

UNITED STATES DISTRICT COURT  
NORTHERN DISTRICT OF INDIANA  
SOUTH BEND DIVISION

ORTHOPEDIATRICS CORP., et al.,

Plaintiffs,

v.

WISHBONE MEDICAL, INC., et al.,

Defendants.

Case No. 3:20-CV-929 JD

**OPINION AND ORDER**

The Plaintiffs in this case allege that the Defendants are infringing on a patented computer program that makes it easier for orthopedic professionals to correctly position bones for optimal healing. The parties have conferred and remain divided on how three phrases within the disputed patent's claims should be construed. The parties have fully briefed their disputes and presented oral argument at a hearing before the Court on August 29, 2022. The Court now resolves the outstanding claim construction disputes.

**A. Factual Background**

Orthopedic professionals sometimes use devices called external fixators to treat patients suffering from broken bones or other bone abnormalities. An external fixator fits around an individual's limb and often has a certain number of struts that run into the limb and attach to the bone to ensure the bone is positioned for proper healing. Prior to the advent of the patented technology at issue in this case, orthopedic professionals had to rely on their own estimations and experience to determine exactly how to position the external fixator and accompanying struts on a limb. (DE 105-2 at 1:15–44) (“Patent”). The new technology, patented under patent number 10,258,377 (“377 Patent”), allows orthopedic professionals to look at an X-ray or other

photographic image of a patient's bone and the fixator apparatus on a computer screen, use a mouse or other device to inscribe lines and points on the images as needed, and then generate calculations showing the optimal way to position the bones using the external fixator. (DE 105-2 at 1:48–2:39, 3:13–67.)

Plaintiff Orthex LLC, a wholly owned subsidiary of Plaintiff OrthoPediatrics Corp., is the assignee of the '377 Patent, and Plaintiff Vilex, a medical device company, is an exclusive licensee. (DE 33 at 3.) The three Plaintiffs sued Defendants Wishbone Medical, Inc., an OrthoPediatrics competitor, and Nick Deeter, an OrthoPediatrics founder who is now chairman and chief executive officer of Wishbone, in part because they allege that Wishbone is already or is imminently going to be infringing on the '377 Patent through the sale, use, and promotion of Wishbone's Smart Correction External Fixation System, which allegedly copies the process described in the '377 Patent. Those allegations underly the Plaintiffs' surviving claims for patent infringement (Count 1) and declaratory judgment of infringement (Count 2). The three Plaintiffs brought each of the infringement-related claims only against Defendant Wishbone. (DE 33 at 26, 37; DE 68 at 30.) There is also a surviving claim for breach of contract that OrthoPediatrics brought against Mr. Deeter. (DE 33 at 40; DE 68 at 30.)

The parties' claim construction disputes center on three phrases within the Patent as well as on the relevant Person of Ordinary Skill in the Art ("POSITA") description that the Court will use to analyze the disputes. The parties' first dispute is over the meaning of the bolded language in the excerpt:

Taking at least two medical images of a patient to create two views, with each view's showing at least one bone with at least one external fixator, **said external fixator comprising external fixator hardware having at least one ring and said ring's further forming a part of a six-axis external fixator device and further comprising fixator hardware**, with said at least two views being oriented from different angles and displayed on said input screen . . .

(DE 105-2 at 14:44–52) (emphasis added). Their second dispute is over the meaning of the bolded language in the excerpt:

providing a computer, said computer having an input screen in association therewith wherein said input screen has a **plurality of sensors** associated therewith to detect and register a plurality of position data inscribed on said input screens . . .

(DE 105-2 at 14:33–40) (emphasis added). And their third dispute is over the meaning of the bolded language in the excerpt:

Marking by said orthopedic professional one or more points or one or more lines on said input screen to create said position data, with said **position data's representing either or both of a position or positions of a bone, bones, bone segments, joint space, anatomic loci or osteotomy or one or more elements of said external fixator hardware . . .**

(DE 105-2 at 14:53–59) (emphasis added).

The parties have each filed their respective claim construction briefs and responses and have had the opportunity to present their arguments orally in a hearing before the Court. (DE 105; DE 107; DE 109; DE 110; DE 116.)

## **B. Standard of Review**

As a matter of law, the Court must construe the patent claims for a jury. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 977 (Fed. Cir. 1995). Claim construction is crucial because it “defines the scope of the protected invention.” *Bell Commc’ns Research, Inc. v. Vitalink Commc’ns Corp.*, 55 F.3d 615, 619 (Fed. Cir. 1995).

When interpreting a disputed claim, the court must first look at the intrinsic evidence of record—the patent itself, including the claims, the specification, and, if in evidence, the prosecution history. *Vitronics Corp. v. Conceptoronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996). The process begins with the words of the claims. *Teleflex, Inc. v. Ficosa North American Corp.*,

299 F.3d 1313, 1324 (Fed. Cir. 2002). “It is a bedrock principle of patent law that the claims of a patent define the invention to which the patentee is entitled the right to exclude.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (internal quotations and citations omitted); *Teleflex*, 299 F.3d at 1324 (“The claim language defines the bounds of claim scope.”). Absent an express intent otherwise, claim terms should be given “the ordinary and customary meaning . . . that the term would have to a person of ordinary skill in the art in question at the time of the invention.” *Phillips*, 415 F.3d at 1313. “[T]he context of the surrounding words of the claim also must be considered in determining the ordinary and customary meaning of those terms.” *ACTV, Inc. v. Walt Disney Co.*, 346 F.3d 1082, 1088 (Fed. Cir. 2003).

