UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS

CARDIONET, LLC, and BRAEMAR MANUFACTURING, LLC,	*	
Plaintiffs,	*	
	*	Civil Action No. 1:15-cv-11803-IT
v.	*	
INFOBIONIC, INC.,	*	
Defendant.	*	

MEMORANDUM & ORDER

May 4, 2017

TALWANI, D.J.

Before this court is Defendant InfoBionic's Renewed Motion for Judgment on the Pleadings that All Asserted Claims of U.S. Patent Nos. RE43,767, 7,212,850, 7,907,996 and 7,099,715 Are Invalid Under 35 U.S.C. § 101 [#281] as to four of the six patents asserted in this action by Plaintiffs CardioNet, LLC, and Braemar Manufacturing, LLC. For the following reasons, the motion is ALLOWED IN PART and DENIED IN PART.

I. Background

CardioNet provides "ambulatory outpatient management solutions for monitoring clinical information regarding an individual's health." CardioNet alleges rights in and to six patents, including four that are the subject of the pending motion: (1) U.S. Patent No. 7,212,850 ("'850 Patent"); U.S. Patent 7,907,996 ("'996 Patent"); U.S. Patent No. RE43,767 ("'767 Patent") [1]; and U.S. Patent No. 7,099,715 ("'715 Patent").[2]

[1] The '767 Patent is a reissue of U.S. Patent No. 6,694,177.
[2] Cardionet alleges original ownership of the patents by assignment of all rights, titles, and interests. In 2012, CardioNet assigned its rights, titles, and interests in and to the patents to

Plaintiffs filed this action on May 8, 2015, and filed a Third Amended Complaint [#279] on March 20, 2017, alleging, *inter alia*, that Defendant's remote cardiac arrhythmia detection and monitoring platform, MoMe® Kardia, infringes on their patents. Defendant's renewed motion for judgment on the pleadings followed.[3]

II. Standard

Pursuant to Rule 12(c) of the Federal Rules of Civil Procedure, "a party may move for judgment on the pleadings" "[a]fter the pleadings are closed—but early enough not to delay trial." The court considers a Rule 12(c) motion for judgment on the pleadings much in the same manner as a 12(b)(6) motion to dismiss, Marrero-Gutierrez v. Molina, 491 F.3d 1, 5 (1st Cir. 2007), except that a motion for judgment on the pleadings "implicates the pleadings as a whole," not only the complaint. Aponte-Torres v. Univ. of P.R., 445 F.3d 50, 55 (1st Cir. 2006).[4] The court construes the well-pleaded facts in the complaint as true and draws all reasonable inferences in favor of the non-moving party.[5] See Marrero-Gutierrez, 491 F.3d at 5. As with a Rule 12(b)(6) motion, "a court may enter judgment on the pleadings only if the uncontested and properly considered facts conclusively establish the movant's entitlement to a favorable judgment." Aponte-Torres, 445 F.3d at 54.

Braemar, and Braemar granted CardioNet an exclusive license to make, use, offer to sell, sell, import, license, and exploit the patents.

[3] The court denied without prejudice Defendant's original motion for judgment on the pleadings after Plaintiffs filed their Third Amended Complaint but advised the parties that it would treat all memoranda and exhibits previously filed in support of and in opposition to Defendant's original motion as filed in support of or opposition to a renewed motion. Order [#280].

[4] The Federal Circuit "follow[s] the procedural law of the regional circuit" when reviewing a grant or denial of a motion for judgment on the pleadings. Allergan, Inc. v. Athena Cosmetics, Inc., 640 F.3d 1377, 1380 (Fed. Cir. 2011).

[5] As Plaintiffs have filed and briefed their claim construction contentions, the court relies on Plaintiffs' proposed construction of the claims for the purposes of this motion, rather than the hypothetical "narrowest construction" as Plaintiffs urged at oral argument.

III. Discussion

Defendant asserts that the claims cited in the complaint as to four of the patents do not define subject matter that is eligible for patenting under Section 101 of the Patent Act, 35 U.S.C. § 101. Defendant argues that the claims are directed to abstract ideas and mental processes used by physicians in monitoring patients and analyzing patient data and that these abstract ideas are not transformed by inventive concepts.

