Lujan v. Defs. of Wildlife*, 504 U.S. 555, 561 (1992)) (internal quotation marks omitted); see *Optivus Tech., Inc. v. Ion Beam Applications S.A.*, 469 F.3d 978, 990 (Fed. Cir. 2006) (noting that when a movant supports its motion with sufficient evidence to make a prima facie showing, “the burden of production then shift[s] to [the nonmovant] to identify genuine issues that preclude summary judgment.”).

B. The Ordering Theory of Non-Infringement

In their respective Motions for Summary Judgment, Microsoft and L3 each raise an ordering theory of non-infringement, alleging certain claim limitations contained in the ’230 patent must be practiced in order.⁶¹ See MSFT MSJ NI at 6–7, 33–42; L3 MSJ NI at 40–44. To reiterate,

⁶¹ The Government likewise raises arguments centered on the ordering of the ’230 patent’s claim limitations in its Response to SAIC’s Motion for Partial Summary Judgment of Infringement. See,

claim 1, which is representative of all independent claims in the '230 patent on this issue⁶², describes a controller configured to perform the following process:

- (a) receive video images from the first video source and from the second video source,
- (b) receive motion data indicative of motion of the first and second video sources,
- (c) identify, based on the received motion data, a part of a first video source image that potentially represents a portion of the external environment represented in a part of a second video source image;
- (d) evaluate, based on a comparison of data from the first and second video source images, the identification performed in operation (c); and
- (e) display at least a portion of the first video source image and at least a portion of the second video source image such that the second video source image portion overlays a corresponding region of the first video source image portion, wherein the corresponding region represents a portion of the external environment represented in the second video source portion.

'230 patent at 24:34–51. Microsoft and L3 argue that based on the plain language of the claim terms, a device must practice claim limitations 1(c), 1(d), and 1(e) in that order, on individual pairs of image frames, to infringe claim 1. *See* MSFT MSJ NI at 6 (“[T]he Asserted Claims require the ‘identify’, ‘evaluate’, and ‘display’ operations be performed in that order on pairs of the received images.”) (emphasis in original); *see* L3 MSJ NI at 40–44 (“The asserted independent claims of

e.g., SAIC MSJ Inf. – Gov. Resp. at 12 (“SAIC has not shown that the DRS ENVG-III and the Elbit ENVG-B systems perform the ‘identify,’ ‘evaluate,’ and ‘display’ steps in the order required by the asserted claims on the same pair of video images.”).

⁶² *See* Bajaj Reb. Rpt. ¶ 455 (describing the method steps in claim limitations 1(c) through 1(e) of claim 1, and noting “[t]he other independent claims (15 & 29) contain corresponding requirements for the claimed method and computer readable medium, respectively. Accordingly, these requirements are part of all the asserted claims.”); Villasenor App. D ¶ 23 (“As noted above, all of the Asserted Claims of the '230 patent recite a particular approach for aligning a set of image frames that requires three key elements – identify, evaluate, and display – that are all performed on the same set of ‘first’ and ‘second’ ‘video source image[s]’ in a particular logical sequence”).

the '230 patent also require that the *same pair* of video source images that were used for the 'identify' step of element (c) and the 'evaluate' step of element (d) must in turn be the *same pair* of video source images that are overlaid pursuant to element (e) based on the alignment performed in the 'identify' and 'evaluate' steps.”) (emphasis in original).

a. Applicable Legal Standards – The Ordering Theory of Non-Infringement

The question of whether patent claims require a particular order is typically viewed as an issue of claim construction.⁶³ *See, e.g., Mformation Techs., Inc. v. Rsch. in Motion Ltd.*, 764 F.3d

⁶³ SAIC repeatedly argues Microsoft's and L3's ordering theories amount to untimely requests for the Court to engage in claim construction. *See, e.g., MSFT MSJ NI – SAIC Resp.* at 36 (“Lastly, Microsoft's position that the identify, evaluate, and display steps must be performed in a specific order is a new untimely claim construction argument. Microsoft could have (and should have) raised this issue during claim construction but made the conscious effort to not.”); L3 MSJ NI – SAIC Resp. at 45–46 (“L3 has provided an untimely non-infringement position based on newly disclosed claim constructions.”). However, these protestations ring hollow, as the trial court has discretion to consider claim construction at any point in a litigation, including at the summary judgment phase. *See, e.g., Conoco*, 460 F.3d at 1359 (noting a court may “engage in claim construction during various phases of litigation, not just in a *Markman* order”); *MicroStrategy*, 429 F.3d at 1350 (affirming summary judgment of non-infringement where the district court construed some disputed claim limitations in a *Markman* order and later construed remaining claim limitations necessary to decide summary judgment motions).

Further, it is unclear whether Microsoft or L3 could have reasonably recognized the need to seek claim construction from the Court on this issue prior to the summary judgment phase. “[D]istrict courts are not (and should not be) required to construe *every* limitation present in a patent's asserted claims,” and are instead expected to perform claim construction only “[w]hen the parties present a fundamental dispute” regarding a claim's meaning. *O2 Micro*, 521 F.3d at 1362–63 (emphasis in original); *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) (“[O]nly those terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy.”). Yet, during discovery, SAIC and its expert expressed, at best, an inconsistent position related to whether the claim limitations must be performed in a particular order. *Compare* Bajaj Reb. Rpt. ¶¶ 405, 457, 458 (Dr. Bajaj appearing to express the opinion that claim limitations 1(c), 1(d), and 1(e) must be performed in a particular order on a current pair of video frames to distinguish the '230 patent from prior art) *with* Bajaj Op. Rpt. ¶ 79 *and* Bajaj App. A ¶¶ 154–55, 205 (Dr. Bajaj expressing the opinion that claim limitations 1(c), 1(d), and 1(e) can be performed in any order). Thus, SAIC's fluctuating position failed to clearly convey a “fundamental dispute” or “controversy” existed related to Microsoft's and L3's ordering theory. *O2 Micro*, 521 F.3d at 1362–63; *Vivid Techs.*, 200 F.3d at 803. Indeed, if SAIC meaningfully

1392, 1398 (Fed. Cir. 2014) (“Order-of-Steps Requirement in the Claim Construction”); *Hytera Commc’ns Co., Ltd. v. Motorola Sols., Inc.*, 841 F. App’x 210, 219 (Fed. Cir. 2021) (“[W]e thus decline to construe the claim as allowing deviation from that order.”); *Loral Fairchild Corp. v. Sony Corp.*, 181 F.3d 1313, 1321 (Fed. Cir. 1999) (agreeing with the district court’s “claim construction” that the patent “recites a process sequence”). “Claim construction begins with the language of the asserted claims.” *SanDisk Corp. v. Memorex Prods., Inc.*, 415 F.3d 1278, 1283–84 (Fed. Cir. 2005) (citing *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)). Generally, unless the steps of a claim “actually recite” an order, the “steps are not ordinarily construed to require one.” *Mformation Techs.*, 764 F.3d at 1398 (quoting *Interactive Gift Express, Inc. v. Compuserve, Inc.*, 256 F.3d 1323, 1342 (Fed. Cir. 2001)). However, a claim “requires an ordering of steps when the claim language, as a matter of logic or grammar, requires that the steps be performed in the order written, or the specification directly or implicitly requires an order of steps.” *Id.* at 1398–99 (quoting *TALtech Ltd. v. Esquel Apparel, Inc.*, 279 F. App’x 974, 978 (Fed. Cir. 2008)); *Altiris, Inc. v. Symantec Corp.*, 318 F.3d 1363, 1369–70 (Fed. Cir. 2003) (quoting *Interactive Gift*, 256 F.3d at 1343) (“First, we look to the claim language to determine if, as a matter of logic or grammar, they must be performed in the order written. . . . If not, we next look to the rest of the specification to determine whether [the specification] ‘directly or implicitly requires such a narrow construction.’”).⁶⁴

disputed Microsoft’s and L3’s reading of the claim limitations, SAIC had equal responsibility and opportunity to raise this dispute to the Court’s attention prior to summary judgment.

⁶⁴ The Federal Circuit’s decisions and instructions for when claim limitations require a specific order typically involve method claims. *See, e.g., Mformation Techs.*, 764 F.3d at 1394; *Interactive Gift*, 256 F.3d at 1328; *Altiris*, 318 F.3d at 1367. While claim 1 of the ’230 patent is an apparatus or system claim, claim 1 recites a series of method steps the system is designed to perform. *See* ’230 patent at 24:25–51; *see, e.g., Interactive Gift*, 256 F.3d at 1342–43 (acknowledging that “method steps” can implicitly require an order); *SmartPhone Techs. LLC v. Rsch. in Motion Corp.*,

Nos. 6:10cv74 LED–JDL and 6:10cv580 LED–JDL, 2012 WL 3150756, at *28 (E.D. Tex. Aug. 2, 2012) (“It is important to note that Claim 17 is not a method claim, but rather a system claim, the bounds of which are defined, in part, by a method the system is capable of performing.”). In fact, claim limitations 1(a) through 1(e) are identical to the corresponding claim limitations listed in method claim 15, with the exception that claim 15 phrases the method steps as gerunds. *Compare* ’230 patent at 24:25–51 (“(c) *identify*, based on the received motion data . . . (d) *evaluate*, based on a comparison of data . . . and (e) *display* at least a portion of the first video source image”) (emphasis added) *with id.* at 26:27–47 (“(c) *identifying*, based on the received motion data . . . (d) *evaluating*, based on a comparison of data . . . and (e) *displaying* at least a portion of the first video source image”) (emphasis added). The same is true for independent claim 29, which is a machine-readable medium claim “having machine-executable instructions for performing a method, comprising . . . (c) *identifying*, based on the received motion data . . . (d) *evaluating*, based on a comparison of data . . . and (e) *displaying* at least a portion of the first video source image” *Id.* at 28:17–38 (emphasis added).

This Court is not aware of, nor have the parties identified, any Federal Circuit precedent establishing a per se rule that system claims may not be construed to require an order. Therefore, based on the shared language between claims 1, 15, and 29, all three independent claims contain the same method steps, the same definite and indefinite articles creating an antecedent basis relationship, and the same logical sequence between “potentially represent” and “represent.” *See infra* Section IV(B)(b)(1). Given the identical nature of these claims, Federal Circuit precedent involving claim construction for ordering must apply universally to all three independent claims in the ’230 patent. To suggest otherwise or imply the ordering analysis should apply to method claim 15 but not claims 1 and 29, when all three claims share the identical method steps embedded in their language, would lead to an unreasonable and illogical result.

Further, all parties have acknowledged that claim 1 requires some degree of ordering for the method steps recited in claim limitations 1(c), 1(d), and 1(e). For example, SAIC concedes that the patent’s language requires a specific order for the “identify” operation in claim limitation 1(c) and the “evaluate” step in claim limitation 1(d). *See, e.g.*, OA Tr. at 121:10–11 (SAIC Counsel: “We don’t dispute that there’s a sequence required for steps (c) and (d)”); MSFT MSJ NI – SAIC Resp. at 28 (“SAIC agrees with Microsoft that the identify element must precede the evaluate element as the claim language of the evaluate element explicitly refers back to the identify element.”). The presence of an ordering requirement in claim 1 was likewise confirmed by SAIC’s expert, Dr. Bajaj, in his Rebuttal Report on invalidity. *See, e.g.*, Bajaj Reb. Rpt. ¶¶ 405, 457, 458; *infra* Discussion Section IV(B)(b)(4). In his report, Dr. Bajaj likewise indicated his view that claim 1 is representative of all the independent claims, and his analysis did not distinguish between system claim 1, method claim 15, and machine-readable-medium claim 29. *See* Bajaj Reb. Rpt. ¶ 455 (describing the method steps in claim limitations 1(c) through 1(e) of claim 1, and noting “[t]he other independent claims (15 & 29) contain corresponding requirements for the claimed method and computer readable medium, respectively. Accordingly, these requirements are part of all the asserted claims.”). SAIC’s view of claim 1’s representative nature was further confirmed by SAIC counsel in its briefing and during Oral Argument. *See* MSFT MSJ NI – SAIC Resp. at 8 n.2 (“For the purpose[s] of SAIC’s response, Claim 1 is representative of the asserted independent claims.”); OA Tr. at 56:20–21 (SAIC Counsel: “This is claim 1 which is representative of the ’230

As a preliminary matter, SAIC does not dispute that the “evaluate” operation in claim limitation 1(d) must follow the “identify” operation in claim limitation 1(c). *See, e.g.*, OA Tr. at 121:10–11 (SAIC Counsel: “We don’t dispute that there’s a sequence required for steps (c) and (d)”); MSFT MSJ NI – SAIC Resp. at 28 (“SAIC agrees with Microsoft that the identify element must precede the evaluate element as the claim language of the evaluate element explicitly refers back to the identify element.”). Indeed, such a concession is unavoidable, as claim limitation 1(d) explicitly references the identification completed in claim limitation 1(c). ’230 patent 24:42–44 (“(d) evaluate, based on a comparison of data from the first and second video source images, *the identification performed in operation (c)*”) (emphasis added); *see Kaneka Corp. v. Xiamen Kingdomway Grp. Co.*, 790 F.3d 1298, 1306–07 (Fed. Cir. 2015) (noting that a claim “implicitly requires order . . . if the language of a claimed step refers to the completed results of the prior step”). Therefore, the only question remaining is whether the “display” operation in claim limitation 1(e) must occur in a particular sequence relative to the “identify” and “evaluate” operations in claim limitations 1(c) and 1(d), respectively. This Court holds that it does.

b. Discussion – The Ordering Theory of Non-Infringement

1. Claim 1’s Plain Language, Grammar, and Logic Require an Order

An inspection of claim 1’s plain language reveals that as a matter of grammar and logic, the “display” operation in claim limitation 1(e) must be preceded by the “identify” operation in claim limitation 1(c) with respect to the same pair of video frames. First, a POSITA would understand that the terms “first video source image” and “second video source image” first

patent other claims.”); *see also* MSFT MSJ NI at 9 (Microsoft noting that “[c]laim 1 is representative regarding the required three basic operations.”). In sum, all parties have already acknowledged claim limitations 1(c) and 1(d) require some degree of ordering. Therefore, there is no merit to the suggestion that claim limitations 1(c), 1(d), and 1(e) may not be construed to require an order simply because claim 1 is a system claim.

introduced in claim limitation 1(c) act as the antecedent bases for those same terms later referenced in claim limitation 1(e). *Compare* '230 patent at 24:38–41 (“(c) identify . . . a part of *a first video source image* that potentially represents a portion of the external environment represented in a part of *a second video source image*”) (emphasis added) *with id.* at 24:45–51 (“(e) display at least a portion of *the first video source image* and at least a portion of *the second video source image*”) (emphasis added). The transition in the claim language from the indefinite article “a” in claim limitation 1(c) (i.e., “*a first video source image*”/“*a second video source image*”) to the definite article “the” in claim limitation 1(e) (i.e., “*the first video source image*”/“*the second video source image*”) confirms this antecedent relationship. *See Antecedent Basis*, BLACK’S LAW DICTIONARY (11th ed. 2019) (noting that when an antecedent relationship exists, “[i]n general, a term is first introduced with an indefinite article and is later referred to with the definite article (or *said*)”); *Wi-LAN, Inc. v. Apple Inc.*, 811 F.3d 455,462 (Fed. Cir. 2016) (citing *Baldwin Graphic Sys., Inc. v. Siebert, Inc.*, 512 F.3d 1338, 1342 (Fed. Cir. 2008)) (“Subsequent use of the definite articles ‘the’ or ‘said’ in a claim refers back to the same term recited earlier in the claim.”); *NTP, Inc. v. Rsch. in Motion, Ltd.*, 418 F.3d 1282, 1306 (Fed. Cir. 2005), *abrogated on other grounds by Zoltek Corp. v. United States*, 672 F.3d 1309, 1323 (Fed. Cir. 2012) (en banc) (recognizing an antecedent relationship between claim limitations based on the use of definite article “the”).

The presence of this antecedent relationship is instructive for two reasons. First, it confirms Microsoft’s and L3’s construction that the video source images that are identified, evaluated, and displayed are a single pair of video frames.⁶⁵ *See, e.g., Univ. of Mass. v. L’Oréal S.A.*, 36 F.4th 1374, 1380 (Fed. Cir. 2022) (acknowledging the claim term “the adenosine concentration” was

⁶⁵ This Court previously construed the term “video source image” to mean “digital, analog, or nonstandard video frames.” *See Markman Op.*, 154 Fed. Cl. at 614–27.