However, the claims do not stand alone and they “must be read in view of the specification, of which they are a part.” *Phillips*, 415 F.3d at 1315 (quoting *Markman*, 52 F.3d at 979). The specification includes the drawings and the written description of the invention. *Playtex Prods., Inc. v. Procter & Gamble, Co.*, 400 F.3d 901, 909 (Fed. Cir. 2005). The specification “is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.” *Phillips*, 415 F.3d at 1315 (quoting *Vitronics*, 90 F.3d at 1582). It can resolve ambiguities between the ordinary and customary meaning of words if the words used in the claim are not sufficiently clear to allow the scope of the claim to be determined from words alone. *Teleflex*, 299 F.3d at 1325. Yet, there’s a difference “between using the specification to interpret the meaning of a claim,” which is permissible, and “importing limitations from the specification into the claim,” which is not. *Phillips*, 415 F.3d at 1323. “[T]he general principle is that limitations from the specification are not to be read into the claims.” *Sjolund v. Musland*, 847 F.2d 1573, 1582 (Fed. Cir. 1988) (citation omitted).

Finally, the court can look to the patent's prosecution history, which "consists of the complete record of the proceedings before the [USPTO] and includes the prior art cited during the examination of the patent." *Phillips*, 415 F.3d at 1317. "The prosecution history can often inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of the prosecution, making the claim scope narrower than it would otherwise be." *Id.* A patentee may modify the "meaning of a claim term by making a clear and unmistakable disavowal of scope during prosecution." *Purdue Pharma L.P. v. Endo Pharms., Inc.*, 438 F.3d 1123, 1136 (Fed. Cir. 2006).

If intrinsic evidence does not resolve the ambiguity in a disputed claim term, a court may then look to extrinsic evidence, such as expert testimony, inventor testimony, dictionaries, and treatises. *Vitronics*, 90 F.3d at 1584. Extrinsic evidence may help the court better understand "the way in which one of skill in the art might use the claim terms." *AquaTex Indus., Inc. v. Techniche Solutions*, 419 F.3d 1374, 1380 (Fed. Cir. 2005) (citations omitted). But extrinsic evidence may not be used to "contradict any definition found in or ascertained by a reading of the patent documents." *Phillips*, 415 F.3d at 1322–23 (quoting *Vitronics*, 90 F.3d at 1584, n.6). As the Federal Circuit explained in *Phillips*: "Ultimately, the interpretation to be given a term can only be determined and confirmed with a full understanding of what the inventors actually invented and intended to envelop with the claim. The construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction." *Id.* at 1316 (citation omitted).

### **C. Discussion**

The parties dispute the meaning of three phrases within Claim 1 of the Patent as well as the relevant background and experience that a POSITA would have.<sup>1</sup> Because the POSITA determination is essential to the Court’s analysis of whether and how to construe the three disputed phrases in the Patent, the Court begins there. It then turns to the three disputed phrases.

**1. Person of Ordinary Skill in the Art**

The parties have different opinions about the level of education and experience a hypothetical POSITA would have for purposes of understanding the ‘377 Patent. Both parties relied on expert opinions in arguing for their POSITA definition, with the Plaintiffs relying on Dr. James Brennan’s opinion (DE 105-3) and the Defendants relying on the opinions of Dr. Howard Cohen (DE 107-3) and Troy Drewry (DE 107-4). While the Court can rely on those expert opinions, it can also consider the impact of a number of non-exhaustive factors, including the education level of the inventors, the type of problems encountered in the art, prior solutions to those problems, rapidity with which innovations are made, sophistication of the technology, and educational level of active workers in the field. *See Daiichi Sankyo Co. v. Apotex, Inc.*, 501 F.3d 1254, 1256 (Fed. Cir. 2007); *Helifix, Ltd. v. Blok-Lok, Ltd.*, 208 F.3d 1339, 1347 (Fed. Cir. 2000).

The Plaintiffs, relying on Dr. Brennan’s opinion (DE 105-3 ¶ 24), argued that a POSITA for the ‘377 Patent would be:

a person with (1) at least a bachelor’s degree or equivalent degree and (2) at least two years of experience in (i) designing, developing or testing computer systems used in medical applications for interpreting medical images, or (ii) using computer systems for medical treatments, including but not limited to orthopedic alignment,

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<sup>1</sup> The parties originally disputed the meaning of the phrase “mathematical optimization algorithm” as well, but counsel informed the Court at the beginning of the *Markman* hearing that there was no longer a dispute over the meaning of that phrase.

or a person having equivalent knowledge and experience in the field of orthopedic alignment.

(DE 105 at 10.) The Defendants, relying on opinions from Dr. Cohen (DE 107-3 ¶ 10) and Mr. Drewry (DE 107-4 ¶ 11), have argued that a POSITA for the '377 Patent would: be “a biomedical or mechanical engineer having at least 3 to 5 years of product development experience;” “would also know and be familiar with computer programming;” and “would also know and be familiar with orthopedic trauma, bone healing, and design and development of orthopedic trauma fixation devices such as external bone fixators.” (DE 107 at 9–10.)

The Court will ultimately apply the Plaintiffs' POSITA definition because it is one that is both narrow enough to exclude individuals without the required experience and skill to readily understand the patented technology but also broad enough to account for the fact that the patented technology spans both computer and orthopedic-related disciplines. The Defendants' main argument against the Plaintiffs' proposed POSITA definition was that it was “woefully inadequate for the complexities involved in the '377 Patent.” (DE 110 at 3.) The Court disagrees, finding that the focus in the Plaintiff's definition on specific experience in either of the two fields and concentrations most closely intertwined with the patented technology, computer systems for interpreting medical images and medical treatments for orthopedic issues, would give an individual sufficient knowledge to understand the contents, purpose, and functionality of the Patent. And while the Court agrees with the Defendants' suggestion at oral argument that the inclusion in the Plaintiffs' definition of “at least a bachelor's degree or equivalent degree” does not do much limiting work, it finds that the broader education requirements allow the definition to be inclusive enough to encompass the differing types of degrees an individual may have in coming to work with the technology while properly letting most of the limiting work in the

definition be done by the specific experiences an individual would have to have to understand the patented technology.

