

In the United States Court of Federal Claims

No. 16-346C

(Originally filed: November 29, 2021)

(Re-issued: January 11, 2022)¹

GEOSPATIAL TECHNOLOGY
ASSOCIATES, LLC

Plaintiff,

v.

THE UNITED STATES,

Defendant.

Patent infringement; 35
U.S.C. § 102(a) (2012)
(pre-AIA); Anticipation;
Public accessibility of
prior art; Inherency;
Reconsideration.

Richard T. Matthews, Raleigh, NC, for plaintiff.

Jenna Munnely, Trial Attorney, United States Department of Justice, Commercial Litigation Branch, Civil Division, Washington, DC, with whom were *Brian M. Boynton*, Acting Assistant Attorney General, and *Gary L. Hausken*, Director, for defendant.

ORDER

BRUGGINK, *Judge.*

This is a patent and copyright infringement suit brought against the United States for the alleged unauthorized use of plaintiff's intellectual property in its target detection system and software. On April 8, 2021, we granted partial summary judgment to defendant, holding that the '489 patent was invalid because it was anticipated by a government system in use and

¹ This order was first filed under seal to afford the parties an opportunity to propose the redaction of any protected material. The parties informed the court that no redactions were necessary. The order thus appears as in the original except for correction of three minor clerical errors.

publicly known at the time of invention.² *Geospatial Tech. Assocs., LLC v. United States*, No. 13-307C, 2021 WL 2325007 (Fed. Cl. April 8, 2021). The copyright claim remains pending. Plaintiff then moved for reconsideration on May 6, 2021, alleging six legal and procedural errors. The court held a status conference on June 3, 2021, to discuss the issues raised in the reconsideration motion and the government’s invocation of the state secret privilege. A briefing schedule for the motion for reconsideration was also set. The case was subsequently transferred to the undersigned. Briefing on reconsideration has since been completed, and oral argument was held on November 9, 2021. As explained below, we grant reconsideration on the issue of the inherency of the unmixing function of the ‘489 patent.

The ‘489 claims a system for “object based identification, sorting and ranking of target detections” ‘489 Patent at 1. In general terms, it does this by assigning a “score for each pixel” in each image captured. *Id.* “A region around one or more pixels with the determined detection scores which are higher than the determined detection scores for the remaining pixels . . . is identified” for each image. *Id.* Then, an “object based score for each identified region” in each of the images “is determined.” *Id.* The software then provides to the user of the system “one or more identified regions” with the preset “object based score” to review for targets. *Id.* The patent’s figure 2 breaks this process into five steps: 1) obtaining images; 2) applying a statistical detection filter to generate a per pixel detection score; 3) “apply spatial process to per pixel . . . scores to identify regions” and to determine the score “in each detection plane;” 4) determining “corresponding geographical information for each identified region;” 5) and providing the selected regions and object scores “with corresponding geographical information.” *Id.* at 3. This method is taught by 33 claims in the patent, 30 of which were at issue and addressed by the court on summary judgment. *See Geospatial*, 2021 WL 2325007, at *3. For purposes of this order, we need not again recite the language of the claims. It appears in our earlier opinion. *Id.* at *3-8

Defendant offered the Civil Air Patrol Hyperspectral Sensor System (“Archer”) as prior art and the report of its expert, Alan Stocker, which explains, among other things, his view of how the Archer system includes the functions claimed by the ‘489 patent. The court relied heavily on Mr. Stocker’s report to reach the conclusion that Archer anticipated each of the patent claims at issue. The court found each of the limitations present in the 30 claims at issue to be present in the Archer system. *Id.* at *23-24. In doing

² U.S. Patent No. 8,897,489 (‘489 patent).

so, it made a number of specific findings regarding features taught by the '489 patent found in Archer.