“language for invoking an antecedent—for repeating, not departing from, the claim's prior reference to ‘a concentration of adenosine,’” and from this concluding “that there is only one such concentration called for by independent claim 1”); *see also Warner–Lambert Co. v. Apotex Corp.*, 316 F.3d 1348, 1356 (Fed. Cir. 2003) (quoting *Am. Bus Ass'n v. Slater*, 231 F.3d 1, 4–5 (D.C. Cir. 2000)) (“[I]t is a rule of law well established that the definite article ‘the’ particularizes the subject which it precedes. It is a word of limitation as opposed to the indefinite or generalizing force of ‘a’ or ‘an.’”). Second, the antecedent relationship implies a sequence as a matter of grammar: to practice the ’230 patent claims, a device must “identify” “part[s]” of “a” pair of video frames, then sometime thereafter “display” “portion[s]” of “the” pair of video frames previously identified. *See, e.g., Hytera Commc’ns*, 841 F. App’x at 218 (“That includes ‘a’ timeslot in the ‘preparing’ step, which grammatically provides antecedent basis for ‘the’ timeslot in the ‘determining’ step. . . . [T]he fact that the ‘determining’ step says ‘the’ when it could have said ‘a’ reinforces our conclusion that it is meant to come after the ‘preparing’ step.”); *Wi-LAN*, 811 F.3d at 462 (recognizing use of definite article “the” to form antecedent relationship between terms required claim steps be performed in a specific order). “The” pair of video frames cannot be displayed at step 1(e) unless the frames are first identified at step 1(c). Arguments to the contrary ignore the claim’s plain language.⁶⁶

⁶⁶ During Oral Argument, counsel for SAIC raised the argument that the term “video images” in claim limitation 1(a) serves as the antecedent basis for the term “video source image” as used in claim limitations 1(c), 1(d), and 1(e). *See, e.g.,* OA Tr. at 108:6–11 (“[T]he antecedent for (e) is (a), which is receiving video images from the first video source and from the second video source and that those are the video images. There's no dispute that each of steps (c), (d) and (e) are performed on video images that are received in step (a).”). As an initial matter, SAIC acknowledges that this argument is addressed in the Supplemental Bajaj Declaration, which has been struck from the record. *See* OA at 107:15–17 (“[O]n this one, I’ll talk about the supplemental Bajaj report . . .”).

Other textual and logical cues in the claim language demonstrate that *both* the “identify” and “evaluate” operations stated in claim limitations 1(c) and 1(d), respectively, must always precede the “display” operation in claim limitation 1(e) for a given pair of frames. Through claim

Nevertheless, SAIC’s argument is incorrect, as claim limitations 1(a) and 1(c)/1(d)/1(e) recite different terms. *Compare* ’230 patent at 24:34–35 (“(a) receive *video images* . . .”) (emphasis added) *with id.* at 24:38–41 (“(c) identify . . . a part of a first *video source image* . . .”) (emphasis added); OA Tr. at 127:5–10 (Microsoft Counsel: “The other thing is on that issue of antecedent basis, if you look, counsel for SAIC wants to focus on [claim limitation] (a), which is receive video images. Again, to be very specific, that is not an antecedent for video source image because that’s a different term, a video source image.”); *Wi-LAN*, 811 F.3d at 462 (“Subsequent use of the definite articles ‘the’ or ‘said’ in a claim refers back to the *same term* recited earlier in the claim.”) (emphasis added). The term “video source image” appears for the first time in claim limitation 1(c), preceded by the indefinite article “a.” *See* ’230 patent at 24:38–41. The same term “video source image” is later repeated in claim limitations 1(d) and 1(e), preceded by the definite article “the.” *See id.* at 24:42–44, 24:45–51. In contrast, not only does claim limitation 1(a) recite a different term, “video images,” but it also includes neither an indefinite nor definite article to introduce the term. *See* ’230 patent at 24:34–35. Thus, the claims’ plain language and basic grammar both suggest an antecedent relationship exists between claim limitations 1(c), 1(d), and 1(e), but not claim limitation 1(a). *See Antecedent Basis*, BLACK’S LAW DICTIONARY (11th ed. 2019) (noting that when an antecedent relationship exists, “[i]n general, a term is first introduced with an indefinite article and is later referred to with the definite article (or *said*)”).

Further, SAIC’s insinuations that this Court’s *Markman* Opinion somehow mandates SAIC’s proposed reading of the claims is also incorrect. *See* OA Tr. at 106:4–108:11 (asserting that adopting Microsoft’s and L3’s argument on antecedent basis would be “contrary to what Your Honor found in the *Markman* decision”). This Court’s *Markman* Opinion clarified that the terms “video images,” “video source image,” and “video data of images” referenced “digital, analog, or nonstandard video frames.” *Markman Op.*, 154 Fed Cl. at 614–19. In later construing the term “based on a comparison of data from the first and second video source images” found in claim limitation 1(d), the Court likewise confirmed the “data” being evaluated in claim limitation 1(d) was the image data received through claim limitation 1(a), as opposed to the motion data received in claim limitation 1(b). *See id.* at 627–28. In other words, the Court clarified the type of data being evaluated in claim limitation 1(d): image data. *Id.* However, this finding does not mandate the grammatical relationship between claim limitation 1(e) and claim limitation 1(a) that SAIC suggests is required. Though the ’230 patent contemplates practicing the “identify,” “evaluate,” and “display” operations recited in claim limitations 1(c), 1(d), and 1(e), respectively, upon one pair of frames received through claim limitation 1(a), that practical reality does not negate or override the clear antecedent relationship between the term “video source image” as used in claim limitations 1(c), 1(d), and 1(e). Said differently, that the patent evaluates a single pair of images selected from a larger pool of images received in claim limitation 1(a) does not create some broader grammatical or antecedent relationship between claim limitations 1(a) and 1(e).

limitation 1(c), the device identifies parts of “a” pair of video frames that “potentially represent[]” the same portion of the external environment. *See* ’230 patent at 24:38–41 (“(c) identify, based on the received motion data, a part of a first video source image that *potentially represents* a portion of the external environment represented in a part of a second video source image”) (emphasis added). In contrast, claim limitation 1(e) states the device must later display portions of “the” pair of video frames such that overlaying the frames creates a “corresponding region” that “represents” the same portion of the external environment. *See id.* at 24:45–51 (“(e) display at least a portion of the first video source image and at least a portion of the second video source image such that the second video source image portion overlays a corresponding region of the first video source image portion, wherein the corresponding region *represents* a portion of the external environment represented in the second video source portion.”) (emphasis added).

A POSITA would find informative the juxtaposition in the claim language between “potentially represents” and “represents,” as “different claim terms are presumed to have different meanings.” *Helmsderfer v. Bobrick Washroom Equip., Inc.*, 527 F.3d 1379, 1382 (Fed. Cir. 2008) (declining to construe the term “partially hidden from view” to have the same meaning as the term “generally hidden from view”); *Applied Med. Res. Corp. v. U.S. Surgical Corp.*, 448 F.3d 1324, 1333 n.3 (Fed. Cir. 2006) (“[T]he use of two terms in a claim requires that they connote different meanings”) (emphasis in original). The term “potentially represents” implies uncertainty exists regarding the accuracy of the alignment “based on the received motion data” that results from the “identify” operation in claim limitation 1(c). *See* ’230 patent at 24:38–41. However, the use of “represents” in claim limitation 1(e), rather than “potentially represents,” indicates the device has eliminated the previous uncertainty in the alignment. *See id.* at 24:45–51. Logic, therefore, requires that some intervening event has occurred between the “identify” and “display”

operations to improve the accuracy of the alignment: the “evaluate” operation based on image data⁶⁷ embodied in claim limitation 1(d). *See id.* at 24:42–44.

Accordingly, this Court holds that the Asserted Claims’ plain language, grammar, and logic all require that claim limitations 1(c), 1(d), and 1(e) must be practiced in sequential order on the same pair of video frames.

2. The ’230 Patent’s Specification Supports the Court’s Construction

Because the Asserted Claims’ plain language demonstrates the claim steps must be performed in a particular order, this Court need not look to the specification for further guidance. *See Hytera Commc’ns.*, 841 F. App’x at 218–19 (“Because we conclude that the claim language demonstrates the order of the steps, we need not look further into the specification.”) (citing *Altiris*, 318 F.3d at 1369); *Altiris*, 318 F.3d at 1369–70 (describing a two-part test in which a court first “look[s] to the claim language to determine if, as a matter of logic or grammar, they must be performed in the order written,” and then “[i]f not, [the court] next look[s] to the rest of the specification to determine whether it directly or implicitly requires such a narrow construction”) (internal quotations omitted). Nevertheless, inspection of the specification corroborates this Court’s construction of the Asserted Claims.

As an initial matter, the specification repeatedly mentions an “image-based check” designed to verify and, if necessary, correct the alignment created using solely IMU motion data. *See, e.g.*, ’230 patent at 10:5–15 (“[T]he IMU-based calculation for position and rotation of weapon view 74 within display 70 is checked using an image-based method.”); *id.* at 10:21–29

⁶⁷ *See Markman Op.*, 154 Fed. Cl. at 627 (construing “based on a comparison of data from the first and second video source images” in claim limitations 1(d), 15(d), and 29(d) to mean “based on a comparison of image data (e.g., content and contrast) from the first and second video source images”) (emphasis added).

(“To address [bias drift] concerns, the relative orientation of goggles 11 and scope 17 can be independently deduced by processing image data from image generator 57 and scope 17 if there is sufficient image content and contrast and if similar imaging technologies . . . are used. By checking the IMU-based position and image rotation calculations using an image comparison, the manner in which data from IMU sensors is used can be periodically recalibrated and the effects of bias drift, etc. reduced.”); *id.* at 11:39–45 (“If the image-based check passes, the values of the IMU-based rotation matrix (and thus, the center for weapon view 74 predicted by that IMU-based rotation matrix) are verified”); *id.* at 11:52–55 (“[T]he image-based check verifies the position for the scope image calculated with IMU data”); *id.* at 13:21–23 (“[C]omputer 30 performs image-based checks for points of interest in goggles image 82 that are slightly offset from a center calculated from IMU data.”); *id.* at 18:38–42 (“Other embodiments also include numerous variations on the above-described methods for using a comparison of a scope image and a goggles image to check an IMU-based location and rotation for that scope image within that goggles image.”). These excerpts confirm that the motion-based alignment resulting from the “identify” operation in claim limitation 1(c) contains uncertainty that is eliminated through the “evaluate” operation in claim limitation 1(d).

Statements in the specification likewise reiterate that the motion and image-based alignments embodied in claim limitations 1(c) and 1(d), respectively, must occur prior to the display operation embodied in claim limitation 1(e). *See, e.g., id.* at 7:19–25 (“[T]he location and rotation of weapon view 74 within user display 70 is determined by computer 30 based on output from sensors 13 and 18 and based on comparison of the scope image with the goggles image.”). The specification’s summary describes this process most concisely. The summary describes a computer system that receives images from two independently movable video sources with sensors

designed to “indicate[] the spatial orientations” of the two sources. ’230 patent at 1:58–66. The system “[u]se[s] the sensor data” to first identify an area of potential overlap between two video sources. *Id.* at 1:66–2:6. The system then verifies the accuracy of this location, as “[d]ata from the two images are then compared in order to evaluate the location determined from the sensor data. The sensor-based location is either confirmed, or a new location is found based on additional image comparisons.” *Id.* at 2:6–9. “*Once a location is selected (either a confirmed sensor-based location or a location found using image comparison), the two images are displayed such that the second source image (or a portion of that image) overlays a corresponding portion of the first source image.*” *Id.* at 2:9–15 (emphasis added).

Furthermore, the patent indicates that “[t]he present invention is illustrated by way of example . . . in the figures” that accompany the specification. *Id.* at 2:35–38. These figures likewise confirm the Court’s construction of the Asserted Claims. For example, Figures 8A through 8K “illustrate checking and/or correcting an IMU-based position for one video image within another video image.” *Id.* at 2:57–59. Similarly, Figures 9A through 9C “illustrate correction of an IMU-based position calculation based on image comparison results.” *Id.* at 2:60–61. Thus, Figures 8A through 9C further corroborate that the invention is designed to correct motion-based alignments performed through the claims’ “identify” operation by using image-based alignments found in the claims’ “evaluate” operation.

Figures 5A, 5B, 7, 11 and 14 depict “a flow chart explaining operation of the system.” *Id.* at 2:48–49, 2:55–56, 2:63–64, 3:4–5. This embodiment of the patented invention, discussion of which occupies much of the specification’s narrative portion, describes in detail how devices under the patent step through the motion-based identification, followed by the image-based evaluation, and finally display the aligned video frames. *See, e.g., id.* at 8:21–42 (describing how the device

receives pitch, yaw, and roll orientation data from IMU sensors, which “are used to create an IMU-based rotation matrix” that “calculate[s] a location (i.e., horizontal and vertical position) and an image rotation for the scope image within the goggles image”); *id.* at 10:5–15 (“In block 117, the IMU-based calculation for position and rotation of weapon view 74 within display 70 is checked using an image-based method. This permits computer 30 to adjust the manner in which IMU-based positions and rotations are calculated, thereby correcting for bias drift and helping to maintain proper registration of the scope image within the goggles image.”); *id.* at 11:39–45 (“If the image-based check passes, the values of the IMU-based rotation matrix (and thus, the center for weapon view 74 predicted by that IMU-based rotation matrix) are verified, and computer 30 proceeds to block 204 on the ‘yes’ branch. If the image-based check fails, computer 30 proceeds on the ‘no’ branch to block 206.”); *id.* at 13:10–23 (“[A] failed image-based check in block 202 indicates that the IMU-based location for scope image 302 within goggles image 82 may be incorrect. In other words, the scope image and the part of the goggles image over which computer 30 intends (based on IMU data) to overlay the scope image do not sufficiently represent the same part of the external environment. . . . [C]omputer 30 performs image-based checks for points of interest in goggles image 82 that are slightly offset from a center calculated from IMU data.”); *id.* at 15:22–25 (noting that after the system has completed the image-based check of the motion-based alignment, the “computer 30 proceeds to block 119 of FIG. 5B. In block 119, the scope image is cropped, resized and/or rotated. The resulting image is then overlaid on the goggles image as the weapon view (block 121)”); *id.* at 17:54–57 (“Once the proper location and orientation for the scope image are deduced, the scope image can be magnified and cropped prior to overlay as the weapon view.”).

The specification thus corroborates this Court’s construction that claim limitations 1(c), 1(d), and 1(e) must be performed in sequential order on the same pair of frames. This Court notes, however, that it is not limiting claim 1 to certain embodiments within the specification. Rather, the specification as a whole merely supports what the plain language of claim 1 requires: performance of claim limitations 1(c), 1(d), and 1(e) in sequential order on a single pair of video frames.

3. SAIC’s Arguments Against the Alleged Indefiniteness of the ’230 Patent Support the Court’s Construction

The Court’s construction is also consistent with statements made in SAIC’s briefing and at Oral Argument to combat Defendants’ respective Motions for Summary Judgment for Invalidity based on Indefiniteness. *See generally* MSFT MSJ Inv.; MSFT MSJ Inv. – SAIC Resp.; L3/Gov. MSJ Inv.; L3/Gov. MSJ Inv. – SAIC Resp. SAIC confirmed the term “potentially represents” in claim limitation 1(c) denotes uncertainty in the motion-based alignment from the “identify” operation that is later corrected through the “evaluate” operation in claim limitation 1(d). *See, e.g.*, OA Tr. at 57:9–25 (SAIC Counsel: “‘Potentially represents’ is nothing more than I have my IMU data and it may represent something, the first video image and a portion of the second video image, but I need to confirm that. I need to evaluate that in step (d). That’s all ‘potentially’ means. . . . It’s a preliminary calculation that’s subject to evaluation in step (d). . . . Preliminary, potentially, that’s all it means.”); *id.* at 65:12–14: (SAIC counsel discussing the term “potentially” as used in claim limitation 1(c), and noting “we know from the claim scope or the claim context it just means a preliminary one.”); *id.* at 76:3–6 (SAIC Counsel: “We have (c) as the identify step, and we are looking at whether this IMU data potentially represents, preliminarily represents a portion of the second image.”); *id.* at 76:18–24 (SAIC Counsel: “So they are preliminary. They are potential because the inventor said, wait, wait, we got to check this in step (d). And that’s exactly what they

said: We have to use an image-based comparison to confirm, to evaluate the IMU, and that's why we are not making a final determination in (c).”).

Additionally, SAIC repeatedly reiterated the claims recite the “identify,” “evaluate,” then “display” order of operations, noting on numerous occasions that the “display” operation in claim limitation 1(e) is the “output” of the device’s identification and evaluation processes. *See, e.g.*, OA Tr. at 58:11–21 (SAIC Counsel: “Because there's error and drift in these sensors, it's potential, it may be and [is] subject to the evaluation step. Then once we evaluate that data, the image comparisons, and use that to line up with the IMU, then we get to the output, which is the display step (e). . . . That’s the output.”); *id.* at 60:15–18: (SAIC Counsel: “(e) is just simply the output of (c) and then the evaluation of (d). So really we should be focusing on (d) to figure out (e).”); *id.* at 77:7–13 (SAIC Counsel: “‘Potentially represents’ is the first step. Remember Your Honor talked about the two-step process that the inventors came up with in the ’230. The first one is we look at IMU data. The second is we confirm that through a comparison of images, and in this way we crosscheck it. And then it comes to the display step if it passes.”); *id.* at 77:18–78:8 (SAIC Counsel: “[I]t potentially represents because we are not making that final determination There’s no overlay until you confirm step (c) with step (d), and then output is the display.”).