The Plaintiffs' proposed definition allows an individual to have one of two types of prior experience to be considered a POSITA. First, an individual with the requisite education could qualify if he or she had at least two years of experience in "designing, developing or testing computer systems used in medical applications for interpreting medical images." (DE 105 at 10; DE 109 at 5.) That experience is sufficiently narrow for purposes of evaluating the '377 Patent in that it not only requires that the individual be knowledgeable about computer systems, but specifically about computer systems, like the patented technology, that are used in medical applications and, even more specific to the patented technology, computer systems used for interpreting medical images. The Court concludes that an individual with at least two years of such experience would likely be positioned to understand both current and prior problems with medical imaging computer systems, how those problems have been addressed, as well as the level of sophistication of the technology that is generally used in the field. (DE 105 at 10–12); *see Daiichi*, 501 F.3d at 1256.

Second, an individual with the requisite education could qualify if he or she had at least two years of experience "using computer systems for medical treatments, including but not limited to orthopedic alignment," or was "a person having equivalent knowledge and experience in the field of orthopedic alignment." (DE 105 at 10; DE 109 at 5.) This experience covers the medical side of the patented technology and is sufficiently narrow in that it requires an individual to have actually used computers to make treating decisions or to have equivalent specialized knowledge of orthopedic alignment procedures and treatment. That specific kind of experience would make an individual knowledgeable about the medical and orthopedic terms contained in



the Patent as well as how the technology can be used when making orthopedic treating decisions, which is the very purpose of the technology. Such experience would also properly position an individual to be familiar with the key problems the patented technology is designed to address, namely how to position external fixators for maximum effect, as well as with the sophistication of the technology and the innovations that have been made with regard to computer systems employed for the purpose of medically diagnosing orthopedic problems. *See Daiichi*, 501 F.3d at 1256. The Court, along with the Plaintiffs' expert Dr. Brennan, finds that either one of the two knowledge sets the Plaintiffs' definition describes would be sufficient to qualify an individual as a POSITA for purposes of reviewing the '377 Patent. (DE 105-3 ¶ 24.)

While the Court finds the Plaintiffs' POSITA description appropriate for purposes of analyzing the '377 Patent given the available evidence, it cannot reach the same conclusion about the Defendants' proposed definition. The Court notes at the outset that, like the Plaintiffs, it agrees with the Defendants that a POSITA can be a team of individuals instead of one individual. *See* (DE 110 at 4) (citing *Takeda Pharm. Co. v. Mylan Inc.*, 2014 WL 5862134, at \*7 (N.D. Cal. Nov. 11, 2014); *Cephalon, Inc. v. Slayback Pharma Ltd. Liab. Co.*, 456 F. Supp. 3d 594, 612 (D. Del. 2020); *Onyx Therapeutics, Inc. v. Cipla Ltd.*, 2020 WL 2214443, at \*5 (D. Del. May 4, 2020), *aff'd*, 839 F. App'x 545 (Fed. Cir. 2021)). But even accepting that fact, the Defendants' proposed definition is problematic for several reasons.

First, the Defendants' insistence on any POSITA being a biomedical or mechanical engineer is too narrow a requirement given the content and purpose of the patented technology. Neither the Defendants nor their experts adequately explained why being a biomedical or mechanical engineer was specifically necessary to be able to understand the '377 Patent. (DE 107; DE 110.). And the Court finds no reason to hold that someone who is outside either one of

those fields but who has the requisite experience that the Plaintiffs and Dr. Brennan have described, such as an orthopedic surgeon, would be unable to interpret the patent language. To that end, the Court notes that one of the Patent's inventors, Dr. Dror Paley, is an orthopedic surgeon and that the other inventor, Dr. Abraham Lavi, is a former professor of electrical engineering, an engineering specialty different than the ones proposed in the Defendants' POSITA definition. (DE 33 ¶¶ 2–3.) While both inventors would seem to qualify under the Plaintiff's more experience-focused POSITA definition, the available evidence would not readily suggest that they would qualify under the Defendants' definition. *See Daiichi*, 501 F.3d at 1256 (indicating that looking at the patent inventors' qualifications and experience can help a court settle on a POSITA definition). The narrowness of the Defendants' proposed qualification requirement therefore leads the Court to find that the Defendants' proposed definition falls short.

Second, the requirement in the Defendants' proposed definition that any POSITA have three to five years of experience similarly appears too limiting. The Court sees little difference between someone who has two years' experience in product development, as the Plaintiffs' definition would allow, and someone who has three years of product development experience in the industry, as the Defendants' definition would require. The Defendants never explained or supported why the extra year of experience would make a meaningful difference between someone understanding the Patent and someone not understanding the Patent. Without any compelling evidence to require the extra year of experience, there appears to be no reason to adopt it into a POSITA definition.

Third, the Court notes that the Defendants' POSITA would only need to “be familiar with computer programming,” which the Court finds an overly broad requirement. The requirement's broad nature is particularly noticeable when compared to the Plaintiffs' narrower requirement

that any POSITA with computer program development experience have gained that experience with computer systems specifically used in medical applications for interpreting images, which dovetails with the specific use for the technology at issue in the ‘377 Patent. (DE 105-2 at 1) (describing the computer-related use of the technology for properly positioning external fixators); (DE 109 at 5) (Plaintiffs requiring computer systems be used in medical applications for interpreting medical images or be used for medical treatments). Under the Defendants’ proposed definition, an individual who is skilled in computer programming but gained those skills in a non-medical setting that gave the individual little to no familiarity with medical technology like the patented technology could qualify as a POSITA. Additionally, the Defendants’ computer programming requirement is even broader than the programming requirement the Defendants’ own expert, Dr. Cohen, would have imposed. Dr. Cohen suggested that a POSITA would need to be familiar not only with computer programming but also with “the underlying mathematics that describe the [computer] system.” (DE 107-3 ¶ 10.) The Defendants dropped Dr. Cohen’s suggested familiarity with mathematics requirement from their proposed POSITA definition without explaining why they did so or why a more generalized familiarity with computer programming was sufficient. That lack of information and support hampers their argument that the Court should adopt their proposed definition. For these reasons, the Court finds the Defendants’ proposed POSITA definition for the ‘377 Patent is too narrow and limiting in some respects and too broad and inclusive in others to be adopted.