The court began with the priority date of the patent, denying summary judgment to plaintiff on both of its alternative offered dates: November 22, 2008, as a conception date, and January 29, 2010, for the date of a provisional application of another patent. *Id.* at *17-18. The court granted summary judgment to the United States, which offered the presumed patent priority date of January 28, 2011, the date the application for the '489 patent was filed. *Id.* at *18.

The court turned next to the “five ‘top level’ elements found in the ‘489 Patent—[1] obtain images, [2] apply statistical detection filtering, [3] identify regions and determine object-based scores, [4] determine geographical information for identified regions and [5] provide identified regions and object-based scores with geographical information.” *Id.* at *19 (citing Stocker Rep. ¶ 44). The court began with the two object-based score elements (3 and 5), finding both disclosed in Archer. The court cited two references which describe the Archer system and disclose these features in a way consistent with the court’s earlier claim construction of the terms “object-based spectral identification score” and “object-based score.” *Id.* at *20. The first reference is Brian Stevenson, et al., *The Civil Air Patrol ARCHER Hyperspectral Sensor System*, 5787 Proc. SPIE 17 (2005) (“Stevenson reference”). The second is Michael T. Eismann, *Strategies for Hyperspectral Target Detection in Complex Background Environments*, EEAC paper #1 626, Version 3 (Dec. 21, 2005 update) (“Eismann reference”). The court concluded that these two elements of claims 4, 5, 12, 13, 14, 21, 22, and 23 were anticipated by Archer. *Geospatial*, 2021 WL 2325007, at *20-21. The same was true with respect to the “providing identified regions with the determined object-based score” limitation (element 5) of claims 1, 4, 5, 10, 13, 14, 19, 21, 22, and 23. *Id.* at 21. The court cited the Stevenson reference’s description of how the “chip viewer” of Archer displays cropped images of identified target regions along with “target cue information, including scores and geolocations for each detected target.” *Id.* (citing the Stevenson reference at US_003221).

The court then made a finding regarding two capabilities of the patented system which it found to be inherent in the Archer system. The first, “masking out,” refers to a process using the “target detection processing apparatus” selection of “the pixels in each of the . . . images which have the highest determined statistical detection scores in each of the . . . images” in order to remove them to gather information regarding the surrounding region of the image. ‘489 Patent at 7. The court stated that Archer’s target detection

algorithms perform the masking out step inherently as part of that system’s “chipping” function, as explained by Mr. Stocker. *Geospatial*, 2021 WL 2325007, at *22. “[I]t is undisputed that the ARCHER system’s ‘chipping’ function includes defining image regions and indicates to the . . . system operator the location and local image context surrounding identified chips . . .” which also includes the ability to “eliminate pixel groups that do not conform to the detection threshold.” *Id.* Thus, this limitation of claims 4, 13, 22, 28, 30, and 32 was found to be anticipated by Archer. *Id.*

The same was true of the second of the two capabilities called out in the opinion: unmixing. “Unmixing” or “spectral unmixing” refers to breaking down of a pixel “into a collection of constituent spectra, or endmembers, and a set of corresponding fractions, or abundances, that indicate the proportion of each . . . present in the pixel.” *Id.* at *23 (citing Stocker Report ¶ 60).³ Although the Archer system does not employ an unmixing algorithm, the court was persuaded by defendant that it could “support such an unmixing algorithm, because unmixing is inherent within the ARCHER system’s capabilities. *Id.* at *22 (citing Oral Arg. Tr. at 69 (March 24, 2021)). The court noted that the Eismann reference summarized different unmixing techniques which could be used with the Archer system and further noted that the Air Force was pursuing those types of algorithms for use with the Archer system. *Id.* at *23 (citing Eismann reference at US_003319). The conclusion was then that, because Archer could be used in such a way, the unmixing algorithm was inherent in its capabilities. Claims 5, 14, 23, 29, and 33, containing the unmixing capability, were thus anticipated by Archer. *Id.*

Lastly, the court stated that the Archer system anticipated every claim of the ‘489 patent, noting that the elements and features discussed above were present in 17 of the claims and that plaintiff did not dispute that Archer anticipated the other limitations of those claims. *Id.* The court cited examples from Mr. Stocker’s report discussing several of those claims. The final conclusion was that the holdings above regarding the object-based score elements and the masking out and unmixing features of the patent meant that all 30 of the claims at issue were disclosed either explicitly or inherently in the Archer system. *Id.* at *23-24. Summary judgment on the validity of the patent was granted to defendant.