A. Section 101

Section 101 provides that "[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title." The provision includes "an important implicit exception: Laws of nature, natural phenomena, and abstract ideas are not patentable." Alice Corp. Pty. Ltd. v. CLS Bank Int'l, 134 S. Ct. 2347, 2354 (2014) (quoting Ass'n for Molecular Pathology v. Myriad Genetics, Inc., 133 S. Ct. 2107, 2116 (2013)). Since laws of nature, natural phenomena, and abstract ideas are regarded as "the basic tools of scientific and technological work," their monopolization potentially would hinder innovation and thus frustrate the very purpose of patent laws. Id. (quoting Myriad, 133 S. Ct. at 2116). In Alice, the Supreme Court set forth a two-stage framework for determining whether a claim falls outside this exception and thus is eligible for patent protection. 134 S. Ct. at 2355 (citing Mayo Collaborative Servs. v. Prometheus Labs., Inc., 132 S. Ct. 1289 (2012)).

1. First Stage of the Alice Analysis

In the first stage, the court "determine[s] whether the claims at issue are directed to" one of the three patent-ineligible concepts: laws of nature, natural phenomena, and abstract ideas. Alice, 134 S. Ct. at 2355. The "directed to" inquiry asks not whether "the claims *involve* a

patent-ineligible concept" but instead whether, "considered in light of the specification, . . . 'their character as a whole is directed to excluded subject matter.'" Enfish, LLC v. Microsoft Corp., 822 F.3d 1327, 1335 (Fed. Cir. 2016) (quoting Internet Patents Corp. v. Active Network, Inc., 790 F.3d 1343, 1346 (Fed. Cir. 2015)).

In determining whether computerized technology is directed to an abstract idea, the court "asks whether the focus of the claims is on the specific asserted improvement in computer capabilities . . . or, instead, on a process that qualifies as an 'abstract idea' for which computers are invoked merely as a tool." Id., at 1335-36. If "the plain focus of the claims is on an improvement to computer functionality itself," it is not directed to an abstract idea. Id. at 1336. However, if the "claims 'simply add[] conventional computer components to well-known business practices,' . . . or 'a purely conventional computer implementation of a mathematical formula,' or 'generalized steps to be performed on a computer using conventional computer activity," it is directed to an abstract idea. In re TLI Commc'ns LLC Patent Litig., 823 F.3d 607, 612 (Fed. Cir. 2016) (quoting Enfish, 822 F.3d at 1338).

For example, in Enfish, the Federal Circuit concluded that the claimed invention—a logical model for self-referential database tables—was not directed to an abstract idea but instead "directed to a specific improvement to the way computers operate." 822 F.3d at 1336. The court later explained that the claims in Enfish "focused not on asserted advances in uses to which existing computer capabilities could be put, but on a specific improvement—a particular database technique—in how computers could carry out one of their basic functions of storage and retrieval of data." Elec. Power Grp., LLC v. Alstom S.A., 830 F.3d 1350, 1354 (Fed. Cir. 2016) (citing Enfish, 822 F.3d at 1335-36).

The Federal Circuit reached a different conclusion in Bascom Global Internet Services, Inc. v. AT&T Mobility LLC, in which the claimed invention "provide[d] individually customizable filtering at the remote ISP [Internet Service Provider] server by taking advantage of the technical capability of certain communication networks." 827 F.3d 1341, 1344 (Fed. Cir. 2016). The invention advanced prior art by preventing end-users from modifying or thwarting the filters to access prohibited websites, allowing end users to customize their filtering rules, and installing the filters at the ISP server. Id. Despite these specific improvements, the court concluded that the claims were directed to the abstract idea of filtering content. Id. at 1348. Unlike the Enfish claims, which "were unambiguously directed to an improvement in computer capabilities," id. at 1349, the Bascom claims were directed to "a longstanding, well-known method of organizing human behavior," id. at 1348.

If, at the first stage of the Alice analysis, the court concludes that the claim is not directed to a patent-ineligible concept, it is considered patent eligible under Section 101 and the inquiry ends. Rapid Litig. Mgmt. Ltd. v. CellzDirect, Inc., 827 F.3d 1042, 1047 (Fed. Cir. 2016). However, if the court concludes that the claim is directed to an abstract idea, the court proceeds to the second stage of the Alice analysis. Alice, 134 S. Ct. at 2355.

2. Second Stage of the Alice Analysis

At the second stage, the court "consider[s] the elements of each claim both individually and 'as an ordered combination' to determine whether the additional elements 'transform the nature of the claim' into a patent-eligible application." Id. (quoting Mayo, 132 S. Ct. at 1297, 1298). In so doing, the court "search[es] for an 'inventive concept'—*i.e.*, an element or combination of elements that is 'sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.'" Id. (quoting Mayo, 132 S.