The Court adopts the Plaintiffs’ properly fashioned POSITA description instead. That adopted definition requires that a POSITA should have: “(1) at least a bachelor’s degree or equivalent degree and (2) at least two years of experience in (i) designing, developing or testing computer systems used in medical applications for interpreting medical images, or (ii) using

computer systems for medical treatments, including but not limited to orthopedic alignment, or a person having equivalent knowledge and experience in the field of orthopedic alignment.” (DE 109 at 5.)

2. ***‘said external fixator comprising external fixator hardware having at least one ring and said ring’s further forming a part of a six-axis external fixator device and further comprising fixator hardware’***

Having arrived at a POSITA definition, the Court moves on to consider the three portions of the ‘377 Patent that the parties dispute, starting with the phrase “said external fixator comprising fixator hardware having at least one ring and said ring’s further forming a part of a six-axis external fixator device and further comprising fixator hardware.” (DE 105-2 at 14:46–50.) The Plaintiffs have argued that the Court should give this phrase its plain and ordinary meaning. (DE 105 at 12–18; DE 109 at 6–10.) The Defendants have argued that the phrase is indefinite or, in the alternative, that “[t]o the extent that this claim can be construed, it includes fixator frame comprising fixator hardware, at least one ring, being part of a fixator device, and fixator hardware.” (DE 107 at 11–16; DE 107-4 ¶ 33; DE 110 at 6–8.) The Court ultimately finds that the phrase is not indefinite and should be given its plain and ordinary meaning.

An analysis of claim definiteness starts with 35 U.S.C. § 112(b), which states that “[t]he specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention.” The Supreme Court, in *Nautilus, Inc. v. Biosig Instruments, Inc.*, held that a patent claim is “invalid for indefiniteness if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention.” 572 U.S. 898, 901 (2014). This test “mandates clarity, while recognizing that absolute precision is unattainable.” *Id.* at 910. Because “[a] patent is presumed valid under

35 U.S.C. § 282,” any defense of indefiniteness must be proven “by clear and convincing evidence.” *Biosig Instruments, Inc. v. Nautilus, Inc.*, 783 F.3d 1374, 1377 (Fed. Cir. 2015). The burden to show indefiniteness is on the accused infringer. *See Tech. Licensing Corp. v. Videotek, Inc.*, 545 F.3d 1316, 1327 (Fed. Cir. 2008). Further, indefiniteness is a matter of claim construction, and the same principles that generally govern claim construction are applicable to determining whether allegedly indefinite claim language is subject to construction. *Praxair, Inc. v. ATMI, Inc.*, 543 F.3d 1306, 1319 (Fed. Cir. 2008). Indefiniteness, like claim construction, is a question of law. *Id.* A court may rely on expert testimony in determining whether a claim term is indefinite. *See, e.g., Berkheimer v. HP Inc.*, 881 F.3d 1360, 1364 (Fed. Cir. 2018).

The Court does not find the disputed phrase indefinite here. To start, the parties agree that a POSITA would understand the individualized words or combinations of words within the phrase, including “external fixator,” “external fixator hardware,” “one ring,” “six-axis external fixator device,” and “fixator hardware.” (DE 105 at 13–15; DE 107 at 11–14.) The dispute between the parties arises instead from the Defendants’ contention that the terms, when grouped together as they are in the phrase, are indefinite. (DE 110 at 6) (“the individual words reviewed in a vacuum are not the issue; it is their collection and arrangement that fails to inform the POSITA”). After reviewing the Defendants’ arguments and the relevant evidence that a POSITA would use to understand the phrase, the Court agrees with the Plaintiffs that the Defendants have largely “manufacture[d] confusion where none exists.” (DE 109 at 7.)

A simple reading of the phrase suggests one clear meaning. The beginning of the phrase, “said external fixator comprising external fixator hardware having one ring,” would, as even the Defendants admit, suggest to a POSITA that the phrase is talking about a ring that is part of external fixator hardware that in turn is part of an external fixator. (DE 105-2 at 14:46–48); (DE

107 at 11) (Defendants stating that “[v]iewing this phrase by itself, it is apparent that the ‘one ring’ is part of ‘external fixator hardware,’ which is part of the external fixator.”). While the Defendants go on from there to say the additional language muddies the relationships between the components of the fixator being described (DE 107 at 12–16), the Court disagrees.

The next portion of the phrase, “said ring’s further forming a part of a six-axis external fixator device,” clearly means, in light of the claim language and specification, that the ring described in the first portion of the phrase is specifically part of a six-axis external fixator device. *See* (DE 105-2 at 5–6, Fig. 1A, Fig. 1B); (DE 105-2 at 10:19–22, 11:20–26) (“The fixator consists of rings connected with six adjustable struts to provide stability and allow six degrees of freedom manipulation of one ring relative to the other”). This second portion thus clarifies that the external fixator device of which the ring is a part at least has the ability to be manipulated along six different axes.

