IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

AUTOMATION MIDDLEWARE SOLUTIONS, INC.	§ § § §	**CASE NO. 2:15-cv-00898-RWS PATENT CASE**
Plaintiff,	§ §	
v.	§ §	
INVENSYS SYSTEMS, INC. AND SCHNEIDER ELECTRIC USA, INC.,	§ § § §	
Defendants.	§	
AUTOMATION MIDDLEWARE SOLUTIONS, INC.	§ § §	**CASE NO. 2:15-cv-00899-RWS PATENT CASE**
Plaintiff,	§ §	
v.	§ §	
YOKOGAWA ELECTRIC CORPORATION, AND YOKOGAWA CORPORATION OF AMERICA,	§ § § § §	
Defendant.	§	
AUTOMATION MIDDLEWARE SOLUTIONS, INC.	§ § §	**CASE NO. 2:15-cv-01266-RWS PATENT CASE**
Plaintiff,	§ §	
v.	§ §	
EMERSON PROCESS MANAGEMENT, LLLP FISHER-ROSEMOUNT SYSTEMS, INC., ROSEMOUNT, INC., EMERSON INDUSTRIAL AUTOMATION USA INC., EMERSON INDUSTRIAL AUTOMATION USA LLC AND EMERSON PROCESS MANAGEMENT POWER & WATER SOLUTIONS, INC.,	§ § § § § § § § §	
Defendants.	§	

AUTOMATION MIDDLEWARE SOLUTIONS, INC.	§ § § §	**CASE NO. 2:15-cv-01269-RWS PATENT CASE**
Plaintiff,	§ § §	
v.	§ §	
ROCKWELL AUTOMATION, INC. AND ROCKWELL AUTOMATION TECHNOLOGIES, INC.,	§ § § § §	
Defendants.	§ § §	
AUTOMATION MIDDLEWARE SOLUTIONS, INC.	§ § § §	**CASE NO. 2:15-cv-01539-RWS PATENT CASE**
Plaintiff,	§ § §	
v.	§ § §	
KOLLMORGEN CORPORATION AND DANAHER CORPORATION,	§ § § §	
Defendants.	§ §	
AUTOMATION MIDDLEWARE SOLUTIONS, INC.	§ § § §	**CASE NO. 2:15-cv-01771-RWS PATENT CASE**
Plaintiff,	§ § §	
v.	§ § §	
YASKAWA AMERICA, INC., YASKAWA ELECTRIC CORPORATION AND VIPA USA, INC.,	§ § § § §	
Defendants.	§ §	
AUTOMATION MIDDLEWARE SOLUTIONS, INC.	§ § §	**CASE NO. 2:15-cv-01977-RWS PATENT CASE**
Plaintiff,	§ § §	
v.	§ § §	
BOSCH REXROTH CORPORATION AND BOSCH REXROTH AG,	§ § § §	
Defendants.	§	

AUTOMATION MIDDLEWARE	§	
SOLUTIONS, INC.	§	CASE NO. 2:15-cv-01982-RWS
	§	PATENT CASE
Plaintiff,	§	
	§	
v.	§	
	§	
MITSUBISHI ELECTRIC CORP.,	§	
MITSUBISHI ELECTRIC U.S. HOLDINGS,	§	
INC. AND MITSUBISHI ELECTRIC	§	
AUTOMATION, INC.,	§	
	§	
Defendants.	§	

DEFENDANTS' COMBINED MOTION AND
MEMORANDUM TO DISMISS PURSUANT TO RULE 12(b)(6) BASED
ON PATENT INELIGIBLE SUBJECT MATTER UNDER *ALICE*

Respectfully submitted,

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STATEMENT OF THE ISSUES

1.   Whether the complaint in this case fails to state a claim on which relief can be granted, because the asserted patents are invalid as a matter of law under the judicially created exceptions to Title 35, United States Code, Section 101, as interpreted by the Supreme Court in, for example, *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347 (2014)?

   a.   Whether the asserted patents are directed to the abstract idea of communicating and translating commands in order to move objects in desired ways? and

   b.   If so, whether the elements of the claims fail to set forth an "inventive concept" that is "significantly more" than the foregoing abstract idea?

I.   INTRODUCTION

The patents asserted here are patent-ineligible as a matter of law under 35 U.S.C. §101

and *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347 (2014). They are directed to the

abstract idea of moving objects in desired ways by communicating and translating commands.

