

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

NEARMAP US, INC.,
Petitioner,

v.

PICTOMETRY INTERNATIONAL CORP.,
Patent Owner.

IPR2024-00729
Patent 9,182,657 B2

Before STACEY G. WHITE, GARTH D. BAER, and RUSSELL E. CASS,
Administrative Patent Judges.

CASS, *Administrative Patent Judge.*

DECISION
Denying Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

A. Background

Nearmap US, Inc. (“Petitioner”) filed a Petition requesting an *inter partes* review of claims 1–5, 14, 19–21, and 26–27 (the “challenged claims”) of U.S. Patent No. 9,182,657 B2 (Ex. 1001, “the ’657 patent”). Paper 2, 1 (“Pet.”). Pictometry International Corp. (“Patent Owner”) filed a Preliminary Response. Paper 6 (“Prelim. Resp.”). With our permission, Petitioner filed a Preliminary Reply (Paper 7, “Prelim. Reply”) and Patent Owner filed a Preliminary Sur-reply (Paper 8, “Prelim. Sur-reply”).

An *inter partes* review may not be instituted unless it is determined that “the information presented in the petition filed under section 311 and any response filed under section 313 shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314 (2018); *see also* 37 C.F.R. § 42.4(a) (2021) (“The Board institutes the trial on behalf of the Director.”). The reasonable likelihood standard is “a higher standard than mere notice pleading,” but “lower than the ‘preponderance’ standard to prevail in a final written decision.” *Hulu, LLC v. Sound View Innovations, LLC*, IPR2018-01039, Paper 29, 13 (PTAB Dec. 20, 2019) (precedential).

For the reasons provided below and based on the record before us, we determine that Petitioner has not demonstrated a reasonable likelihood that it would prevail in showing the unpatentability of at least one of the challenged claims. Accordingly, we do not institute an *inter partes* review on all grounds set forth in the Petition.

B. Real Parties in Interest

Petitioner states that the real parties in interest are Nearmap US, Inc., Nearmap Australia Pty Ltd, and Nearmap Pty Ltd. Pet. 24. Patent Owner states that Pictometry International Corp. and Eagle View Technologies, Inc. are the real parties in interest. Paper 5, 2.

C. Related Proceedings

The parties indicate that the '657 patent is the subject of the following district court case: *Eagle view Technologies Inc. and Pictometry International Corp. v. Nearmap US, Inc., Nearmap Australia Pty Ltd., and Nearmap Ltd*, 2:21-cv-00283-TS-DAO (D. Utah). Pet. 24; Paper 5, 2.

D. The '657 Patent (Ex. 1001)

The '657 patent relates to a “computerized system for displaying and making measurements based upon captured oblique images.” Ex. 1001, code (57). The system “includes an image-capturing device” that “capture[s] oblique aerial images at image capturing events” and “issu[es] image data signals corresponding to captured images.” *Id.* The system also includes a “geo-locating device” that issues a corresponding “at least one geo-locating signal indicative at least in part of a geo-location of [the] image capturing device during each image capturing event.” *Id.* Also included is a “computer system” that “receiv[es] and stor[es] [the] image-data signals” and the “geo-locating signal” and “execut[es] image and data acquiring software” that reads the image-data signals and geo-locating signal(s) and associates each of the image data signals with a corresponding geo-locating signal for each image-capturing event. *Id.*

E. Illustrative Claim

Of challenged claims 1–5, 14, 19–21, and 26–27, claim 1 is independent. For purposes of the issues raised at this stage of the proceeding, claim 1 is illustrative and is reproduced below.

1[pre] A system for capturing images and geo-location data corresponding thereto, comprising:

- 1[a] a first image-capturing device, said first image-capturing device capturing oblique aerial images at image-capturing events, said first image-capturing device issuing first image-data signals corresponding to captured images;
- 1[b] a second image-capturing device, said second image-capturing device capturing images at image-capturing events, said second image capturing device issuing second image-data signals corresponding to captured images;
- 1[c] at least one geo-locating device, each said at least one geo-locating device issuing a corresponding at least one geo-locating signal, each said at least one geo-locating signal being indicative at least in part of a geo-location of said first image-capturing device during each first image capturing event;
- 1[d] a computer system receiving and storing said first and second image-data signals and said at least one geo-locating signal;
- 1[e] the computer system executing image and data acquiring software reading said first and second image-data signals and said at least one geo-locating signal, said image and data acquiring software associating each said first or second image-data signal with a corresponding said at least one geo-locating signal for each image-capturing event; and
- 1[f] wherein the computer system transmits image-capture signals to the first image-capturing device and the second image-capturing device to cause the first and second image-capturing devices to capture images, and wherein

the computer system controls the first and second image-capturing devices separately.

Ex. 1001, 14:64–15:30 (indents and bracketed paragraph identifiers added).