Finally, the last portion of the phrase, “and further comprising fixator hardware,” simply informs a POSITA that there is additional fixator hardware, such as struts, bolts, pins, rods, or clamps, in addition to the ring or rings that make up the totality of the external fixator device being described. *See, e.g.*, (DE 105-2 at 2:30–34, 14:1–32) (describing the addition of pins, washers, and bolts as fixator hardware); *see also Graham-White Mfg. Co. v. Ellcon-National-Inc.*, 2007 WL 4287637, at \*3 (D.S.C. Dec. 4, 2007) (finding that “further comprising” simply means “further includes” when used in claim language). In sum, the Court finds nothing indefinite about the disputed phrase and instead finds that a POSITA would understand the plain and ordinary meaning of the phrase to simply be describing an external fixator comprised of hardware components, including at least one ring that forms part of a six-axis external fixator device and further includes additional hardware components.

Additionally, because the Court is not convinced that any construction of the disputed phrase will be more helpful than the plain meaning described above, the Court finds no construction beyond the plain meaning is necessary. See *U.S. Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 1997) (“Claim construction is a matter of resolution of disputed meanings and technical scope, to clarify and when necessary to explain what the patentee covered by the claims, for use in the determination of infringement. It is not an obligatory exercise in redundancy.”); see also *O2 Micro Int’l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1362 (Fed. Cir. 2008) (“[D]istrict courts are not (and should not be) required to construe every limitation present in a patent’s asserted claims.”).

As several of the above citations to the Patent show, the plain and ordinary meaning is clearly supported and readily apparent from the available intrinsic evidence. To start, much of the Defendants’ confusion has to do with assuming that the language could refer to more than one external fixator device. (DE 107 at 11 – 16); (DE 107-4 ¶¶ 23–26). A look at the “context of the surrounding words of the claim” clears up any confusion about more than one external fixator being described though. *ACTV*, 346 F.3d at 1088. While the lead-in to the disputed phrase, “with each view’s showing . . . at least one external fixator,” could suggest more than one external fixator is being described, the rest of the phrase, which is the portion in dispute, begins with “said external fixator,” (DE 105-2 at 14:45–47), which the Court finds, given the “said” phrasing, would indicate to a POSITA that the description that follows is only referring to one specific external fixator and not multiple. Further, the intrinsic evidence associated with the ‘377 Patent provides support for the fact that different types of fixator components can be considered “fixator hardware,” (DE 105-2 at 3:23–46, 9:13–18), and that six-axis fixator devices, like the one described in the disputed phrase, are a distinct type of external fixator with distinct features

that are made possible by combining the fixator hardware that the disputed phrase, other portions of the specification, and portions of the prosecution history describe, (DE 105-2 at 3:55–4:17, 11:23–32; DE 105-9 at OP0000025 n.1).

The Defendants also make much of the fact that the disputed phrase contains the term “comprising external fixator hardware” at the beginning and then “further comprising fixator hardware” at the end as an example of either a redundancy or different meaning for the same words. But the two phrases are both necessary, (DE 107 at 13) (citing *Phillips*, 415 F.3d at 1314) (“A POSITA would have to proceed with the expectation that these terms are each referring to different things and each terms is necessary”) (emphasis in original), and both have the same meaning, (DE 107 at 13) (citing *Omega Eng’g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1334 (Fed. Cir. 2003) (“the same claim term in the same patent or related patents carries the same construed meaning”)). Specifically, the first “fixator hardware” is necessary to inform a POSITA that the external fixator being described contains fixator hardware that includes the “at least one ring” being described. The second “fixator hardware” is then necessary to inform a POSITA that the external fixator being described also includes more fixator hardware than just the ring or rings. That additional fixator hardware could be items such as struts, bolts, or clamps, items the Defendants have not disputed a POSITA could recognize as fixator hardware. (DE 110 at 6.) Additionally, the two uses of “fixator hardware” are consistent in that the intrinsic evidence described above demonstrates that fixator hardware can include both rings as well as other components like struts, bolts, or clamps. (DE 105-2 at 3:23–46, 9:13–18.)

Finally, the Court notes that the prosecution history itself demonstrates that the inclusion of the additional reference to external hardware in the “further comprising fixator hardware” portion of the disputed phrase appears to have been a key reason why the phrase actually



overcame a prior indefiniteness finding by the Patent and Trademark Office. (DE 107-7 at 3; DE 107-8 at 4). That fact undermines the Defendants' argument that the Court should consider the addition of the second reference to "fixator hardware" as contributing to the phrase's incomprehensibility. *See Vitronics*, 90 F.3d at 1582. The Court therefore finds that Defendants have shown no need to construe the disputed phrase beyond its plain and ordinary meaning and that the plain and ordinary meaning is readily understandable to a POSITA given the language of the Patent and the other intrinsic evidence. *See Phillips*, 415 F.3d at 1313–17 (recognizing that the specification is "usually . . . dispositive" because "it is the single best guide to the meaning of a disputed term"); *Kinik Co. v. Int'l Trade Comm'n*, 362 F.3d 1359, 1365 (Fed. Cir. 2004) ("The words of patent claims have the meaning and scope with which they are used in the specification and the prosecution history."); *Teleflex*, 299 F.3d at 1324.

Before concluding, the Court briefly explains why it did not choose to adopt the construction the Defendants offered as an alternative to their indefiniteness argument. (DE 107 at 16.) The Defendants would have had the Court construe the disputed phrase to mean that the described item or device includes a "fixator frame comprising fixator hardware, at least one ring, being part of a fixator device, and fixator hardware." (DE 107 at 11–16; DE 107-4 ¶ 33; DE 110 at 6–8.) The most obvious problem with that construction is that it would replace the specific "six-axis external fixator device" portion of the phrase with the generic "fixator device" representation. The Defendants offered no explanation for that substitution and the Court finds no reason why it should be made. Further, the Defendants' construction actually suffers from the redundancy problem the Defendants wrongly accused the plain language of suffering from in that it lists "fixator hardware" twice without giving any clue as to why that term needs to be used twice. Ultimately, adopting the Defendants' proposed construction would just add unnecessary

confusion to a phrase that already has a clear plain and ordinary meaning. Doing so would contravene the purpose of claim construction and leads the Court to maintain its finding that the phrase should be given its plain and ordinary meaning. *See, e.g., Astute Tech., LLC v. Learners Dig. Int'l LLC*, 2014 WL 1385191, at \*17 (E.D. Tex. Apr. 2, 2014) (rejecting proposed constructions that were not more helpful to the jury than the plain meaning).