An example is a plant worker issuing a command from a computer to control movement of some

aspect of a factory process. In context, though, computers used in factory automation to move

objects predate the patents by well over 30 years. *See infra* §B.2.a. The Asserted Patents do not

disclose: a new computer, motion control device, or any other tangible hardware to advance this

area. They disclose nothing more than the abstract concept of implementing plant worker

commands on a computer by translating them to a language understood by a device so it can

move in a desired manner.

Communicating to control motion is a timeless concept well understood by humans, with

or without computers. Well known examples abound in music (conductor using hand gestures to

control the movement and music output of an orchestra), military history (troop movements on

and off the battlefield[1]), seamanship (ship movement and speed commands) as well as industry

(commands to move process motion control devices such as valves[2]). *See generally* Ex. N, *A*

History of Automatic Control at 1-12. The advent of electricity and relay switching advanced

motion control. Eventually, long before these patents, computers replaced human commands

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[1] In 1778, George Washington and Benjamin Franklin enlisted Prussian officer Baron Friedrich
von Steuben, who did not speak English, to train Washington's "army" to drill and respond to
commands. *See*, Ex. K.; *see also* Ex. FF Drills and Ceremonies at 1-1 to 1-2. On board WWII
submarines, sailors responding to bridge commands operated controls and manually opened and
closed valves regulating pressure and flow. *See*, Ex. L.
[2] Valves used to control pressure and flow of fluid or gases dates back to ancient times. The
Romans used plug or stopcock valves made from Bronze to control movement of water to
fountains; Leonardo Da Vinci diagramed valves; and in 1705 Thomas Newcomen controlled the
first steam machines with valves. *See*, Ex. M ("History of Valves")

with electronic signals (commands) capable of controlling motion devices. *See id.* at 12; *see also, infra* at §B.1.

Inherent in both human and electronic motion commands is the need for those commands to be understood by the recipient or object to be controlled. Whether accomplished in the language of the recipient or through translation[3], the command to cause movement must be understood by the recipient or object to be controlled, else the command is useless. When the Captain of the Titanic spotted the iceberg, he issued brief commands that the crew translated into a series of human-controlled device actions (moving valves, pumps, doors, levers) to alter direction and speed. When the operator of a wastewater treatment system in an oil refinery commands staff to "raise the pH" of the fluid, the command is translated into a series of human or electronic actuator movements. So too, in football: a quarterback calls a particular play, such as "896 H-shallow F-Curl", which players correlate with discrete movements memorized from practice and study. Even in football, there are different "languages" of play-calling, such as the West Coast system, the Coryell system and the Erhardt-Perkins system. A player cannot understand how to move without understanding the "language" of the play and how it translates into movements. Inherent in all of these is an idea fundamental to human activity – communication to cause something to move in a desired manner to achieve some purpose.

The Asserted Patents are directed to the abstract idea of using an intermediary (a software layer) to translate or correlate commands from an upper level application program (what the plant worker types/commands) to a lower level motion control device, so the device can

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[3]   There are many types of translation in addition to word-for-word spoken language translation. The broad concept of translation was at work in Germany's "Enigma" machine during WWII (selecting daily code for sending messages), Morse code (short and long dashes correlated to alpha-numeric symbols), and telephone operator switching (correlate caller's line with recipient's line).

understand the command and perform the desired movement. *See, e.g*., '897 Patent[4], Ex. A at

3:37-47 (opening paragraph of "Summary of Invention" describing *correlation* of high level

commands - "component functions that describe a desired object path" - to driver functions);

3:51-54 (similar); 4:49-54 ("the method of the present invention may comprise the additional

administrative steps such as selecting a driver associated with a particular motion control device

and/or *translating* units required to define the motion control system into the particular system of

units employed by a given motion control device"); 29:10-12 (*translation* from a high level

language to a raw format that is easily handled)(emphases added). Rather than invent anything

new or better, the patents merely posit the abstract idea of talking to motion devices and direct a

software programmer to make it work with nothing more than existing, routine, and conventional

technology on a general purpose computer. *See, e.g*., Ex. A, at 7:29-67 (repeated references to

what a software programmer must create to implement the idea). The Asserted Patents make no

contribution to technological development in return for the claimed monopoly.