F. Applied References

Petitioner relies upon the following references:

Loewen, US 7,184,072 B1, issued Feb. 27, 2007
(Ex. 1004, “Loewen”);

Fujimoto, EP 0053640 A1, published Jun. 16, 1982
(Ex. 1005, “Fujimoto”);

Garrot, US 5,878,356, issued Mar. 2, 1999 (Ex. 1006,
“356 patent”);

Mostafa & Schwartz, “Digital image georeferencing from
a multiple camera system by GPS/INS,” ISPRS Journal of
Photogrammetry & Remote Sensing, Vol. 56, 1–12 (2001),
(Ex. 1007, “Mostafa”);

Kain, WO 97/35166, published Sep. 25, 1997 (Ex. 1008,
“Kain 1997”);

Kain, US 2003/0048357 A1, published Mar. 13, 2003
(Ex. 1009, “Kain 2003”).

Pet. iv, 26. Petitioner also submits the Declaration of Dr. David A. Forsyth
(Ex. 1003).

G. Asserted Grounds of Unpatentability

Petitioner challenges the patentability of claims 1–5, 14, 19–21, and 26–27 of the '657 patent based on the following grounds:

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1, 5, 14, 19, 20, 11	103(a) ¹	Loewen, Fujimoto
2, 3	103(a)	Loewen, Fujimoto, '356 patent, Mostafa
4, 26	103(a)	Loewen, Fujimoto, Kain 1997
5, 19, 20, 21	103(a)	Loewen, Fujimoto, Mostafa
26	103(a)	Loewen, Fujimoto, Mostafa, Kain 1997
27	103(a)	Loewen, Fujimoto, Kain 2003
27	103(a)	Loewen, Fujimoto, Mostafa, Kain 2003

Pet. 26.

II. DISCUSSION

A. Claim Construction

A claim “shall be construed using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. § 282(b).” 37 C.F.R. § 42.100(b). Petitioner proposes two claim terms from claim 1 for construction: (1) “the computer system controls the

¹ The Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) (“AIA”), included revisions to 35 U.S.C. § 103 that became effective after the filing of the application for the '657 patent. For purposes of this Decision, we apply the pre-AIA version of 35 U.S.C. § 103.

first and second image-capturing devices separately”; and (2) “oblique aerial image.” These terms will be discussed further below.

1. *“the computer system controls the first and second image-capturing devices separately”*

Petitioner argues that this term should be construed to mean “control data sent by the computer system that cause image-capturing device to capture images at different instants and/or at different intervals.” Pet. 27.” Petitioner asserts that this construction requires “use of a separate signal for each image-capturing device rather than a single signal controlling all devices,” and “is compelled by [the ’657 patent’s] prosecution history.” *Id.* “Specifically,” according to Petitioner, “the Examiner rejected ’657’s then-pending claims based on Nims, which disclosed ‘a system for capturing images’ with a ‘known technique of multiple camera setup and controlling first and second image-capturing devices separately.’” *Id.* at 28 (citing Ex. 1002, 255–258; Ex. 1016 ¶¶ 36–39). Petitioner contends that the ’657 applicant “distinguished Nims by arguing that “[t]his type of ‘slaving’ of cameras was used in the past” and, therefore, “it is possible [Nims’s] cameras are slaved together and signaled to take images at the same time.” *Id.* (citing Ex. 1002, 290–291). Additionally, according to Petitioner, “[t]he Examiner accepted [the applicant’s] arguments and allowed the then-pending claims.” *Id.* (citing Ex. 1002, 326–327). Therefore, Petitioner argues, the applicant made a “clear and unmistakable disavowal of using one signal sent simultaneously to multiple cameras.” *Id.*

Petitioner further argues that its construction is supported by the ’657 patent Specification, which states that “the present invention can be alternatively configured to separately cause the image-capturing devices to

capture images at different instants and/or at different intervals.” Pet. 29 (citing Ex. 1001, 14:38–41).

Patent Owner does not offer its own construction of “the computer system controls the first and second image-capturing devices separately.” *See* Prelim. Resp.; PO Prelim. Sur-reply.

For purposes of this decision, we will apply Petitioner’s proposed construction, which is not disputed at this stage of the proceeding.

2. “*oblique aerial image*”

Petitioner argues that this term should be construed to mean “an aerial image capturing a generally trapezoidal area or view of the subject surface or object, with the foreground of the trapezoid having a substantially smaller ground sample distance (i.e., a higher resolution) than the background of the trapezoid.” Pet. 29. Petitioner appears to base this construction on the statement in the Background of the ’657 patent that “[o]blique images capture a generally trapezoidal area or view of the subject surface or object, with the foreground of the trapezoid having a substantially smaller ground sample distance (i.e., a higher resolution) than the background of the trapezoid.” Pet. 29; Ex. 1001, 2:42–46. Petitioner also argues that this definition is consistent with the other descriptions of “oblique aerial images” in the ’657 patent Specification. *Id.* (citing Ex. 1001, 4:36–44, 6:49–67, Figs. 1, 7–10).