As discussed above, SAIC raised compelling arguments regarding the ordering of the “identify,” “evaluate,” and “display” operations, and the specification’s respective descriptions of these operations, to refute Defendants’ indefiniteness claims. *See supra* Section III(C)(b). Indeed, the only way the ’230 patent can avoid indefiniteness concerns is to construe the claims to recite this order, as SAIC counsel correctly demonstrated. *Id.* However, “[c]laim terms must be construed the same way for the purpose of determining invalidity and infringement.” *TVIIM, LLC v. McAfee, Inc.*, 851 F.3d 1356, 1362 (Fed. Cir. 2017); *see Amgen Inc. v. Hoechst Marion Roussel*,

Inc., 314 F.3d 1313, 1330 (Fed. Cir. 2003) (“It is axiomatic that claims are construed the same way for both invalidity and infringement.”). By emphasizing that the ordering of the claim limitations renders claim 1 definite, SAIC concedes an order likewise applies in the infringement context. Accordingly, to maintain an internally consistent construction of the patent, this Court must conclude that the ordering theory that insulates claim 1 from indefiniteness concerns likewise applies for infringement purposes.⁶⁸

⁶⁸ At Oral Argument, the Court questioned SAIC on how to reconcile its indefiniteness position, which relies heavily on the notion that claim limitations 1(c), 1(d), and 1(e) must occur in that order, with its infringement position that the claims do not require an order. *See* OA Tr. at 109:15–110:5. In response, SAIC clarified its view that while no order is required for individual video frames, as Defendants argue, the patent *does* contemplate an order for a continuous video feed, which is received in claim limitation 1(a). *See id.* at 110:6–15 (SAIC Counsel: “[T]here’s not that order for an individual video frame. There is that order for a video feed, which is what is being received in step (a). . . . It’s a series of frames. . . . [I]t is true that what the claim requires is an identification step on a video feed and a display of that video feed. That’s the point of the invention.”). Thus, according to SAIC, “there is no requirement in the claims or the specification that you do (c), (d) and (e) in that order for every single still image.” *Id.* at 111:16–20.

As an initial matter, SAIC supported this argument with opinions from Dr. Bajaj provided in the now-stricken Supplemental Bajaj Declaration. *See, e.g.*, MSFT MSJ NI – SAIC Resp. at 33 (“According to Dr. Bajaj, because the augmented reality systems of the Asserted Patent receive and display video streams, ‘a POSA would have understood that these systems operate in a continuous looped fashion, where steps illustrated in the flow charts can be reordered, combined, split, replaced, etc.’”) (quoting Supp. Bajaj Decl. at ¶ 31) (internal quotations omitted). In contrast, neither the Bajaj Opening Report nor the Bajaj Appendix A draw the same distinction between continuous video feeds and individual video frames that SAIC now alleges. *See generally* Bajaj Op. Rpt.; Bajaj App. A. Therefore, now that the Supplemental Bajaj Declaration has been stricken, SAIC may no longer rely on Dr. Bajaj’s opinions in that Supplemental Declaration to provide insight into how a POSITA would interpret the claim language to support the feed versus frame distinction.

Further, SAIC’s argument directly contradicts statements SAIC made in its Reply in support of its own Motion for Summary Judgment of Infringement, in which SAIC described the claim language as applying to “a given image frame pair.” SAIC MSJ Inf. – SAIC Reply at 17 (“The plain reading of the independent claims is that the controller receives video images from two sources and, *for a given image frame pair*, the identify and evaluate steps are performed as recited . . . and the display step is performed.”). Additionally, construing “video images” to mean “continuous video feed” is inconsistent with this Court’s prior *Markman* Opinion, which construed the terms “video images,” “video source image,” and “video data of images” to mean “digital, analog, or nonstandard video

4. Expert Testimony Extrinsic to the '230 Patent Corroborates the Court's Construction

Other evidence extrinsic to the patent likewise confirms that the appropriate construction for claim limitations 1(c), 1(d), and 1(e) requires these steps be performed in their stated order on a single pair of frames. *See Helmsderfer*, 527 F.3d at 1382 (“A court may look to extrinsic evidence so long as the extrinsic evidence does not contradict the meaning otherwise apparent from the intrinsic record.”). To begin, Microsoft’s and L3’s expert, Dr. Villasenor, has expressed opinions throughout his various expert reports that support the Court’s construction for claim limitations 1(c), 1(d), and 1(e). *See, e.g.*, Villasenor Reb. Rpt. ¶ 54 (noting testimony from the ’230 patent’s inventor, General Scales, “corroborates that the asserted claims of the ’230 patent claim a guess-and-check approach where a potential overlap of a given set of images is first identified, then evaluated using a comparison of image data, and *then that same set of images is displayed*”) (emphasis added); Villasenor App. D ¶ 7 (“[T]he structure and content of the claims, as confirmed by the explanation of the invention in the specification, require that [claim limitations 1(c), 1(d), and 1(e)] be performed on the same set of two images in the order set forth in the Asserted Claims.”); *id.* ¶ 23 (“[A]ll of the Asserted Claims of the ’230 patent recite a particular approach for aligning a set of image frames that requires three key elements — identify, evaluate, and display — that are all performed on the same set of ‘first’ and ‘second’ ‘video source image[s]’ in a particular logical sequence”)⁶⁹; *id.* ¶ 69 (“[T]he entire concept of the alleged invention as described throughout the specification and claimed in every Asserted Claim is that a set of two

frames.” *Markman Op.*, 154 Fed Cl. at 614–19 (emphasis added). Accordingly, this Court remains unconvinced by SAIC’s argument.

⁶⁹ Following this statement in paragraph 23, Dr. Villasenor quotes the claim limitations, with certain terms emphasized, including the indefinite and definite articles that precede the term “video source image” in each claim limitation. *See* Villasenor App. D. ¶ 23.

images is first potentially aligned with motion data, second evaluated with image data analysis, and lastly, the overlaid images are displayed using the alignment arising from this identification and evaluation.”); Villasenor App. C ¶ 63 (“[I]n the context of the ‘identify’, ‘evaluate’, and ‘display’ limitations of the asserted claims, the claimed invention requires that the system ‘evaluate’ using image data from the same two video frames for which the potential overlap was determined in the ‘identify’ step. In addition, the claimed invention further requires that the system ‘display’ the same two video frames that were analyzed in the ‘identify’ and ‘evaluate’ steps, using the alignment resulting from those operations.”).⁷⁰ Expert testimony “may be useful in claim construction” so long as it is not “used to diverge significantly from the intrinsic record.” *See Genuine Enabling Tech. LLC v. Nintendo Co., Ltd*, 29 F.4th 1365, 1373 (Fed. Cir. 2022).

Likewise, SAIC’s expert, Dr. Bajaj, expressed opinions supporting Microsoft’s and L3’s ordering theory. In his rebuttal expert report on invalidity, Dr. Bajaj differentiates the ’230 patent from prior art by emphasizing how the prior inventions did not contemplate performing the “identify,” “evaluate,” and “display” operations in the patent’s prescribed order on a single set of frames. *See, e.g.*, Bajaj Reb. Rpt. ¶ 405 (opining that the Equinox prototype “does not qualify as prior art to the ’230 patent” because the prototype did not “us[e] a comparison of image data frames to evaluate a motion-data based identification of portions of the two video image frames that potentially represent the same part of the external environment and correctly *overlying those*

⁷⁰ This statement is preceded by paragraph 62, which quotes the asserted claim limitations and emphasizes the indefinite and definite articles that precede the term “video source image” in the claim limitations. *See* Villasenor App. C ¶ 62 (“Asserted independent claims 1, 15, and 29 of the ’230 patent all require that the claimed system, method, and ‘machine-readable medium’: (1) identify ‘a part of *a* first video source image ... represented in a part of *a* second video source image’; (2) evaluate that identification ‘based on a comparison of data from *the* first and second video source images’; and (3) display ‘at least a portion of *the* first video source image and at least a portion of *the* second video source image....’”) (emphasis and omissions in original).

frames (rather than correcting the display of future frames) based on that analysis”) (emphasis added); *id.* ¶ 457 (arguing evidence that [REDACTED]

[REDACTED] (emphasis added); *id.* ¶ 458 (“[T]here is still no evidence that such a process was used to ‘evaluate, ... the identification performed in operation (c)’—i.e., the identification ‘based on the received motion data, a part of a first video source image that potentially represents a portion of the external environment represented in a part of a second video source image’ or to ‘display’ corresponding regions of two video images *after* having performed the ‘identify’ and ‘evaluate’ steps.”) (emphasis added); *id.* (arguing a witness could not “sufficiently describe, much less corroborate, how the Equinox system code worked, [REDACTED]

[REDACTED] (emphasis added).

In his attempt to distinguish the ’230 patent from the prior art, Dr. Bajaj repeatedly confirmed the patent requires claim limitations 1(c), 1(d), and 1(e) be practiced in the precise manner Microsoft and L3 proposed in their respective summary judgment motions. *See* MSFT MSJ NI at 6–7, 33–42; L3 MSJ NI at 40–44. Curiously, these opinions conflict with Dr. Bajaj’s statements in his Opening Report on infringement and Appendix A regarding whether the claim limitations recite a specific order.⁷¹ However, SAIC may not adopt conflicting constructions for

⁷¹ As noted (*see supra* Section II(C)(a)(2)), in the Bajaj Opening Report and the Bajaj Appendix A, Dr. Bajaj asserted, albeit with little formal analysis, that the claim language does *not* require the claims be practiced in any particular order. *See, e.g.*, Bajaj Op. Rpt. ¶ 79 (“The specification contemplates that the patented system’s operations may be reordered and/or that additional steps may be performed. For example, additional operations may be performed before identification,

its Asserted Claims based on the theory that best suits its case at a particular moment. *See Amazon.com, Inc. v. Barnesandnoble.com, Inc.*, 239 F.3d 1343, 1351 (Fed. Cir. 2001) (“A patent may not, like a ‘nose of wax,’ be twisted one way to avoid anticipation and another to find infringement.”) (internal quotations omitted). Based on the patent’s intrinsic evidence, this Court concludes Dr. Bajaj’s opinions in his Rebuttal Report on invalidity reflected the correct construction. *See Genuine Enabling Tech.*, 29 F.4th at 1373.⁷²

Additionally, the intrinsic evidence Dr. Bajaj cites to support his infringement opinions that the claims do not recite a specific order prove unilluminating. To support his infringement position that claim limitations 1(c), 1(d), and 1(e) do not require an order, Dr. Bajaj has only identified two pieces of intrinsic evidence, both from the ’230 patent’s specification. *See Bajaj App. A* ¶ 155 (“Microsoft misinterprets the claims of the ’230 Patent as well as the specification. For example, the specification provides an embodiment of a system in Figures 5A and 5B. The specification makes plain, ‘The steps shown in FIGS. 5A and 5B (and in other flow charts described below) can be reordered, combined, split, replaced, etc. . . . Many aspects of system 10 operation could be accommodated on multiple independently-running parallel program threads or

additional operations may be performed in between identification and evaluation, additional steps may be performed between evaluation and display, and/or display could occur before evaluation.”); *Bajaj App. A* ¶¶ 154–55 (expressing disagreement with Microsoft’s position that “the display element is not met,” and arguing that “Microsoft misinterprets the claims of the ’230 Patent as well as the specification”); *id.* ¶ 205 (“I have also been informed by counsel that as a general rule, unless the steps of a method claim actually recites an order, the steps are not ordinarily construed to require one, absent an express or implicit order requirement in the claim language or as a matter [of] logic or grammar.”).

⁷² *See Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 983 (Fed. Cir. 1995), *aff’d*, 517 U.S. 370 (1996) (“[W]here the legal expert’s view of how the patent should be construed conflicts with the patent document itself, such conflict does not create a question of fact nor can the expert opinion bind the court or relieve the court of its obligation to construe the claims according to the tenor of the patent.”).

as processes running parallel program threads or as processes running in parallel on an ASIC, an FPGA, multiple processors, etc.’”) (omission in original) (quoting ’230 Patent at 7:47–55); Bajaj Op. Rpt. ¶ 79 n.56 (“It is to be understood that the subject matter defined in the appended claims is not necessarily limited to the specific features or acts described above.”) (quoting ’230 patent at 24:14–16). However, these statements are contrary to the plain language, grammar, and logic of the Asserted Claims for the reasons discussed above and reflect an embodiment broader than the claimed invention. *See supra* Section IV(B)(b)(1)–(2).

Indeed, Dr. Bajaj does not undertake any substantive analysis of the actual claim language to support his opinion that the claim limitations need not be performed in any particular order.⁷³ This Court may not adopt a construction contrary to the claim language based solely on two discrete references in the specification. *Johnson & Johnston Assocs. Inc. v. R.E. Serv. Co., Inc.*, 285 F.3d 1046, 1052 (Fed. Cir. 2002) (quoting *McClain v. Ortmayer*, 141 U.S. 419, 424 (1891)) (“The claim is the measure of his right to relief, and while the specification may be referred to to limit the claim, it can never be made available to expand it.”); *MicroStrategy*, 429 F.3d at 1351 (“It is a bedrock principle of patent law that the claims of a patent define the invention to which the patentee is entitled the right to exclude.”) (quoting *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc)) (other internal quotations omitted).

5. The Evidence upon which SAIC Relies to Support its Theory Is Either Consistent with the Court’s Construction or Is Uncompelling

In its briefing and at Oral Argument, SAIC likewise cites various pieces of intrinsic evidence purportedly supporting its view that the claims do not require an order, all of which are

⁷³ The only substantive analysis Dr. Bajaj performed over the claim language as it relates to Microsoft’s and L3’s ordering theory appears in the now-stricken Supplemental Bajaj Declaration, which accordingly cannot be used. *See supra* Section II(C)(b).

either unconvincing or entirely consistent with this Court’s construction. For example, SAIC argues that dependent claim 11 should inform this Court’s understanding of whether claim limitations 1(c), 1(d), and 1(e) require an order. *See* ’230 patent at 26:1–4 (“11. The system of claim 1, wherein the controller is further configured to adjust, based on the evaluation of operation (d), the manner in which the controller makes the identification of operation (c).”); MSFT MSJ NI – SAIC Resp. at 28–29 (“Claim 11 . . . contemplates a system in which the identify, evaluate, and display steps are not performed on the same pair of video frames because the display element is informed in part by the identify and evaluate elements of a previous set of video frames.”). At Oral Argument, SAIC further elaborated that dependent claim 11 demonstrates the patent contemplates a system that performs “multiple identification and multiple evaluation steps” prior to displaying an image. *See* OA Tr. at 108:13–109:11 (“[Y]ou would do step (c); you would then do step (d); you would do step (c) again before you would do a display. . . . What claim 11 covers is you do an identification step. You check that identification step in step (d), and then you go back and you do the identification step again.”).

However, this argument is entirely consistent with the Court’s construction, which does not require that *every* frame proceed immediately through the “identify,” “evaluate,” and “display” operations without any intervening events. The only limitation this Court’s construction adopts is that frames must undergo the “display” operation at some point *after* those same frames undergo the “identify,” and “evaluate” operations. Thus, a device practicing the ’230 patent could toggle between the “identify,” and “evaluate” operations numerous times, so long as every pair of frames that reaches the “display” operation has at some point been “identified” and “evaluated.” *See* OA Tr. at 130:18–21 (Microsoft Counsel: “I thought I heard counsel say that you don't need to do that order every time, but our point is that the claim requires it at least once”). This is also

consistent with the portion of the specification that indicates “the operations shown in [Figures 5A through 5B] would not necessarily be performed the same number of times as is suggested by the flow chart.” ’230 patent at 7:55–57.

SAIC references other portions of the specification to support its position that the claims do not recite a particular order, but these too are unavailing. SAIC identifies two excerpts that, according to SAIC, demonstrate that the patent contemplates a system with continuously looping processes for the “identify,” “evaluate,” and “display” operations that occur at different rates. For example, SAIC highlights that “data from various sources may be updated at different rates.” MSFT MSJ NI – SAIC Resp. at 30 (citing ’230 patent at 18:25–37). However, information regarding the speed at which data is received by the system does not provide insight into how quickly or frequently the data is processed or the order in which such processing takes place. Similarly, SAIC asserts “[t]he specification provides an exemplary embodiment . . . where the display element continuously loops, yet the identify and evaluate elements may occur only once every 10-15 minutes or longer.” *Id.* (citing ’230 patent at 18:38–63). However, SAIC has misconstrued the specification’s language. Far from stating that the “identify” and “evaluate” operations occur every 10 to 15 minutes while the display operation is happening continuously, this portion of the specification merely states “a procedure such as that of [Figure] 7 works well . . . if the scope and goggles point in the same direction at least once every 10 to 15 minutes.” ’230 patent 18:38–63. In other words, this excerpt provides an accuracy statistic about a proposed embodiment of the “evaluate” operation and does not provide any indication of how frequently the “identify” or “evaluate” operations occur relative to the “display” operation.