³ Also citing N. Keshava & J.F. Mustard, *Spectral Unmixing*, 1053-5888 IEE Signal Processing Magazine 44, 44 (Jan. 2002), for the proposition that this process was well known in the art prior to 2011.

Reconsideration:

Plaintiff raises six arguments for reconsideration and one general objection that the Archer system was undisclosed by the government in its preliminary contentions. The latter objection we can dispense with because the opportunity to have raised that omission as an issue was prior to summary judgment. Defendant clearly proffered Archer in its brief on patent invalidity and again in its motion for summary judgment. Plaintiff, rather than raise the procedural objection, briefed its defense of the patent and asked for summary judgment on validity. The timeliness of the Archer disclosure was thus waived, and it would be fundamentally unfair to grant reconsideration on that basis.

The six more principled arguments are briefly summarized as follows: 1) misapplication of the “known or used” prong of 35 U.S.C. § 102(a); 2) a failure to address the claims as a whole and specifically whether Archer disclosed each of them as arranged in the patent’s claims themselves; 3) failure to address the three claims of the patent; 4) legal error applying the law of inherency; 5) insufficiency of evidence to support the court’s understanding of Archer; and 6) improper determination of the priority date or date of conception.

Defendant responds that only two of the arguments raised by plaintiff are proper for a motion for reconsideration, the first (the publicly used or known requirement of section 102(a)) and the fourth (inherency). Although we agree, we begin with the others to make clear why they are unavailable on reconsideration or are otherwise unavailing.

Reconsideration under Rule 59 is available only when the plaintiff can show an intervening change in the law, previously unavailable material evidence, or if it is necessary to avoid a manifest injustice. *Fru-Con Const. Corp. v. United States*, 44 Fed. Cl. 298, 301 (1999). The latter prong, manifest injustice, is meant to right an error of law or fact that is “clearly apparent or obvious.” *Ammex, Inc. v. United States*, 52 Fed. Cl. 555, 557 (2002). Thus, disagreements with the court’s application of the law or its view of the evidence, or new or repeated arguments regarding that same law or evidence, will not be entertained on reconsideration.

A. Improper Arguments:

The motion for reconsideration does not offer any new law or facts. The only issue thus is whether there was an obvious legal or factual error. Plaintiff’s argument that the claims were not addressed as a whole nor as

arranged in the patent is a disagreement with how the court organized its discussion, which is not a proper basis for reconsideration. The court found that each claim was anticipated. It focused on the features and capabilities that were highlighted by the parties' briefing regarding anticipation. A lock-step claim-by-claim analysis was not done, but a conclusion as to each claim was reached and, absent some compelling legal or factual error therein, those conclusions will remain undisturbed.⁴ Even assuming that this is a valid point, it comes too late. Plaintiff had every opportunity to argue why the order of the limitations and claims in its patent distinguished it from Archer. It cannot do so now on reconsideration.

Moreover, it is also too late now to argue that the court erred by not specifically addressing claims 3, 12, and 21 of the patent. The parties briefed and the court decided the validity of the patent as a whole based on the parties' presentation during summary judgment. Plaintiff's point that, under the Patent Rules, its preliminary infringement contentions control over its amended complaint is irrelevant when it failed to assert those claims during summary judgment, particularly when it also moved for summary judgment on the validity issues.⁵ Plaintiff was on notice, even before summary judgment, from defendant's brief on patent invalidity, that the government viewed those three claims as unasserted and not at issue in the suit. Nothing raised by either party in the subsequent briefing would have given the court a reason to think otherwise. Reconsideration cannot be granted based on a claim not presented to the court before summary judgment.

