

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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KINAXIS INC. and KINAXIS CORP.,  
Petitioner,

v.

BLUE YONDER GROUP, INC.,  
Patent Owner.

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IPR2021-01318  
Patent 8,781,868 B2

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Before NATHAN A. ENGELS, PAUL J. KORNICZKY, and  
BRENT M. DOUGAL, *Administrative Patent Judges*.

DOUGAL, *Administrative Patent Judge*.

JUDGMENT  
Final Written Decision  
Determining All Challenged Claims Unpatentable  
*35 U.S.C. § 318(a)*

## I. INTRODUCTION

### A. *Background and Summary*

Applying the standard set forth in 35 U.S.C. § 314(a), we instituted an *inter partes* review challenging the patentability of claims 1–20 (“the challenged claims”) of U.S. Patent 8,781,868 B2 (Ex. 1001, “the ’868 patent”). Paper 30 (“Decision” or “Dec.”). Petitioner, Kinaxis Inc. and Kinaxis Corp., filed the request for an *inter partes* review (Paper 2, “Petition” or “Pet.”), which Patent Owner, Blue Yonder Group, Inc., opposed (Papers 22, 27).<sup>1</sup>

After institution, Patent Owner filed a Response (Paper 37, “PO Resp.”), Petitioner filed a Reply (Paper 39, “Reply”), and Patent Owner filed a Sur-reply (Paper 46, “Sur-reply”). Patent Owner also filed a Motion to Exclude (Paper 39), with Petitioner filing an Opposition (Paper 47) and Patent Owner filing a Reply to the Opposition (Paper 49). An oral hearing was held on November 8, 2022, and a copy of the transcript was entered into the record. Paper 52 (“Tr.”).

We have jurisdiction under 35 U.S.C. § 6. This Decision is a Final Written Decision under 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73 as to the patentability of the claims on trial. Having reviewed the arguments of the parties and the supporting evidence, we determine that Petitioner has shown by a preponderance of the evidence that claims 1–20 are unpatentable.

### B. *Related Matters*

The parties identify the following related district court litigation: *Blue Yonder Group Inc. v. Kinaxis Inc.*, No. 3:20-cv-03636-K (N.D. Tex.). Pet. 77; Paper 5, 2.

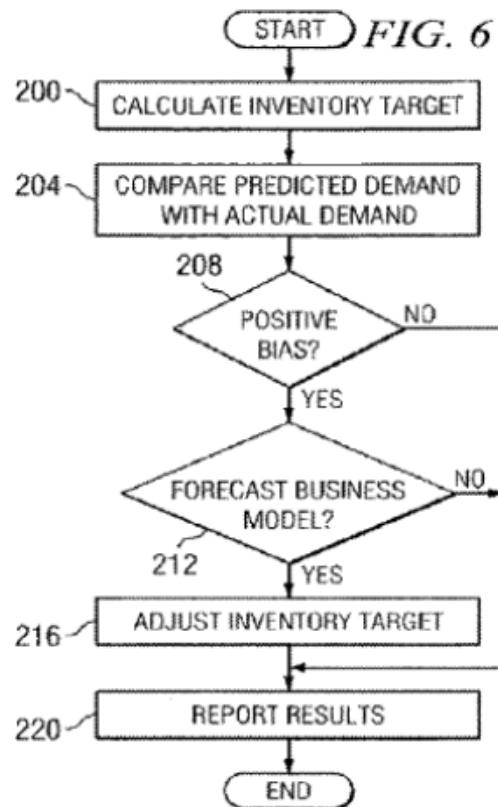
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<sup>1</sup> Petitioner also filed a Preliminary Reply. Paper 26.

*C. The '868 Patent*

The '868 patent is entitled “Determining an Inventory Target for a Node of a Supply Chain.” Ex. 1001, code (54). The '868 patent explains that “determining the proper amount of inventory [(i.e. the inventory target)] at each node [in a supply chain] may involve predicting the amount of inventory needed at the nodes to satisfy customer demand.” *Id.* at 1:30–33. The '868 patent further explains that it is important to maintain sufficient inventory to enable the production process or costly delays could occur; but, purchasing and holding inventory can be expensive, and inventory can become obsolete. *Id.* at 4:25–27.

A demand stock and a demand variability stock can be used to calculate an inventory target. *Id.* at 2:36–38. “The demand stock covers mean demand over lead time, and the demand variability stock covers demand variability over lead time,” where lead-time is the time between when an order is placed and when it arrives *Id.* at 2:38–40, 4:10–12. The system also establishes a demand bias, which “refers to the tendency of predicted demand [] to be greater than or less than actual demand.” *Id.* at 6:11–14. Positive bias is when predicted demand is less than actual demand and negative bias is when it is greater than actual demand. *Id.* at 6:14–17. The '868 patent's Figure 6 shows an example involving demand bias:



As shown in Figure 6, the method calculates an inventory target and then establishes whether there is a positive or negative demand bias. *Id.* at 6:7–19. If there is a positive bias and a forecast business model is used, then the inventory target will be adjusted. *See id.* at 6:20–35. If there is a positive bias and a forecast business model is *not* used, the inventory target will *not* be adjusted. *See id.*

Figure 7, reproduced below, illustrates a “method for optimizing an inventory target for a node of a supply chain.” *Id.* at 2:26–27.

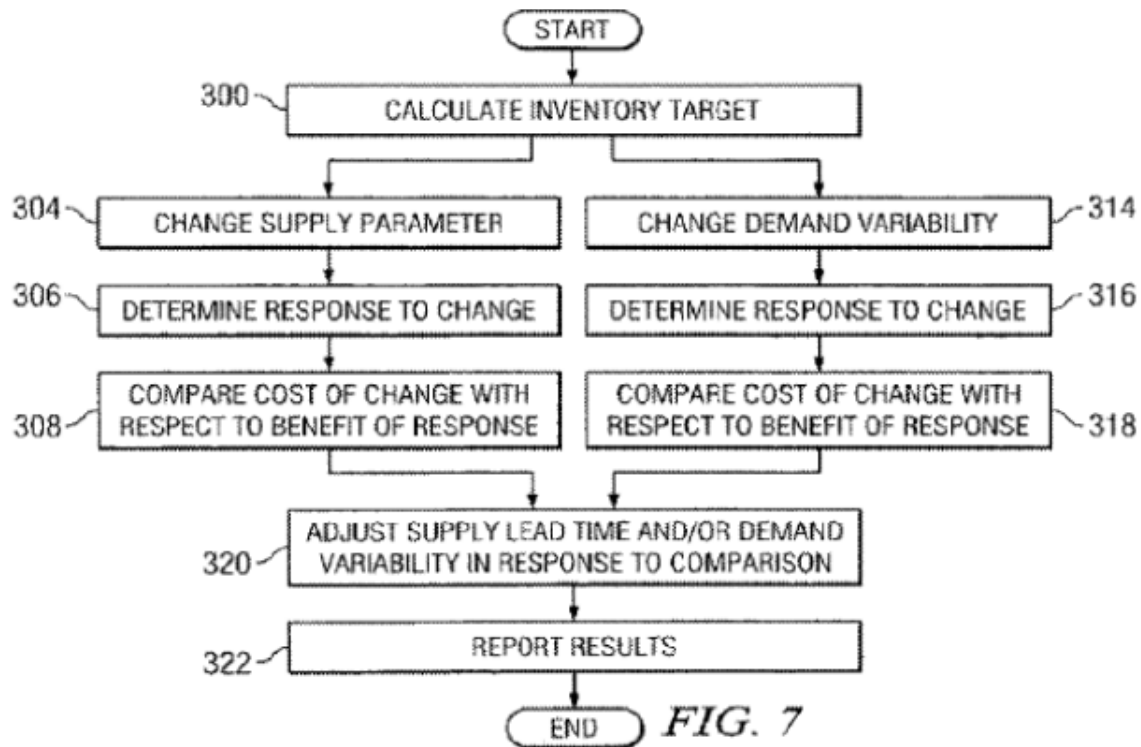


Figure 7 shows a method that calculates an inventory target and then changes a supply parameter. An example of changing a supply parameter is reducing the lead-time by selecting a faster delivery option. *See id.* at 6:56–7:3. This reduction in lead-time, however, may have associated costs, such as a higher delivery fee. *See id.* It may also have associated benefits, such as reduced demand stock (and thus reduced holding costs), as faster delivery means that less inventory is needed at the nodes. *See id.* If the benefit of the change outweighs the cost, the supply parameter is adjusted. *See id.*