### 3. *'Plurality of sensors'*

The parties next dispute what the phrase “plurality of sensors” means within the first claim of the ‘377 Patent. The Plaintiffs once again argue that the phrase should be given its plain and ordinary meaning, (DE 105 at 22–26; DE 109 at 14–18), while the Defendants argue that the phrase needs to be construed (DE 107 at 20–23; DE 110 at 9). The Defendants made clear that their issue is not with the “plurality of” portion of the phrase but instead with the meaning of the word “sensors.” (DE 107 at 20) (“For clarity, the word ‘plurality’ is not in dispute between the parties, only ‘sensors’”). The Defendants’ proposed construction of the term “sensors” would be “at least two pointing devices for selecting on a computer screen, which devices may include two or more of a computer mouse, stylus, trackball, finger on a touchscreen, or the equivalent.” (DE 107 at 20.) After reviewing the parties’ arguments and the available evidence, the Court finds the Defendants’ position is based on what seems to be a clearly incorrect reading and interpretation of the phrase and evidence. The phrase need not be construed and should instead be given its plain and ordinary meaning.

The phrase “plurality of sensors” has a clear meaning within the context of the ‘377 Patent that would be readily apparent to a POSITA. The full subsection of Claim 1 in which the disputed “sensors” term is used reads: “providing a computer, said computer having an input screen in association therewith wherein said input screen has a *plurality of sensors* associated

therewith to detect and register a plurality of position data inscribed on said input screen.” (DE 105-2 at 14:36–40) (emphasis added). That language, taken by itself, clearly implies that the “sensors” are used “to detect and register a plurality of position data” that has been inscribed on the input screen. It is therefore unclear how the Defendants’ proposed construction that casts the “sensors” as the items that would generally be used to actually do the inscribing on the screen fits with the Patent’s language. The Plaintiffs summed the Defendants’ puzzling position up well when they argued that it “reflects a fundamental misunderstanding of the claim language, the specification, and the file history” because it “conflates two different components of the claimed invention—the pointing device that is used to mark points on a computer screen, and the sensors that are used to register and detect the points that were marked on the screen using the pointing device.” (DE 109 at 14.) The error in the Defendants’ proposed construction is most readily apparent if, as the Defendants’ proposed construction would allow, a human finger stands in for the described “sensors.” *See* (DE 107 at 20) (classifying a “finger on a touchscreen” as one such “device” that would qualify as a sensor). In such a case, the Defendants’ construction would require the Court to find it conceivable that a human finger would have the capacity to detect and register position data inscribed on an input screen, something that is clearly impossible. *See (Id.)*

Instead of adopting the Defendants’ flawed construction, the Court finds it appropriate to apply the plain and ordinary meaning of the term “sensors,” which for purposes of this Patent is devices that register position data. That meaning fits with the available evidence. Not only do the words surrounding the phrase, as described above, support the meaning, *ACTV*, 346 F.3d at 1088, but the rest of the ‘377 Patent text does as well. For example, Claim 2 of the ‘377 Patent, which is dependent on Claim 1, where the disputed phrase is located, makes clear that the “inscribing” involved in using the technology is “accomplished using a computer mouse,” which

suggests that the Patent conceived of a computer mouse as being used for inscribing as opposed to the “detecting” for which the sensors were responsible. (DE 105-2 at 14:36–40, 16:1–7.) This concept of a computer mouse being used for “inscribing” as opposed to “detecting” also appears in other areas of the ‘377 Patent. (DE 105-2 at 1:48–53) (“the surgeon, using a computer mouse or similar device, inscribes lines or points on a computer screen”). Additionally, other intrinsic evidence in the form of the ‘377 Patent prosecution file indicates that “sensors” are “understood to be anything that registers the point or points or lines that the surgeon or user ‘inscribes’ on the computer screen, that is with a computer mouse or its equivalent (including a finger on a touch screen and so forth).” (DE 105-11 at OP00000234.)

This intrinsic evidence clearly shows that the “plurality of sensors” are, as the remainder of the sentence and the phrase’s plain meaning suggests, used “to detect and register a plurality of position data inscribed on the input screen.” (DE 105-2 at 14:38–40.) They are not the devices used to actually inscribe those points on the screen. *See Phillips*, 415 F.3d at 1313–17; *Kinik*, 362 F.3d at 1365; *Teleflex*, 299 F.3d at 1324; *Vitronics*, 90 F.3d at 1582. And while the intrinsic evidence is sufficient to support giving the phrase its plain meaning, applying the plain meaning is further supported by the fact that the Plaintiffs’ expert, Dr. Brennan, the only expert to offer an opinion on the phrase, concurs that a POSITA would fully understand this meaning. (DE 105-3 ¶¶ 53–55; DE 105-13 at 58:20–59:19.) Based on all of this evidence, the Court finds that the phrase “plurality of sensors” within Claim 1 of the ‘377 Patent should be given its plain and ordinary meaning. *See Phillips*, 415 F.3d at 1313.