Since the Supreme Court's *Alice* decision in 2014, invalidation of patents directed to

abstract ideas shrouded in generic computer-ese have become commonplace. *Alice* itself

invalidated a patent claiming use of a computer *intermediary* to manage transaction risks. Many

courts applying *Alice* have invalidated varied abstract patents, especially at the pleading stage,

that do not proportionately advance the arts and only serve to materially block companies

actually developing new, useful and specific technology. *See, e.g*., *Telinit Techs., LLC v. Alteva,*

Inc., No. 2:14-CV-369, 2015 WL 5578604, at *14-19 (E.D.Tex. Sept. 21, 2015) (invalidating

patent covering, *inter alia*, monitoring a telephone call). The Federal Circuit has affirmed

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[4] All five patents are attached as exhibits to the complaint and referenced herein by their docket numbers. The '897 Patent (Dkt. 33-4), however, is attached hereto as Exhibit A for the Court's convenience. Unless otherwise indicated, citations to the patents in this brief are to the '897 Patent, the earliest filed patent in the family.

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invalidity findings in every *Alice* case heard since December, 2014. *See, e.g., OIP Techs., Inc. v. Amazon.com,* Inc., 788 F.3d 1359, 1363 (Fed. Cir.), *cert. denied*, 136 S. Ct. 701 (2015) (affirming *Alice* 12(b)(6) dismissal).

The application of *Alice* and the abstract idea exception to patentability under §101 has now become routine for patents of this nature. *See also Loyalty Conversion Sys. Corp. v. Am. Airlines, Inc.*, 66 F. Supp. 3d 829, 845 (E.D. Tex. 2014) (patent positing a problem and claiming functional steps and standard computer operations to solve the problem invalid despite being "dressed up in the argot of invention"). The patents here are prime examples of using technical jargon to disguise an abstract, patent-ineligible idea in "the typically obtuse syntax of patents" without sufficiently inventive additions. *Smart Sys. Innovations, LLC v. Chicago Transit Auth.*, No. 14 C 08053, 2015 WL 4184486, at *4 (N.D. Ill. July 10, 2015).

AMS cannot own the concept of communicating commands to motion control devices in a way those devices can understand, nor can it own the *idea* of a middle translating layer.[5] Yet, this is precisely what AMS attempts to do with these twenty-year old patents. This is best illustrated by the sheer number and diversity of defendants and accused products in these consolidated cases sued by AMS on the eve of the patents' expiration. The defendants are among the world's leading technology companies that employ real people to develop real, useful and new technological solutions, especially in the field of automating motion control in society's most essential industries and processes.[6] The scope of past and present assertions of these patents

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[5] At least one of the accused products does not even control motion – it merely gathers data from sensors which are used by plant operators to make decisions about maintaining the health of motion control devices. *See, e.g.,* Ex. O (AMS Device Manager Product Data Sheet February 2016 (predictive diagnostics, configure and calibrate devices, troubleshoot issues) ("AMS" is an acronym for "Asset Management System" and bears no relation to the name of the Plaintiff.)
[6] The defendants in these consolidated cases comprise a "who's-who" list of historical leaders in the field of distributed control for automotive manufacturing, food processing, power generation,

aptly demonstrates the Supreme Court's over-preemption concerns at the core of *Alice*. Because

facial invalidity is so clear, it is unfair to require the defendants to engage in discovery,

investigate other grounds of invalidity, and construe the claims yet again[7]. *See, e.g., Clear With*

Computers, LLC v. Altec Indus., Inc., No. 6:14-cv-79, 2015 WL 993392, at *3 (E.D. Tex. March

3, 2015), *aff'd*, Nos. 2015-1525, 2015-1526, 2015-1527, 2015-1528, 2016 WL 494593 (Fed. Cir.

Feb. 9, 2016). The undersigned separate Emerson Entities[8] respectfully request a hearing and

oral argument on this motion.

II.   FACTS

Although not necessary to resolution of the motion, the background facts are set forth for

context. Resolution of the present motion turns solely on considering the patentability of the

asserted patent claims under Section 101 of the Patent Act in view of the Supreme Court's

jurisprudence, especially *Alice*.

A.   The Parties

Plaintiff Automation Middleware Solutions, Inc. ("AMS") is a non-practicing entity

created in April, 2015 by Shaun McEwan and Prashant Watchmaker, residents of Ottawa,

Ontario, Canada. AMS's sole purpose was to buy the Asserted Patents (listed below) from the

original patent assignee, Roy-G-Biv, and assert them in this litigation. Ex. B, Assignment. When

bought, the patents were about to expire and are all now expired. Within weeks of creating AMS

and acquiring the Asserted Patents, AMS sued more than twenty entities for money in eight

different lawsuits.

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and many other fields. See, Ex. P. They have been innovating in the field of automated,
computer-implemented distributed control systems for decades.
[7] The claims of the asserted patents have been construed in two separate *Markman* orders,
discussed briefly below.
[8] Consolidated Defendants Kollmorgen Corporation and Danaher Corporation join the Emerson
Entities in this motion.