#### D. Illustrative Claim

Petitioner challenges claims 1–20 of the '868 patent. Of the challenged claims, claims 1, 9, and 15 are independent and claim 1 is illustrative:

1. A method of optimizing a supply chain parameter of a node of a supply chain, comprising:

calculating, by a computer, an inventory target for a node of a supply chain; by:

calculating a demand stock that satisfies a demand over supply lead time at a node of the supply chain;

calculating a demand variability stock that satisfies a demand variability of the demand over supply lead time at the node;

establishing the demand bias of the demand at the node; and

determining the inventory target of the node based on the demand stock and the demand variability stock in accordance with the demand bias;

changing, by the computer, a supply parameter associated with the node, the change in the supply parameter associated with a supply parameter cost or a supply parameter benefit;

adjusting, by the computer, the supply parameter associated with the node, when the benefit of the supply parameter exceeds the cost of the supply parameter; and

adjusting, by the computer, the inventory target of the node based on the adjusted supply parameter.

Ex. 1001, 7:62–8:18.

## II. ANALYSIS

### *A. Summary of Issues*

In the analysis below, we first address the grounds of unpatentability.

We then address the Motion to Exclude.

### *B. Grounds of Unpatentability*

Petitioner asserts the following grounds of unpatentability (Pet. 1), supported by the declaration of Dr. Stephen C. Graves (Ex. 1003):

| <b>Claim(s) Challenged</b>         | <b>35 U.S.C. §</b>  | <b>Reference(s)/Basis</b>                  |
|------------------------------------|---------------------|--------------------------------------------|
| 1, 3, 9, 15                        | 103(a) <sup>2</sup> | Graves, <sup>3</sup> Winqvist <sup>4</sup> |
| 2, 4, 8, 10, 14, 16, 20            | 103(a)              | Graves, Winqvist, Coyle <sup>5</sup>       |
| 6, 12, 18                          | 103(a)              | Graves, Winqvist, Coyle, MIT <sup>6</sup>  |
| 5, 11, 17                          | 103(a)              | Graves, Winqvist, Schroeder <sup>7</sup>   |
| 7, 13, 19                          | 103(a)              | Graves, Winqvist, Coyle, Schroeder         |
| 1, 3, 9, 15                        | 103(a)              | Agarwal, <sup>8</sup> Liao <sup>9</sup>    |
| 2, 4, 8, 10, 14, 16, 20            | 103(a)              | Agarwal, Liao, Coyle                       |
| 6, 12, 18                          | 103(a)              | Agarwal, Liao, Coyle, MIT                  |
| 1, 3, 5, 9, 11, 15, 17             | 103(a)              | Agarwal, Liao, Schroeder                   |
| 2, 4, 7, 8, 10, 13, 14, 16, 19, 20 | 103(a)              | Agarwal, Liao, Schroeder, Coyle            |
| 6, 12, 18                          | 103(a)              | Agarwal, Liao, Schroeder, Coyle, MIT       |

<sup>2</sup> The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284, 285–88 (2011), revised 35 U.S.C. § 103 effective March 16, 2013. We refer to the pre-AIA version of § 103.

<sup>3</sup> Graves, et. al, “Optimizing Strategic Safety Stock Placement in Supply Chains,” Manufacturing & Service Operations Management, Vol. 2, No. 1 (Winter 2000) (“Graves”) (Ex. 1007).

<sup>4</sup> PCT Pub. WO2000/046733, pub. Aug. 10, 2000 (“Winqvist”) (Ex. 1008).

<sup>5</sup> Coyle, et. al, “The Management of Business Logistics: A Supply Chain Perspective,” (7th ed. 2002) (“Coyle”) (Ex. 1006).

<sup>6</sup> Davis, “Effective Supply Chain Management” Massachusetts Institute of Technology Sloan Management Review, Vol. 34, No. 4 (Summer 1993) (“MIT”) (Ex. 1009).

<sup>7</sup> Schroeder, “Operations Management: Contemporary Concepts” (1999) (“Schroeder”) (Ex. 1010).

<sup>8</sup> U.S. Patent Pub. 2003/0101107, pub. May 29, 2003 (“Agarwal”) (Ex. 1004).

<sup>9</sup> Liao, et. al, “An Analytical Determination of Lead Time with Normal Demand,” Department of Industrial Management, National Taiwan Institute of Technology, Taiwan (June 1991) (“Liao”) (Ex. 1005).

*C. Legal Standards*

Petitioner bears the burden to demonstrate unpatentability. *Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015).

A claim is unpatentable as obvious under 35 U.S.C. § 103(a) 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) (quoting 35 U.S.C. § 103(a)). We resolve the question of obviousness based on underlying factual determinations, including (1) the scope and content of the prior art; (2) any differences between the prior art and the claims; (3) the level of skill in the art; and (4) when in evidence, objective indicia of obviousness or nonobviousness. *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

We apply these principles to the Petition’s challenges.

*D. Level of Ordinary Skill in the Art*

Petitioner does not provide a level of skill for a person of ordinary skill in the art (“POSA” or “one of skill in the art”). *See generally* Pet. However, Petitioner’s declarant states that a POSA:

would have had at least a Bachelor’s degree in industrial engineering, operations research, management science, or applied math, with 2–3 years of experience in supply chain management. The same experience can be obtained through research and study in a graduate program or through comparable exposure to research literature through industry employment working in the field of supply chain management.

Ex. 1003 ¶ 27.

Patent Owner states that it applies the above definition. PO Resp. 12.

We are persuaded, on the present record, that Petitioner’s declarant’s proposal is consistent with the problems and solutions in the ’868 patent and prior art of record. We adopt this definition of the level of ordinary skill for the purposes of this Decision.

*E. Claim Construction*

In *inter partes* review, we construe claims 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), including construing the claim in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent. 37 C.F.R. § 42.100(b) (2020).

Petitioner states that no claim terms need any express claim construction. *See* Pet. 3–4. Patent Owner directs us to the claim construction order in the related district court litigation. PO Resp. 11 (citing Ex. 2034).

Patent Owner then argues that “the term ‘in accordance with the demand bias’ should be given its plain and ordinary meaning, the same construction as applied in the district court case.” *Id.* at 12 (citing Ex. 2034, 13–14). Petitioner agrees that “[t]he plain and ordinary meaning of this term should apply.” Reply 4.<sup>10</sup> Though the parties agree that the plain and ordinary meaning of the term “in accordance with the demand bias” applies,

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<sup>10</sup> No other claim term needs to be construed. We only address constructions relevant to the current controversy. *See Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1375 (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))).

Patent Owner provides some additional argument as to what this means which we address below.

Claim 1 includes: “determining the inventory target of the node based on the demand stock and the demand variability stock *in accordance with the demand bias*.” Ex. 1001, 8:6–8 (emphasis added).

We agree with the parties that the plain and ordinary meaning of the term “in accordance with the demand bias” applies. In the related District Court litigation, the court determined that “the inventory target is adjusted, if needed, in accordance with the demand bias, which is exactly what the claims say and is the plain and ordinary meaning of the phrase.” Ex. 2034, 14.