We find the last two arguments presented by the motion—the sufficiency of the evidence regarding the features of Archer and the patent's priority date—also unavailing because they are, at heart, mere disagreements with the court's conclusions. That plaintiff does not believe that the court properly understood the Archer system or that the evidence regarding its features and functions, namely the two references and Mr. Stocker's report,

⁴ It is important to note that the parties' briefing during summary judgment likewise did not march through the patent on a claim-by-claim basis. Rather, it centered on the salient features that allegedly set the '489's invention apart from the prior art. For the defense of anticipation, this was a comparison with only the Archer system. Plaintiff did not raise or argue during summary judgment that the defense must fail because the government had not argued each and every claim and each limitation in the order presented in the patent.

⁵ We do not reach the issue of whether infringement contentions alone can put at issue claims not asserted in the complaint.

were insufficient to support the conclusions reached are points that could and should have been raised during briefing on summary judgment. Reconsideration is too late to raise these points.⁶

The same is true on the issue of the priority date or an even earlier date of conception. Although plaintiff argues that the issues were neither amenable to nor necessary for disposition on summary judgment, it moved for judgment on the issues. Plaintiff cannot have it both ways. Having moved for summary judgment on an issue and lost, a party cannot then ask for reconsideration on the basis that the issue should not have been decided.⁷ Plaintiff's other points on the priority date are also unavailing because they amount to mere disagreements with how the court viewed the evidence and drew inferences therefrom.

B. Potential Basis for Reconsideration:

That leaves the two legal issues regarding whether the court properly applied the law in concluding that the Archer system was a known or used piece of prior art and whether the masking out and unmixing functions of the patent were inherent in Archer.

1. Accessibility

Regarding section 102(a), prior to the America Invents Act ("AIA") of 2011, conditions for patentability included that the invention was not "known or used by others in this country, . . . or described in a printed publication in this or a foreign country" before it was conceived of by the patentee. 35 U.S.C. § 102(a) (2012) (pre-AIA). The Federal Circuit explained that this meant "knowledge or use which is accessible to the public." *BASF Corp. v. SNF Holding Co.*, 955 F.3d 958, 964 (Fed. Cir. 2020). Plaintiff argues now that the court failed to make a finding of

⁶ It is also too late to supply a supplemental opinion, in the form of an affidavit, from plaintiff's expert, Dr. Jones, as plaintiff did in support of its motion for reconsideration. None of the explanations in that declaration are based on previously unavailable evidence or come as a result of a change in the law. It would thus be unfair to consider them now.

⁷ Although we agree that it was not strictly necessary to decide the priority date of the patent given the court's conclusion regarding the Archer system, which was not disputed to have predated plaintiff's preferred dates of conception and priority, the issue was presented and decided, and the decision thus stands as the law of the case moving forward.

accessibility and that there were material facts in dispute concerning whether the use of the Archer system was in fact publicly accessible.

Defendant responds that plaintiff has ignored the public availability of the Archer system, which was made manifest by the two published references it presented that describe the system. Thus, the court's silence as to whether the government's use of the Archer system was open and accessible to the public is immaterial and unnecessary for a legally sound decision. We agree.

After laying out the conditions for patentability found in the pre-AIA version of the statute, the court cited the two articles that describe Archer and Mr. Stocker's opinion that Archer was an "early demonstration" of the invention. *Geospatial*, 2021 WL 2325007, at *19 (citing Stocker Rep. ¶ 54). Plaintiff, in fact, only argued that the use was confidential but did not address in its summary judgment briefing the accessibility of the second prong, the knowledge of the invention. Thus, presented with two published references describing that prior art and no hint in the record that the knowledge was otherwise secret, there was no error in comparing Archer with the patent's claims under the pre-AIA section 102. If plaintiff's invention was anticipated by Archer, the public character of the use or knowledge is established.