In the instant suit, AMS has sued six different Emerson entities (some of which have no connection to the others, except for being within the Emerson Electric Co. family of companies[9]), of each infringing five different U.S. Patent Nos. 6,513,058 ("the '058 patent"), 6,516,236 ("the '236 patent"), 8,073,557 ("the '557 patent"), 5,691,897 ("the '897 patent"), and 6,941,543 ("the '543 patent") (collectively the "Asserted Patents"). The alleged acts of infringement include making and selling a *multitude of different products*, described broadly as "motion control systems."

B.   The Asserted Patents

1.   Overview of the Asserted Patents

The Asserted Patents are directed to creating software to enable the commands given to computer systems by a human operator to be understood by devices that control the motion. They strike at the heart of the point of such systems–to automate movements historically performed by humans. The Asserted Patents each trace their roots to an application filed May 30, 1995, and the specification of each is substantially identical.

In all of the Asserted Patents, the ***"invention relates to motion control systems and, more particularly, to interface software that facilitates the creation of hardware independent motion control software."*** Ex. A, at 1:4-7 (emphasis added). As explained in the patents, the patents are directed to methods and systems for moving objects, and in particular, moving objects "in a desired manner." *See also*, *Id*. at 1:11-12 (methods and systems for moving an object in desired manner); 3:17-19 ("one primary object of the invention is to provide improved methods and devices for moving objects"). According to the patents, "[t]he basic components of a motion control device are a controller and a mechanical system. The mechanical system translates signals generated by the controller into movement of an object." *Id*. at 1:11-15. The patents'

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[9] For ease of reference, these six separate entities will be referred to as the "Emerson Entities".

disclose that the "basic components" are "normally placed into a larger system to accomplish a specific task", often "in conjunction with a host computer or programmable logic controller (PLC)." *Id*. at 1:42-49. The "companies that manufacture motion control devices are, traditionally, hardware originated companies that manufacture software dedicated to the hardware they manufacture." *Id*. at 1:55-57. The patents describe such hardware-specific software as "low-level" programs which interface directly with the software issuing the command to move. *Id*. at 1:58-61. Separately, the asserted patents refer to known "high-level" software applications that combine input and output devices, including motion control devices, into a system to, for example, automate a factory. *Id*. at 1:64–2:3. The high-level applications "allow any number of I/O devices to be used in a given system, as long as these devices are supported by the high-level program." *Id*. at 2:3-5.

The alleged invention purports to improve such long-known technology to facilitate computer-based communication between the high-level applications and the motion control devices of various manufacturers. The so-called improvement is merely to add the *concept* of software which serves as an intermediary between high and low level software; the intermediary provides, in essence, a look-up table to correlate high level commands to a language understood by the low level device drivers. *Id*. at 3:36-47. The asserted patents recognize that software code is based on functions (ex., "get position", "move relative," and "contour move"), and the patents categorize and label these functions as: primitive and non-primitive. *Id*. at 7:3-14. The asserted patents then direct a "designer", *i.e*., a human being, to write drivers relying on those functions in a way that is understood by the individual motion control device (*i.e*., in the "language" of the motion control device). *Id*. at 7:15-60. Once the driver is written and added, the motion control device becomes a "supported" device to which the computer is then able to communicate. *Id*. at

7:60-67. This concept, which relies on a human designer to write individual drivers, per motion control device, is referred to in the complaint as "universal connectivity". Dkt. 33, ¶ 18.

Notably, the Asserted Patents do not purport to have invented the concept of drivers. As part of the background of the alleged invention, the asserted patents expressly acknowledge "the *common programming practice* in which drivers are provided for hardware such as printers or the like [and] an application program such as a word processor [which] allows a user to select a driver associated with a given printer to allow the application program to print on that given printer." Ex. A, at 2:62-67. The asserted patents further admit that control commands were known to operate mechanical systems ("[b]ased on control commands, the controller controls the drive in a predictable manner such that the object is moved in the desired manner"), *id*. at 1:38-41, and that software existed for "programing individual motion control devices or for aiding in the development of systems containing a number of motion control devices. *Id.* at 2:26-28.The asserted patents also do not purport to have invented any new hardware. Rather, the asserted patents state that "[t]he hardware bus 14, hardware controllers 16, and mechanical systems 18 are all well-known in the art and are discussed herein only to the extent necessary to provide a complete understanding of the present invention." *Id*. at 6:6-9. In short, the asserted patents disclose no new physical systems for moving objects; only the concept of an intangible "interface software," which a human being still has to write.