Though Patent Owner says that the plain and ordinary meaning and “the same construction as applied in the district court case” should apply (PO Resp. 12), Patent Owner also argues that the embodiment of Figure 6 from the ’868 patent should be read into the claim (*id.* at 13–14). In particular, Patent Owner argues that “in accordance with the demand bias” should be construed to mean that “the inventory target is only adjusted when the calculated bias is positive, or predicted demand is less than actual demand.” *Id.* at 14.

In Patent Owner’s claim construction arguments, Patent Owner states that the Defendant in the District Court case proposed a construction that would have improperly excluded the embodiment of Figure 6. *Id.* at 11–12. Patent Owner argues that we should go a step further—because the District Court rejected a claim construction that would have excluded the embodiment of Figure 6, we should limit the claim to only the embodiment of Figure 6. *Id.* at 14–15.

Patent Owner provides no analysis explaining why reading limitations into the claim is in accordance with the plain and ordinary meaning. Further, notably missing from Patent Owner's analysis is a discussion of why the claim language would be understood to include the embodiment of Figure 6. Rather, Patent Owner merely identifies teachings in the Specification and then argues that the claim should be limited to those teachings. This is inappropriate. The mere fact that the Specification provides an example as to how demand bias can be used is not a sufficient reason for us to read a limitation into the claims from the Specification.

If the specification "reveal[s] a special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess[,] . . . the inventor's lexicography governs." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316 (Fed. Cir. 2005) (en banc) (citing *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002)); see also Reply 19. However, this is not the case here. Patent Owner does not identify anywhere in the Specification where "in accordance with the demand bias" is defined as or limited to the inventory target being adjusted *only* when the calculated bias is positive, or predicted demand is less than actual demand.

For these reasons, we decline to read the embodiment of Figure 6 from the '868 patent into the claims. We further determine that such a construction would not be consistent with the plain and ordinary meaning, which construction is identified by the district court—namely, that "the inventory target is adjusted, if needed, in accordance with the demand bias, which is exactly what the claims say and is the plain and ordinary meaning of the phrase." Ex. 2034, 14. We further agree with the district court's claim construction.

*F. 35 U.S.C. § 103(a) – Graves, Winqvist*

Petitioner argues that the combination of Graves and Winqvist renders obvious claims 1, 3, 9, and 15. Pet. 45–64. Patent Owner argues against the combination of Graves and Winqvist and also argues that the Petition has not shown that the combination discloses all elements of the claims. PO Resp. 12–31. For the reasons expressed below, we determine that Petitioner has shown by a preponderance of the evidence that claims 1, 3, 9, and 15 are unpatentable.

*1. Graves*

Graves is an article that addresses the problem of “where to hold safety stock to minimize inventory costs” in “complex supply chains.” Ex. 1007, 1. It presents a framework for “modeling strategic safety stock in a supply chain that is subject to demand or forecast uncertainty.” *Id.* Graves sets a number of “key assumptions,” including bounded demand, deterministic lead times, and guaranteed service time between every stage and its customers. *Id.* at 1, 3. These assumptions allow Graves “to capture the stochastic nature of the problem and formulate it as a deterministic optimization.” *Id.* at 1.

Graves states that “for the purposes of positioning safety stock, a manager might specify the demand bounds at the demand node by” the following equation:

$$D_j(\tau) = \tau\mu + k\sigma\sqrt{\tau}$$

where “ $D_j(\tau)$ ” is the demand bound for end item “ $j$ ” over a time interval of length “ $\tau$ ”, and “ $k$ ” is a safety factor defined as “how frequently the manager is willing to resort to other tactics to cover demand variability.” *Id.* at 4. This

is based on the “assumption where demand for end item  $j$  is normally distributed each period . . . with mean  $\mu$  and standard deviation  $\sigma$ .” *Id.*

Graves also provides an equation for base stock “ $B_j$ ” in a single-stage model assuming bounded demand as:

$$B_j = D_j(\tau) \text{ where } \tau = SI_j + T_j - S_j$$

*Id.* at 6.

Graves explains that

the base stock equals the maximum possible demand over the *net* replenishment time for the stage. The *net* replenishment time for stage  $j$  is the replenishment time ( $SI_j + T_j$ ) minus its service time ( $S_j$ ). At any time  $t$ , stage  $j$  has filled its customers’ demand through time  $t - S_j$ , but has only been replenished for demand through time  $t - SI_j - T_j$ . The base stock must cover this time interval of exposure, namely the net replenishment time.

*Id.*

## 2. *Winqvist*

Winqvist is titled “Method for Maintaining an Inventory.” Ex. 1008 code (54). Winqvist describes “a dynamic method of computing [] order quantities simultaneously taking into account safety stocks and safety times” that includes computing “a forecast based safety stock.” *Id.* at Abstract, 1:8–10.

Winqvist recognizes that calculation of a forecast based safety stock can often have errors and therefore proposes first and second corrective factors to increase “the accuracy of the forecasting model.” *Id.* at 6:3–7, 9:2–16. The corrective factors account for “possible error factors caused by sample size and forecast errors.” *Id.* at 16:9–14. Winqvist’s “correction factor 2” accounts for the “degree and bias of accumulated forecast error.” *Id.* at 11:30–12:18. The calculated degree and bias of the forecast error allows forecasting errors of different products to be compared. *Id.* at 12:11–

18. Winqvist further teaches, “[f]orecasts should be adjusted to compensate for this bias and safety stock levels reevaluated.” *Id.* at 13:4–28.

3. *Claims 1, 9, 15*

The Petition outlines how the combination of Graves and Winqvist teaches the features of independent claim 1, and then relies on essentially the same discussion for the related aspects of independent claims 9 and 15. Pet. 45–64. Patent Owner similarly addresses all of the independent claims together. *See* PO Resp. 12–31; *see also e.g., id.* at 13 (“Limitation 1[a][iv] is substantially similar to Limitations 9[a][iv] and 15[a][iv]. Patent Owner’s arguments with respect to Limitation 1[a][iv] thus equally apply to Limitations 9[a][iv] and 15[a][iv].”). Thus, we only address claim 1 in our analysis below, but our analysis applies equally to claims 9 and 15.

Generally, Petitioner relies on Graves for the majority of the features of claim 1 and on the combination of Graves and Winqvist for the features involving “demand bias.” Pet. 47–60. Patent Owner argues against the combination of Graves and Winqvist and also argues that the Petition has not shown that the combination discloses all elements of the claims. PO Resp. 12–31. We address the specific claim limitations in three sections below, where Patent Owner only contests the second set of claim limitations.

a) *Demand Stock and Demand Variability*

Claim 1 requires, *inter alia*:

A method of optimizing a supply chain parameter of a node of a supply chain, comprising:

calculating, by a computer, an inventory target for a node of a supply chain; by:

calculating a demand stock that satisfies a demand over supply lead time at a node of the supply chain;

calculating a demand variability stock that satisfies a demand variability of the demand over supply lead time at the node.

Ex. 1001, 7:62–8:3.

Petitioner argues that these elements of claim 1 are taught or suggested by the method of Graves. Pet. 49–53. For example, Petitioner argues that Graves teaches using software applications “for modeling *strategic safety stock* in a *supply chain* that is subject to demand or forecast uncertainty” to “*optimize[s] the inventory* in a supply chain.” *Id.* at 49 (quoting Ex. 1003, 1–2) (citing *id.* at 1–2, 10). For calculating an inventory target by calculating demand stock and demand variability stock as claimed, Petitioner relies on Grave’s equations:

$$D_j(\tau) = \tau\mu + k\sigma\sqrt{\tau}$$

$$B_j = D_j(\tau)$$

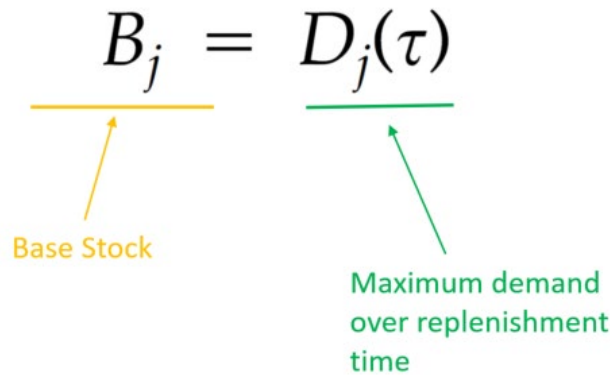
Pet. 50–53, 55. These same equations as marked-up by Petitioner are reproduced below:

$$\underline{D_j(\tau)} = \underline{\tau\mu} + \underline{k\sigma\sqrt{\tau}}$$

Maximum Demand  
for period  $\tau$

Demand Stock calculation  
for period  $\tau$  (mean  
demand for period  $\tau$ )

Demand Variability  
Stock calculation  
for period  $\tau$

$$\underline{B_j} = \underline{D_j(\tau)}$$


Base Stock

Maximum demand  
over replenishment  
time

*Id.* at 55.