Further, SAIC notes the specification states that while portions of the claims “are prefaced with letter or number references for convenience,” “use of such references does not imply a

temporal relationship not otherwise required by the language of the claims.” OA Tr. at 100:18–25 (citing ’230 patent at 24:18–22); MSFT MSJ NI – SAIC Resp. at 30. However, this statement is entirely uncontroversial for two reasons. First, while the specification makes clear that no order is required simply because the claim lists method steps with letter references, neither Microsoft and L3 nor this Court contend the mere presence of letter references justifies construing an order to the claim limitations. Second, and perhaps more importantly, the specification explicitly states that the letter references do not “imply a temporal relationship *not otherwise required by the language of the claims.*” ’230 patent at 24:18–22. As this Court thoroughly addressed above, the language of the claims themselves clearly recites an order. *See infra* Section IV(B)(b)(1). It is on this basis, not due to the presence of letter references, that the Court makes its determination.

c. Conclusion – The Ordering Theory of Non-Infringement

For the foregoing reasons, this Court agrees with Microsoft and L3 that claim limitations 1(c), 1(d), and 1(e), and the corresponding claim limitations in independent claims 15 and 29, recite a specific order. This Court holds the language, grammar, and logic of the Asserted Claims all demonstrate that the appropriate construction requires claim limitations 1(c), 1(d), and 1(e) to be performed in that order on a single pair of frames. However, it is important to convey the proper bounds of this holding. A POSITA would not understand the claim language to mean that *every* frame that passes through the claimed system must proceed immediately through the “identify,” “evaluate,” and “display” operations without any intervening events. Indeed, independent claims 1, 15, and 29 are all “comprising” claims. *See* ’230 patent at 24:25 (“A system, comprising”); *id.* at 26:27 (“A method, comprising”); *id.* at 28:17–19 (“A non-transitory machine-readable medium having machine-executable instructions for performing a method, comprising”). It is a well-known principle of patent law that comprising claims are construed as “open-

ended,” meaning “[t]he addition of elements not recited in the claim cannot defeat infringement.” *Gillette Co. v. Energizer Holdings, Inc.*, 405 F.3d 1367, 1372–73 (Fed. Cir. 2005); *CIAS, Inc. v. All. Gaming Corp.*, 504 F.3d 1356, 1361 (Fed. Cir. 2007) (noting that comprising claims do not “exclude the possible presence of additional elements or steps”); *Invitrogen Corp. v. Biocrest Mfg., L.P.*, 327 F.3d 1364, 1368 (Fed. Cir. 2003) (“The transition ‘comprising’ in a method claim indicates that the claim is open-ended and allows for additional steps.”).

Instead, construing the asserted claims to require that claim limitations 1(c), 1(d), and 1(e) be performed in that order merely means the following: each pair of frames that *does* successfully reach the “display” operation in claim limitation 1(e) must have first undergone the “identify” and “evaluate” operations in claims 1(c) and 1(d), respectively, at some point prior to being displayed. Said differently, the asserted claims contemplate a system that cannot display a pair of frames without having first identified and evaluated those frames. Accordingly, the Court adopts the following construction: for a device to infringe independent claim 1 (or 15, or 29), the “display” operation detailed in claim limitation 1(e) must always be preceded by the “identify” and “evaluate” operations recited in claim limitations 1(c) and 1(d), respectively, for a single pair of video frames.

C. Microsoft’s Motion for Summary Judgment of Non-Infringement

Microsoft moves for summary judgment that its accused products, the Microsoft [REDACTED] [REDACTED] devices, do not infringe claims 1, 5, 12, 29, and 30 (collectively, Microsoft Asserted Claims) of the ’230 patent.⁷⁴ *See* MSFT MSJ NI; *see also* Bajaj Op. Rpt. ¶ 21. Microsoft argues its [REDACTED] devices do not infringe the Microsoft Asserted Claims

⁷⁴ Though SAIC alleges that Microsoft’s [REDACTED] Products infringe claims 1, 5, 12, 29, and 30 of the ’230 patent, SAIC only alleges infringement of claims 29 and 30 against Microsoft’s [REDACTED] Products. *See* Bajaj Op. Rpt. ¶ 21.

for two reasons. [REDACTED]

[REDACTED]

[REDACTED]⁷⁵ MSFT MSJ NI at 24–33. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] *Id.* at 33–42. In contrast, SAIC

contends there are genuine issues of material fact that preclude summary judgment in Microsoft’s favor. *See* MSFT MSJ NI – SAIC Resp.

For the reasons explained below, Microsoft’s Motion for Summary Judgment of Non-Infringement (ECF No. 343) is **GRANTED**.

a. Background – Microsoft’s Motion for Summary Judgment of Non-Infringement

SAIC accuses the following Microsoft [REDACTED] devices of infringement: [REDACTED]

[REDACTED]⁷⁶ *See* Bajaj App. A ¶ 11; Bajaj

Op. Rpt. ¶ 21. Relevant to the infringement inquiry, Microsoft’s accused devices consist of the following hardware components: [REDACTED]

[REDACTED] *See* July 21, 2022 Supplement at 8; Bajaj

App. A ¶ 70 (quoting MSFT-00212060 at 65 [REDACTED])

[REDACTED]

⁷⁵ Microsoft likewise raises a comparable argument specific to its [REDACTED] Products, arguing the Products do not [REDACTED] MSFT MSJ NI at 42–44.

⁷⁶ [REDACTED] Bajaj App. A ¶ 11 (emphasis omitted).

[REDACTED] See July 21, 2022 Supplement at 8; Bajaj App. A ¶ 14 (citing MSFT-00137398 at slide 50, GOV-0329407 at 12, and MSFT-00137398 at slide 49); see also Bajaj App. A ¶ 9 (citing GOV-0550416 at 21); *id.* ¶ 4 (quoting GOV0203965 at 94–96).

As Microsoft noted in its July 21, 2022 Supplemental Response to SAIC’s Interrogatory No. 5:

[REDACTED]

July 21, 2022 Supplement at 8; see [REDACTED] Decl. ¶ 2 [REDACTED]

[REDACTED]

[REDACTED]; Farid Rpt. ¶ 18 [REDACTED]

[REDACTED]; Bajaj App. A ¶¶ 15–17 (citing GOV0202691 at 97, MSFT-00222611 at slide 3). [REDACTED]

[REDACTED] July 21, 2022 Supplement at 14 [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]; Farid Rpt. ¶ 18 [REDACTED]
[REDACTED]; Villasenor App. D ¶ 19 [REDACTED]
[REDACTED]

SAIC's infringement allegations specifically challenge the [REDACTED] implemented by Microsoft's accused devices. *See* Bajaj App. A ¶ 11 [REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]; MSFT MSJ NI at 5 [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

[REDACTED]

⁷⁸ In performing their infringement analyses, the experts involved in this action distinguished Microsoft's accused devices into [REDACTED]

[REDACTED]

[REDACTED]

⁷⁹ The expert and fact witnesses in this case appear to use the terms [REDACTED] interchangeably. *Compare* Villasenor App. D ¶ 13 [REDACTED] and [REDACTED] Decl. ¶ 2.a [REDACTED]) with Farid Rpt. ¶ 22 [REDACTED] For consistency, this Court adopts the [REDACTED] nomenclature.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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[REDACTED]

[REDACTED]

b. Discussion – Microsoft’s Motion for Summary Judgment of Non-Infringement

In its Motion for Summary Judgment of Non-Infringement, Microsoft raises two arguments for why its accused devices do not infringe the Microsoft Asserted Claims of the '230 patent. [REDACTED]

[REDACTED]

81 [REDACTED]

The parties do not dispute how Microsoft’s accused devices operate. *See, e.g.*, MSFT MSJ NI – SAIC Resp. at 31 (favorably citing [REDACTED] Decl. ¶ 2.a) [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]; MSFT MSJ NI at 5 (“No material dispute exists regarding how the Accused Products [REDACTED] [REDACTED]. The parties merely differ on the plain meaning of the Asserted Claims.”). Rather, the parties dispute whether Microsoft’s accused devices actually perform each and every claim limitation based on the proper construction of the claims. MSFT MSJ NI – SAIC Resp. at 31; MSFT MSJ NI at 5. Though the question of whether Microsoft’s accused devices infringe the ’230 patent is a question of fact, “a grant of summary judgment of non-infringement is proper when no reasonable factfinder could find that the accused product contains every claim limitation.” *Medgraph*, 843 F.3d at 949. Microsoft, as the moving party, “bears the burden of showing that there are no material facts in dispute, and all reasonable inferences must be resolved in the nonmovant’s favor.” *Herman*, 7 F. App’x at 943 (citing *Rockwell Int’l Corp. v. United States*, 147 F.3d 1358, 1361–62 (Fed. Cir. 1998)).

As noted, the proper construction of the Asserted Claims requires claim limitations 1(c), 1(d), and 1(e) to occur in that order on a single pair of frames. *See supra* Section IV(B)(b)–(c). Indeed, as noted, SAIC has asserted numerous times that the appropriate construction of the asserted claims, necessary to avoid indefiniteness concerns, requires the 1(c) “identify,” 1(d) “evaluate,” and 1(e) “display” operations be performed in that order on an individual pair of scope and goggles images. *See, e.g.*, MSFT MSJ Inv. – SAIC Resp. 25 (“Limitation 1(c) is met when a

controller executes an algorithm that uses motion data associated with independently movable video sources to identify the relative orientation of the video sources. Limitation 1(e) is met when a controller displays images after an image data analysis algorithm finds a ‘match’ point between (prior or current) image frame pairs that is used to confirm or adjust a rotation matrix that determines how images are overlaid.”); OA Tr. at 58:8–19 (SAIC Counsel: “[W]e take in IMU data. We perform calculations that are -- we do these rotational matrices. It's all laid out in the specification. . . . Then once we evaluate that data, the image comparisons, and use that to line up with the IMU, then we get to the output, which is the display step (e).” The Court: “And at that point, that’s sort of a final representation, I’ll call it?” SAIC Counsel: “That’s the output.”); *id.* at 77:7–13 (SAIC Counsel: “‘Potentially represents’ is the first step. . . . The first one is we look at IMU data. The second is we confirm that through a comparison of images, and in this way we crosscheck it. And then it comes to the display step if it passes.”).

Given this construction, and for the reasons stated below, this Court holds Microsoft’s accused devices do not infringe the Microsoft Asserted Claims of the ’230 patent. Microsoft has met its burden at summary judgment by adequately demonstrating that its products do not practice the “identify,” “evaluate,” and “display” operations in the ’230 patent’s required order on a single pair of video frames, and SAIC has failed to raise any genuine disputes of material fact that would otherwise preclude summary judgment on this issue.⁸²

⁸² As Microsoft has met its burden in proving that its accused devices do not perform the “display” operation in the order recited in the ’230 patent, this Court need not address Microsoft’s alternative theories of non-infringement centered on whether its [REDACTED] Products perform the “identify” operation “based on the received motion data.” *See* MSFT MSJ NI at 24–33, 42–44; *V-Formation, Inc. v. Benetton Group SpA*, 401 F.3d 1307, 1312 (Fed. Cir. 2005) (“Literal infringement requires that each and every limitation set forth in a claim appear in an accused product.”); *MicroStrategy*, 429 F.3d at 1352 (“If . . . even one claim limitation is missing or not met, there is no literal infringement.”).

1. Microsoft has Presented Sufficient Evidence Demonstrating that its Accused Devices Do Not [REDACTED]

In its Motion, Microsoft contends that its accused devices do not infringe the '230 patent because they [REDACTED]

[REDACTED] MSFT MSJ NI at 33.

Critically, according to Microsoft, Microsoft's accused products do not [REDACTED]

[REDACTED] and SAIC has not shown otherwise. *Id.* at 38 (emphasis in original).

As a preliminary matter, Microsoft disagrees that the [REDACTED]

[REDACTED] *See id.* at 24–33. Indeed, this theory was first raised by SAIC's expert,

Dr. Bajaj, who asserted in the Bajaj Appendix A that [REDACTED]

[REDACTED] *See, e.g.,* Bajaj App A

¶¶ 101–03, 135.⁸³ Yet, Microsoft's ordering theory of non-infringement accepts as true for purposes of summary judgment Dr. Bajaj's opinions regarding the "identify" and "evaluate"

⁸³ [REDACTED]

operations. MSFT MSJ NI at 33 [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]; *id.* at 40 [REDACTED]

[REDACTED] Thus, Microsoft argues that even under SAIC's own theories of infringement, Microsoft's accused devices fail to practice each and every claim limitation in the Microsoft Accused Claims because its devices do not [REDACTED]
[REDACTED] *Id.* at 33, 40; *see V-Formation, Inc. v. Benetton Group SpA*, 401 F.3d 1307, 1312 (Fed. Cir. 2005). Microsoft is correct.

The record overwhelmingly supports ruling in favor of Microsoft here. First, Microsoft has presented substantial fact and expert evidence supporting its position that its devices do not

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

[REDACTED]

Microsoft likewise submitted expert testimony from Drs. Farid and Villasenor to support its ordering theory of non-infringement. *See generally* Farid Rpt.; Villasenor App. D. Through the lens of source code analysis, Dr. Farid reiterated that Microsoft's devices [REDACTED]

[REDACTED]

[REDACTED]

In particular, Dr. Farid explained that [REDACTED]

[REDACTED]

This testimony confirms Microsoft's argument that Microsoft's accused devices [REDACTED]

[REDACTED]

Dr. Villasenor's opinions also confirm Microsoft's ordering theory of non-infringement.

In the Villasenor Appendix D, Dr. Villasenor opined that [REDACTED]

[REDACTED]

[REDACTED]

In his report, Dr. Villasenor challenges Dr. Bajaj’s reading of the Microsoft Asserted Claims, noting that [REDACTED]

[REDACTED]

[REDACTED] In contrast, Dr. Villasenor expresses the view that “the entire concept of the alleged invention as described throughout the specification and claimed in every Asserted Claim is that a set of two images is first potentially aligned with motion data, second evaluated with image data analysis, and lastly, the overlaid images are displayed using the alignment arising from this identification and evaluation.” *Id.* ¶ 69. [REDACTED]

[REDACTED]

In summary, Microsoft has submitted substantial fact and expert evidence to support its theory that its accused devices do not [REDACTED]

[REDACTED] Microsoft has demonstrated that its accused devices do not practice each of the Microsoft Asserted Claims based on their proper construction, which includes

an ordering component. Thus, this Court holds that Microsoft has met its burden on summary judgment for non-infringement.

2. SAIC has Failed to Identify Any Genuine Disputes of Material Fact that Would Preclude Summary Judgment in Microsoft's Favor

As noted, once Microsoft, as the movant, proffered sufficient evidence to make a prima facie showing at summary judgment, “the burden of production then shifted to [SAIC] to identify genuine issues that preclude summary judgment.” *Optivus Tech.*, 469 F.3d at 990; *see Enzo Biochem, Inc. v. Gen-Probe, Inc.*, 424 F.3d 1276, 1284 (Fed. Cir. 2005) (“Once the district court determined that [the movant] satisfied its burden . . . it was incumbent upon . . . the nonmoving party, to produce some evidence refuting [the movant’s] claim.”). SAIC has failed to meet this burden, as none of the evidence it has identified creates a genuine dispute of material fact regarding whether Microsoft’s products perform the “identify,” “evaluate,” and “display” operations in that order on a single pair of frames, even when viewed in the light most favorable to SAIC. *See McGinley*, 262 F.3d at 1348.

To begin, SAIC fails to raise any genuine disputes of material fact in its Response brief opposing Microsoft’s Motion for Summary Judgment of Non-Infringement. *See generally* MSFT MSJ NI – SAIC Resp. Rather than express an opinion on the order in which Microsoft’s devices perform certain operations, SAIC instead devotes substantial space in its Response to rebutting Microsoft’s claim that the ’230 patent’s claim limitations even recite any particular order.⁸⁴ *See* MSFT MSJ NI – SAIC Resp. at 27–31, 33–34; *see supra* Section IV(B)(b). This is despite its

⁸⁴ Notably, many of the arguments raised in SAIC’s Response, including SAIC’s newly-disclosed doctrine of equivalents theory, rely on the now-stricken Supplemental Bajaj Declaration. *See, e.g.*, MSFT MSJ NI – SAIC Resp. at 14, 29–31, 33–34, 38–41 (referencing the Supplemental Bajaj Declaration); *see supra* Section II(C)(b). Accordingly, SAIC may not rely on any of these arguments to oppose Microsoft’s Motion for Summary Judgment of Non-Infringement.

statements to the contrary in briefing and at oral argument opposing Defendants' summary judgment motions concerning invalidity due to alleged indefiniteness of the '230 patent. *See supra* Sections III(C)(c), IV(B)(b)(3).

Additionally, SAIC argues that a genuine dispute of material fact exists “as to whether the [REDACTED] systems perform” in the manner Microsoft claims because “Microsoft attached a newly executed declaration from Microsoft employee [REDACTED] detailing how the accused Microsoft products allegedly operate. SAIC has not had the opportunity to cross-examine [REDACTED] on his new testimony.” MSFT MSJ NI – SAIC Resp. at 35; *see id.* (“[S]ummary judgment on this issue before SAIC has had any chance to cross examine [REDACTED] on his declaration is improper.”). This assertion, however, does not give rise to a genuine dispute of material fact. Though this Court must resolve all “reasonable inferences . . . in the nonmovant’s favor,” even a cursory review of the record clearly demonstrates the unreasonableness of SAIC’s assertion. *Herman*, 7 F. App’x at 943 (citing *Rockwell Int’l*, 147 F.3d at 1361–62). The [REDACTED] Declaration was not “late-submitted,” nor was SAIC prejudiced by the submission of the [REDACTED] Declaration. Indeed, SAIC had the opportunity to depose [REDACTED] on August 4, 2022, prior to the close of discovery, on the precise material covered in the February 27, 2023 [REDACTED] Declaration, including the accused products’ source code concerning [REDACTED]. *See generally* [REDACTED] Depo. Tr.; *see supra* Section II(C)(b). This Court need not accept SAIC’s misleading portrayal of the record as indicative of a genuine dispute of material fact merely because SAIC is the non-moving party.⁸⁵

⁸⁵ For this same reason, SAIC’s assertions at Oral Argument that Microsoft has somehow failed to meet its evidentiary burden at summary judgment by placing too much reliance on the information contained in the [REDACTED] Declaration likewise fall short. *See* OA Tr. at 164:20–165:8 (“[T]he description of how the system allegedly works is entirely from an interested witness who gave this, I guess, not even testimony, who had conversations with Microsoft’s experts . . . so we are certainly

Further, SAIC’s expert testimony from Dr. Bajaj regarding Microsoft’s accused products likewise fails to create any genuine disputes of material fact, as Dr. Bajaj offers little commentary on whether Microsoft’s accused devices [REDACTED]

[REDACTED] During Dr. Bajaj’s deposition, when asked whether he disputes that Microsoft’s accused devices [REDACTED]

[REDACTED] Dr. Bajaj acknowledged that [REDACTED]
[REDACTED]
[REDACTED]

[REDACTED] Bajaj Depo. Tr. at 117:21–118:14. When pressed further, Dr. Bajaj noted his report demonstrates [REDACTED]

[REDACTED] *Id.* Thus, Dr. Bajaj’s testimony did not focus on analyzing the order in which Microsoft’s accused devices performed certain operations.