2.   The Specific Asserted Patents

The specific asserted patents include two patents containing only "method" claims, the first-filed '897 Patent (Dkt 33-4, Ex. A) and the chronologically next asserted patent in the family, the '543 Patent (Dkt 33-5). Claims 5-16 of the '543 Patent–*all claims challenged in the*

proceeding–were cancelled in an *inter partes* review proceeding. Ex. C, *inter partes* review certificate.[10]

The remaining three patents –in chronological order, the '236 patent (Dkt. 33-2), the '058 patent (Dkt. 33-1) and the much later filed, '557 patent (Dkt. 33-3) – contain "system" claims, directed to the same software interface generally disclosed in the pre-dating method patents. Because no claim of the '236 or '058 patents recite the software as fixed in a tangible form, and because these are not "process" claims, the Emerson Entities are contemporaneously moving to dismiss these patents under §101's *express* categories and *Allvoice Devs. US, LLC v. Microsoft Corp.*, 612 F. App'x 1009, 1017 (Fed. Cir. 2015), *cert. denied*, 136 S. Ct. 697 (2015) because the claims are not directed to a "*process*, *machine*, *manufacture*, or *composition of matter*" as required for patentability.

C.   The Prior Proceedings

1.   Roy-G-Biv Litigations

Before AMS acquired the patents, the '897, '058, '236, and '543 patents were asserted in 2007 in a case captioned *ROY-G-BIV Corp. v. Fanuc Ltd.*, No. 2:07-cv-00418-DF (E.D. Texas) and the '058, '236, '543, and '557 patents were asserted in 2011 in cases captioned *ROY-G-BIV Corp. v. ABB, Ltd.,* No. 6:11-cv-00622-LED-ZJH (E.D. Texas), *ROY-G-BIV Corp. v. Honeywell Int'l., Inc.,* No. 6:11-cv-00623-LED-ZJH (E.D. Texas), and *ROY-G-BIV Corp. v. Siemens Corp.,* No. 6:11-cv-00624-LED-ZJH (E.D. Texas). Dkt. 33 ¶ 20.

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[10]   Although Plaintiff failed to include the *inter partes* review certificate with the '543 patent attached to the complaint, the results of an *inter partes* review proceeding are public record, and "a court may refer to matters of public record when deciding a motion to dismiss." *WesternGeco L.L.C. v. Ion Geophysical Corp.,* 776 F. Supp. 2d 342, 354 (S.D. Tex. 2011) (*citing Chauhan v. Formosa Plastics Corp.,* 212 F.3d 595, 595 (5th Cir. 2000)).

Two different claim construction orders issued in connection with those litigations. Claim Construction Order, *ROY-G-BIV Corp. v. Fanuc, Ltd.*, No. 2:07-CV-418 (E.D. Tex. Aug. 25, 2009), ECF No. 194; Claim Construction Memo. Opinion and Order, *ROY-G-BIV Corp. v. ABB, Ltd.*, No. 6:11-CV-622 (E.D. Tex. July 25, 2013), ECF No. 196. **The Emerson Entities are not aware of any construction in those orders that alters the below analysis or prevents dismissal under Section 101 at this stage**. Notably for purposes of the instant motion, the above litigations pre-dated the Supreme Court's 2014 decision in *Alice*, and the Emerson Entities are aware of *no previous challenge to the validity of the asserted patents under Section 101*.

2.   IPR Proceedings Involving the Asserted Patents

The asserted patents have also been the subject of prior reexamination and *inter partes* review proceedings before the United States Patent and Trademark Office. Dkt. 33, ¶ 19. While claims of each of the asserted patents survived those proceedings, the analysis in such proceedings is limited to consideration of certain specified prior art. *Validity under Section 101 cannot be raised in a reexamination or inter partes review proceeding.*

Admissions by the then patent owner in that proceeding are, however, relevant to this motion. According to the patentee, the "[t]he inventors conceived and developed a unique software architecture in which an intermediate software layer (the 'motion control component') and a set of controller-specific software drivers work together to convert controller independent 'component functions' called by the application program into controller dependent control commands that can be understood by a selected motion control device." Ex. D, '557 Patent IPR, Patent Owner's Preliminary Response at p. 9. In other words the so-called "invention" is the concept of an intermediate software layer (written by a human) that allows an application program to "talk" in a way the motion control device can understand. The "invention" is not described as a novel machine or manufacturing method, but a conceptual "software architecture".