Ct. at 1294)). Under the machine-or-transformation test, a concept may be inventive if "(1) it is tied to a particular machine or apparatus, or (2) it transforms a particular article into a different state or thing." Bilski v. Kappos, 561 U.S. 593, 600 (2010) (quoting In re Bilski, 545 F.3d 943, 954 (Fed. Cir. 2008)). While not the exclusive test for determining patent eligibility, "the machine-or-transformation test is a useful and important clue, an investigative tool, for determining whether some claimed inventions are processes under § 101." Id. at 604.

"It is well-settled that mere recitation of concrete, tangible components is insufficient to confer patent eligibility to an otherwise abstract idea." TLI, 823 F.3d at 613. However, "an inventive concept can be found in the non-conventional and non-generic arrangement of known, conventional pieces." Bascom, 827 F.3d at 1350. With respect to patents claiming computerized technology, "the mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention," and "limiting the use of an abstract idea 'to a particular technological environment'" is insufficient to render the subject matter patent eligible. Alice, 134 S. Ct. at 2358 (quoting Bilski, 561 U.S. at 610-11).

B. The Patents

1. '767 Patent

The '767 Patent, titled "Control of Data Transmission Between a Remote Monitoring Unit and a Central Unit," is directed to monitoring patient data and determining when additional data is needed, by optimizing the transmission of patient data between components of a computerized system. U.S. Patent No. RE43,767 col. 1 ll. 56-65 (reissued Oct. 23, 2012). According to the specifications, the existing approach of immediately and automatically transferring physiological data wastes the battery power of the remote monitoring unit, requires excessive data transfer time over the cellular telephone system, and uses medical personnel's

time inefficiently. Id. at col. 1 ll. 29-47. The claimed invention aims to solve this problem by selectively, rather than automatically, transmitting patient data. Id. at col. 3 ll. 5-9. The central unit analyzes the initial transmitted data to determine whether additional data is required. Id. at col. 2 ll. 26-30. The central unit also determines when such additional data should be transmitted, depending whether an emergency exists. Id. at col. 2 ll. 32-34. The specification states that the advantages over prior art include the more judicious use of battery power, reduced cellular telephone connect time, and better managed medical personnel time. Id. at col. 1 ll. 62-65.

Claim 9, the only claim cited in the complaint, reads in its entirety:

> A method of monitoring a patient, comprising the steps of providing a monitoring apparatus including
>
> a remote monitoring unit associated with the patient,
>
> a central unit, and
>
> a communications device which selectively establishes a communications link between the remote monitoring unit and the central unit;
>
> the remote monitoring unit obtaining a monitored data set for the patient;
>
> the remote monitoring unit establishing a communications link with the central unit;
>
> the remote monitoring unit transmitting to the central unit an initially transmitted data set related to the monitored data set;
>
> the central unit analyzing the initially transmitted data set to determine whether an additional data set related to the monitored data set is required to be transmitted by the remote monitoring unit;
>
> the central unit, when the additional data set related to the monitored data set is required, instructing the remote monitoring unit that the additional data set is to be transmitted from the remote monitoring unit to the central unit and instructing as to a time at which the additional data set is to be transmitted; and
>
> the remote monitoring unit transmitting the additional data set to the central unit at the time instructed by the central unit based on initially transmitted data set received from the remote monitoring unit.

Id. at col. 8 ll. 1-30.

a. Abstract Idea

Defendant argues that Claim 9 is directed to a method of organizing human activity—specifically, "the age-old concept of gathering a limited set of patient data and then determining whether it is necessary to gather additional data." Plaintiffs contend that the claimed invention is not an abstract idea because it is directed to an improvement in data transfer architecture. However, Plaintiffs fail to show that the focus of the claims is on the specific asserted improvement to computer capabilities. A review of the patent specifications reveals that the heart of the claim is directed to using computers as tools to perform the abstract idea of monitoring patient data. The remote monitoring unit obtaining a monitored dataset for the patient is akin to a nurse monitoring a patient's vital signs. Establishing a communications link is akin to the nurse and physician approaching one another to speak or sending an electronic note, an email, or a fax. The remote monitoring unit transmitting the initial data set is similar to a nurse who selectively provides the physician with information about his or her findings. The units' analysis of the dataset is analogous to the mental process that the physician performs. When the remote monitoring unit sends additional data to the central unit, at its instruction, the units replace the need for a nurse to provide additional information at the physician's request.