In the Bajaj Appendix A, Dr. Bajaj does not meaningfully dispute Microsoft’s portrayal of how its accused devices operate in relation to Microsoft’s ordering theory of non-infringement. For example, Dr. Bajaj seems to acknowledge that [REDACTED]

entitled to the opportunity to cross-examine these witnesses and seek the testimony from a Microsoft employee which has not been subject to cross-examination . . . [I]n addition to being a waiver issue, it’s also a burden of proof issue for summary judgment.”). It is entirely appropriate for Microsoft’s experts to rely on documentary evidence and testimony provided by Microsoft’s Rule 30(b)(6) witness, who was deposed on the precise issues to which his testimony pertains. This is particularly true when the underlying facts were disclosed during fact discovery through deposition testimony and documentary evidence.

⁸⁶ Curiously, this position contradicts Dr. Bajaj’s prior opinions reflected in his Rebuttal Report, which strongly suggest his view that claim limitations 1(c), 1(d), and 1(e) must be performed in that order. *See* Bajaj Reb. Rpt. ¶¶ 405, 457–58; *supra* Section IV(B)(b)(4) (discussing Dr. Bajaj’s inconsistent position on whether the asserted claims require a particular order).

[REDACTED]

⁸⁷ See MSFT MSJ NI – SAIC Resp. at 31 (favorably citing [REDACTED] Decl. ¶ 2.a) [REDACTED]

⁸⁸ At Oral Argument, SAIC asserted that it disputes [REDACTED]

Yet, in making this statement, SAIC did not identify any evidence outside of attorney argument to suggest that [REDACTED]

Invitrogen Corp. v. Clontech Labs., Inc., 429 F.3d 1052, 1068–69 (Fed. Cir. 2005) (“Unsubstantiated attorney argument regarding the meaning of technical evidence is no substitute for competent, substantiated expert testimony.”). Thus, SAIC’s arguments pertaining to [REDACTED], which are based solely on attorney argument rather than fact discovery or expert testimony, do not give rise to a genuine dispute of material fact that would preclude summary judgment in favor of Microsoft.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

This is true despite that [REDACTED] were disclosed to SAIC during fact discovery, through both [REDACTED] Rule 30(b)(6) deposition and via document production by Microsoft. *See* [REDACTED] Depo. Tr. at 99:3–6, 109:19–22, 110:19–111:5; Microsoft Document MSFT-00222611 (ECF 343-5) at 4; Microsoft Document MSFT-00217246 (ECF 343-6) at 4.⁸⁹

Dr. Bajaj briefly references Microsoft's ordering theory in his Appendix A. *See* Bajaj App. A ¶¶ 154–55. Specifically, Dr. Bajaj indicates that he [REDACTED]

[REDACTED]

[REDACTED]

⁸⁹ During Oral Argument, SAIC repeatedly expressed the view that the record does not contain any documentary evidence conveying [REDACTED]

[REDACTED]

Putting aside the contradictory nature of these statements, these statements are clearly incorrect for the simple reason that Microsoft has provided at least two documents that [REDACTED]

[REDACTED] Microsoft Document MSFT-00222611 (ECF 343-5) at 4; Microsoft Document MSFT-00217246 (ECF 343-6) at 4.

[REDACTED] *Id.*

¶ 154. Yet, Dr. Bajaj does not engage in any analysis or commentary specific to Microsoft’s devices or the order in which Microsoft’s devices perform [REDACTED]

[REDACTED] Instead, Dr. Bajaj merely states that Microsoft “misinterprets the claims of the ’230 patent as well as the specification,” and quotes an excerpt from the specification that purports to contemplate [REDACTED] *Id.* ¶ 155 (quoting ’230 Patent at 7:49–55). In responding to a motion for summary judgment, the non-moving party “can no longer rest on . . . mere allegations, but must set forth by affidavit or other evidence specific facts, which for purposes of the summary judgment motion will be taken as true.” *FastShip*, 892 F.3d at 1307–08 (quoting *Lujan*, 504 U.S. at 561) (internal quotation marks omitted). “The requirement that the nonmovant must set forth ‘specific facts’ means that ‘[m]ere denials or conclusory statements are insufficient’ to survive summary judgment.” *Enzo Biochem, Inc. v. Applera Corp.*, 599 F.3d 1325, 1337 (Fed. Cir. 2010) (quoting *Barmag Barmer Maschinenfabrik AG v. Murata Machinery, Ltd.*, 731 F.2d 831, 836 (Fed.Cir.1984)). Though SAIC purports to offer expert testimony on the subject, Dr. Bajaj’s analysis does not articulate specific facts rebutting those alleged in Microsoft’s Motion for Summary Judgment of Non-Infringement. Thus, Dr. Bajaj’s conclusory remarks regarding Microsoft’s ordering theory fail to create a genuine dispute of material fact countering Microsoft’s prima facie showing that Microsoft’s devices do not [REDACTED]

Indeed, the only portion of the Bajaj Appendix A SAIC specifically identifies as allegedly giving rise to a genuine dispute of material fact seems instead to corroborate Microsoft’s view of its accused system. *See* OA Tr. at 162:18–164:2. During Oral Argument, SAIC cited paragraphs

148⁹⁰ and 149⁹¹ of the Bajaj Appendix A, arguing these paragraphs reflect Dr. Bajaj’s opinion that steps [REDACTED]

[REDACTED] *Id.* at 163:23–164:2. SAIC argued these paragraphs indicate a dispute of fact exists over the order in which Microsoft performs the ’230 patent’s operations. *Id.* at 162:18–21. Yet, even when viewed in a light most favorable to SAIC, it is unclear why such an opinion would give rise to a genuine dispute of material fact. Indeed, this sentiment is entirely consistent with Microsoft’s understanding of how its devices function [REDACTED]

[REDACTED] *See, e.g.,* Farid Rpt. ¶¶ 20–22; Villasenor App. D ¶ 11. Further, to the extent SAIC is suggesting that Dr. Bajaj’s comments reflect an understanding that Microsoft’s accused devices [REDACTED], paragraphs 148 and 149 do not state that opinion. *See, e.g., Invitrogen*, 429 F.3d at 1068–69 (“Unsubstantiated attorney argument regarding the meaning of technical evidence is no substitute for competent, substantiated expert testimony.”); *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 812 (Fed. Cir. 1999) (“The truth of a disputed material fact can not be established on attorney statement alone.”).

⁹⁰ *See* Bajaj App. A ¶ 148 [REDACTED]

⁹¹ *See* Bajaj App. A ¶ 149 [REDACTED]

c. Conclusion – Microsoft’s Motion for Summary Judgment of Non-Infringement

In sum, to establish infringement, SAIC bears the burden of demonstrating Microsoft’s devices practice each and every claim limitation, as that is what is required to prove literal infringement. *V-Formation*, 401 F.3d at 1312 (“Literal infringement requires that each and every limitation set forth in a claim appear in an accused product.”); *MicroStrategy*, 429 F.3d at 1352 (“If . . . even one claim limitation is missing or not met, there is no literal infringement.”). Microsoft has provided substantial fact and expert testimony demonstrating that its accused devices do not practice the [REDACTED]

[REDACTED] In contrast, even when viewed in the most favorable light, SAIC’s proffered evidence fails to demonstrate a genuine dispute of material fact sufficient to rebut Microsoft’s strong showing of non-infringement. Thus, based on the record before this Court, “no reasonable factfinder could find that the accused product contains every claim limitation,” making a grant of summary judgment in favor of Microsoft appropriate. *Medgraph*, 843 F.3d at 949.

For the foregoing reasons, Microsoft’s Motion for Summary Judgment of Non-Infringement (ECF No. 343) is **GRANTED**.

D. L3’s Motion for Summary Judgment of Non-Infringement

L3 moves for summary judgment that its accused product, the L3 ENVG-B system, does not infringe claims 1, 5, 12, 18, 29, 30, 37, and 39 (collectively, L3 Asserted Claims) of the ’230 patent. *See* L3 MSJ NI; *see also* Bajaj Op. Rpt. ¶ 21. L3 argues its ENVG-B system does not infringe the L3 Asserted Claims for three reasons. First, L3 contends its ENVG-B system does not practice the “overlay” element of claim limitation 1(e). L3 MSJ NI at 5, 29–33. Second, L3

argues its ENVG-B system does not “identify . . . a part of a first video source image” using motion data, as required by claim 1(c). *Id.* at 33–40. Third, L3 asserts its ENVG-B system does not identify, evaluate, and display the same pair of video source images in the order required by claim 1. *Id.* at 40–44. SAIC contends there are genuine issues of material fact that preclude summary judgment in L3’s favor. *See* L3 MSJ NI – SAIC Resp.

For the reasons explained below, summary judgment in favor of L3 is not appropriate. Each non-infringement argument made by L3 implicates genuine disputes of material fact that may not be adjudicated at the summary judgment stage. Accordingly, L3’s Motion for Summary Judgment of Non-Infringement (ECF No. 341) is **DENIED**.

a. Background – L3’s Motion for Summary Judgment of Non-Infringement

[REDACTED]

[REDACTED] L3 MSJ NI at 10; *see also* Villasenor Appendix C ¶ 6. The video feed captured by the ENVG-B is displayed on an LED display viewed by a soldier. Villasenor Appendix C ¶ 7. [REDACTED]

[REDACTED]

[REDACTED] *Id.* ¶ 8. [REDACTED]

[REDACTED] *Id.* [REDACTED]

[REDACTED]

[REDACTED] *Id.* This feature—in which the ENVG-B system displays to a user imagery from both the goggles and the weapon—is called RTA. *Id.* [REDACTED]

[REDACTED] *Id.* ¶ 9.

[REDACTED] Villasenor Appendix C ¶ 10.

[REDACTED] See L3 MSJ NI at 15 (“SAIC has only [REDACTED]

[REDACTED]; Bajaj Op. Rpt. ¶ 110 (confirming [REDACTED]

[REDACTED] Villasenor Appendix C ¶ 13. [REDACTED]

[REDACTED] Bajaj Op. Rpt. ¶ 108.

SAIC alleges [REDACTED]

[REDACTED] See Bajaj Op. Rpt. ¶¶ 21, 106, 110; *see also* SAIC Final Infringement Contentions, dated June 30, 2022 (ECF No. 340-1) at 2–4. L3 engaged BAE Systems, Inc. to develop the software implemented in L3’s ENVG-B system. See Bajaj Op. Rpt. ¶ 114; *see also* Villasenor Appendix C ¶ 5; L3 MSJ NI at 28. During fact discovery, SAIC deposed several L3 and BAE fact witnesses. SAIC deposed Mr. Brandan Cirillo, a BAE engineer who drafted source code for L3’s ENVG-B system. See L3 MSJ NI at 25–26; *see* Deposition of Brendan Cirillo, dated August 2, 2022 (ECF Nos. 340-16, 344-8) (Cirillo Depo. Tr.). SAIC also deposed Dr. Brandon Hombs, another BAE engineer who contributed to the ENVG-B system. See L3 MSJ NI at 24; *see* Deposition of Brandon Hombs, dated August 10, 2022 (ECF No. 344-9) (Hombs Depo. Tr.). Finally, SAIC deposed Mr. Jason Coffman, who was L3’s principal engineer for the ENVG-B system. See L3 MSJ NI at 25; Coffman Depo. Tr. L3, for its part, deposed Gen. John Scales, a named inventor on the ’230 patent. See L3 MSJ NI at 27; Scales Depo. Tr.

After fact discovery had concluded, SAIC submitted an expert report from Dr. Bajaj, which set forth Dr. Bajaj’s opinion that L3’s ENVG-B system infringes the L3 Asserted Claims. *See* Bajaj Op. Rpt. ¶¶ 148–212. In response, L3 submitted a rebuttal expert report from Dr. John Villasenor, which contained Dr. Villasenor’s response to Dr. Bajaj’s opinions. *See* Villasenor Appendix C. Dr. Villasenor concluded L3’s accused ENVG-B system does not infringe the L3 Asserted Claims. *E.g., id.* ¶ 3.

b. Discussion – L3’s Motion for Summary Judgment of Non-Infringement

As discussed above, L3 identifies three reasons why its ENVG-B system does not infringe the L3 Asserted Claims. *See* L3 MSJ NI at 29–44. For the reasons set forth below, this Court concludes there is a genuine dispute of material fact whether the L3 Asserted Claims encompass L3’s ENVG-B system. Accordingly, summary judgment is improper. *See Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1304 (Fed. Cir. 1999) (“[S]ummary judgment of non-infringement can only be granted if, after viewing the alleged facts in the light most favorable to the non-movant, there is no genuine issue whether the accused device is encompassed by the claims.”).

1. Genuine Disputes of Material Fact Exist Regarding the “Overlay” Element of Claim 1(e)

L3 first argues its ENVG-B system does not infringe the “overlay” element of claim limitation 1(e). *See* L3 MSJ NI at 29–33. Claim limitation 1(e) recites a controller configured to “display at least a portion of the first video source image and at least a portion of the second video source image such that the second video source image portion *overlays* a corresponding region of the first video source image portion.” ’230 patent at 24:45–51. This Court construed the term “overlays” in accordance with its plain and ordinary meaning, e.g., “is over or upon.” *Markman Op.*, 154 Fed. Cl. at 624–27. During claim construction, this Court rejected L3’s contention that

“overlay” must mean “on top or in front of (e.g., superimposed),” thereby incorporating a directional requirement into the term. *Id.* at 624–25. The Court’s construction of “over or upon” includes the concept of “superimposing” but is not limited to that concept. *Id.* Accordingly, the term “overlay” as used in the ’230 patent is not “limited to placing one image ‘on top of’ or ‘in front of’ another” image. *Id.* at 625. Rather, “overlay” has its plain and ordinary meaning of “over or upon.” *Id.* at 627.

SAIC contends the ENVG-B meets the “overlay” element of claim 1(e). [REDACTED]

[REDACTED]

[REDACTED] See L3 MSJ NI – SAIC Resp. at 23; Bajaj Op. Rpt.

¶¶ 191–94. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] Bajaj Op. Rpt. ¶ 193. As Dr. Bajaj explained, [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] *Id.* ¶ 194;

see also id. ¶ 193 [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] SAIC supports its argument primarily with opinions from Dr. Bajaj and Defendants’ documents and source code that reference the

process of [REDACTED] Bajaj Op. Rpt. ¶¶ 190–212.

L3 disagrees with SAIC’s characterization of L3’s ENVG-B’s [REDACTED]

[REDACTED] L3 claims [REDACTED]

[REDACTED] L3 MSJ NI at 32. [REDACTED]

[REDACTED] *Id.* L3 thus argues its

[REDACTED] *Id.* at 32–33; *see* OA Tr. at 183:24–184:1. As explained by L3’s expert witness Dr. Villasenor, [REDACTED]

[REDACTED] Villasenor Appendix C ¶ 52; *see*

generally id. ¶¶ 38–61. L3 supports its argument with testimony from Dr. Villasenor and L3 fact witnesses Mr. Cirillo, Dr. Hombs, and Mr. Coffman. *See* Villasenor Appendix C ¶¶ 38–61; Cirillo Depo. at 60:16–66:24; Hombs Depo. at 19:5–13, 30:12–31:10, 46:16–49:18; Coffman Depo. at 235:10–239:18. L3 concludes that the undisputed evidence shows “the ENVG-B system does not overlay the first and second video source image,” so “there is no infringement . . . and summary judgment should be entered in L3’s favor.” L3 MSJ NI at 33.