Petitioner’s annotations identify how Petitioner compares the equations to the claim language. Petitioner argues that “ $\tau\mu$ ” is the mean demand for a period of time “ $\tau$ ” which corresponds to the claimed demand stock calculation. *Id.* at 50–52, 55. Petitioner argues that “ $k\sigma\sqrt{\tau}$ ” includes the “standard deviation [ $\sigma$ ] of demand over supply lead time” which corresponds to the claimed demand variability stock calculation. *Id.* at 52–53, 55. Thus, Petitioner argues that Graves’ calculation of the base stock “ $B_j$ ”, which equals maximum demand over replenishment time “ $D_j(\tau)$ ” corresponds to the claimed calculating an inventory target based on calculating demand stock and demand variability stock. *Id.* at 50, 55.

Patent Owner does not contest that Graves teaches these limitations. *See generally*, PO. Resp. 12–31.

Based on our review of the Petition and supporting evidence, and as summarized above, we determine that Petitioner has shown by a preponderance of the evidence that the above-listed demand stock and demand variability claim elements are taught or suggested by Graves.

*b) Demand Bias*

Claim 1 also requires:

calculating, by a computer, an inventory target for a node of a supply chain; by:

...

establishing the demand bias of the demand at the node; and

determining the inventory target of the node based on the demand stock and the demand variability stock in accordance with the demand bias.

As discussed above, Petitioner argues that Graves teaches calculating an inventory target based on the demand stock and the demand variability stock. Pet. 50, 55. Petitioner argues that the combination of Graves and Winqvist teaches establishing the demand bias and calculating the inventory target in accordance with the demand bias. *Id.* at 53–56. Patent Owner argues that Graves and Winqvist do not teach or suggest all of the demand bias limitations of the claim, that the Petition fails to fully explain the combination of Graves and Winqvist, that the Petition fails to establish that Graves and Winqvist would have been combined, and that the Petition fails to show a reasonable expectation of success in the combination of Graves and Winqvist. PO Resp. 12–31.

We first discuss Petitioner's positions concerning demand bias and calculating the inventory target in accordance with the demand bias. We then address Patent Owner's arguments.

*(1) Petitioner's Positions*

As discussed with respect to the prior limitation, Petitioner argues that Graves teaches calculating an inventory target based on the demand stock and the demand variability stock. Pet. 50, 55. These teachings are not

contested by Patent Owner. To meet the requirements of the present limitation, a demand bias must be established and then Graves' inventory target calculation must be made "in accordance with the demand bias." Petitioner argues that the combination of Graves and Winqvist teaches these limitations. *Id.* at 53–56.

Petitioner argues, and Patent Owner does not contest, that "Winqvist discloses that to ensure accurate safety stock, '[t]he calculated safety stock value is to be corrected' to account for 'possible error factors caused by sample size and forecast errors.'" Pet. 53 (quoting Ex. 1008, 16:9–14). Petitioner argues that this is done with "Winqvist's 'correction factor 2'" where "Winqvist's 'forecast' is a demand forecast and therefore the calculation of the degree and bias of the error provides the claimed demand bias." *Id.* at 53–54 (citing Ex. 1008, 4:26–30, 5:19–31, 9:14–20, 11:30–12:18; Ex. 1003 ¶¶ 217, 219).

Petitioner further argues, which is contested by Patent Owner, that "a POS[]A would have applied the suggestions of Winqvist to Graves to further account for demand bias when calculating inventory targets." *Id.* at 54 (citing Ex. 1003 ¶¶ 225–228; Ex. 1007, 3–4, 6; Ex. 1008, 12:1–13:26). Petitioner argues that "a POS[]A would have recognized that all inventory targets that are calculated based on demand would have equally benefitted by accounting for such bias and therefore Winqvist's correction factor 2 would have applied equally to the base stock of Graves." *Id.* at 56 (citing Ex. 1003 ¶ 228); *see also id.* at 47–48 (citing Ex. 1008, 1:13–17, 2:13–16, 5:14–18, 9:14–17, 11:30–12:18; Ex. 1003 ¶¶ 198–204) (discussing additional reasons to combine Graves and Winqvist).

(2) *In Accordance With Demand Bias*

Patent Owner argues that the combination of Graves and Winqvist does not teach or suggest “determining the inventory target of the node based on the demand stock and the demand variability stock in accordance with the demand bias.” PO Resp. 13–18. Patent Owner’s argument is based on its claim construction position for “in accordance with the demand bias,” which we rejected above (*see supra* § II.E), that Figure 6 of the ’868 patent should be read into the claim. Patent Owner implicitly admits that Winqvist teaches determining the inventory target in accordance with the demand bias, but argues that the manner in which the inventory target is adjusted in accordance with the demand bias is different from how it is done in Figure 6 of the ’868 patent (*see* PO Resp. 16–17 (explaining the teachings of Winqvist and comparing them to the teachings of the ’868 patent); *see also* Reply 5).

As we previously determined, and as agreed to by the parties, “in accordance with the demand bias” should be given its plain and ordinary meaning. As we also previously determined, reading the embodiment of Figure 6 from the ’868 patent into the claims would not be consistent with the plain and ordinary meaning. Thus, Patent Owner’s argument does not identify any issues with Petitioner’s position.

(3) *Explanation of the Combination*

Patent Owner argues that that “Petitioners fail to explain *how* a POSA would have applied correction factor 2 in Winqvist to Graves.” PO Resp. 18. Patent Owner acknowledges that the Petition and Petitioner’s declarant state that “Winqvist’s correction factor 2 would have applied equally to the base stock of Graves” and that “Winqvist’s suggestion to account for demand bias in inventory calculations would have been beneficially applied to not only

the safety stock calculation but also to the base stock calculation.” *Id.* at 19 (quoting Pet. 56; Ex. 1003 ¶ 228). However, Patent Owner continues that “neither the Petition nor the supporting expert declaration specify how, mathematically, a POSA would apply correction factor 2 to the . . . ‘inventory target calculations’ from Graves.” *Id.*

Patent Owner then offers Petitioner’s declarant’s testimony from a deposition of how one of skill in the art would mathematically apply Winqvist’s correction factor 2 to Graves’ inventory target calculations. *Id.* at 22–23 (quoting Ex. 2032, 61–62). For example, Petitioner’s declarant states that Winqvist teaches that correction factor 2 is applied “as an extra multiplier in the safety stock calculation” and so one of skill in the art applying this teaching “would . . . just multiply [the safety stock calculation in Graves] by the correction factor.” *Id.* at 23 (quoting Ex. 2032, 61–62).