Patent Owner does not offer its own construction of “oblique aerial image.” *See* Prelim. Resp.; PO Prelim. Sur-reply.

For purposes of this decision, we will apply Petitioner’s proposed construction, which is not disputed at this stage of the proceeding.

3. *Other Terms*

Based on the present record, we determine that it is not necessary to provide an express interpretation of any other claim terms for purposes of this Decision. *See Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1374 (Fed. Cir. 2019) (“The Board is required to construe ‘only those terms . . . that are in controversy, and only to the extent necessary to resolve the controversy.’”) (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

B. *Principles of Law*

A claim is unpatentable under 35 U.S.C. § 103 if “the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations, including (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) where in evidence, objective evidence of non-obviousness.² *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17–18 (1966). When evaluating a combination of teachings, we must also “determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” *KSR*, 550 U.S. at 418 (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)). Whether a

² At this stage of the proceeding, Patent Owner has not presented objective evidence of non-obviousness.

combination of prior art elements would have produced a predictable result weighs in the ultimate determination of obviousness. *Id.* at 416–417.

In an *inter partes* review, the petitioner must show with particularity why each challenged claim is unpatentable. *Harmonic, Inc. v. Avid Technology, Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016); 37 C.F.R. § 42.104(b). The burden of persuasion never shifts to Patent Owner. *Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015).

We analyze the challenges presented in the Petition in accordance with the above-stated principles.

C. Level of Ordinary Skill in the Art

Petitioner argues that a person of ordinary skill in the art would have had “a bachelor’s degree or higher in computer science, computer engineering, computer vision or visualization, physics, electrical engineering, or an equivalent educational background, or at least five years of industry experience in imaging technology.” Pet. 29 (citing Ex. 1003 ¶ 12). At this stage of the proceeding, Patent Owner does not propose a definition for the level of ordinary skill in the art. *See* Prelim. Resp.; Prelim. Sur-reply.

For purposes of this Decision, we adopt the assessment of the level of ordinary skill in the art proposed by Petitioner and Dr. Forsyth and not disputed by Patent Owner as reasonable and consistent with the prior art. *See Okajima v Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir 2001) (the prior art may reflect an appropriate level of skill in the art).

D. Overview of the Asserted Prior Art

1. Loewen (Ex. 1004)

Loewen is directed to a “system and apparatus for acquiring images of electric transmission line tower structures, equipment attached to [the] tower structures, and transmission lines suspended from [the] towers.” Ex. 1004, code (57). The system “uses a fixed wing aircraft and an arrangement of at least one still camera, means for detecting a tower structure, a data storage unit, and a central processing unit containing operational software.” *Id.* The detection means “is a laser altimeter or a combination of preset longitude/latitude coordinates for tower locations and a GPS unit which supplies continuous longitude/latitude coordinates for the aircraft location for comparison to those preset coordinates.” *Id.*

In operation, “[t]he aircraft is flown along the transmission line at a predetermined altitude above the tops of [the] towers (60–100 feet).” Ex. 1004, code (57). During flight, “[t]he still camera points rearwardly relative to the line of flight of the aircraft and take[s] a picture from between two adjacent towers and along an exposure line directed downwardly at an angle to the line of flight, 30–60 degrees and preferably 45 degrees.” *Id.* The detecting means “transmits a signal to the central processing [unit] indicative of the presence of a tower to be photographed,” and the central processing unit “calculates the time delay necessary for [the] aircraft to fly past the tower to a predetermined exposure point located between the tower to be photographed and the next tower in [the] transmission line.” *Id.* At the exposure point, “[t]he still camera is activated” to “acquire an image of the tower structure,” and the data corresponding to the acquired image “is transmitted to a data storage unit for later retrieval and examination to identify defects in the tower or the equipment or transmission lines

suspended from the tower.” *Id.* The system is also “provided with a video capability to film the towers and transmission lines and the line right-of way.” *Id.*

2. *Fujimoto (Ex. 1005)*

Fujimoto is directed to “a computerized control for aerial photography for use in association with aerial cameras mounted in an aeroplane.”

Ex. 1005 ¶ 1. The cameras are mounted in the airplane “with different lens angles to the ground but with equal overlap rates, and take photographs in succession at different altitudes and speeds along the line of flight under the computerized control.” *Id.* Fujimoto explains that if the airplane flies at a constant altitude and speed, “it is difficult to open the shutters of each camera independently of each other, and to secure a series of photographs of the ground without the waste of film.” *Id.* ¶¶ 2–3. Fujimoto seeks to “overcome[e] such difficulties” by “provid[ing] a computerized control for opening the shutters of a plurality of cameras independently of one another” in order “to secure a series of photographs of the ground without the waste of film.” *Id.* ¶ 4.