The preliminary issues affecting the infringement analysis are not in dispute. The term “overlay” has already been construed by the Court as having its plain and ordinary meaning. *See Markman Op.*, 154 Fed. Cl. at 624–27. Furthermore, the parties seemingly agree on how L3’s ENVG-B system performs the alleged overlay. *See, e.g.*, L3 MSJ NI – SAIC Resp. at 28; L3 MSJ NI – L3 Reply at 8–9, 12. [REDACTED]

[REDACTED] *See* Villasenor Appendix C ¶ 13 [REDACTED]

[REDACTED]; Bajaj Op. Rpt. ¶¶ 191–96. [REDACTED]

[REDACTED] *See* Villasenor Appendix C ¶ 16 [REDACTED]

[REDACTED]; Bajaj Op. Rpt. ¶ 196 [REDACTED]

[REDACTED] Villasenor Appendix C ¶ 16 [REDACTED]

[REDACTED]; Bajaj Op. Rpt. ¶ 196; *id.* ¶ 206 [REDACTED]

The only dispute is whether a POSITA would understand L3’s ENVG-B system to “overlay” [REDACTED]

[REDACTED] That question, however, is a quintessential fact question that must be resolved at trial, not

at the summary judgment stage. “The resolution of some line-drawing problems . . . is properly left to the trier of fact.” *Acumed LLC v. Stryker Corp.*, 483 F.3d 800, 806 (Fed. Cir. 2007); *see also PPG Indus. v. Guardian Indus. Corp.*, 156 F.3d 1351, 1355 (Fed. Cir. 1998) (“[A]fter the court has defined the claim . . . the task of determining whether the construed claims reads on the accused product is for the finder of fact.”).

Both parties support their respective arguments with robust and oftentimes compelling evidence. L3 cites the testimony of its expert, Dr. Villasenor, that “the ENVG-B system does not ‘overlay’ first and a second video source images as required by the asserted claims of the ’230 patent.” Villasenor Appendix C ¶ 61; *see also id.* ¶ 44 [REDACTED]

[REDACTED]. Dr. Villasenor supports his opinion with a detailed analysis of the ENVG-B system, the ’230 claim language and specification, technical documents produced in the case, and other testimony from knowledgeable fact witnesses. *See generally id.* ¶¶ 38–61. L3 also cites the testimony of fact witnesses who are intimately familiar with the operation of the ENVG-B system. Dr. Hombs, a BAE engineer responsible for developing the ENVG-B source code, testified that [REDACTED]

[REDACTED] *See Hombs Depo. Tr. at 19:5–13, 47:13–48:9; see also Cirillo Depo. Tr. at 62:10–18, 64:14–65:10).* L3’s principal engineer for the ENVG-B system, Mr. Coffman, likewise testified [REDACTED]

[REDACTED] *See Coffman Depo. Tr. at 238:3–239–7.* L3 finally cites statements from SAIC suggesting [REDACTED]

[REDACTED], arguably supporting L3’s argument that the ENVG-B system does not [REDACTED]

L3 ENVG-B Program of Record Critical Design Review, dated September 19, 2019 (ECF No. 361-9) [REDACTED] L3 also cites documents produced by the United States that [REDACTED]

See Common User Interface for ENVG-B Program of Record, dated February 3, 2020 (ECF No. 361-4) [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] *Cf. Bancorp Servs., L.L.C. v. Hartford Life Ins. Co.*, 359 F.3d 1367, 1375–76 (Fed. Cir. 2004) (in context of indefiniteness, observing “evidence of defendants’ knowledge and use of the term . . . is relevant to show that the term was in use and had a discernable meaning to at least some persons practicing in the field”).

In summary, both parties agree on the operation of the ENVG-B system—at least with respect to the “overlay element”—and purport to be faithfully applying the Court’s construction of “overlay.” Nonetheless, the parties disagree as to how the properly construed claim term maps onto L3’s ENVG-B system. The parties’ respective arguments are supported by ample evidence in the record. Most importantly, SAIC has presented substantial evidence rebutting L3’s contention that L3’s ENVG-B system does not meet the “overlay” element of claim 1(e). “[A] trial court cannot reach a conclusive finding of noninfringement if the record shows some evidence supporting a finding of noninfringement and some evidence to the contrary.” *AEF Indus., Inc. v. Cardinal IG Co., Inc.*, 375 F.3d 1367, 1371 (Fed. Cir. 2004). Accordingly, “the record evidence demonstrates that ‘there is sufficient evidence favoring the nonmoving party for a jury to return a

verdict for that party’ . . . and that summary judgment [is] therefore inappropriate.”⁹² *U.S. Water Servs., Inc. v. Novozymes A/S*, 843 F.3d 1345, 1351–52 (Fed. Cir. 2016) (quoting *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 249 (1986)).

2. Genuine Disputes of Material Fact Exist Regarding the “Identify” Limitation of Claim 1(c)

L3 next argues its ENVG-B system does not infringe the “identify” limitation of claim 1(c). *See* L3 MSJ NI at 33–40. According to L3, claim limitation 1(c) requires the ENVG-B system to “use . . . motion data to identify portions of the two images that potentially overlap.” *Id.* at 33–34. Then, claim limitation 1(d) requires the ENVG-B system to “use . . . image data to evaluate” the identification performed in step 1(c). *Id.* at 34. L3 observes that this Court construed the term “based on a comparison of data from the first and second video source images” in claim limitation 1(d) to mean “based on a comparison of *image data (e.g., content and contrast)* from the first and second video source images.” *Markman Op.*, 154 Fed. Cl. at 627, 639 (emphasis added). Accordingly, L3 contends “the ’230 patent requires motion data for the ‘identify’ step [claim limitation 1(c)]” and then requires the identification performed in the “identify” step “be separately checked via image data in the ‘evaluate’ step [claim limitation 1(d)].” L3 MSJ NI at 36.

With those principles in place, L3 argues the ENVG-B does not satisfy the “identify” step of claim 1(c) because [REDACTED] L3 MSJ NI at 36–40. L3 asserts that [REDACTED]

⁹² This Court denies summary judgment only with respect to SAIC’s argument that [REDACTED] meets the “overlay” element of claim 1(e). *See* L3 MSJ NI – SAIC Resp. at 20–28; Bajaj Op. Rpt. ¶¶ 190–209. This Court does not—because it need not—express an opinion or otherwise rule on SAIC’s alleged “optical overlay” theory. *See* L3 MSJ NI – SAIC Resp. at 28–30; L3 MSJ NI – L3 Reply at 13–15.

[REDACTED]

[REDACTED]

[REDACTED] *Id.* at 36. Put differently,

[REDACTED]

[REDACTED] *Id.* at 37. It is only [REDACTED]

[REDACTED]

[REDACTED] *Id.* L3

cites the testimony of Dr. Hombs, Mr. Coffman, and Mr. Cirillo, all of whom stated the ENVG-B

[REDACTED]

[REDACTED] *See id.* at 37–39. In particular, Dr. Hombs, Mr. Coffman,

and Mr. Cirillo [REDACTED]

[REDACTED] *Id.* at 39; *see also* Hombs Depo. Tr. at 72:20–73:3

[REDACTED]; Coffman

Depo. Tr. at 232:15–21 [REDACTED]

[REDACTED] Dr. Hombs also testified that if [REDACTED]

[REDACTED]

[REDACTED] L3 MSJ NI at 38; Hombs Depo. Tr. at 73:16–74:3.

In summary, L3 argues the ENVG-B system does not use motion data for the “identify” step

because [REDACTED]

[REDACTED]

[REDACTED] *See* L3 MSJ NI at 36–40. [REDACTED]

[REDACTED]

[REDACTED] *Id.* at 33.

SAIC claims L3's emphasis on the [REDACTED] has no bearing on the infringement analysis. According to SAIC, L3 focuses on "unclaimed features that are not relevant to infringement." L3 MSJ NI – SAIC Resp. at 30. SAIC contends the L3 Asserted Claims are "comprising" claims that "are infringed by instrumentalities that include each claim element and that may further include additional unclaimed features." *Id.* at 32. SAIC further argues L3 failed "to rebut SAIC's infringement evidence" and, therefore, "there exist genuine disputes of material fact as to L3's infringement of the 'identify' and 'evaluate' elements." *Id.*

SAIC is correct that L3's focus on [REDACTED] is essentially a red herring. "The transitional term 'comprising' . . . is inclusive or open-ended and does not exclude additional, unrecited elements or method steps." *Georgia-Pacific Corp. v. U.S. Gypsum Co.*, 195 F.3d 1322, 1327–28 (Fed. Cir. 1999) (internal citations omitted); *see Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 811 (Fed. Cir. 1999) (explaining "the signal 'comprising' . . . is generally understood to signify that the claims do not exclude the presence in the accused apparatus or method of factors in addition to those explicitly cited"); *In re Affinity Labs of Texas, LLC*, 856 F.3d 902, 907 (Fed. Cir. 2017) (noting the transition "comprising" indicates "that the claimed method is open-ended and allows for additional steps"); *CIAS, Inc. v. All. Gaming Corp.*, 504 F.3d 1356, 1361 (Fed. Cir. 2007) (affirming the "established" understanding that the "comprising" transition "does not of itself exclude the possible presence of additional elements or steps").

Independent claim 1 of the '230 patent recites "[a] system, comprising . . . a controller . . . wherein the controller is configured to" "receive motion data indicative of motion of the first and second video sources" and then perform the "identify" step "based on the received motion data." '230 patent at 24:25–51. Claim 1 has a "comprising" transition; therefore, "infringement is not

avoided by the presence of elements or steps in addition to those specifically recited in the claim.”
Vivid Techs., 200 F.3d at 811. [REDACTED]

[REDACTED] Indeed, L3 states that [REDACTED]
[REDACTED]
[REDACTED] L3
MSJ NI at 37. If the ENVG-B system [REDACTED]
[REDACTED] the ENVG-B system
may infringe claim 1. *See id.* L3’s attention on [REDACTED] is therefore
unavailing.

L3 further argues “the ENVG-B never uses motion data to ‘identify’ a portion of one image
that potentially represents a portion of another.” L3 MSJ NI – L3 Reply at 17. In the next sentence,
though, L3 acknowledges that [REDACTED]
[REDACTED] *Id.* The second sentence directly contradicts the first. While L3
attempts to minimize the subsequent use of image and motion data as merely [REDACTED]
[REDACTED] that characterization is simply L3’s interpretation of how the ENVG-
B system operates in the context of the L3 Asserted Claims. *Id.* SAIC has an altogether different
understanding, supported by Dr. Bajaj’s testimony and technical documents describing the ENVG-
B’s [REDACTED]. *See* L3 MSJ NI – SAIC Resp. at 15–17 [REDACTED]
[REDACTED]; *id.*
at 30–36; Bajaj Op. Rpt. ¶¶ 164–76 [REDACTED]
[REDACTED]
[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] L3’s contradictory wordsmithing underscores the genuine dispute of material fact regarding the “identify” step in claim limitation 1(c).

Indeed, there is sufficient evidence in the record reflecting a genuine dispute of material fact concerning whether L3’s ENVG-B system infringes the “identify” and “evaluate” steps of claim 1. Dr. Bajaj opined that the ENVG-B system satisfies the “identify” step of claim limitation 1(c). *See* Bajaj Op. Rpt. ¶¶ 164–76. Specifically, Dr. Bajaj stated that [REDACTED]

[REDACTED] *Id.* ¶ 165. [REDACTED]

[REDACTED] *Id.* Dr. Bajaj supports his opinion with reference to the ENVG-B source code and technical documents that corroborate his understanding of the ENVG-B’s use of [REDACTED]. *See id.* ¶¶ 166–75; *see also* ENVG-III/FWS-I RTA Documentation Describing Inertial Tracking, Image Correlation, and Joint Tracking, dated June 26, 2016 (ECF No. 361-1) (ENVG-III/FWS-I RTA Documentation) at 3 [REDACTED]

[REDACTED]; *id.* [REDACTED]

[REDACTED]. L3’s opposition is a disagreement concerning the appropriate comparison of the L3 Asserted Claims to the ENVG-B system. *See PPG Indus.*, 156

F.3d at 1355 (“[A]fter the court has defined the claim . . . the task of determining whether the construed claims reads on the accused product is for the finder of fact.”); *Pitney Bowes*, 182 F.3d at 1304 (“[T]he determination of whether the properly construed claims read on the accused device . . . is a question of fact.”). Accordingly, “viewing the alleged facts in the light most favorable to the non-movant,” there is a genuine dispute of material fact regarding whether L3’s ENVG-B system infringes claim limitations 1(c) and 1(d). *Pitney Bowes*, 182 F.3d at 1304. L3 is not entitled to summary judgment of non-infringement with respect to claim limitations 1(c) and 1(d).

3. Genuine Disputes of Material Fact Exist Regarding Whether the ENVG-B System Performs the “Identify,” “Evaluate,” and “Display” Steps in the ’230 Patent’s Required Order

L3 finally argues that its ENVG-B system does not infringe the L3 Asserted Claims because it does practice claim limitations 1(c), 1(d), and 1(e) in sequential order on the same pair of video frames. *See* L3 MSJ NI at 40–44. Like Microsoft, L3 argues “the same pair of video source images that were used for the ‘identify’ step of element (c) and the ‘evaluate’ step of element (d) must in turn be the *same pair* of video source images that are overlaid pursuant to element (e).” *Id.* at 40 (emphasis in original). L3 further contends “[t]he undisputed evidence shows that the L3 ENVG-B system [REDACTED]

[REDACTED] *Id.* at 43. SAIC disagrees and argues that the ’230 patent does not require the same pair of video source images be “identified,” “evaluated,” then subsequently “displayed;” but even if that were the case, L3’s motion for summary judgment of non-infringement “still should be denied because there exists a genuine dispute of material fact as to whether the ENVG-B system performs this way.” *See* L3 MSJ NI – SAIC Resp. at 37–45.

As noted, the grammar and logic of claim limitations 1(c), 1(d), and 1(e) dictate that those limitations must be performed in sequential order on the same set of video source images. *See*

supra Section IV(B)(b)–(c). SAIC is therefore incorrect to argue here that the same pair of video source images need not be “identified,” “evaluated,” then subsequently “displayed.” However, it does not necessarily follow that L3 is entitled to summary judgment of non-infringement on that basis. L3 still maintains “[t]he burden of showing the absence of a genuine issue of material fact.” *Vita-Mix Corp. v. Basic Holding, Inc.*, 581 F.3d 1317, 1323 (Fed. Cir. 2009) (citing *Celotex*, 477 U.S. at 322–23). Furthermore, this Court “must afford all reasonable inferences and construe the evidence in the light most favorable to the non-moving party,” SAIC. *Vita-Mix*, 581 F.3d at 1323. Here, after a careful review of the evidence presented by both parties and resolving all reasonable inferences in favor of SAIC, this Court holds that L3 failed to meet its burden to show an absence of a genuine dispute that the ENVG-B system does not “identify,” “evaluate,” then subsequently display the same pair of video source images, as required by claim 1.

L3’s primary argument that its ENVG-B system does not sequentially practice claims 1(c), 1(d), and 1(e) depends on [REDACTED]

[REDACTED] See L3 MSJ NI at 43–44. L3 contends there are [REDACTED]

[REDACTED] *Id.* In addition, L3 claims [REDACTED]

[REDACTED] *Id.* at 44. [REDACTED]

[REDACTED] *Id.*

Put differently, L3 contends the ’230 patent requires that motion data from image set A and image data from image set A are used to align and immediately display image set A. L3 alleges, however,

[REDACTED]

[REDACTED]

[REDACTED]

However, there exists a genuine dispute of material fact concerning L3's contention that

[REDACTED]

[REDACTED] L3 MSJ NI at 43–44. The evidence L3 submits does not conclusively establish that the ENVG-B does not infringe claim 1. L3 first relies on the testimony of Mr. Cirillo, “the BAE engineer responsible for drafting much of the RTA-related source code for the ENVG-B system.” *Id.* at 43. Mr. Cirillo testified that [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] Cirillo Depo. Tr. at 86:21–87:3. L3 uses Mr. Cirillo's testimony to support its contention that the [REDACTED]

[REDACTED] L3 MSJ NI at 43. However, Mr. Cirillo's testimony is equivocal— [REDACTED]

[REDACTED]

[REDACTED]—and too tentative to eliminate a genuine dispute of fact. Cirillo Depo. Tr. at 86:21–87:3 (emphasis added). Furthermore, Mr. Cirillo later appears to dispute his prior testimony, agreeing that [REDACTED]

[REDACTED] *Id.*

at 87:15–21.

L3 also cites a declaration from Mr. Coffman, “the L3 engineer who led the development of the ENVG-B system.” L3 MSJ NI at 43–44. Mr. Coffman stated that [REDACTED]

[REDACTED]

[REDACTED] Coffman Decl. ¶ 4. However, just because [REDACTED]

[REDACTED] Indeed, the tortoise and the hare both finished the same race and stood at the same podium.

Mr. Coffman also stated [REDACTED]

[REDACTED] Coffman Decl. ¶ 5. Mr. Coffman concludes that [REDACTED]

Id. ¶ 6. However, Mr. Coffman does not cite any technical documents or source code to bolster this otherwise conclusory statement. Furthermore, Mr. Coffman expressly states [REDACTED]

[REDACTED] seemingly contradicting L3's argument. *Id.* While Mr. Coffman's testimony may prove persuasive at trial, it is insufficient to establish the absence of a genuine dispute of material fact at this point. *See Imperial Tobacco Ltd. v. Philip Morris, Inc.*, 899 F.2d 1575, 1581 (Fed. Cir. 1990) (“[I]n connection with motions for summary judgment, a conclusory statement on the ultimate issue does not create a *genuine* issue of fact.”) (emphasis in original).