In response, Petitioner argues that the Petition gave two examples of how Winqvist’s correction factor 2 would have been applied to Graves. Reply 7, 8 (citing Pet. 56). As the first example, Petitioner argues that “PO’s question of ‘how then should correction factor 2 be applied?’ (POR, 20) was already answered in the Petition: ‘as an extra multiplier’ that is applied to either the safety stock value or base stock value calculated using Graves’ formulas.” *Id.* at 8 (quoting Pet. 56; citing Ex. 1003, ¶¶ 226–228).<sup>11</sup>

Thus, Petitioner shows that the Petition (and the earlier declaration testimony) is consistent with the deposition testimony cited by Patent Owner as a new argument. The Petition states:

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<sup>11</sup> In the Sur-reply Patent Owner argues that Winqvist does not apply the correction factor in this scenario in the same way as taught in the Specification of the ’868 patent. Sur-reply 6–7. This argument is based on Patent Owner’s claim construction which we previously rejected.

For example, “[c]orrection factor 2 is applied as an extra multiplier in safety stock calculations.” Winqvist, 13:20-26. While Winqvist describes applying the identified demand bias (FETS) to adjust safety stock, a POS[]A would have recognized that all inventory targets that are calculated based on demand would have equally benefitted by accounting for such bias and therefore Winqvist’s correction factor 2 would have applied equally to the base stock of Graves. EX1003, ¶228.

Pet. 56.

For the second example, Petitioner argues that the Petition states that “[f]orecasts should be adjusted to compensate for this bias and **safety stock levels reevaluated**” (Reply 8 (quoting Pet. 56)), and that “such adjustments to forecasts and the corresponding reevaluation of safety stock levels would have been well within the skill of a POS[]A” (*Id.* at 8–9 (citing Ex. 1003 ¶ 227, Ex. 1024 ¶¶ 6–7)).<sup>12</sup>

Patent Owner implicitly acknowledges that these two examples show explain how a POSA would have applied correction factor 2 in Winqvist to Graves. Sur-reply 5–12; *see also id.* at 10 (explicitly acknowledging the first example in the Petition). However, Patent Owner incorrectly asserts that “neither of [Petitioner’s two positions] was set forth in the Petition.” *Id.* at 5. Patent Owner does not address why Petitioner’s quotes from the Petition, or the explanation in Petition, are insufficient. *See* Pet. 56; Reply 7–10. We agree with Petitioner that both of these examples were included in the Petition. *See* Pet. 56.

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<sup>12</sup> Patent Owner’s arguments first presented in the Sur-reply opposing Petitioner’s alternative position on how a POSA would have applied Winqvist’s correction factor 2 to Graves, which focus on forecasting (Sur-reply 8–10), are too late and should have been included in the Patent Owner Response. Thus, we do not consider these late-filed arguments.

Thus, to the extent that a mathematical explanation was required to be included in the Petition as asserted by Patent Owner, we determine that one of skill in the art would understand how to mathematically apply the teachings of Winqvist to Graves based on the teachings discussed in the Petition.

(4) *Reasonable Expectation of Success*

Patent Owner argues that that the Petition fails to establish that Graves and Winqvist would have been combined with a reasonable expectation of success. PO Resp. 24–31. Among other things, Patent Owner argues that Graves and Winqvist are incompatible deterministic and stochastic models, and that one of skill in the art is not aware of supply chain patents. *Id.*

(a) *Deterministic v. Stochastic Models*

Patent Owner argues that the teachings of Graves and Winqvist are incompatible. PO Resp. 25–28; Sur-reply 12–13. This is because, as asserted by Patent Owner, Graves is a deterministic model and Winqvist is a stochastic model. PO Resp. 25–28; Sur-reply 12–13. Patent Owner states that “[a] deterministic model is one with known or certain variables,” while “stochastic models . . . include random or uncertain variables.” Prelim. Resp. 27 (citing Ex. 2019 ¶¶ 47–48).

Patent Owner argues that Graves removes uncertainty by making assumptions to “ensure[] that there will always be enough inventory to meet demand.” PO Resp. 25–26 (citing Ex. 2019 ¶ 50). This is in contrast to Winqvist that takes uncertainties into consideration. *Id.* at 26 (citing Ex. 1008, 7). Patent Owner continues:

Thus, a POSA would not have combined the deterministic model of Graves with the stochastic model of Winqvist, because the assumptions in the Graves model run directly counter to those in those in the Winqvist model, and the addition of Winqvist’s

correction factor 2, used to account for uncertainty, would undermine the objectivity of Graves, which does not allow for uncertainty. EX2019 ¶ 55.

*Id.* at 27.

Petitioner responds by arguing that Patent Owner is attempting to create a false distinction between deterministic and stochastic models. Reply 10.<sup>13</sup> Petitioner points to Graves as expressly teaching that one of skill in the art would take deterministic and stochastic features into consideration. *Id.* at 10–11.

The Abstract of Graves states:

In this paper we develop a framework for modeling strategic safety stock in a supply chain that is *subject to demand or forecast uncertainty*. . . . Our assumptions allow us to capture the *stochastic nature of the problem and formulate it as a deterministic optimization*.

Ex. 1007, 1 (emphasis added).

Patent Owner’s argument that “Graves . . . does not allow for uncertainty” seems to overstate the teachings of Graves. From the above, it can be seen that Graves teaches capturing the uncertain nature of a supply chain and expressly considering both deterministic and stochastic features of a supply chain. Rather than being merely deterministic, Graves starts with stochastic variables and has developed a model that attempts to get the best estimate in the conversion to a deterministic model. It is unclear why a POSA would not consider the stochastic variables from the combined

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<sup>13</sup> Petitioner also argues that combining Graves and Winqvist as outlined in the Petition is within the skill of the art. Reply 10. This argument is supported by testimony of Petitioner’s declarant (Ex. 1003 ¶¶ 199, 204; Ex. 1024 ¶¶ 5–10) and is uncontested by Patent Owner. *See generally* Sur-reply. We determine that the evidence supports Petitioner’s position in this regard.

teachings of Winqvist and Graves when developing an improved model as outlined in the Petition. *See* Reply 12. Further, as Graves starts with stochastic variables, and expressly teaches taking stochastic variables into consideration it is not clear why the teachings of Winqvist and Graves would be incompatible.

Further, Graves like Winqvist, also takes uncertainties into consideration, contrary to Patent Owner’s position. *See* PO Resp. 26. Patent Owner’s declarant explains that Graves’ equation 1 ( $D_j(\tau) = \tau\mu + k\sigma\sqrt{\tau}$ )<sup>14</sup> includes the standard deviation of demand “ $\sigma$ ,” which is “a stochastic parameter.” Ex. 2019 ¶ 50. He continues to explain that Graves’ equation 4 ( $B_j = D_j(\tau)$ )<sup>15</sup> is deterministic because equation 1 has been calculated and that value ( $D_j(\tau)$ ) is inserted into equation 4 thereby eliminating “variability or uncertainty.” *Id.* ¶¶ 50–51; *see also* Reply 11–12. In other words, Graves’ equation 4 is deterministic not because it doesn’t take uncertainty into consideration, but rather because it has already used the stochastic parameter to calculate a value that can be inserted into equation 4 and thus no longer includes the stochastic parameter. At the same time, one could easily substitute equation 1 into equation 4 instead of using the calculated value and create a new equation that does include a stochastic parameter ( $B_j = \tau\mu + k\sigma\sqrt{\tau}$ ). Thus, Graves takes uncertainties into consideration.<sup>16</sup> We

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<sup>14</sup> Petitioner relies on Graves’ equation 1 to teach a number of limitations in claim 1. *See supra* II.F.3.a).

<sup>15</sup> Petitioner also relies on Graves’ equation 4 to teach limitations of claim 1. *See supra* II.F.3.a).

<sup>16</sup> As Graves considers uncertainty, it is unnecessary for us to address Patent Owner argument based on the false premise that Graves does not consider uncertainty. PO Resp. 27–28 (“If there is no uncertainty, adjusting for bias is simply not necessary.”).

determine that this further shows that the teachings of Winqvist and Graves are compatible and that Patent Owner's argument does not identify any deficiencies in Petitioner's position or evidence.