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III.   ARGUMENT

A.   Standard of Review

A party may move to dismiss for failure to state a claim upon which relief can be granted

under Federal Rule of Civil Procedure 12(b)(6). Fed. R. Civ. P. 12(b)(6). In deciding a Rule

12(b)(6) motion, the Court must accept all factual allegations in the complaint as true and draw

all reasonable inferences in favor of the non-movant. *Erickson v. Pardus*, 551 U.S. 89, 93–94

(2007). Dismissal is appropriate where the complaint lacks a cognizable legal theory or sufficient

facts to support a cognizable legal theory. *Korte v. Allstate Ins. Co.*, 48 F. Supp. 2d 647, 650

(E.D. Tex. 1999). Patent eligibility under § 101 and *Alice* is a question of law that may be, and is

commonly, decided on the pleadings. *See Content Extraction & Transmission LLC v. Wells

Fargo Bank, Nat'l Ass'n*, 776 F.3d 1343, 1349 (Fed. Cir. 2014), *cert. denied*, 136 S. Ct. 119

(2015) (affirming district court's dismissal under 12(b)(6) based on patent ineligible subject

matter under § 101); *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 711–12 (Fed. Cir. 2014),

cert. denied, 135 S. Ct. 2907 (2015) (same).

B.   The Asserted Patents are Invalid Under *Alice*.

Section 101 defines patentable inventions as any: "new and useful process, machine,

manufacture, or composition of matter, or any new and useful improvement thereof . . ." 35

U.S.C. § 101. The Supreme Court further recognizes three exceptions to the scope of Section

101: "laws of nature, physical phenomena, and abstract ideas." *Bilski v. Kappos*, 561 U.S. 593,

601 (2010); *see also Ass'n for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107,

2116 (2013); *O'Reilly v. Morse*, 56 U.S. 62, 112-20 (1853); *Le Roy v. Tatham*, 55 U.S. 156, 174-

75 (1852). The exceptions to eligibility are rooted in the Patent Clause of the Constitution and its

primary objective of promoting innovation, while holding in the public domain "the basic tools

of scientific and technological work." *Myriad*, 133 S. Ct. at 2116. The purpose of the Patent

Clause would be frustrated "by improperly tying up the future use of" such basic tools. *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1301 (2012). Because "all inventions . . . embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas," only *new and inventive applications* of these "basic tools" are patent eligible. *Id.* at 1293; *Gottschalk v. Benson*, 409 U.S. 63, 67 (1972).

In prior litigations when these patents were asserted, the seminal *Alice* case had not yet been decided. *Alice*, 134 S. Ct. at 2347. In *Alice*, the Supreme Court recognized the importance of distinguishing between "patents that claim the 'buildin[g] block[s]' of human ingenuity and those that integrate the building blocks into something more, thereby 'transform[ing]' them into a patent-eligible invention." *Id*. at 2354 (citations omitted). The Supreme Court held "the former 'would risk disproportionately tying up the use of the underlying' ideas, and are therefore ineligible for patent protection. *Id.* at 2354-55 (citations omitted). "The latter pose no comparable risk of pre-emption, and therefore remain eligible for the monopoly granted under our patent laws." *Id.* at 2355.

With the need to make this important distinction in mind, the Supreme Court articulated a framework "for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts." *Id*. at 2355. Applying the two-part test articulated in *Mayo*, 132 S. Ct. at 1296-97, the *Alice* court instructed: first, "we [must] determine whether the claims at issue are directed to one of those patent-ineligible concepts"; and second, if so, whether the claims include "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.'" *Alice,* 134 S. Ct. at 2355 (quoting *Mayo*, 132 S. Ct. at 1294) (emphasis added). At both steps of the inquiry, the focus is on "the claims at issue." *Alice*, 134 S. Ct. at 2355 (emphasis added); *see also Accenture Global Servs., GmbH v Guidewire*

Software, Inc., 728 F.3d 1336, 1345 (Fed. Cir. 2013) (focusing on claims and holding computer

system claims ineligible for patenting).