Specifically, Fujimoto discloses “a computerized control for aerial photography” including “means for inputting as data the altitude and speed of flight, means for setting the overlap rate between the adjacent photographs and the lens angles,” and “an arithmetic unit for calculating interval time through arithmetical operations on [the] altitude, speed, overlap rate and lens angles.” Ex. 1005 ¶ 6. The system also includes “an output device for producing shutter driving signals” for each camera mounted in the airplane “at [the] interval time r[e]sulting from [the] arithmetic signals.” *Id.*

According to Fujimoto, this “enabl[es] each shutter to be driven at independently different interval time[s].” *Id.*

3. *The '356 Patent (Ex. 1006)*

The '356 patent is directed to an “aircraft based infrared mapping system for earth based resources.” Ex. 1006, code (54). The system includes an infrared sensor “mounted in the aircraft in a known orientation,” circuitry “for acquiring signals generated by the sensor from a scanned area,” a system “for georeferencing the acquired signals” using “a global positioning system” (GPS), and a system “for compensating for tilt in the acquired signals” using “a gyroscope, a magnetometer and software for controlling the gyroscope to produce signals indicative of the orientation of the aircraft.” *Id.* at code (56). This software “compensates for tilt in the acquired signals and uses the GPS signals to create an accurate mosaic of the images generated by the sensor.” *Id.*

4. *Mostafa (Ex. 1007)*

Mostafa is a paper discussing “the development and testing of an airborne fully digital multi-sensor system for digital mapping data acquisition.” Ex. 1007, Abstr. The system “acquires two streams of data, namely navigation (georeferencing) data and imaging data.” *Id.* The navigation data “are obtained by integrating an accurate strapdown inertial navigation system with a differential GPS system (DGPS),” and the imaging data “are acquired by two low-cost digital cameras, configured in such a way as to reduce their geometric limitations.” *Id.* The two cameras “capture strips of overlapping nadir and oblique images” and “the GPS/INS-derived trajectory contains the full translational and rotational motion of the carrier aircraft.” *Id.* “Thus,” Mostafa explains, “image exterior orientation

information is extracted from the trajectory, during post-processing.” *Id.* According to Mostafa, the above approach “eliminates the need for ground control (GCP) when computing 3D positions of objects that appear in the field of view of the system imaging component.” *Id.*

5. *Kain 1997 (Ex. 1008)*

Kain 1997 is directed to “[a] remote data collection system, which may be used in a vehicle such as an aircraft or a ground vehicle.” Ex. 1008, code (57). The system “includes a directional sensor, such as one or more cameras, for sensing a characteristic of interest and providing sensor data,” as well as “a global positioning system (GPS) receiver for providing GPS data representative of the position of the sensor,” an “inertial measurement unit (IMU) for providing IMU data representative of the attitude of the sensor,” and “a processing unit and a storage unit.” *Id.* The processing unit “determines geographic data referenced to the sensor data in response to the GPS data and the IMU data,” and “may utilize an error model to determine IMU errors” so that the geographic data may be determined “with high accuracy.” *Id.* The data storage unit may store the sensor data and geographic data for later use. *Id.* The system may also include “a stabilized platform on which the sensor and the IMU are mounted,” which “is rotated about at least one axis of rotation to control the sensing direction of the sensor as the vehicle moves.” *Id.*

6. *Kain 2003 (Ex. 1009)*

Kain 2003 is directed to a “digital imaging system for airborne applications.” Ex. 1009, code (54). The system includes “an image storage medium locatable in an aircraft, a controller that controls the collection of image data and stores it in the storage medium[,], and a digital camera

assembly that collects image data from a region to be imaged.” *Id.* at code (56). The camera assembly “is mounted to a pre-existing external step mount on the aircraft” and “includes multiple cameras that are calibrated relative to one another to generate compensation values that may be used during the image processing to minimize camera-to-camera aberrations.” *Id.* The system also includes “[a]n inertial measurement system (IMU)” that “is fixed in position relative to the camera assembly and detects rotational position of the aircraft,” and “a GPS receiver” that “detects absolute position of the aircraft.” *Id.* In the system, “[c]alibration of the cameras relative to the IMU provides compensation values to minimize rotational misalignments between image data and IMU data.” *Id.*

E. Petitioner’s Patentability Challenge

1. Whether the Petition Shows with Particularity How the References Teach the Limitations of the Challenged Claims

Each of the challenged claims is asserted to be obvious over Loewen in combination with Fujimoto, the ’356 patent, Mostafa, Kain 1997, and/or Kain 2003. Pet. 26. Petitioner’s challenges are laid out in the form of a claim chart. Pet. 44–115. The claim chart addresses all claims and all grounds in a single 72-page claim chart. *Id.*

The left side of Petitioner’s claim chart identifies the claim limitation at issue and the right side is composed of Petitioner’s evidence for each limitation. *See e.g., id.* at 46. For example, for claim limitation [1.d], the right side of the claim chart states that “Loewen discloses this limitation.” *Id.* Then, it restates portions of the claim language in bold followed by a parenthetical listing a series of snippets from Loewen. An exemplar of the claim chart is reproduced below:

[1.d]	Loewen discloses this limitation. EX1003, ¶158. Loewen discloses a computer system (<i>e.g.</i>, EX1004, 3:3-10 (“onboard computer (a central processing unit) containing operational software”); 7:13-31 (“onboard aircraft computer 42” (Fig.8)); Abstract (“central processing unit containing operational software”))¹⁰ receiving and storing said first and sec-
	ond image-data signals and said at least one geo-locating signal (<i>e.g.</i>, EX1004, 3:51-57 (“still and video images, along with the geographic coordinates are transmitted to data storage units on board the aircraft”); 8:65-9:5 (“computer recording all the GPS data strings as well as continuous laser readings [] into a text file... file also contains... time stamp of the time when the laser altimeter located a transmission tower structure, and in cooperation with the GPS, the longitude/latitude coordinates of each tower”); 3:37-50 (“position of the aircraft in longitude and latitude coordinates” is “transmitted to the onboard computer”); 6:31-58 (“cameras... write their information directly to the onboard computer”); 7:13-31 (“onboard aircraft computer 42 is interconnected with the GPS and trigger system, and also the data storage unit”); Fig.8 (“onboard aircraft computer 42”)). <i>See</i> EX1003, ¶159-167; EX1004, 7:34-55, Figs.8-10; <i>see also id.</i> 1:16-24, 2:50-3:2, 3:3-10, 4:31-34, 7:59-61, 9:14-31, 9:32-39, 9:40-47, 11:19-28, <i>supra</i>, p.18 (discussing Loewen).

Id. at 60–61. The claim chart portion shown above is representative of the information provided for each limitation of the claims in the claim chart. The portion of the claim chart discussing Loewen then concludes with a citation to multiple paragraphs of Dr. Forsyth’s declaration, additional citations to Loewen, and reproductions of figures from Loewen. *Id.* at 62–63 (citing Ex. 1003 ¶¶ 159–167; Ex. 1004, 1:16-24, 2:50–3:2, 3:3–10, 4:31–34, 7:34–55, 7:59–61, 9:14–31, 9:32–39, 9:40–47, 11:19–28, Figs. 8–10). There is no argument³ in the claim chart addressing how Loewen teaches

³ We note that there is a footnote discussing whether Loewen teaches or discloses that “its onboard computer receives and stores the image-data signals from Loewen’s image-capturing devices.” *See* Pet. 60 n.10.

these claim limitations, nor is there any narrative discussion of how Petitioner views the disclosures of Loewen.

Patent Owner contends that “[t]he Petition does not show with particularity how the references teach the limitations of the challenged claims.” Prelim. Resp. 12. Patent Owner points out that a petition must “specify where each element of the claim is found in the prior art” and “provide ‘a **detailed explanation** of the **significance of the evidence.**’” *Id.* (citing 37 C.F.R. § 42.22(a)(2); 37 C.F.R. § 42.104(b)(4)). Patent Owner asserts that the Petition does not explain how the features of Loewen meet the claim requirements, and never explains the quotations from the cited references. *Id.* at 14.

For example, Patent Owner argues that limitation [1.d] “recites at least six different aspects performed by a computer system that must be shown in the prior art,” including the following:

- “receiving . . . first . . . image-data signals”;
- “receiving . . . second image-data signals”;
- “receiving . . . at least one geo-locating signal”;
- “storing said first . . . image data signals”;
- “storing . . . second image data signals”; and
- “storing . . . said at least one geo-locating signal.”

Prelim. Resp. 15 (citing Ex. 1001, 15:14–16).

Patent Owner contrasts these limitations with quotations from Loewen in the chart for limitation [1.d], specifically:

- “still and video images, along with geographic coordinates are transmitted to data storage units” (Ex. 1004, 3:51–57)
- “computer recording all the GPS data strings” (Ex. 1004, 8:65–9:5)

- transmitting “position of the aircraft . . . to the onboard computer” (Ex. 1004, 3:37–50);
- “computer 42 is interconnected with the GPS and trigger system, and also the data storage unit” (Ex. 1004, 7:13–31); and
- An “onboard aircraft computer 42” (Ex. 1004, Fig. 8).\

Prelim. Resp. 15. Patent Owner argues that “the Petition provides no explanation beyond these bare quotations” despite Petitioner’s burden to “provide an *understandable explanation* . . . of the patentability challenges.” *Id.* at 15–16 (citing *Corephotonics, Ltd. v. Apple Inc.*, 84 F.4th 990, 1001 (Fed. Cir. 2023)). “Without some type of explanation or clarification,” according to Patent Owner, “it is impossible to understand *with particularity* how Petitioner may be attempting to map the quoted portions to the claim language.” *Id.* at 16. “For example,” Patent Owner contends, it cannot determine whether Petitioner is “attempting to map each of still images *and* video images to the claim language, or only still images, or only video images, or a combination of still and video images, or some other approach.” *Id.* Patent Owner argues that, “[b]ecause Loewen describes still images and videos being obtained, processed, and stored differently . . . , it is important to know what particular images, if any, Petitioner is relying upon to understand the proposed combination.” *Id.* (citing Ex. 1004, 2:39–3:10, 3:16–36, 6:3–31, 6:31–51, 8:54–64, 9:48–57) (citations omitted).