4. ***‘Position data’s representing either or both of a position or positions of a bone, bones, bone segments, joint space, anatomic loci or osteotomy or one or more elements of said external fixator hardware’***

The parties' final dispute centered on the above quoted phrase contained in Claim 1 of the '377 Patent. The Plaintiffs once again argued that the phrase should be given its plain and ordinary meaning, (DE 105 at 26–31; DE 109 at 19–23), while the Defendants challenged the phrase as indefinite. The Defendants added that if the Court found the claim was not indefinite, the phrase should be construed as suggesting “it includes position information of either or both of the following items: (bone, bones, bone segments, joint space, anatomic loci, osteotomy, or an element or elements of fixator hardware).” (DE 107 at 16–18; DE 110 at 9–11.) After analyzing the parties' arguments, viewing the intrinsic evidence, and, to the extent necessary, considering extrinsic evidence, the Court does not find that the phrase is indefinite and agrees with the Plaintiffs that the phrase should be given its plain and ordinary meaning.

First, the phrase is not indefinite. As the Court has already noted, a claim is only invalid for indefiniteness “if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention.” *Nautilus*, 572 U.S. at 901. Additionally, it is the Defendants' burden here to prove “by clear and convincing evidence” that the claim is indefinite, *Biosig*, 783 F.3d at 1377, which is something they cannot do. The Defendants' argument for indefiniteness is based on the fact that the disputed phrase uses the term “either or both,” which would generally be followed by a list of two things. Instead, they argue, “either or both” is followed by a list of what appears to be eight items. (DE 107 at 16.) The Defendants argued that such language is confusing in that it does not allow a POSITA to determine how the various elements listed in the phrase actually fit together and makes it “entirely unclear how [the] list is parsed into two groups.” (DE 107 at 16.)

As the Plaintiffs demonstrated in their own briefing, however, it is not hard to understand the two groups to which the phrase refers. The Court agrees with the Plaintiffs that a POSITA would understand, based on the language of the phrase itself and the evidence associated with the Patent, that there are two groups, one that encompasses anatomical items (“bone, bones, bone segments, joint space, anatomic loci or osteotomy”) and a second that encompasses hardware elements of the external fixator device (“one or more elements of said external fixator hardware”). (DE 105 at 26–27; DE 109 at 19.) The key to distilling that meaning is the second “or” in the portion “or osteotomy *or* one . . . .” (DE 105-2 at 14:58) (emphasis added). The second “or” clearly sets off the first, anatomical group from the second, fixator hardware group in the list. Further, if the second “or” did not serve that purpose, it would have no other identifiable purpose in the disputed phrase. (DE 105-3 ¶ 65) (Plaintiffs’ expert Dr. Brennan explaining that a POSITA would understand the second “or” to separate the two groups); (DE 109 at 20); *see also Mformation Techs., Inc. v. Rsch. in Motion Ltd.*, 764 F. 3d 1392, 1399–1400 (Fed. Cir. 2014) (suggesting that superfluity should be avoided in considering the meaning of claims).

The Defendants never offered an alternate reason for the second “or” in their briefing and instead seemed to ignore that it existed. In doing so, they missed how the second “or” broke what they saw as an uninterrupted, ungrouped list into what is actually two distinct groups. (DE 107; DE 110.) The Court also notes that when the Defendants’ expert Troy Drewry learned that the phrase is meant to split the listed items into two categories, anatomical items and fixator hardware items, he continued to insist that the phrase was unclear as written, but he did agree that a division into those two categories would make sense in light of the ‘377 Patent. (DE 105-7 at 77:22–79:7.) Despite Mr. Drewry’s alleged confusion, the Court finds the phrase’s wording,

and particularly the inclusion of the second “or,” is clear, definite, consistent with the intrinsic evidence, and understandable to a POSITA. *See Nautilus*, 572 U.S. at 901. It also finds that despite providing some expert testimony on the subject, the Defendants have not put forward the kind of clear and convincing evidence that is required for them to meet their burden of showing that the claim language is indefinite. *See Videotek*, 545 F.3d at 1327, 1339. The Court thus moves on to consider whether the phrase needs construction.

The Court finds that the phrase should be given its plain and ordinary meaning, which aligns with the phrase’s only logical interpretation. The phrase’s plain and ordinary meaning informs a POSITA that the claimed “position data” must represent the position of at least one of a bone, bones, bone segments, joint space, anatomic loci, osteotomy, or an element of the external fixator hardware. The available intrinsic evidence supports this holding. Subsection (c) within Claim 1 indicates that data for use with the patented technology is taken from two different groups, an anatomical group and a fixator hardware group. The subsection does this by specifically clarifying that images displayed on the screen for marking to create the position data while using the technology include both anatomical components and hardware components. (DE 105-2 at 14:42–46) (“with each view’s showing at least one bone with at least one external fixator”). Further, the specification describes the marking process associated with using the patented technology as involving steps where, first hardware elements of the external fixator are marked (DE 105-2 at 7:48–56; Fig. 6 at 8), and then anatomical components are marked (DE 105-2 at 7:57–61; Fig. 7 at 9), which again suggests that the Patent considers there to be two groups of markable materials, one anatomical and one encompassing fixator hardware. *See also* (DE 105-2 at 2:55–60, 7:63–8:7, 14:53–55, Figs. 8–10). While this intrinsic evidence supports giving the phrase its plain and ordinary meaning, the Court also notes that extrinsic evidence in

the form of Dr. Brennan’s testimony reinforces that a POSITA would apply and understand the phrase’s plain and ordinary meaning as splitting the list of items into the two, categorized groups. (DE 105-3 ¶¶ 64–70; DE 105-13 at 73:3–74:7).