Accordingly, Claim 9 reflects the mental analysis that medical professionals long have performed. See Elec. Power Grp., 830 F.3d at 1354 ("[W]e have treated analyzing information by steps people go through in their minds, or by mathematical algorithms, without more, as essentially mental processes within the abstract-idea category."); cf. Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat. Ass'n, 776 F.3d 1343, 1347 (Fed. Cir. 2014) (concluding that a claim was directed to "collecting data, . . . recognizing certain data within the collected data set, and . . . storing that recognized data in a memory" because "humans have

always performed these functions").

Consequently, the court finds that Claim 9 is directed to the abstract idea of gathering a limited set of patient data and then determining whether to gather additional data. Having made this determination, the court proceeds to the second stage of the Alice analysis.

b. Inventive Concept

Defendant argues that the remote monitoring unit, central unit, and communications device recited in Claim 9 are generic computer components that add nothing inventive to the underlying abstract idea. Indeed, considering each limitation individually, an inventive concept cannot be found. See, e.g., Bascom, 827 F.3d at 1349 (deeming the limitations "local client computer," "remote ISP server," "Internet computer network," and "controlled access network accounts" to be "well-known generic computer components," when taken individually). However, since "[t]he 'inventive concept' may arise in one or more of the individual claim limitations *or* in the ordered combination of the limitation," the "inquiry requires more than recognizing that each claim element, by itself, was known in the art." Id. at 1349, 1350 (emphasis added).

The claims in Bascom, which "recite[d] a specific, discrete implementation of the abstract idea of filtering content," are instructive. Id. at 1350. When considering the claims as an ordered combination, the Federal Circuit concluded that claims could contain an inventive concept. Id. at 1350-51. The court noted that "[f]iltering content on the Internet was already a known concept, and the patent describes how its particular arrangement of elements is a technical improvement over prior art ways of filtering such content." Id. at 1350. In so doing, the court noted that the claims did more than "recite the abstract idea of filtering content along with the requirement to perform it on the Internet, or to perform it on a set of generic computer

components," which would not disclose an inventive concept. Id.

Similarly, Claim 9 does not introduce the concept of remote patient monitoring, but it purports to improve upon prior art in the mobile cardiac telemetry field by taking advantage of "a communications device which selectively establishes a communications link between the remote monitoring unit and the central unit." U.S. Patent No. RE43,767 col. 8 ll. 5-8. In so doing, Claim 9 purports to "adopt[] a new data transfer architecture with improved selectivity of data transmission but retention of the data accumulation capability to build the patient history and also the emergency capability to assist the patient on an urgent basis when needed." Id. at col. 1 ll. 55-62**.** Much like the claims in Bascom, Claim 9 purports to improve upon the previous technology, which did not allow for selectivity in determining the data set that would be transmitted to the central unit. Id. col. 1 ll. 44-48. As in Bascom, the patent is "more than a drafting effort to monopolize the [abstract idea]." 827 F.3d at 1350 (quoting Alice, 134 S. Ct. at 2357). Therefore, when read as an ordered combination, the court cannot determine as a matter of law that Claim 9 lacks an inventive concept.

2. '850 and '996 Patents

The '850 and '996 Patents, titled "System and Method for Processing and Presenting Arrhythmia Information to Facilitate Heart Arrhythmia Identification and Treatment," share an identical specification and are directed to a system and method of reporting arrhythmia events in physiological data. U.S. Patent No. 7,212,850 col. 1 ll. 36-49 (filed May 1, 2007); U.S. Patent No. 7,907,996 col. 1 ll. 39-54 (filed Mar. 15, 2011). The system receives arrhythmia information both from a computer and from user input from a monitoring system. U.S. Patent No. 7,212,850 col. 9 ll. 40-60; U.S. Patent No. 7,907,996 col. 1 ll. 55-67. The system pictographically presents selective information regarding the heart rate data during a defined time period, based on the

measure of correlation between the computer-generated and the human-assessed data. U.S. Patent No. 7,212,850 col. 1 ll. 40-49; U.S. Patent No. 7,907,996 col. 1 ll. 40-49. The specifications provide that, by employing pictographic presentations, the claimed invention offers advantages over prior art; it purports to help medical practitioners determine whether a patient is more likely to experience an arrhythmia event at certain times of the day, and the correlation of two sets of data is said to improve the accuracy of the pictographic representation. U.S. Patent No. 7,212,850 col 1. ll. 50-65; U.S. Patent No. 7,907,996 col. 1 ll. 50-65.