Since *Alice*, many courts have found software patents invalid under Section 101. As

explained by Federal Circuit Judge Bryson when sitting by designation as a trial judge in the

Loyalty Conversion v. American Airlines case:

> ***such patents, although frequently dressed up in the argot of invention, simply describe
> a problem, announce purely functional steps that purport to solve the problem, and
> recite standard computer operations to perform some of those steps***. The principal flaw
> in these patents is that they do not contain an "inventive concept" that solves practical
> problems and ensures that the patent is directed to something "significantly more than"
> the ineligible abstract idea itself. *See CLS Bank*, 134 S. Ct. at 2355, 2357; *Mayo*, 132 S.
> Ct. at 1294. As such, they represent little more than ***functional descriptions of objectives,
> rather than inventive solutions***. In addition, because they describe the claimed methods
> in functional terms, they preempt any subsequent specific solutions to the problem at
> issue. *See CLS Bank*, 134 S. Ct. at 2354; *Mayo*, 132 S. Ct. at 1301-02. It is for those
> reasons that the Supreme Court has characterized such patents as claiming "abstract
> ideas" and has held that they are not directed to patentable subject matter.

Loyalty Conversion, 66 F. Supp. 3d at 845 (emphasis added). This is the situation here. The

asserted patents claim an abstract concept with no practical, inventive solution, such that they are

being used to preempt actual innovation in violation of *Alice*'s dictates.

1.   Step 1: The Asserted Patents Are Directed to the Abstract Idea of Moving An Object In a Desired Manner By Communicating Commands

In determining whether claims are patent-ineligible, a court must first determine whether

they are directed to a patent-ineligible concept, such as an abstract idea. "The 'abstract ideas'

category embodies 'the longstanding rule that '[a]n idea of itself is not patentable'.'" *Alice*, 134

S. Ct. at 2355 (quoting *Benson*, 409 U.S. at 67). "Because computer software comprises a set of

instructions, the first step of *Alice* is, for the most part, a given; i.e., computer-implemented

patents generally involve abstract ideas." *CyberFone Sys., LLC v. Lexmark Int'l, Inc.*, Civ. No.

14-489-SLR, 2015 WL 5906859, at *3 (D. Del. Oct. 8, 2015). When trying to characterize the

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idea of a patent "[c]ourts should recite a claim's purpose at a reasonably high level of

generality." *Enfish, LLC v. Microsoft Corp*., 56 F. Supp. 3d 1167, 1173 (C.D. Cal. 2014); *see*

also Open Text S.A. v. Box, Inc., 78 F. Supp. 3d 1043, 1046 (N.D. Cal. 2015) (at the first prong

of the patent eligibility inquiry, a court "distills the gist of the claim").

At their essence, the claims of the asserted patents are directed to the abstract idea of

moving an object in a desired manner by communicating commands. *See, e.g.,* Ex. A, "[t]he

present invention is a method generating a sequence of control commands for controlling a

motion control devices to move an object along a desired path," *id*. at 3:48-51, and preamble of

claim 1: "A method of moving an object in a desired manner . . ." *Id*. at 33:60-61. While the

asserted patents present this abstract idea in a computer-based environment of "driver functions",

"component code" and "application programs," "[s]tripped of the technical jargon that broadly

describe non-inventive elements . . .and further shorn of the typically obtuse syntax of patents,"

see Smart Sys., 2015 WL 4184486, at *4, the focus of the claims is simply commands to

effectuate motion.

Movement of objects in desired ways via commands is nothing new.[11] Monuments, like

the Great Pyramids, were the result of human beings moving objects in desired ways at the

direction and command of others. *See* Ex. NN, http://www.history.com/topics/ancient-

history/the-egyptian-pyramids. In wartime, ancient and modern military commanders directed

the movement of weapons and munitions through commands to subordinates, who then execute

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[11] The *Alice* Court cited two historical academic sources to buttress its view that this was a "long
prevalent" practice. *Alice,*134 S. Ct. at 2356. Other courts similarly resort to historical sources to
support a finding of a fundamental, long-standing idea to qualify as one of the building blocks of
human ingenuity. *See, e.g.*, *Neochloris, Inc. v. Emerson Proc. Mgmt. LLLP*, No. 14C9680, 2015
WL 5951753, at *3 (N.D. Ill. Oct. 13, 2015) (citing *buySAFE, Inc. v. Google, Inc.*, 765 F.3d
1350, 1355 (Fed. Cir. 2014) ("historical prevalence of a purported invention may help guide a
court's analysis"));*Vehicle Intelligence & Safety v. Mercedes Benz USA, LLC*, No. 13C4417,
2015 WL 394273, at *4 (N.D. Ill. Jan. 29, 2014) (encyclopedia).

the commands to move the objects in the desired manner, and to the desired locations. Examples

are replete throughout human history, and in everyday life, *e.g.*, submarine captains giving the

command to "dive the ship", air traffic controllers telling pilots to turn airplanes to specified

headings; parents instructing their kids to "pick up your toys", and dogs retrieving balls in

response to "fetch". The idea is fundamental to human progress and existence.