In coming to this conclusion, the Court finds that each of the Defendants’ arguments against giving the disputed phrase this plain and ordinary meaning fall short. First, the Defendants argued that the fact that the description of the second, fixator hardware group is preceded by the words “one or more” while the first, anatomical group does not have similar words preceding it adds confusion to the phrasing. (DE 107 at 18.) That argument is unavailing, however, because the first group that lists anatomical-related items ends with an inclusive “or,” which does the work of the “one or more” that precedes the description of the second, fixator hardware group. “[C]ourts recognize that ‘or’ can be either exclusive or inclusive; and courts typically consider ‘or’ exclusive only when combined with ‘either.’” *Norix Grp., Inc. v. Correctoinal Techs., Inc.*, 2020 1157369, at \*4 (N.D. Ill. Mar. 10, 2020), *reconsideration denied sub nom. Norix Grp., Inc. v. Corr. Techs., Inc.*, 2020 WL 6153266 (N.D. Ill. June 24, 2020); *see also Gonzalez v. Infostream Grp., Inc.*, 2015 WL 5604448, at \*18 (E.D. Tex. Sept. 21, 2015). Because there is no “either” attached to the “or” that ends the list of the first, anatomical group, the Court finds that a POSITA would read the “or” as having an inclusive meaning. *See Norix*, 2020 1157369 at \*4 (holding the claim term “in one of the first or second side wall” meant “in one of the first or second side walls or in both side walls” because the “or” was not accompanied by an “either”). The Court thus finds that the inclusion of “one or more” before the second group does not add the confusion to the disputed phrase that the Defendants have alleged.

Second, the Defendants argued that the phrase’s plain meaning described above would render the technology inoperable and should therefore not be given. (DE 110 at 9–10) (citing



*Chef Am., Inc. v. Lamb-Weston, Inc.*, 358 F.3d 1371, 1373 (Fed. Cir. 2004); *Cross Atl. Cap. Partners, Inc. v. Facebook Inc.*, 2008 WL 564956, at \*7 (E.D. Pa. Feb. 29, 2008); *Schindler Elevator Corp. v. Otis Elevator Co.*, slip op. at 11–12 (D. N.J. Jan. 13, 2010). They specifically argued that the phrase’s plain meaning would suggest that an orthopedic professional would be able to mark a position on an anatomical portion of an image and have fully satisfied the process that the disputed phrase describes. (DE 110 at 10) (“Under Plaintiffs’ proposed ‘plain and ordinary meaning’ construction of this claim term, the orthopedic professional may mark positions data that completely excludes the fixator hardware.”). But if that were the case, they went on, the patented technology would have no position data for the unmarked fixator hardware and thus be unable to serve its purpose of giving required positioning data for an orthopedic professional’s use. (*Id.* at 10) (“How the invention would be able to determine the angular orientations of the fixator hardware or the center of a ring *without marking any position of the hardware* is not explained by the specification or Plaintiffs.”).

The Court agrees that the plain and ordinary meaning suggests that an orthopedic professional could only mark position data on the anatomical portion of the image, but the Defendants’ argument that that would render the invention inoperable and the claim defective is undermined for two reasons. First, caselaw suggests that “[a] claim is not defective when it states fewer than all of the steps that may be performed in practice of an invention.” *Smith & Nephew, Inc. v. Ethicon, Inc.*, 276 F.3d 1303, 1311 (Fed. Cir. 2001) (additionally holding that “a claim is not a handbook for practice of an invention” and recognizing “that inventions may be practiced with steps in addition to those listed in the claims”). This suggests that more steps may generally be performed in addition to those listed in the Patent to make the patented technology effective. Second, the intrinsic evidence from the specification suggests that points used to calculate

positioning do not always need to be manually inscribed on an image for the patented technology to serve its purpose. The specification language indicates that the fixator hardware itself, if properly outfitted with sensors and detectors, could register position data for use in the computations without the need for a professional to actually point and click to mark a point for use once an image is taken. (DE 105-2 at 9:44–52) (“The [fixator] hardware shown in the images may include static sensors or other detectors that identify the position and orientation of the [fixator] rings in real time.”). In making that clear, the specification directly refutes the Defendants’ argument that “[h]ow the invention would be able to determine the angular orientations of the fixator hardware or the center of a ring without marking any position of the hardware is not explained by the specification or Plaintiffs.” (DE 110 at 10.) Given that explanation in the specification and refutation of the Defendants’ argument, the Court finds that the plain and ordinary meaning of the phrase does not render the technology inoperable.

Finally, the Court finds that the Defendants’ own attempt to construe the claim phrase should be rejected. The Defendants gave their proposed construction in the alternative to their argument that the phrase was indefinite, writing “[t]o the extent that this claim can be construed, it includes position information of either or both of the following items: (bone, bones, bone segments, joint space, anatomic loci, osteotomy, or an element or elements of fixator hardware).” (DE 107 at 18.) This construction actually suffers from the fundamental problem that the Defendants cited in their opposition to the plain and ordinary meaning argument from the Plaintiffs, namely that the constructed phrase begins with “either or,” which would indicate two items, but then lists far more than two items without grouping them in any way. *See* (DE 105-7 at 73:17–74:17) (Defendants’ expert Mr. Drewry acknowledging that the issue with “either or” arises when the list following those words includes more than two items). Given that flaw, the

Court finds the proposed construction would only lead to confusion and do nothing to clarify the phrase. It would also take a phrase that, as the Court has explained above, delineates the two relevant groups of items to be marked for a POSTIA through its plain language, and destroy that delineation. *See Astute Technology*, 2014 WL 1385191 at \*17, 23 (rejecting proposed constructions that were not more helpful to the jury than the plain meaning). Therefore, given the relevant evidence, the Court agrees with the Plaintiffs that the disputed phrase is not indefinite, that the plain and ordinary meaning is the only logical interpretation of the phrase and should thus be adopted, and that giving any construction to the phrase beyond its plain and ordinary meaning would only serve to confuse.

**D. Conclusion**

For the reasons stated above, the Court finds that the disputed phrases are not indefinite and that each should be given its plain and ordinary meaning consistent with this opinion and order.

SO ORDERED.

ENTERED: October 4, 2022

/s/ JON E. DEGUILIO  
Chief Judge  
United States District Court