Claim 31 of the '850 Patent, the only claim cited in the complaint, reads in its entirety:

> A system for reporting information related to arrhythmia events comprising
>
> a monitoring system configured to process and report physiological data, including heart rate data, for a living being and configured to identify arrhythmia events from the physiological data;
>
> a monitoring station for receiving the physiological data from the monitoring system;
>
> a processing system configured to receive arrhythmia information from the monitoring system and configured to receive human-assessed arrhythmia information from the monitoring station wherein the human-assessed arrhythmia information derives from at least a portion of the physiological data and wherein the processing system is capable of pictographically presenting, using a common time scale, information regarding the heart rate data during a defined time period and regarding duration of arrhythmia event activity, according to the identified arrhythmia events, during the defined time period such that heart rate trend is presented with arrhythmia event burden.

Id. at col. 9 ll. 40-60.

Claim 12 of the '996 Patent, the only claim cited in the complaint, reads in its entirety:

> An article comprising a machine-readable medium embodying information indicative of instructions that when performed by one or more machines result in operations comprising:
>
> identifying atrial fibrillation events in physiological data obtained for a living being, wherein identifying atrial fibrillation events comprises examining the physiological data in multiple time intervals, and identifying intervals in which at least one atrial fibrillation event has occurred;
>
> obtaining heart rate data for the living being;

> receiving a human assessment of a subset of the identified atrial fibrillation events; and
> based on the human assessment of the subset of the identified atrial fibrillation events, pictographically presenting, using a common time scale, information regarding the heart rate data for the multiple time intervals during a defined time period in alignment with indications of atrial fibrillation activity for the identified intervals, according to the identified atrial fibrillation events, during the defined time period such that heart rate trend is presented with atrial fibrillation burden, wherein pictographically presenting information regarding the heart rate data comprises displaying for each of the multiple time intervals a range of heart rates and a heart rate average.

U.S. Patent No. 7,907,996 col. 6 l. 53-col. 7 l. 12.

a. Abstract Idea

Defendant argues that Claim 31 of the '850 Patent and Claim 12 of the '996 Patent "are directed to the common-sense abstract idea of checking data from a medical device against human assessments to ensure accuracy before displaying the data in a convenient format."

Claim 31 of the '850 Patent and Claim 12 of the '996 Patent, read in conjunction with the patent specifications, recite a system that receives computer-generated "arrhythmia information from the monitoring system and . . . human-assessed arrhythmia information from the monitoring station," U.S. Patent No. 7,212,850 col. 9 ll. 48-51, to "selectively present[] information regarding the identified events based on the measure of correlation" between the two sets of information, U.S. Patent No. 7,907,996 col. 1 ll. 45-47. The claimed system is analogous to a medical professional analyzing the physiological data and comparing his or her assessment with a colleague's second opinion. The medical professional also consolidates his or her assessment with that of his or her colleague, based on the same physiological data, to arrive at a more accurate diagnosis. This suggests that the claims are directed to the abstract idea of "a longstanding, well-known method of organizing human behavior," where a computer only facilitates such existing practices. Bascom, 827 F.3d at 1348.

These claims are similar to the claim in Digitech Image Techs., LLC v. Elecs. for Imaging, Inc., 758 F.3d 1344 (Fed. Cir. 2014). In Digitech, the claim at issue read:

> A method of generating a device profile that describes properties of a device in a digital image reproduction system for capturing, transforming or rendering an image, said method comprising:
>
> generalizing first data for describing a device dependent transformation of color information content of the image to a device independent color space through use of measured chromatic stimuli and device response characteristic functions;
>
> generating second data for describing a device dependent transformation of spatial information content of the image in said device independent color space through use of spatial stimuli and device response characteristic functions; and
>
> combining said first and second data into the device profile.

Id. at 1351 (quoting patent-at-issue). The Federal Circuit concluded that the claim was an "ineligible abstract process of gathering and combining data" and that "the two data sets and the resulting device profile are ineligible subject matter." Id. Like the claim in Digitech, the process in Claim 31 of the '850 Patent and Claim 12 of the '996 Patent of "manipulat[ing] existing information to generate additional information is not patent eligible." Id. Claim 31 of the '850 Patent and Claim 12 of the '996 Patent point to a system that combines computer-generated data with human-generated data to produce a pictographic representation.