*(b) Supply Chain Patents and Other Arguments*

Patent Owner offers the testimony of its declarant who states: “[i]n conducting my scholarly research work, I have never reviewed patents or applications.” Ex. 2031 ¶; *see* PO Resp. 28. Patent Owner also cites Petitioner's declarant as making a similar statement. *Id.* (citing Ex. 2032, 56). Based on the declarants' experiences and statements, Patent Owner then argues that “a POSA would not review patents in the supply chain field,” such as Winqvist. PO Resp. 28 (citing Ex. 2032, 56; Ex. 2031 ¶¶ 24–26). However, whether or not either declarant reviews patents is irrelevant. The person of ordinary skill in the art is a hypothetical person presumed to have known the relevant art at the time of the invention. *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995); *see also* Reply 14–15. If this were not the case, the obviousness analysis could be determined based on ignorance, rather than on the knowledge already disclosed to the world. As Patent Owner's argument is based on an incomplete understanding of the law, the argument itself is not relevant to a determination of obviousness.

Patent Owner also argues that Graves and Winqvist are directed to different problems, and that Winqvist is confusing and potentially costly. PO Resp. 29–31.

Similar to the above, there is no requirement that Graves and Winqvist be directed to solving the same problem in order to be combinable in the obviousness analysis. Patent Owner does not contest Petitioner's evidence that Graves and Winqvist both “relate to supply chain and inventory

management” (Ex. 1003 ¶ 204), as does the ’868 patent (*id.* ¶¶ 31–34; Ex. 1001, 1:24–26). Further, the Supreme Court instructs that “if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond that person’s skill.” *KSR Int’l Co.*, 550 U.S. at 401. We determine that combining Graves and Winqvist is within the skill in the art. As Patent Owner’s argument is based on an incomplete understanding of the law, the argument itself is not relevant to a determination of obviousness.

Patent Owner asserts without further explanation that “Winqvist also advocates for making unnecessary, potentially costly adjustments to safety stock even when forecasts are not biased.” PO Resp. 30 (citing Ex. 2031 ¶¶ 34–41). We decline to consider this underdeveloped argument that appears to rely on an improper incorporation by reference of Patent Owner’s declarant’s testimony. *See* 37 C.F.R. § 42.6(a)(3) (“Arguments must not be incorporated by reference from one document into another document.”).

Patent Owner also argues that Winqvist is confusing and thus would likely be rejected altogether. PO Resp. 29–30. Patent Owner argues in particular that Winqvist’s “Mean Absolute Deviation of Forecast Errors” and “Mean Absolute Percentage Errors” are confusing terms and calculations. *Id.* (citing Ex. 2031 ¶ 27–30). However, Patent Owner fails to explain why any confusion with respect to these terms and calculations would be relevant to the proposed combination of Winqvist’s correction factor 2 with the teachings of Graves.

Patent Owner’s argument does not address Winqvist’s correction factor 2. Patent Owner does not argue that Winqvist’s correction factor 2 is confusing. Patent Owner does not argue that a POSA would be confused

concerning Winqvist's teachings that correction factor 2 is used to ensure accurate safety stock. *See* Pet. 53; Ex. 1008, 16:9–14. Further, we agree with Petitioner that though “some of the specific example equations disclosed by Winqvist may differ from what Dr. Thomas considers to be ‘standard’ [this] has no bearing on the application of Winqvist's broader teachings regarding correcting for demand bias to Graves' method to improve inventory target calculations.” Reply 17; *see* Sur-reply 15.

Further, we do not agree with Patent Owner that the mere fact that some of Winqvist's calculations and terms differ from other references, this alone is sufficient to show that a POSA would not look to Winqvist or rely on Winqvist's correction factor 2. Sur-reply 15–16.

Based on our review of the Petition and supporting evidence, and as summarized above, we determine that Petitioner has shown by a preponderance of the evidence that the above listed supply parameter claim elements are taught or suggested by Graves.

(5) *Conclusion as to Demand Bias*

Based on our review of the Petition and supporting evidence, and as summarized above, we determine that Petitioner has shown by a preponderance of the evidence that the above listed demand bias elements are taught or suggested by the combination of Graves and Winqvist.

c) *Supply Parameter*

Claim 1 also requires:

changing, by the computer, a supply parameter associated with the node, the change in the supply parameter associated with a supply parameter cost or a supply parameter benefit;

adjusting, by the computer, the supply parameter associated with the node, when the benefit of the supply parameter exceeds the cost of the supply parameter; and

adjusting, by the computer, the inventory target of the node based on the adjusted supply parameter.

Petitioner argues that these elements of claim 1 are taught or suggested by the method of Graves. Pet. 57–60. For example, Petitioner argues that Graves teaches changing the supply lead time and “compar[ing] the investment required to reduce a lead-time versus the cost savings from the reductions in pipeline and safety stock cost.” Pet. 57 (emphasis omitted) (quoting Ex. 1007, 12); *see id.* at 57–59. Petitioner further argues that “a POS[]A would have recognized that a reduction in the lead-time (a change in period  $\tau$ ) would have resulted in a recalculation of the demand over lead-time, thus changing the inventory target (base stock).” *Id.* at 60 (citing Ex. 1003 ¶ 237).

Patent Owner does not contest that Graves teaches these limitations. *See generally*, PO. Resp. 12–31.

Based on our review of the Petition and supporting evidence, and as summarized above, we determine that Petitioner has shown by a preponderance of the evidence that the above listed supply parameter claim elements are taught or suggested by Graves.

#### *d) Conclusion*

After our review of Petitioner’s assertions with respect to claims 1, 9, and 15, the supporting evidence, and Patent Owner’s responsive arguments, we determine that Petitioner has shown by a preponderance of the evidence that claims 1, 9, and 15 are unpatentable.

#### *4. Claim 3*

Petitioner argues that the combination of Graves and Winqvist renders obvious claim 3. Pet. 60. Patent Owner does not separately address claim 3. *See generally* PO Resp. After our review of Petitioner’s assertions with

respect to claim 3, and the supporting evidence, we determine that Petitioner has shown by a preponderance of the evidence that claim 3 is unpatentable.

*G. 35 U.S.C. § 103(a) – Graves, Winqvist, Coyle, MIT, Schroeder*

Petitioner argues that dependent claims 2, 4–8, 10–14, and 16–20 would have been obvious over the combination of Graves and Winqvist with one or more of Coyle, MIT, and Schroeder. Pet. 65–76. Patent Owner does not separately address these contentions. *See generally* Prelim. Resp.

After our review of Petitioner’s assertions with respect to claims 2, 4–8, 10–14, and 16–20, and the supporting evidence, we determine that Petitioner has shown by a preponderance of the evidence that claims 2, 4–8, 10–14, and 16–20 are unpatentable.

*H. 35 U.S.C. § 103(a) – Agarwal, Liao; Agarwal, Liao, Coyle, MIT; Agarwal, Liao, Schroeder; and Agarwal, Liao, Schroeder, Coyle, MIT*

Petitioner argues that the combination of Agarwal and Liao renders obvious claims 1, 3, 9, 15. Pet. 5–18. Petitioner argues that dependent claims 2, 4, 6, 8, 10, 12, 14, 16, 18, 20 would have been obvious over the combination of Agarwal and Liao with one or more of Coyle and MIT. *Id.* at 18–38. Petitioner argues that claims 1, 3, 5, 9, 11, 15, 17 would have been obvious over the combination of Agarwal, Liao, and Schroder. *Id.* at 38–43. Petitioner argues that dependent claims 2, 4, 6–8, 10, 12–14, 16, and 18–20 are obvious over the combination of Agarwal, Liao, and Schroeder with one or more of Coyle and MIT. *Id.* at 44–45. Patent Owner provides opposing arguments. PO Resp. 31–49.

Because we determine that the challenged claims are unpatentable over combinations involving Graves and Winqvist, we decline to address these grounds. *See Beloit Corp. v. Valmet Oy*, 742 F.2d 1421, 1423 (Fed.