L3's expert, Dr. Villasenor, also opined that [REDACTED]

[REDACTED] Villasenor Appendix C ¶ 64; *see generally id.* ¶¶ 62–67. However, Dr. Villasenor based his conclusions solely on conversations with Mr. Cirillo and Mr. Coffman. *See id.* ¶¶ 62–67. Dr. Villasenor did not provide any analysis of his own, such as

by referencing the actual ENVG-B system or its source code. *See id.*; *see also Garmin Int’l, Inc. v. LoganTree, LP*, 825 F. App’x 894, 898 n.5 (Fed. Cir. 2020) (affirming finding that “expert merely parroted attorney argument without any supporting evidence or reasoning” and that “the expert’s conclusory opinion was less than persuasive”). Dr. Villasenor’s repetition of already conclusory arguments is of little evidentiary value to L3’s position.

L3 finally claims SAIC’s expert, Dr. Bajaj, “also recognizes the ENVG-B system operates” in this allegedly non-infringing way, specifically citing Dr. Bajaj’s deposition testimony. L3 MSJ NI at 43. However, L3 mischaracterizes Dr. Bajaj’s testimony. Dr. Bajaj clarified [REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]
Bajaj Depo. Tr. at 148:3–6. As discussed above, the mere fact that [REDACTED]

[REDACTED]
[REDACTED] In his deposition, Dr. Bajaj also explained a [REDACTED]

[REDACTED]
[REDACTED]
[REDACTED] Bajaj Op. Rpt. ¶ 186; *see* Bajaj Depo. Tr. at 149:3–150:10. Dr. Bajaj explained that

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED] Bajaj Depo. Tr. at 150:1–7. This statement does not support L3’s ordering argument. If anything, it supports SAIC’s contention that [REDACTED]

[REDACTED]

The sparse evidence L3 does offer to support its non-infringement argument is also disputed by evidence put forth by SAIC, which reflects a genuine dispute concerning whether the ENVG-B performs claim limitations 1(c), 1(d), and 1(e) in sequential order. For example, Dr. Bajaj’s expert report includes statements suggesting [REDACTED]

[REDACTED] In his analysis of the “evaluation” step of claim limitation 1(d), Dr. Bajaj states [REDACTED]

[REDACTED] Bajaj Am. Op. Rpt. ¶ 177. [REDACTED]

[REDACTED] *Id.* ¶ 178. [REDACTED]

[REDACTED] *Id.*

Elsewhere in Dr. Bajaj’s report, he offers testimony that [REDACTED]

[REDACTED] *See, e.g., id.* ¶ 179 [REDACTED]

[REDACTED]; *id.* ¶ 182 [REDACTED]

[REDACTED]; *id.* ¶ 185 [REDACTED]

[REDACTED]; *id.* ¶ 186 [REDACTED]

[REDACTED]; *see generally id.* ¶¶ 190–209.

Dr. Bajaj also cites L3 technical documents that further suggest the ENVG-B system

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] ENVG-III/FWS-I RTA Documentation at 3. This statement suggests the ENVG-B [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] This evidence supports SAIC’s claim that “there exists a genuine dispute of material fact as to whether the ENVG-B system performs” as L3 urges. L3 MSJ NI – SAIC Resp. at 44.

As there is a genuine dispute of material fact, summary judgment is not appropriate. However, this is not to say SAIC’s evidence will be sufficient for SAIC to ultimately meet its burden to prove infringement at trial by a preponderance of the evidence. *See Egyptian Goddess, Inc. v. Swisa, Inc.*, 543 F.3d 665, 679 (Fed. Cir. 2008) (en banc) (“[T]he patentee bears the ultimate burden of proof to demonstrate infringement by a preponderance of the evidence.”). As noted above, Dr. Bajaj has provided inconsistent testimony concerning whether claim limitations 1(c), 1(d), and 1(e) must be performed in sequential order for a pair of video source images. *Compare* Bajaj Reb. Rpt. ¶ 126 (opining that the same pair of frames evaluated in claim limitation 1(d) must be subsequently displayed pursuant to claim limitation 1(e)) *with* Bajaj Depo. Tr. at 87:24–88:6 (opining there is “no total ordering of all the steps”). Dr. Bajaj’s apparent inconsistency, however, does not necessarily mean L3’s ENVG-B system does not infringe claim 1, nor does it mean SAIC cannot, as a matter of fact or law, prove infringement at trial. That will depend on the evidence

and witnesses the parties present at trial, where the Court can properly make credibility determinations and weigh the evidence accordingly. *See Anderson*, 477 U.S. at 255 (noting “[c]redibility determinations, the weighing of the evidence, and the drawing of legitimate inferences from the facts” should be left to the finder of fact); *Metro. Life Ins. Co. v. Bancorp Servs., LLC*, 527 F.3d 1330, 1339 (Fed. Cir. 2008) (“Resolving . . . credibility disputes . . . is not appropriate on summary judgment.”); *Crown Packaging Tech., Inc. v. Ball Metal Beverage Container Corp.*, 635 F.3d 1373, 1384 (Fed. Cir. 2011) (“When there is a material dispute as to the credibility and weight that should be afforded to conflicting expert reports, summary judgment is usually inappropriate.”). Instead, the evidence SAIC puts forth here is sufficient to create a genuine dispute of material fact and stave off L3’s motion for summary judgment of non-infringement.

In summary, “the record does not conclusively describe” how L3’s ENVG-B system operates with respect to claim limitations 1(c), 1(d), and 1(e). *Hilgraeve Corp. v. McAfee Ass., Inc.*, 224 F.3d 1349, 1353 (Fed. Cir. 2000). Both parties provided evidence that support their respective arguments. As such, there is a genuine dispute of material fact with respect to how, and in what order, the ENVG-B system performs the “identify,” “evaluate,” and “display” claim limitations. *See id.* (vacating grant of summary judgment of non-infringement because “the determination of whether either [party’s] description (or neither) is correct requires a factual determination” that could not be resolved “on this record”). It is not “the task of the district court [] to attempt to interpret confusing or general testimony to determine whether a [claim] has been made out, particularly at the summary judgment stage.” *Globetrotter Software, Inc. v. Elan Comp. Grp., Inc.*, 362 F.3d 1367, 1378 (Fed. Cir. 2004) (quoting *Schumer v. Lab Comp. Sys., Inc.*, 308 F.3d 1304, 1316 (Fed. Cir. 2002)).

c. Conclusion – L3’s Motion for Summary Judgment of Non-Infringement

For the reasons explained, genuine disputes of material fact exist with respect to the three non-infringement arguments raised by L3. Summary judgment is therefore improper, and L3’s Motion for Summary Judgment of Non-Infringement (ECF No. 341) is **DENIED**.

E. SAIC’s Motion for Partial Summary Judgment of Infringement by the Government

SAIC moves for partial summary judgment that the accused DRS ENVG-III and Elbit ENVG-B systems infringe certain asserted claims of the ’230 patent. For the reasons explained below, summary judgment regarding the DRS ENVG-III system and Elbit ENVG-B system is not appropriate, for at least two reasons. First, there is a genuine dispute of material fact whether the DRS and Elbit systems practice the “overlay” element of claim limitation 1(e). Second, there is a genuine dispute of material fact whether the DRS and Elbit systems practice claim limitations 1(c), 1(d), and 1(e) in sequential order on the same pair of frames, as required by claim 1. Accordingly, SAIC’s Motion for Partial Summary Judgment of Infringement by the Government (ECF No. 340) is **DENIED**.

a. Background – SAIC’s Motion for Partial Summary Judgment of Infringement by the Government

SAIC asserted claims 1, 12, 18, 29, 30, and 39 of the ’230 patent against Elbit’s ENVG-B system. *See* Bajaj Op. Rpt. ¶ 21. According to Dr. Bajaj, [REDACTED]

[REDACTED]

[REDACTED] *Id.* n.1. Accordingly, [REDACTED]

[REDACTED] which this Court discussed at length above.

See supra Section IV(D)(a); Bajaj Op. Rpt. ¶ 422.

SAIC also asserted claims 1, 18, 29, 30, and 39 of the '230 patent against DRS's ENVG-III system. Bajaj Op. Rpt. ¶ 21. The ENVG-III system is functionally similar to the ENVG-B system, particularly with respect to the asserted claims. *See id.* ¶¶ 108–13 (describing functionality of “ENVG-based systems” generally). Like the ENVG-B system, the ENVG-III system is comprised of a goggle assembly, an RTA battery pack, and a thermal weapon sight, or FWS-I. *See id.* ¶ 111. The ENVG-III system also supports spatially aligned RTA capability. *Id.* ¶¶ 108–11. The main difference is the ENVG-III system has a monocular design, while the ENVG-B system has a binocular design. *See* SAIC MSJ Inf. at 15.

Another third party, Equinox Corporation, developed and provided the source code installed in Elbit's ENVG-B system and DRS's ENVG-III system. *See* SAIC MSJ Inf. – Def. Resp. at 8 (“Both [] systems utilize source code developed by Equinox Corporation.”); SAIC MSJ Inf. at 13 n.2 (“Defendants . . . disclosed Equinox as having the source code that the accused Elbit ENVG-B and DRS ENVG-III systems run in connection with the accused spatially aligned RTA functionality.”). The parties agree that despite the ENVG-B's and ENVG-III's different physical designs—binocular versus monocular—“the Equinox source code in Elbit's ENVG-B systems and in DRS's ENVG-III systems operates in materially the same way for each system.” SAIC MSJ Inf. – Def. Resp. at 8; [REDACTED]

[REDACTED]

[REDACTED]

Unlike Microsoft and L3, Elbit and DRS did not intervene in this action. *See* ECF No. 135; *supra* Section I(A)(a). During fact discovery, SAIC deposed an Elbit representative, Mr. Mark Oyler, regarding Elbit's ENVG-B system. *See* Deposition of Mark Oyler, dated October 7, 2022 (ECF Nos. 340-14, 359-4) (Oyler Depo. Tr.). [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

SAIC also deposed a DRS representative, Mr. Douglas Peysha, regarding DRS’s ENVG-III system. *See* Deposition of Douglas Peysha, dated October 4, 2022 (ECF Nos. 340-13, 359-3) (Peysha Depo. Tr.). [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] SAIC finally deposed an Army representative, Mr. Dean Kissinger, who testified regarding his understanding of the ENVG-based devices. *See* SAIC MSJ Inf. – Def. Resp. at 20–21; Deposition of Dean Kissinger, dated August 5, 2022 (ECF Nos. 359-5, 367-4, 376-3, 384-5) (Kissinger Depo. Tr.).

During expert discovery, SAIC’s expert, Dr. Bajaj, “reviewed and analyzed the Equinox source code that provides the accused RTA functionality within the DRS ENVG-III and Elbit ENVG-B systems.” SAIC MSJ Inf. at 19; *see* Bajaj Op. Rpt. ¶¶ 115, 424. Dr. Bajaj opined, based on his review of technical documents, deposition transcripts, and Equinox source code, that DRS’s ENVG-III system and Elbit’s ENVG-B system each infringe the asserted ’230 patent claims. *See*

Bajaj Op. Rpt. ¶¶ 423–24 (summary of opinion regarding Elbit’s ENVG-B); *id.* ¶¶ 602–03 (summary of opinion regarding DRS’s ENVG-III); *see generally id.* ¶¶ 422–599 (analysis of Elbit ENVG-B); *id.* ¶¶ 600–90. The Government, however, did not proffer any expert testimony rebutting Dr. Bajaj’s opinions concerning infringement by Elbit’s ENVG-B and DRS’s ENVG-III systems. SAIC MSJ Inf. at 20. Though Defendants procured testimony from Dr. Villasenor, he did not offer any opinions relating to Dr. Bajaj’s analysis of Elbit’s ENVG-B or DRS’s ENVG-III system. *See* SAIC MSJ Inf. at 13–14; Villasenor Reb. Rpt. ¶¶ 21–23 (summary of opinions regarding L3 ENVG-B system and Microsoft products).

b. Discussion – SAIC’s Motion for Partial Summary Judgment of Infringement by the Government

SAIC argues partial summary judgment of infringement is appropriate because the Government has not provided any evidence of non-infringement. *See* SAIC MSJ Inf. at 9–10. SAIC observes the Government did not offer expert testimony of non-infringement to rebut SAIC’s expert evidence. *Id.* SAIC also contends the Government did not identify any fact evidence of non-infringement for Elbit’s and DRS’s systems. *Id.* SAIC argues, accordingly, that “the Government cannot establish that there exists a genuine issue of material fact in support of non-infringement,” and summary judgment is required. *Id.* at 10. The Government counters that “there is substantial evidence, both fact and expert, indicating that [the DRS ENVG-III and Elbit ENVG-B systems] do not infringe any asserted claim.” SAIC MSJ Inf. – Def. Resp. at 7. The Government emphasizes a defendant need not obtain expert testimony to defeat an infringement allegation, particularly where the patentee “bears the burden of proof on infringement.” *Id.*

For the reasons explained below, summary judgment of infringement by Elbit’s ENVG-B and DRS’s ENVG-III systems is **DENIED**.

1. Expert Testimony is Not Required to Rebut Infringement Allegations

SAIC's argument for partial summary judgment relies heavily on the Government's failure to support its non-infringement arguments with expert testimony. SAIC highlights Dr. Bajaj's infringement analysis, in which he "considered Elbit's and DRS's admissions, analyzed the Government's and its contractors' documents, [and] inspected the Equinox source code that runs on the Elbit ENVG-B and DRS ENVG-III systems." SAIC MSJ Inf. at 36. In contrast, Defendants' technical expert, Dr. Villasenor, did not analyze Elbit's or DRS's systems and did not rebut Dr. Bajaj's testimony regarding those accused systems. *Id.* Therefore, SAIC contends, "having failed to conduct expert analysis or offer expert testimony regarding the DRS and Elbit systems, the Government cannot establish a material dispute of fact to rebut SAIC's showing [of] infringement by a preponderance of the evidence." *Id.* at 36–37. The Government counters that "there is no requirement that a party accused of patent infringement must incur the expense of an expert witness to defeat such accusations." SAIC MSJ Inf. – Def. Resp. at 24.

SAIC's emphasis on the Government's failure to provide expert testimony is misplaced. An accused infringer is not required to use expert testimony to disprove an infringement allegation. An accused infringer may, instead, rely on the patentee failing to meet its "ultimate burden of proof to demonstrate infringement by a preponderance of the evidence." *Egyptian Goddess*, 543 F.3d at 679. Naturally, "the burden remains with the patentee to prove infringement, not on the defendant to disprove it." *Welker Bearing Co. v. PHD, Inc.*, 550 F.3d 1090, 1095 (Fed. Cir. 2008). Therefore, summary judgment of infringement is not automatically required if an accused infringer does not proffer rebuttal expert testimony. *See Moleculon Rsch. Corp. v. CBS, Inc.*, 793 F.2d 1261, 1270 (Fed. Cir. 1986) ("We have never *required* a party to proffer expert testimony . . . on application of claim language to accused devices."), *abrogated on other grounds by BASF Corp.*

v. SNF Holding Co., 955 F.3d 958 (Fed. Cir. 2020) (emphasis in original); *Ironburg Inventions Ltd. v. Valve Corp.*, 64 F.4th 1274, 1292 (Fed. Cir. 2023) (agreeing with district court that “expert testimony was not necessary” in part because “the technology at issue was easily understandable”).

SAIC argues when the relevant technology is “complex,” expert testimony is required “to prove or rebut infringement.” SAIC MSJ Inf. at 37; see *Proveris Sci. Corp. v. Innovasystems, Inc.*, 536 F.3d 1256, 1267–68 (Fed. Cir. 2008) (holding the relevant technology was “sufficiently complex to fall beyond the grasp of an ordinary layperson,” so district court did not err “in requiring [defendant] to present expert testimony . . . to establish invalidity”). SAIC’s argument, while directionally correct, overstates the extent to which expert testimony is required in cases dealing with complex technology. The cases requiring expert testimony typically involve the party with the burden of proof being unable to meet its burden without expert testimony. See *Innovasystems*, 536 F.3d at 1267–68 (holding defendant, with burden of proving invalidity, was required “to present expert testimony in order to establish invalidity”); *AquaTex Indus., Inc. v. Techniche Sols.*, 479 F.3d 1320, 1329 (Fed. Cir. 2007) (affirming summary judgment of non-infringement because plaintiff, with burden of proving infringement, “provided no particularized testimony from an expert or person skilled in the art” to support its infringement theory); *Centricut, LLC v. Esab Grp., Inc.*, 390 F.3d 1361, 1370 (Fed. Cir. 2004) (“Suffice it to say that in a case involving complex technology, where the accused infringer offers expert testimony negating infringement, the patentee cannot satisfy its burden of proof by relying only on testimony from those who are admittedly not expert in the field.”). However, even the Federal Circuit in *Centricut* stopped short of *requiring* expert testimony in cases involving complex technology. *Centricut*, 390 F.3d at 1370 (“We do not state a per se rule that expert testimony is required to prove

infringement when the art is complex.”). In short, SAIC overstates the importance of expert testimony by a party that does not shoulder the burden of proof.