Patent Owner further argues that, “[w]ithout an explanation providing guidance as to how Petitioner may have intended the quotes to be mapped to the claim language for each claim element,” the Petition “requires the Board and Patent Owner to sift through the cited portions of the references in an

attempt to ascertain how Petitioner may be applying the prior art to the challenged claims.” Prelim. Resp. 16. “Further,” Patent Owner contends, “because the Petition includes several quotes identifying multiple different components for each claim element, the effect of the lack of explanation is compounded when the claim elements are considered together as part of each of the challenged claims as a whole.” *Id.* at 16–17. “The result,” according to Patent Owner, “is an indecipherable web of potential paths and permutations that makes it impossible for the reader to know what mapping Petitioner may have intended.” *Id.*

Additionally, Patent Owner argues, “[t]he Petition entirely omits the requisite explanation of the relevance of the quotations for all the claim elements other than [1.e].” Prelim. Resp. 17. For limitation [1.e], Patent Owner contends, “the Petition provides an explanation of how Petitioner is mapping the quoted portions of Loewen to the claim language.” *Id.* Specifically, Patent Owner asserts, pages 65–67 of the claim chart “explain[s] the mapping of the ‘coordinat[ing] and ‘label[ing]’ in Loewen to the ‘associat[ing]’ of [1.e].” *Id.* According to Patent Owner, “[t]his is the **only instance** of such an explanation for any of Grounds 1–7 set forth in the Petition.” *Id.* (citing Pet. 44–115). The Petition’s failure to provide any explanation of the relevance of the cited portions of the references for the remaining claim elements, Patent Owner argues, underscores how “Petitioner failed to meet its burden of showing with particularity how the references teach the limitations of the challenged claims.” *Id.* at 17–18.

Patent Owner also asserts that, to the extent that Petitioner’s is relying on the arguments in Dr. Forsyth’s declaration to explain the citations in the Petition’s claim charts, that amounts to improper incorporation by reference.

Prelim. Resp. 19–20. Patent Owner asserts that “Dr. Forsyth’s Declaration is a lengthy 85,008-word, 392-page document” (excluding Dr. Forsyth’s CV) that “presents substantive arguments entirely missing from the Petition” and “is the only document setting forth any type of substantive explanation of the potential relevance of the quotes from the cited references to the claim language.” *Id.* at 20. “For example,” Patent Owner contends, “the Petition uses a[n] ‘e.g.’ parenthetical—much *less than a page* in total—to address limitation [1.d]” without “any explanation of the relevance of the evidence.” *Id.* “By contrast,” according to Patent Owner, “Dr. Forsyth’s declaration uses paragraphs 159–167 with reference to a significantly expanded claim chart in Appendix C—together *over 22 pages*—to address the same claim language.” *Id.* at 20–21. “Using an expert’s declaration to raise substantive arguments that are entirely missing from the Petition in this manner,” Patent Owner argues, “violates the Board’s rules against improper incorporation by reference,” as set forth in 37 C.F.R. § 42.24(a)(1)(i). *Id.* at 21. Finally, Patent Owner argues that “Petitioner’s repeated citations to Dr. Forsyth’s Declaration in place of providing substantive argument and analysis in the Petition is a clear attempt to bypass the petition word limit” and, “[g]iven the inadequacies of the Petition, the only way to potentially understand Petitioner’s proposed unpatentability challenges is to wade through the 85,000+ words of Dr. Forsyth’s Declaration, which dwarfs the 14,000 words granted to petitioners.” *Id.* (citing 37 C.F.R. § 42.24(a)(1)(i)).

We agree with Patent Owner that the Petition fails to set forth its contentions with sufficient particularity. As the Supreme Court has noted, “the petitioner is master of its complaint.” *SAS Inst., Inc. v. Iancu*, 584 U.S. 357, 363 (2018). As such, Petitioner has the responsibility to make plain its

challenges to the disputed claims. *See* 37 C.F.R. § 42.104 (“The petition must specify where each element of the claim is found in the prior art patents or printed publications relied upon.”). The Petition does not make clear Petitioner’s theory of the case. It is not the Board’s responsibility to weave together Petitioner’s evidence into a cohesive case. *See* 37 C.F.R. § 42.22(a)(2) (stating that Petitioner “must include” a full statement supporting its challenge “including a detailed explanation of the significance of the evidence”); *see also Parus Holdings, Inc. v. Google LLC*, 70 F.4th 1365, 1371 (Fed. Cir. 2023) (Noting that a party’s burden “cannot be met simply by throwing mountains of evidence at the Board without explanation or identification of the relevant portions of that evidence.”).