Cir. 1984) (explaining that an administrative agency “is at perfect liberty” to reach a decision based on a “single dispositive issue”).

*I. Motion to Exclude*

Patent Owner filed a Motion to Exclude in whole or in part exhibits 1003, 1005–1007, 1009–1011, 1016, and 1024. Paper 46. Petitioner filed an Opposition (Paper 47) and Patent Owner filed a Reply to the Opposition (Paper 49). Patent Owner, as the moving party, has the burden to establish that it is entitled to the requested relief. 37 C.F.R. §§ 42.20(c), 42.62(a).

As noted herein, we do not reach the grounds involving Agarwal and Liao. Thus, the portions of the Motion to Exclude related to these grounds are moot. For example, Patent Owner’s arguments to exclude Liao (Ex. 1005), and to exclude portions of Petitioner’s declarant’s testimony directed to the grounds involving Agarwal and Liao (Ex. 1003, ¶¶ 40–45, 70–197; Ex. 1024, ¶¶ 21–30) are moot. *See e.g.*, Paper 46, 4, 8–11, 14–15.

Further, Patent Owner’s arguments that Petitioner did not rely on Exhibit 1011 and portions of Exhibits 1003 and 1024 are also moot because we do not rely on those exhibits or portions of exhibits. *Id.* at 13–14. Similarly, Patent Owner’s arguments regarding Exhibit 1016 are also moot because we do not rely on that exhibit. *Id.* at 14–15.

We first address Patent Owner’s arguments with respect to Exhibits 1003 and 1024. We then address an argument directed at Exhibit 1006. We conclude by addressing the arguments directed collectively at Exhibits 1006, 1007, 1009, and 1010.

*1. Exhibits 1003, 1024*

Patent Owner argues that 1) portions of Exhibit 1003 should be excluded under Federal Rules of Evidence (“FRE”) sections 702–703; 2) portions of Exhibits 1003 and 1024 should be excluded under FRE §§ 106,

401–403; and 3) portions of Exhibits 1003 and 1024 should be excluded under FRE §§ 702–703, 705 and 37 CFR § 42.65(a). Paper 46, 1–13. We address each argument in turn.

*a) FRE §§ 702–703*

Patent Owner argues that portions of Exhibit 1003 should be excluded under the requirements FRE §§ 702–703 related to expert testimony. Paper 46, 1–3. Patent Owner argues that Petitioner’s declarant, Dr. Graves, “is not qualified to provide expert testimony . . . regarding computer technology or software engineering.” *Id.* at 1–2.

Petitioner responds, and Patent Owner does not contest, that Dr. Graves is “‘qualified in the pertinent art’ of supply chain management systems.” Paper 47, 1 (quoting *Sundance, Inc. v. Demonte Fabricating Ltd.*, 550 F.3d 1356, 1360 (Fed. Cir. 2008)) (citing Ex. 1003, ¶¶ 5–17; Ex. 2011); *see* Paper 49, 1–2.

Petitioner also argues that

Patent Owner’s assertion that Dr. Graves is not qualified to provide expert testimony regarding computer and software technology ignores the ample evidence of record of his decades of experience in working with and developing computer based supply chain management systems.

Paper 47, 2. Petitioner then cites and discusses portions of Exhibits 1003, 1007, and 2011, which we agree show that Dr. Graves has experience working with and developing computer based supply chain management systems.

Patent Owner declines to address any of the evidence cited by Petitioner, but rather states that “Petitioner never presents any evidence that Dr. Graves was sufficiently able to write software himself.” Paper 49, 1. Patent Owner fails to articulate why this is necessary or how this relates to

Patent Owner’s more general contention related to Dr. Graves being able to provide testimony concerning computer technology and software engineering.

In failing to address the evidence of record, Patent Owner has not satisfied its burden to show that it is entitled to the requested relief. 37 C.F.R. §§ 42.20(c), 42.62(a). Thus, we deny Patent Owner’s request to exclude portions of Ex. 1003 under this ground.<sup>17</sup>

*b) FRE §§ 106, 401–403*

Patent Owner argues that portions of Exhibits 1003 and 1024 should be excluded under FRE §§ 106 and 401–403. Paper 46, 3–9.

FRE § 106 provides that

If a party introduces all or part of a writing or recorded statement, an adverse party may require the introduction, at that time, of any other part — or any other writing or recorded statement — that in fairness ought to be considered at the same time.

FRE § 106 allows a party to require that portions of a document be introduced into evidence that are not already present. However, the entirety of Exhibits 1003 and 1024 are already of record. FRE § 106 does not provide a basis for Patent Owner to move to exclude portions of those exhibits.

Though Patent Owner cites FRE § 402, Patent Owner does not substantively discuss this rule of evidence. Patent Owner also does not argue that the portions of Exhibits 1003 and 1024 cited under this section of the

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<sup>17</sup> We also note that the Board is well positioned to determine and assign appropriate weight to the presented evidence. *See, e.g., Donnelly Garment Co. v. NLRB*, 123 F.2d 215, 224 (8th Cir. 1941) (“One who is capable of ruling accurately upon the admissibility of evidence is equally capable of sifting it accurately after it has been received . . .”).

Motion to Exclude are irrelevant as discussed in FRE § 402 . Thus, Patent Owner does not present any argument under FRE § 402 that provides an independent basis to exclude the cited portions of Exhibits 1003 and 1024.

FRE § 401 provides that

Evidence is relevant if:

- (a) it has any tendency to make a fact more or less probable than it would be without the evidence; and
- (b) the fact is of consequence in determining the action.

FRE § 403 provides in relevant part that

The court may exclude relevant evidence if its probative value is substantially outweighed by a danger of one or more of the following: unfair prejudice, confusing the issues, . . . .

As noted above, Patent Owner does not contest the relevance of the cited portions of Exhibits 1003 and 1024. Further, Patent Owner's arguments under FRE § 403 imply that these portions are relevant. Applying FRE § 403, Patent Owner bears the burden to show that the probative value of the evidence is substantially outweighed by a danger of, as asserted by Patent Owner, unfair prejudice and confusing the issues (Paper 46, 3, 9).

Patent Owner asserts that the cited portions of Exhibits 1003 and 1024 are incomplete and misleading. For each cited portion, Patent Owner identifies a concept discussed by Petitioner's declarant that Patent Owner disagrees with. Patent Owner does not cite its own declarant for support. Though Patent Owner disagrees with many statements made by Petitioner's declarant, Patent Owner does not adequately address why this disagreement results in the probative value being substantially outweighed by unfair prejudice or confusion of the issues such that we should exclude the evidence. For example, Patent Owner had the opportunity to present evidence from its own declarant and to cross-examine Petitioner's declarant.

See Paper 47, 6. Thus, Patent Owner had the opportunity to provide evidence contrary to the positions taken by Petitioner's declarant and to clarify the issues.

We also agree with Petitioner that a motion to exclude is not the proper place to resolve underlying factual disputes. *Id.*; see also Paper 31, 8 (“any arguments not raised in the [Patent Owner] response may be deemed waived”).

Thus, we decline to exclude the cited portions of Exhibits 1003 and 1024 on the basis of FRE §§ 401, 403.

c) FRE §§ 702–703, 705; 37 CFR § 42.65(a)

Patent Owner argues that portions of Exhibits 1003 and 1024 should be excluded under 37 CFR § 42.65(a) and FRE §§ 702–703, 705. Paper 46, 9–13.

Patent Owner states that these cited rules are directed at the weight which should be given the evidence. Paper 46, 9–10 (“an expert witness must ‘disclose the underlying facts or data on which the opinion is based’; otherwise, the opinion ‘is entitled to little or no weight.’” (quoting 37 C.F.R. § 42.65(a))). But, Patent Owner further states that “[w]hile some tribunals assess the weight accorded to evidence under 37 C.F.R. § 42.65, other panels exclude the evidence entirely. *Id.* at 10 (citing *Abbott Vascular, Inc. v. Flexstent*, No. IPR2019-00882, 2020 WL 5875765, at \*14-15 (PTAB Oct. 2, 2020)).