The few cases SAIC does cite that involve granting summary judgment of patent infringement are markedly different on their facts from the present case. SAIC cites *Edge Systems LLC v. Aguila*, where the Federal Circuit affirmed summary judgment of infringement. 708 F. App’x 998, 1005 (Fed. Cir. 2017). However, the accused infringer in *Edge Systems* “present[ed] no evidence to support his non-infringement argument.” *Id.*; see *Edge Sys. LLC v. Aguila*, 186 F. Supp. 3d 1330, 1355–56 (S.D. Fla. 2016) (stating patentee’s expert’s testimony was “essentially uncontradicted”). Here, in contrast, and as discussed *infra*, the Government presents evidentiary support for its non-infringement arguments. See *infra* Section IV(E)(b)(2)–(3). SAIC also cites *Allergan, Inc. v. Barr Laboratories, Inc.*, a nonbinding case from the District of Delaware. 808 F. Supp. 2d 715, 727 (D. Del. 2011). *Allergan* is immediately distinguishable because the defendants “did not dispute that their [] products literally infringe[d]” and “concede[d] infringement.”⁹³ *Id.* The Government here “genuinely disputes SAIC’s infringement allegations.” SAIC MSJ Inf. – Def. Resp. at 27. Another nonbinding case, *Crane Security Technologies, Inc. v. Rolling Optics AB*, similarly involved a defendant that “provided no evidence of non-infringement” and is therefore not relevant to this case. No. 14-12428-LTS, 2018 WL 575697, at *10 (D. Mass. Jan. 26, 2018). And a third nonbinding, not analogous case, *Audionics System, Inc. v. AAMP of Florida*,

⁹³ The district court’s infringement analysis in *Allergan* is noteworthy. Even though the defendants conceded infringement, the district court still outlined the plaintiff’s infringement evidence “[n]otwithstanding defendant’s concessions, insofar as Allergan bears the burden of proof on infringement.” *Allergan*, 808 F. Supp. 3d at 727. Even if the accused infringer does not present a meaningful defense, the patentee’s burden to prove infringement by a preponderance of the evidence precludes a court from simply rubber-stamping the patentee’s infringement theory without at least high-level scrutiny.

Inc., likewise involved a defendant that “adduced no evidence” regarding non-infringement. No. 12-10763-MMM, 2015 WL 11182054, at *12–*17 (C.D. Cal. July 10, 2015).

SAIC has not cited any authority to support the argument that summary judgment of infringement is required where the accused infringer disputes the allegation and offers evidence in support of non-infringement, but simply fails to proffer expert testimony. SAIC also misstates the law concerning the necessity of expert testimony, particularly for the party that does not bear the burden of proof. SAIC is not entitled to summary judgment of infringement simply because the Government did not offer rebuttal expert testimony.

Notwithstanding that holding, however, this Court must still determine if the evidence the Government *does* provide is sufficient to create a genuine dispute of material fact.

2. Genuine Disputes of Material Fact Exist Regarding the “Overlay” Element of Claim 1(e)

Partial summary judgment is not appropriate because there exists a genuine dispute of material fact whether Elbit’s ENVG-B and DRS’s ENVG-III systems infringe the “overlay” element of claim limitation 1(e). The Court’s holding is consistent with, and necessitated by, its decision concerning L3’s motion for summary judgment of non-infringement, discussed above: whether a POSITA would find that Elbit’s ENVG-B and DRS’s ENVG-III systems perform the “overlay” element is a quintessential fact question that must be resolved at trial. *See PPG Indus.*, 156 F.3d at 1355 (“[A]fter the court has defined the claim . . . the task of determining whether the construed claim reads on the accused product is for the finder of fact.”).

As discussed above, this Court has already construed the term “overlay” to have its plain and ordinary meaning, e.g., “over and upon.” *See Markman Op.*, 154 Fed. Cl. at 624–27. Furthermore, similar to L3’s ENVG-B system, the parties more or less agree how Elbit’s ENVG-B and DRS’s ENVG-III systems perform the alleged “overlay” element; [REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]; SAIC MSJ Inf. – Def. Resp. at 13–
21. Dr. Bajaj, relying on technical documents produced by the Government, stated that, with respect to Elbit’s ENVG-B system, [REDACTED]

[REDACTED]
Bajaj Op. Rpt. ¶ 510; *see also id.* ¶ 515 [REDACTED]
[REDACTED]
[REDACTED]

[REDACTED] Dr. Bajaj further incorporated his opinions regarding Elbit’s ENVG-B system into his analysis of DRS’s ENVG-III system because the Equinox RTA algorithm performs in materially the same manner on both systems. *Id.* ¶¶ 645–46; *see id.* [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

[REDACTED] *Id.*; *see*
Bajaj Op. Rpt. ¶¶ 196, 206 (describing alleged “overlay” function performed by L3’s ENVG-B); Villaseñor Appendix C ¶¶ 16, 44, 51 (same).

The question at summary judgment, then, is whether a reasonable fact finder, drawing all inferences in the Government’s favor, could conclude that this process does not meet the “overlay” element of claim limitation 1(e). *See V-Formation*, 401 F.3d at 1310 (“[A] district court may determine infringement on summary judgment only ‘when no reasonable jury could find that every limitation recited in the properly construed claim either is or is not found in the accused device.’”)

(quoting *Gart*, 254 F.3d at 1339). This Court holds the answer is yes; there is sufficient evidence from which a reasonable fact finder could conclude Elbit’s ENVG-B and DRS’s ENVG-III systems do not infringe the “overlay” element.

The Government has provided enough evidence to create a genuine dispute whether Elbit’s ENVG-B and DRS’s ENVG-III systems practice the “overlay” element. Mr. Peysha, a DRS representative with personal knowledge of DRS’s ENVG-III system, [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

A representative from Elbit, Mr. Oyler, similarly testified [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] The Government bolsters its argument with testimony from Mr. Kissinger, an Army representative, who stated [REDACTED]

[REDACTED]

This evidence produced by the Government—testimony from Mr. Peysha, Mr. Oyler, and Mr. Kissinger, as well as Army technical specifications—is sufficient to create a genuine dispute of material fact whether Elbit’s ENVG-B and DRS’s ENVG-III systems practice the “overlay” element. The cited evidence supports the Government’s theory that the ENVG systems perform a “replacement” operation, which a person of ordinary skill in the art would understand is distinct from an “overlay” operation. *See also* SAIC MSJ Inf. – Def. Resp. at 16 (noting SAIC “has advanced several arguments making clear that ‘overlay’ and ‘replace’ are different processes”).

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] To the extent this testimony is inconsistent with technical documents and Equinox source code, as SAIC suggests, such inconsistency is a clear dispute of material fact that cannot be resolved at summary judgment. *See AEF Indus.*, 375 F.3d at 1371 (summary judgment

improper “if the record shows some evidence supporting a finding of [infringement] and some evidence to the contrary”). SAIC contends technical documents from the Government and other defendants [REDACTED]

[REDACTED]

SAIC also asserts the testimony of Mr. Peysha, Mr. Oyler, and Mr. Kissinger cannot establish a genuine dispute of material fact because [REDACTED]

[REDACTED] SAIC MSJ Inf. – SAIC Reply at 10–11. However, each fact witness has personal knowledge of Elbit’s ENVG-B and DRS’s ENVG-III systems. SAIC apparently does not dispute this; if it did, it could have moved to exclude the testimony as inadmissible. Yet SAIC did not do so. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

SAIC's concerns regarding the Equinox source code are unavailing.

SAIC also contends the Government [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] SAIC MSJ Inf. – SAIC Reply at 12–13.

However, SAIC is not entitled to summary judgment because there is a genuine dispute whether the alleged [REDACTED] theory infringes the “overlay” element of claim limitation 1(e). For example, claim limitation 1(e) requires that the second video source image portion “overlays a corresponding region of the first video source image portion.” ’230 patent at 24:45–49. Dr. Bajaj appears to argue, under his [REDACTED] theory, that [REDACTED]

[REDACTED] Bajaj Op.

Rpt. ¶ 519. However, Dr. Bajaj elsewhere identifies the “first video source” as [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] It is not clear

how Dr. Bajaj's [REDACTED] theory is consistent with his "digital overlay" theory, nor is it even clear what his precise [REDACTED] theory is. In any event, it is not "the task of the district court [] to attempt to interpret confusing or general testimony to determine whether a [claim] has been made out, particularly at the summary judgment stage." *Globetrotter Software*, 362 F.3d at 1378 (quoting *Schumer*, 308 F.3d at 1316). Suffice it to say, SAIC has not shown that no reasonable fact finder could determine that SAIC failed to prove infringement by a preponderance of the evidence based on its [REDACTED] theory.

Accordingly, there exists a genuine dispute whether Elbit's ENVG-B and DRS's ENVG-III systems perform the "overlay" element of claim limitation 1(e). The Government presented sufficient evidence to rebut SAIC's evidence, at least at the summary judgment stage and drawing all reasonable inferences in the Government's favor. As a genuine dispute of material fact exists, a reasonable fact finder could find for the Government regarding the "overlay" element, and summary judgment is not appropriate on this basis.

3. Genuine Disputes of Material Fact Exist Regarding Whether Elbit's ENVG-B and DRS's ENVG-III Devices Perform the "Identify," "Evaluate," and "Display" Steps in the '230 Patent's Required Order

In addition, partial summary judgment is not appropriate because there exists a genuine dispute of material fact whether Elbit's ENVG-B and DRS's ENVG-III systems perform claim limitations 1(c), 1(d), and 1(e) in sequential order on a particular frame, as required by claim 1.

As discussed at length above, grammar, text, and logic require that claim limitations 1(c), 1(d), and 1(e) must be practiced in sequential order on a particular pair of frames. The Government contends "SAIC does not allege that the Equinox source code performs the three steps of the asserted claims in sequential order on the same pair of images." SAIC MSJ Inf. – Def. Resp. at 23. As the Government—and the other Defendants—observe, Dr. Bajaj has provided inconsistent

testimony on whether claim limitations 1(c), 1(d), and 1(e) require an order. *See* Bajaj Reb. Rpt.

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; Bajaj Depo. Tr. at 87:24–88:6 ; SAIC MSJ Inf. – Def. Resp. at 22–24. For purposes of this motion, SAIC disputes that the claims require an order but contends that even if an order is required,

SAIC is not entitled to partial summary judgment. “When a patentee with the burden of proof seeks summary judgment of infringement, it must make a prima facie showing of infringement as to each accused device before the burden shifts to the accused infringer to offer contrary evidence.” *L & W, Inc. v. Shertech, Inc.*, 471 F.3d 1311, 1318 (Fed. Cir. 2006). SAIC has not carried its initial burden to establish infringement by a preponderance of the evidence, at least at this stage and on this record. Dr. Bajaj’s inconsistent testimony regarding the order of claim limitations 1(c), 1(d), and 1(e) creates a genuine dispute whether Elbit’s ENVG-B and DRS’s ENVG-III systems infringe claim 1. Nowhere in Dr. Bajaj’s report does he definitively opine that Elbit’s ENVG-B or DRS’s ENVG-III practice claim limitations 1(c), 1(d), and 1(e) in sequential order on the same pair of frames. *See generally* Bajaj Op. Rpt. ¶¶ 422–690. SAIC’s primary evidence of infringement by Elbit’s ENVG-B and DRS’s ENVG-III systems, Dr. Bajaj’s testimony, does not, on its face, embrace the proper ordering of claim limitations 1(c), 1(d), and 1(e). *Cf. MyMail, Ltd. v. Am. Online, Inc.*, 476 F.3d 1372, 1378 n.1 (Fed. Cir. 2007) (at summary judgment stage, affording expert testimony little weight because testimony conflicted with proper interpretation of the claim). Accordingly, when resolving all inferences in the Government’s favor, a reasonable fact finder could find that Dr. Bajaj, and therefore SAIC, has not shown by a

preponderance of the evidence that Elbit's and DRS's accused systems practice claim limitations 1(c), 1(d), and 1(e) in sequential order on the same pair of frames. *See V-Formation*, 401 F.3d at 1310.

To be sure, Dr. Bajaj's report provides disclosures that arguably support infringement of claim limitations 1(c), 1(d), and 1(e). [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] Indeed, that is why this Court denied L3's motion for summary judgment of non-infringement with respect to this order-of-the-limitations argument: there was a genuine dispute of material fact concerning L3's similar ENVG-B system and whether it practiced claim 1 in the required order. *See supra* Section IV(D)(b)(3). However, SAIC's motion for summary judgment of infringement reflects the reciprocal situation. Despite Dr. Bajaj's opinions, there is a genuine dispute of material fact concerning Elbit's and DRS's ENVG systems and whether they practice claim 1 in the required order.

Accordingly, there exists a genuine dispute whether Elbit's ENVG-B and DRS's ENVG-III systems infringe claim limitations 1(c), 1(d), and 1(e). SAIC's evidence is insufficient to support summary judgment as a matter of law. As a reasonable fact finder could find for the

Government regarding the order of claim limitations 1(c), 1(d), and 1(e), summary judgment is not appropriate.⁹⁴

c. Conclusion – SAIC’s Motion for Partial Summary Judgment of Infringement by the Government

For the reasons explained, a genuine dispute of material fact exists with respect to SAIC’s infringement claim concerning Elbit’s ENVG-B system and DRS’s ENVG-III system. Summary judgment is therefore improper, and SAIC’s Partial Motion for Summary Judgment of Infringement by the Government (ECF No. 340) is **DENIED**.

F. SAIC’s Motion for Summary Judgment Regarding the Desert’s Edge Prior Art Status

SAIC also moved for summary judgment that Defendants’ Desert’s Edge prior art “are, as a matter of law, not prior art because Defendants have failed to establish that they were publicly available prior to the ’230 patent’s date of invention.” SAIC’s MSJ Inf. at 40. During Oral

⁹⁴ SAIC argues in passing that the Government improperly incorporated by reference Microsoft’s and L3’s non-infringement arguments. SAIC MSJ Inf. – SAIC Reply at 19. SAIC contends the Government’s “attempts to piggyback on the non-infringement arguments of L3 and Microsoft regarding their systems cannot put SAIC on notice of whether and how those defenses would apply” to Elbit’s ENVG-B system and DRS’s ENVG-III system. *Id.* However, SAIC did not move to strike the Government’s non-infringement arguments. *See generally* SAIC MTS. Furthermore, SAIC’s complaint of lack of notice is overstated.

SAIC’s contention that it lacked notice of non-infringement arguments for the Elbit and DRS systems, when the Government incorporated non-infringement arguments for the materially and functionally identical L3 system, lacks merit.

Argument, the parties indicated they may be amenable to a stipulation concerning the Desert's Edge prior art. *See* OA Tr. at 223:3–231:1. The Court therefore directed the parties to file a Notice “related to . . . the Desert's Edge prior art status.” Order, dated June 23, 2023 (ECF No. 397). The parties thereafter jointly stipulated that “the Desert's Edge references . . . will not be argued to qualify as prior art under any section of 35 U.S.C. § 102 in connection with these proceedings, and the references will not be relied upon as anticipatory or as part of an obviousness combination of references.” Joint Notice and Stipulation (ECF No. 398) at 1–2.⁹⁵ The parties' stipulation resolves the Desert's Edge prior art status; therefore, SAIC's Motion for Summary Judgment Regarding the Desert's Edge Prior Art Status (ECF No. 340) is **DENIED AS MOOT**.

V. Conclusion

For the reasons stated above, this Court orders the following disposition of the parties' motions. Plaintiff SAIC's Motion to Strike Untimely Non-Infringing Alternatives and Non-Infringement Theories (ECF No. 352) is **DENIED in part**, solely as it pertains to Microsoft's non-infringement theory.⁹⁶ Defendants' Joint Motion to Strike the Declaration of SAIC's Infringement Expert, Dr. Bajaj, Expressing New Infringement Opinions (ECF No. 377) is **GRANTED**, and the Clerk of Court is **DIRECTED to STRIKE** from the record the Declaration of Chandrajit Bajaj, dated March 29, 2023 (ECF No. 362-3). Intervenor-Defendant Microsoft Corporation's Motion for Summary Judgment of Invalidity Based on Indefiniteness (ECF No. 339) is **DENIED**.

⁹⁵ The Court understands the parties' stipulation does not affect “whether any Desert's Edge reference may be used for other purposes,” including where the Desert's Edge references may be used to “evidence the state of the art and the understandings of persons of skill in the art prior to, or around, the time of the alleged invention of the '230 Patent.” Joint Notice and Stipulation (ECF No. 398) at 2; SAIC MSJ Inf. – Def. Resp. at 34.

⁹⁶ As noted, on December 14, 2023, this Court ruled on the remaining part of Plaintiff SAIC's Motion to Strike Untimely Non-Infringing Alternatives and Non-Infringement Theories (ECF No. 352). *See* ECF Nos. 415 (sealed), 419 (public); *supra* n.14.

Defendant the United States and Third-Party Defendant L3 Technologies, Inc.'s Joint Motion for Summary Judgment of Invalidity Based on Indefiniteness (ECF No. 342) is **DENIED**. Intervenor-Defendant Microsoft Corporation's Motion for Summary Judgment of Non-Infringement (ECF No. 343) is **GRANTED**. Third-Party Defendant L3 Technologies, Inc.'s Motion for Summary Judgment of Non-Infringement (ECF No. 341) is **DENIED**. Plaintiff SAIC's Motion for Partial Summary Judgment of Infringement by the Government (ECF No. 340) is **DENIED**. Plaintiff SAIC's Motion for Summary Judgment regarding the Desert's Edge Prior Art Status (ECF No. 340) is **DENIED as MOOT**.

The parties are directed to **CONFER** and **FILE** a Notice within 14 days of this Memorandum and Order, attaching a proposed public version of this Sealed Memorandum and Order, with any competition-sensitive or otherwise protected information redacted.

IT IS SO ORDERED.



Eleni M. Roumel
ELENI M. ROUMEL
Judge

Dated: February 14, 2024
Washington, D.C.