Plaintiffs argue that Defendant relies on an overly broad construction of the claim by describing it as a correlation of the two sets of data. According to Plaintiffs, the claims are directed to specific inventions in the mobile cardiac telemetry field, similar to the claims in Enfish. However, Claim 31 of the '850 Patent and Claim 12 of the '996 Patent are distinguishable from those at issue in Enfish. In Enfish, the claimed invention sought to improve a specific computer functionality—namely, the existing logical model of generating data table. 822 F.3d at 1330. Additionally, the specifications explicitly provided that the patented invention was an improvement to the conventional database structure. Id. at 1337. In contrast, Plaintiffs do

not point to an existing computer functionality that the claimed invention seeks to improve but instead argue that the claimed invention improves the *entire* field of mobile telemetry. Further, rather than describing the claimed invention as a specific computer functionality, the specifications for the '850 and '996 Patents describe them as improvements to "a system for reporting information." U.S. Patent No. 7,212,850 col. 2 ll. 25-26; U.S. Patent No. 7,907,996 col. 2 ll. 30-31. Furthermore, the specifications simply point out that this patented system "*can* be implemented using, *for example*, the CardioNet Mobile Cardiac Outpatient Telemetry (MCOT) device." U.S. Patent No. 7,212,850 col. 2 ll. 40-44; U.S. Patent No. 7,907,996 col. 2 ll. 45-48 (emphases added).

For these reasons, the court finds that Claim 31 of the '850 Patent and Claim 12 of the '996 Patent are directed to the abstract idea of correlating one set of data to another.

b. Inventive Concept

Defendant argues that Claim 31 of the '850 Patent and Claim 12 of the '996 Patent do not add an inventive concept because they "recite only conventional hardware or routine steps" such as a "monitoring system," "monitoring station," "processing system" and "software." Plaintiffs argue that an ordered combination of the limitations may still provide an inventive concept but they fail to articulate it; they point instead to findings by the Patent Trial and Appeal Board that Defendant "failed to demonstrate a reasonable likelihood of establishing the unpatentability of [the] claims." (Internal quotation marks omitted.) However, these findings relate to challenges to patentability under Section 103 of the Patent Act, 35 U.S.C. § 103, not under Section 101. InfoBionic, Inc. v. Braemer [*sic*] Mfg., LLC, No. IPR2015-01705 (P.T.A.B. Feb. 16, 2016); InfoBionic, Inc. v. Braemer [*sic*] Mfg., LLC, No. IPR2015-01704 (P.T.A.B. Feb. 16, 2016).

Claim 31 of the '850 Patent and Claim 12 of the '996 Patent purport to provide for a scheme that generates a graphic presentation of the combined data by instituting a monitoring system that receives data inputs from a computer, a physician, and a processing system that can correlate the two sets of data. U.S. Patent No. 7,212,850 col. 1 ll. 50-65; id. at col. 9 ll. 40-60; U.S. Patent No. 7,907,996 col. 1 ll. 55-67. However, medical professionals long have analyzed physiological data, sought a second opinion to improve accuracy, and identified arrhythmia events from the physiological data. Therefore, the system merely "automate[s] or otherwise make[s] more efficient" traditional methods or techniques existing in the medical field. OIP Techs., Inc. v. Amazon.com, Inc., 788 F.3d 1359, 1363 (Fed. Cir. 2015). While the process certainly would require greater effort without the patented invention, the streamlining of the process, without more, is insufficient to add an inventive concept to an otherwise patent-ineligible abstract idea.

The system that Claim 31 of the '850 Patent and Claim 12 of the '996 Patent describe differs from the one in Bascom. In that case, the Federal Circuit concluded that "the installation of a filtering tool at a specific location, remote from the end-users, with customizable filtering features specific to each end user," which "[took] advantage of the ability of at least some ISPs to identify individual accounts that communicate with the ISP server, and to associate a request for Internet content with a specific individual account" added an inventive concept. Bascom, 827 F.3d at 1350. In contrast, Claim 31 of the '850 Patent and Claim 12 of the '996 Patent, when considered in their ordered combination, do not harness any particular technical feature of the monitoring system or the processing system. These systems merely facilitate an existing practice in medicine.

Plaintiffs argue that the claims at issue add an inventive concept because the process requires "a monitoring system" and "a processing system." However, a system does not encompass an inventive concept just because it involves a computer system. Bascom, 827 F.3d at 1349. "In order for the addition of a machine to impose a meaningful limit on the scope of a claim, it must play a significant part in permitting the claimed method to be performed, rather than function solely as an obvious mechanism for permitting a solution to be achieved more quickly." SiRF Tech., Inc. v. Int'l Trade Comm'n, 601 F.3d 1319, 1333 (Fed. Cir. 2010). For example, in SiRF Tech., the Federal Circuit determined that the claimed GPS receiver, which translated a plurality of satellite signals into a second format supported by the remote receiver, provided a meaningful restriction on the scope of the claim because the task could not be performed without the machine. 601 F.3d at 1332-33. In contrast, physicians routinely have translated cardiac data into diagnostic information or pictographic representations. Plaintiff's argument that physicians cannot use their mental capacity or a pen and paper to perform the same task conflates inefficiency with impossibility.