We also agree that, to the extent Petitioner is relying on Dr. Forsyth to supply arguments and explanations missing from the Petition, such reliance is improper. For example, Petitioner’s string cite parenthetical for limitation [1.d] is less than one page, but the cited portions of Dr. Forsyth’s testimony comprise about 13 pages, along with an additional nine pages in the expanded claim chart of Appendix C. Pet. 61; Ex. 1003 ¶¶ 159–167, Appendix C. Our rules expressly prohibit such incorporation by reference. 37 C.F.R. § 42.6(a)(3) (“Arguments must not be incorporated by reference from one document into another document.”). The Federal Circuit has held that “the ‘prohibition against incorporation of arguments from other documents serves various policy goals, including to ‘minimize the chance that an argument may be overlooked’ and to ‘eliminate[] abuses that arise from incorporation and combination.’” *Parus Holdings*, 70 F.4th at 1372 (citing *General Access Solutions, Ltd. v. Sprint Spectrum L.P.*, 811 F. App’x 654, 657 (Fed. Cir. 2020)). We decline to sift through Dr. Forsyth’s

declaration in order to find the arguments that may support Petitioner's challenge.

The question before us is not whether we could come up with a way to understand how the asserted prior art could render the challenged claims unpatentable, but rather did Petitioner provide the arguments and evidence to show that the challenged claims are unpatentable. Here, Petitioner has not met that burden and as such, Petitioner has not shown by a reasonable likelihood that any of the challenged claims are unpatentable.

2. *Whether the Petition Sufficiently Shows Patentability of Claim Limitation [1.f]*

As noted above, the Petition provides a proposed construction of the phrase in limitation [1.f] reciting that “the computer system controls the first and second image-capturing devices separately” to mean “control data sent by the computer system that cause image-capturing devices to capture images at different instants and/or at different intervals.” Petition 27; *see* § II.A.1, *supra*. Patent Owner argues that the Petition fails to sufficiently show that the proposed combination of Loewen and Fujimoto (the combination applied for claim 1) teaches this limitation under Petitioner's proposed construction. Prelim. Resp. 4–12.

As discussed above, the Petition includes a claim chart purporting to show that limitation [1.f] (like limitation [1.d] discussed above) is taught by the prior art. For limitation [1.f], the right side of the claim chart states that “Loewen plus Fujimoto discloses or renders obvious this limitation.” *Id.* Then, it restates portions of the claim language in bold followed by a parenthetical listing a series of snippets from either Loewen or Fujimoto. The portion of the claim chart discussing the disclosures of Loewen and Fujimoto is reproduced below:

[1.f)]	Loewen plus Fujimoto discloses or renders obvious this limitation. EX1003, ¶179. Loewen discloses that the computer system (see cl.1.d) transmits image-capture signals to the first image-capturing device and the second image-capturing device (see cl.1.a-cl.1.b) to cause the first and second image-capturing devices to capture images (e.g., EX1004, 3:3-10 (“still cameras exposure is automated by including in the system a capability for detecting a tower structure and an onboard computer (a central processing unit) containing operational software and operatively connected to the cameras and the tower detecting device”; “still cameras, computer, and detection capability are operationally interconnected to automatically activate the still cameras at the exposure points along the transmission line”); 7:13-31 (“still camera”
	“trigger[ed]... to acquire the images”); 6:31-58 (“[to] fire the still cameras, the computer must pre-arm the camera prior to... the actual trip”); 11:15-18 (“cameras... trigger[ed] based on actual detection of the presence of the tower structure”); <i>see also</i> cl.1.a; cl.1.b).¹² <i>See</i> EX1003, ¶¶180-187, 194; EX1004, Abstract, Fig.8; <i>see also</i> EX1004 4:1-13, 7:34-55, 10:50-67, 11:1-14, <i>supra</i>, p.23-24 (discussing Loewen).
	Fujimoto discloses controlling multiple image-capturing devices separately (e.g., EX1005, ¶0004 (“a computerized control for opening the shutters of a plurality of cameras independently of one another”); C1.1 (“computerized control for aerial photography... each shutter... driven at independently different interval time”)). <i>See id.</i>, ¶Fig.2; <i>see also</i> EX1005, Abstract, ¶0001, ¶0006, ¶0008, ¶0010; EX1003, ¶¶188-191:

Pet. 67–70.