2. Inherency

Lastly, plaintiff asks for reconsideration of the court's holding that two of the capabilities of the invention are inherently present in the Archer system. Plaintiff points out that, for a court to find a feature of a patent obvious or anticipated by some prior art, without that feature being explicitly taught, that feature must be "necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill." *In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999) (quoting *Continental Can Co. v. Monsanto Co.*, 948 F.2d 1264, 1268 (Fed. Cir. 1991)). It is insufficient to find that the element claimed would probably or possibly be present in the prior art. *Rosco, Inc. v. Mirror Lite Co.*, 304 F.3d 1373, 1380 (Fed. Cir. 2002). Plaintiff's argument is thus that the court erred in finding these two capabilities inherent in Archer when the evidence only showed that Archer could or might otherwise be modified to perform those functions.

We conclude that this critique is accurate as to the court's holding regarding unmixing but not for masking out. As for the latter, the court found that the Archer system's targeting algorithms "include an inherent 'masking out' step as part of the system's 'chipping' function." *Geospatial*, 2021 WL

2325007, at *22. Mr. Stocker explained, as cited by the court, that the masking out of pixels refers to the removal of pixels with high scores (those likely to indicate targets) from regions to be able to provide better statistics about the background areas around those high-score pixels without “contamination from potential targets.” Stocker Rep. ¶ 58. The court found the Archer system’s provision to the operator of “chips,” or regions, surrounding high-score pixels to necessarily include the ‘489’s masking out capability. *Geospatial*, 2021 WL 2325007, at *22 (citing Stocker Rep. ¶ 79). The court found, in essence, that “chipping” and “masking out” were doing the same thing with background image data around high-score pixels. We find no error with that conclusion and thus reconsideration is not warranted on that basis.

The same is not true, however, as to the unmixing capability, a similar but distinct, feature of the ‘489 patent. “Unmixing” refers to the decomposition of a mixed-spectrum pixel into its constituent spectra and then producing the corresponding fractions for the proportion of each present in the pixel. As the court noted, defendant conceded that the Archer system, at least at the time, did not have this capability. The court went on, however, to find it inherent in the Archer system because the Archer system could perform unmixing if a new algorithm was used with it that performed this spectral unmixing function. *Geospatial*, 2021 WL 2325007, at *23. The court cited as support the Eismann reference’s discussion of a particular algorithm (N-FINDR) and a statement that this was an avenue that the Air Force was exploring for use with the Archer system. *Id.* (citing Eismann reference at US_003314, US_03319).

As stated above, it is insufficient that the prior art *might* be capable of performing a function of a patented invention if only it were modified, tweaked, or, like here, a new undisclosed algorithm were used in the machine. For a feature to be inherent in the prior art, however, that feature must necessarily be present in the steps, functions, or elements of the prior art. Put another way, the prior art must actually contain that feature or perform that step as part of its method or operation. For masking out, the court made such a finding with regard to Archer’s chipping function. But, the ‘489 patent’s unmixing capability was not similarly part of a differently-named process in the Archer system. Quite the opposite. The government conceded that Archer did not, and without modification, could not perform this feature. It would therefore be manifestly unjust to hold the ‘489 patent invalid for lack of novelty when the system proffered by the government as prior art did not have one of the capabilities claimed in six of the patent’s claims.

Accordingly, the following is ordered:

1. Plaintiff's motion for reconsideration (ECF No. 252) is granted as to the inherency of the unmixing function found in claims 5, 14, 23, 29, 31, and 33. The motion is denied in all other respects.
2. The grant of summary judgment to defendant on its defense of anticipation under 35 U.S.C. § 102(a) is vacated.
3. Defendant's motion to strike portions of plaintiff's reply brief (ECF No. 268) is denied as moot.
4. The parties are directed to file a joint status report indicating their respective positions regarding further proceedings on or before December 15, 2021.

s/ Eric G. Bruggink
ERIC G. BRUGGINK
Senior Judge