For these reasons, the court finds that Claim 31 of the '850 Patent and Claim 12 of the '996 Patent do not add an inventive concept sufficient to be patent-eligible subject matter under Section 101.

3. '715 Patent

The '715 Patent, titled "Distributed Cardiac Activity Monitoring with Selective Filtering," is directed to optimizing the identification of R waves in the QRS complex of an electrocardiogram by selectively activating a T wave filter. U.S. Patent No. 7,009,715 col.1 ll. 17-31 (issued Aug. 29, 2006). Because the morphology of a cardiac signal varies significantly among different patients, when

> the patient's ECG has a very tall T wave, [it] might result in false classification of [the] T wave as an R wave. When this happens, the heart rate reported by the apparatus may be twice the real heart rate, and the morphology of beats may not be detected correctly.

Id. at col. 3 ll. 52-57. The specifications provide that the claimed invention solves this problem by selectively activating a T wave filter to "reduce the amplitude of T waves, while preserving or slightly increasing the amplitude of R waves." Id. at col. 3 ll. 58-60. The claimed invention includes "a monitoring apparatus, with a selectively activated T wave filter, and a monitoring station." Id. at col. 1 ll. 29-31.

Claim 20 of '715 Patent, the only claim cited in the complaint, reads in its entirety:

> A cardiac monitoring apparatus comprising:
> a communications interface;
> a real-time heart beat detector;
> a T wave filter frequency domain; and
> a selector that activates the T wave filter frequency domain with respect to the real-time heart beat detector in response to a message, wherein the activated T wave filter frequency domain preprocesses a cardiac signal provided to the real-time heart beat detector.

Id. at col. 7 ll. 45-53.

a. Abstract Idea

Defendant argues that "[t]he '715 Patent is directed to the common abstract idea of filtering patient heartbeat signals when necessary to increase accuracy and expressly contemplates that a person makes the decision to do so." Indeed, Claim 20, read in conjunction with the specifications, reveals a system where a system operator, upon identifying an abnormal T wave, sends a message to the monitoring apparatus through a communication channel, which in turn activates a T wave filter. U.S. Patent No. 7,009,715 col. 4 ll. 61-64. Without the claimed invention, a medical professional performs a two-step analysis in identifying an R wave in an electrocardiogram. First, the medical professional determines that an individual patient's

electrocardiogram shows an unusually strong T wave. Second, the medical professional manually identifies the R wave from the T wave, using pen and paper. The claimed invention still relies on a system operator to identify electrocardiograms with an unusually strong T wave, but it automates the second step in the analysis by amplifying the R wave but not the T wave using a T wave filter. Improvements, such as the claimed invention, that only "automate or otherwise make more efficient" existing technology in the medical field are abstract ideas. OIP Techs., 788 F.3d at 1363.

Furthermore, much like the invention in TLI, which confines "the abstract idea of classifying and storing digital images in an organized manner" to "a mobile telephone system," 823 F.3d at 613, the invention here simply limits the abstract idea of filtering raw data to increase its accuracy to the computerized mobile telemetry system. Such limitations alone "do[] not make the claims any less abstract" in the first stage of the Alice analysis. Id.

Plaintiffs argue that Claim 20 "is directed to a specific technological invention in the mobile cardiac telemetry field using a special-purpose cardiac monitoring apparatus" similar to the one in Enfish. However, this is an overly expansive reading of Enfish. In Enfish, the Federal Circuit held that claims that "are directed to an improvement to *computer functionality*" are patent eligible. 822 F.3d at 1335 (emphasis added). Plaintiffs do not point to any specific computer functionality that the claimed invention purportedly improves, as the claims did in Enfish. Again, Plaintiffs argue that the invention is an improvement to the *field* of cardiac telemetry. Such a reading would allow any improvement to any field to bypass the abstract idea limitation and render it meaningless.

Plaintiffs further argue that Claim 20 is similar to the claim at issue in SiRF. However, in SiRF, the court analyzed the issue of patent eligibility of the subject matter based on the

machine-or-transformation test. 601 F.3d at 1332-33. This analysis is relevant to the second stage of the Alice inquiry, not the first.