Patent Owner does not explain why we should exclude, rather than weigh, the evidence. We decline Patent Owner's invitation.

## 2. Exhibit 1006

Patent Owner argues that Exhibit 1006 should be excluded under FRE §§ 401–402. Paper 46, 13–14. Patent asserts that this exhibit is not prior art

and therefore “does not make any fact of consequence in this proceeding more or less probable than it would be without the evidence.” *Id.* at 13 (citing FRE §§ 401–402).

However, Patent Owner has waived its argument that Exhibit 1006 is not prior art by not including it in the Patent Owner Response. Further, Patent Owner inexplicitly ignores relevant evidence of record in making the argument. Thus, we determine that this argument is improper and will not be considered.

In the Patent Owner Preliminary Response, Patent Owner argued that Coyle (Ex. 1006) was not prior art under 35 U.S.C. § 102. Paper 22, 44. At the institution phase we determined:

We determine that the Petition has satisfied its burden in this regard. For each of the five non-patent literature references, the Petition provides an alleged date of publication. Pet. 2. Further, the Petition provides additional alleged public accessibility dates for two of the references. *Id.* The Petition further identifies four declarations to support its position. *Id.* (citing Ex. 1012 ¶¶ 4–27; Ex. 1013 ¶¶ 2–14; Ex. 1003 ¶ 47; Ex. 1014). Based on our review, these declarations do not appear to be conclusory or unreasonable. We note that other than arguing that the Petition contains “conclusory statements” regarding the non-patent literature, Patent Owner does not appear to contest the testimony contained in these declarations concerning the non-patent literature.

Dec., 10. At that time we also informed Patent Owner that “any arguments not raised in the [Patent Owner] response may be deemed waived.” Paper 31, 8.

Patent Owner declined to challenge the prior art status of Ex. 1006, or to make any other similar substantive argument, in the Patent Owner Response. *See generally*, PO Resp. Therefore, Patent Owner waived such arguments.

Patent Owner now attempts an improper backdoor approach to challenge the prior art status of Ex. 1006 in the Motion to Exclude. In order to rule on Patent Owner's motion, we would need to address the substantive issue of whether Ex. 1006 is prior art to the '868 patent. Not only did Patent Owner waive this issue as discussed above, Patent Owner's Motion to Exclude doesn't even address all of the evidence of record in making its argument. *See* Dec. 10 (citing Ex. 1012 ¶¶ 4–27); Pet. 2 (citing Ex. 1012 ¶¶ 11–16); Paper 47 (citing Ex. 1012 ¶¶ 11–16).

We determine that Patent Owner's substantive arguments concerning the prior art status of Ex. 1006 are improper for a motion to exclude and further, that Patent Owner waived any arguments related to the same by not including them in the Patent Owner Response. Thus, we decline to exclude Ex. 1006 on this basis.

3. *Exhibits 1006, 1007, 1009, 1010*

Patent Owner argues that Exhibits 1006, 1007, 1009, and 1010 should be excluded under FRE §§ 801–802. Paper 46, 14–15. Specifically, Patent Owner argues that “The Board should exclude Exhibits . . . 1006, 1007, 1009, 1010 . . . in their entirety because each of these exhibits are out-of-court statements used for the truth of the matter asserted” under FRE § 801. *Id.* at 15.

Petitioner responds that these exhibits are not hearsay because they are not offered in evidence to prove the truth of the matter asserted in the statement. Paper 47, 13–14 (citing FRE § 801(c)). Petitioner argues that these exhibits are offered to show the that something was disclosed, not for the truth of the actual disclosure. *Id.* at 14. Petitioner cites the following case for further support:

*See, e.g., Freeman v. Minnesota Min. & Mfg. Co.*, 675 F. Supp. 877, 884 (D. Del. 1987) (“Section 102(b) requires only that the invention be described in a printed publication, not that the description be true...Thus, it cannot be hearsay.”); *Joy Techs., Inc. v. Manbeck*, 751 F. Supp. 225, 233 n. 2 (D.D.C. 1990) (“A prior art document submitted as a ‘printed publication’ under 35 U.S.C. § 102(a) is offered simply as evidence of what it describes, not for proving the truth of the matters addressed in the document. Therefore, it is not hearsay under Fed. R. Evid. 801(c).”)

*Id.*

Patent Owner acknowledges Petitioner’s argument, but does not contest it or address it with respect to these exhibits. Paper 49, 4. We agree with Petitioner’s uncontested arguments and case law. As Exhibits 1006, 1007, 1009, and 1010 are not offered “for the truth of the matter asserted” they are not hearsay and we decline to exclude them on this basis.

### III. CONCLUSION<sup>18</sup>

For the reasons discussed above, we determine Petitioner has proven, by a preponderance of the evidence, that all challenged claims are unpatentable, as summarized in the following table:

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<sup>18</sup> Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this decision, we draw Patent Owner’s attention to the April 2019 *Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding*. See 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. See 37 C.F.R. § 42.8(a)(3), (b)(2).

| <b>Claims</b>                            | <b>35<br/>U.S.C.<br/>§<sup>19</sup></b> | <b>Reference(s)<br/>/Basis</b>             | <b>Claims<br/>Shown<br/>Unpatentable</b> | <b>Claims Not<br/>Shown<br/>Unpatentable</b> |
|------------------------------------------|-----------------------------------------|--------------------------------------------|------------------------------------------|----------------------------------------------|
| 1, 3, 9, 15                              | 103(a)                                  | Graves, Winqvist                           | 1, 3, 9, 15                              |                                              |
| 2, 4, 8, 10,<br>14, 16, 20               | 103(a)                                  | Graves, Winqvist,<br>Coyle                 | 2, 4, 8, 10, 14,<br>16, 20               |                                              |
| 6, 12, 18                                | 103(a)                                  | Graves, Winqvist,<br>Coyle, MIT            | 6, 12, 18                                |                                              |
| 5, 11, 17                                | 103(a)                                  | Graves, Winqvist,<br>Schroeder             | 5, 11, 17                                |                                              |
| 7, 13, 19                                | 103(a)                                  | Graves, Winqvist,<br>Coyle, Schroeder      | 7, 13, 19                                |                                              |
| 1, 3, 9, 15                              | 103(a)                                  | Agarwal, Liao                              |                                          |                                              |
| 2, 4, 8, 10,<br>14, 16, 20               | 103(a)                                  | Agarwal, Liao,<br>Coyle                    |                                          |                                              |
| 6, 12, 18                                | 103(a)                                  | Agarwal, Liao,<br>Coyle, MIT               |                                          |                                              |
| 1, 3, 5, 9,<br>11, 15, 17                | 103(a)                                  | Agarwal, Liao,<br>Schroeder                |                                          |                                              |
| 2, 4, 7, 8,<br>10, 13, 14,<br>16, 19, 20 | 103(a)                                  | Agarwal, Liao,<br>Schroeder, Coyle         |                                          |                                              |
| 6, 12, 18                                | 103(a)                                  | Agarwal, Liao,<br>Schroeder, Coyle,<br>MIT |                                          |                                              |
| <b>Overall<br/>Outcome</b>               |                                         |                                            | 1–20                                     |                                              |

#### IV. ORDER

In consideration of the foregoing, it is hereby:

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<sup>19</sup> As explained above, we only reach the grounds involving Graves and Winqvist as they address all challenged claims.

ORDERED that, claims 1–20 of U.S. Patent 8,781,868 B2 have been shown to be unpatentable;

FURTHERED ORDERED that, because this is a Final Written Decision, parties to the proceeding seeking judicial review of the Decision must comply with the notice and service requirements of 37 C.F.R. § 90.2; and

FURTHERED ORDERED that, to the extent it is not moot, the Motion to Exclude (Paper 46) is denied.

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