Patent Owner argues that neither this claim chart, nor any other portion of the Petition, “identif[ies] what disclosure from Loewen or Fujimoto teaches the ‘control data’ required by Petitioner’s claim construction.” Prelim. Resp. 5. “In fact,” Patent Owner asserts, “the phrase ‘control data’ does not appear anywhere in the Petition other than the sentence setting forth Petitioner’s claim construction.” *Id.* (citing Pet. 27). According to Petitioner, “any mention of ‘data’ or ‘information’ or other

similar language that Petitioner might be mapping to ‘control data’” is “missing from the series of quotes from Loewen and Fujimoto” in the claim chart.” *Id.* at 6–7. Petitioner further contends that “the Petition also fails to address whether any such unidentified ‘control data’ is ‘*sent by the computer system*’ as further required by Petitioner’s claim construction.” *Id.* at 7. Additionally, Petitioner argues, this deficiency cannot be cured by reliance on Dr. Forsyth’s Declaration because doing so would be an improper incorporation by reference. *Id.* at 7–8. And, in any event, Petitioner contends, “Dr. Forsyth fails to make an explicit mapping of the cited references to ‘control data,’ let alone ‘control data sent by the computer system.” *Id.* at 9 (citing Ex. 1003 ¶¶ 179–195, Appendix B, 57–68).

Petitioner responds by pointing to Dr. Forsyth’s statement that “Loewen expressly discloses the use of signals transmitted from Loewen’s GPS and altimeter to Loewen’s computer, which *in turn triggers* Loewen’s still cameras to capture images.” Prelim. Reply 1–2 (citing Ex. 1003 ¶¶ 182). Petitioner also points to the statement in footnote 12 of the Petition stating that the altimeter “would send a signal to Loewen’s computer, in turn triggering Loewen’s still cameras to capture images.” *Id.* at 2 (citing Pet. 68–69 n.12). Petitioner further argues that the Preliminary Response “ignores the Petition’s actual [1.f] mapping” and the mapping for elements [c.1.a] and [c.1.b], which references Loewen’s disclosures of “image-capturing events” such as having to camera being “trigger[ed] . . . to acquire the images” and the computer performing “real time coordination of camera tripping.” *Id.* at 2–3 (citing Pet. 49–53, 67–68, 103 n.30; Ex. 1004, Abstract, 7:13–31, 7:49–54). Finally, Petitioner argues that the “Background Art” portion of the Petition “include[es] a discussion collecting references

showing ‘6. A computer system that *transmits image-capture signals to the image-capturing devices*’” and references Figures 9 and 10 of Loewen. *Id.* at 3 (citing Pet. 23–24).

Patent Owner responds that the Petition “simply does not identify what disclosure from Loewen or Fujimoto teaches the ‘*control data*’ required by Petitioner’s claim construction,” and that Loewen’s disclosure of a computer that “triggers” the still cameras to capture images does not teach the use of “control data.” PO Sur-reply 2. Additionally, Patent Owner asserts that, “[t]o the extent Petitioner may now be attempting to argue that sending ‘control data’ is inherent, Petitioner is required to show that ‘control data’ is *inevitably* sent by the computer system to trigger the cameras.” *Id.* According to Patent Owner, Petitioner’s own evidence “establishes other ways of triggering cameras that do not rely on control data being sent by a computer system, such as Fujimoto’s discussion of “the use of amplified electrical pulses from an interval timer to open a camera shutter.” *Id.* Finally, Patent Owner contends that Petitioner’s Reply arguments pointing to other portions of the Petition, such as the discussion of “Background Art” and other claim limitations, were not made in the Petition and, in any event, do not mention “control data” or similar language.” *Id.* at 3.

We agree with Patent Owner that the Petition fails to sufficiently explain how the combination of Loewen and Fujimoto teaches the “control data” in Petitioner’s proposed construction. Neither Petitioner’s claim chart for limitation [1.f] nor the other portions of the Petition identified in Petitioner’s Reply identify what disclosure in Loewen or Fujimoto corresponds to this “control data,” or why this “control data” would be inherent in the disclosures of those references. Additionally, as discussed

above, to the extent Petitioner is relying on Dr. Forsyth's Declaration to provide argument not set forth in the Petition, such reliance would be an improper incorporation by reference. And, in any event, Dr. Forsyth also does not identify with specificity what disclosures of Loewen or Fujimoto correspond to the "control data" in Petitioner's proposed construction. Finally, Petitioner's Reply does not explain how Loewen's disclosure that the computer "triggers" the still cameras to capture images involves "control data," or why one of ordinary skill would understand that "control data" is necessarily sent as part of this "triggering."

Consequently, we determine that Petitioner has failed to sufficiently show that the combination of Loewen and Fujimoto teaches element [1.f], and thus has failed to establish a reasonable likelihood that claim 1 is unpatentable over this combination. Because Petitioner's other grounds are all directed to claims that depend from claim 1, Petitioner has failed to sufficiently show unpatentability of those claims as well.

III. CONCLUSION

After considering the evidence and arguments presented in the current record, we determine that Petitioner has failed to demonstrate a reasonable likelihood of success in proving that at least one of the challenged claims of the '657 patent is unpatentable. We therefore do not institute trial on any challenged claim raised in the Petition.

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that, pursuant to 35 U.S.C. § 314(a), no *inter partes* review of any of the challenged claims of the '657 patent is instituted with respect to any grounds set forth in the Petition.

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