Consequently, the court finds that Claim 20 is directed to the abstract idea of filtering raw cardiogram data to optimize its output, rather than a specific improvement in the existing mobile cardiac telemetry field. Accordingly, the court proceeds to the second stage of the Alice analysis.

b. Inventive Concept

Defendant argues that the use of T wave filter does not provide a meaningful limitation on the scope of the patented claim because "using a T wave filter is well-understood 'activity previously engaged in by [those] who work in the [medical] field.'" (Quoting Mayo, 132 S. Ct. at 1298). This argument conflates the first stage of the Alice analysis with the second. Whether a patented invention is a longstanding human activity pertains to whether that claim is directed to an abstract idea, Bascom 827 F.3d at 1348, rather than whether that claim contains a sufficiently inventive concept to transform the abstract idea into patent-eligible subject matter.

Defendant argues that Claim 9 fails to meet the "machine prong" of the machine-or-transformation test because generic computer components, such as standard communications technology, are not tied to a "machine." But a "machine" constitutes "a concrete thing, consisting of parts, or of certain devices and combination of devices." In re Ferguson, 558 F.3d 1359, 1364 (Fed. Cir. 2009) (quoting In re Nuijten, 500 F.3d 1346, 1355 (Fed. Cir. 2007)). "This 'includes every mechanical device or combination of mechanical powers and devices to perform some function and produce a certain effect or result.'" Id. (quoting In re Nuijten, 500 F.3d at 1355). A T wave filter by itself, or as a part of generic computer components programmed in some unspecified way, falls within this definition of "machine."

The use of T wave filter is similar to the use of GPS receiver in the patented claim at issue in SiRF. In SiRF, the Federal Circuit concluded that the GPS receiver, an essential component of each of the challenged claims, placed a meaningful limitation on the scope of the claim to render it patent eligible. 601 F.3d at 1332-33. Similarly, the T wave filter is a critical component of Claim 9, as all other computer components, such as the "communication interface," "real-time heart beat detector," and "selector," exist in service of receiving and responding to the T wave filter. Similar to the GPS receiver in SiRF, which processed GPS satellite signals, the process of *diminishing* the intensity of T wave while *preserving or amplifying* the R wave in an electrocardiogram, U.S. Patent No. 7,009,715 col. 3 ll. 58-60, cannot be performed in the human mind. Such manipulation of electrocardiograms is different from the process of manually *identifying* the T wave and R wave.

Accordingly, the court finds that Claim 9 is tied to a machine, "[a] cardiac monitoring apparatus" comprising of a variety of computer components, including a T wave filter. U.S. Patent No. 7,009,715 col. 7 ll. 45-53. Since Claim 9 meets the machine-or-transformation test, it is sufficiently inventive to fall within the ambit of Section 101.

IV. Conclusion

For the foregoing reasons, Defendant InfoBionic's Renewed Motion for Judgment on the Pleadings that All Asserted Claims of U.S. Patent Nos. RE43,767, 7,212,850, 7,907,996 and 7,099,715 Are Invalid Under 35 U.S.C. § 101 [#281] is ALLOWED IN PART and DENIED IN PART.

The court finds that, at the pleadings stage, Plaintiffs have adequately alleged the patent eligibility under Section 101 of Claim 9 of the '767 Patent and Claim 20 of the '715 Patent.

The court further finds that Claim 31 of the '850 Patent and Claim 12 of the '996 Patent are not patent eligible under Section 101 as a matter of law. The court notes that the complaint does not limit itself to these claims[6] and that Plaintiffs discuss additional claims in their claim construction briefs. Defendant argues that the claims are representative of the '850 and '996 Patent claims, but this issue has not been adequately briefed. Counsel shall promptly confer as to whether Claim 31 and Claim 12 are representative of all claims of the '850 and '996 Patents asserted by Plaintiffs, and shall jointly notify the court as to their positions. If no agreement is reached, the parties' Notice shall include a proposed briefing schedule as to this issue.

IT IS SO ORDERED.

Date: May 4, 2017

/s/ Indira Talwani
United States District Judge

[6] See 3d Am. Compl. ¶ 65 [#279] ("InfoBionic's Second Generation MoMe® Kardia System satisfies each and every element of one or more claims of the '850 patent, for example, and without limitation, claim 31 of the '850 patent."); id. ¶ 77 ("InfoBionic's Second Generation MoMe® Kardia System satisfies each and every element of one or more claims of the '996 patent, for example, and without limitation, claim 12 of the '996 patent.").