In the industrial setting, movement in desired ways as a result of commands is likewise

nothing new. The movement of objects has long been a fundamental use of machines. *See, e.g.,*

gristmills for corn, Ex. R (27 B.C., *Five Machines that Changed the World*, by Mark Denny, The

Johns Hopkins University Press, 1953 p. 36); Ex. AA, "December 01, 1913: Ford's Assembly

Line Starts, http://www .history .com/this-day-in-history /fords-assembly -line-starts-rolling;

Ex. BB, https://en. Wikipedia.org/wiki/Gun _turret; Ex. S, Harry Jerome, *Mechanization in*

Industry (N.Y. 1934). Paired with the historical use of machines is the ability to communicate

with and control machines in desired ways. Early machines responded to human command and

control, while later machines, including in the 1950's, responded to electrical control, via relays

(i.e., on-off switches), for example. *See*, Ex. Q, S. Bennett, *A History of Control Engineering*

1930-1955, pp. 200-205 (IEE 1993). The communication to machines changed with the

mainstream adoption of computers in the 1970's. *See* Ex. T, Distributed Computer Control for

Industrial Automation, pp. 1-39 (Dekker 1990); *see also* Ex. GG, Pioneering Work in the Field

of Computer Process Control; Ex. G, G. J. Suski and M.G. Rodd, *Current and Future Issues in*

the Design, Analysis and Implementation of Distributed, Computer-Based Control Systems, at 1-

5 (U.S. DOE and Dept of Electrical and Electrical Eng. Swansea UK 1986); Ex. F, Bernard D.

Holbrook, W. Stanley Brown, Computing Science Technical Report No. 99*, A History of*

Computing Research at Bell Laboratories (1937-1975) (1982). Computers did not, however,

change the fundamental abstract idea of causing machines to move in desired ways and

automating existing activity with general purpose computers is not patentable. *CLS Bank, Int'l v. Alice Corp. Pty. Ltd.*, 717 F.3d 1269, 1286 (Fed. Cir. 2013) (en banc), *aff'd*, ⸺ U.S. ⸺, 134 S.Ct. 2347 (2014) ("[S]imply appending generic computer functionality to lend speed or efficiency to the performance of an otherwise abstract concept does not meaningfully limit claim scope for purposes of patent eligibility." (citations omitted)).

The specification of the asserted patents confirms the abstraction of this idea by inviting a "software system designer" (a human being) to write code to accomplish the communication for motion control that is desired. Ex. A, 6:62-63 ("The software system designer develops the software system 22."); 6:63-65 ("The software system designer initially defines a set of motion control operations…"); 7:16-18 ("The software system designer next defines . . . a number of driver functions); 7:29-31 (the software system designer next defines . . . a set of component functions"); 7:31-34 ("the software system designer writes component code that associates at least some of the component functions"); 7:53-54 ("The hardware designer writes driver code that dictates how to generate control commands"). Hence, the asserted patents reflect nothing more than a human writing software code to tell a machine how to move in the way that is desired. This is the same as a worker on the factory floor in the 1950s providing inputs to a machine for it to accomplish the task–same idea, just now the worker is replaced by a computer.

Similar computer-dressed claims have been found to comprise an abstract idea. *Compare Telinit Tech.,* 2015 WL 5578604, at *16-17 (holding computerized telephone calling method, claimed abstract idea of using an intermediary to place and monitor telephone calls); *Morales v. Square, Inc.*, 75 F. Supp. 3d 716, 725 (W.D. Tex. 2014), *aff'd*, 621 F. App'x 660 (Fed. Cir. 2015), *cert. denied*, No. 15-896, 2016 WL 1078959 (Mar. 21, 2016) (holding method of data communication in patent directed to interactive television system claimed abstract idea of data communication and more precisely "relaying a signal containing the sender's identity"); *Amdocs*

(Israel) Ltd. v. Openet Telecom, Inc., 56 F. Supp. 3d 813, 820 (E.D. Va. 2014) (finding a claim

for a computer program to process network account information claimed the abstract concept of

"correlating two network accounting records to enhance the first record"); *Cogent Med., Inc. v.*

Elsevier Inc., 70 F. Supp. 3d 1058, 1063 (N.D. Cal. Sep. 30, 2014) (finding that a patent

describing database of medical resources searchable via interface claimed "the abstract idea of

maintaining and searching a library of information"); *Eclipse IP LLC v. McKinley Equip. Corp.*,

No. SACV 14–154–GW (AJWx), 2014 WL 4407592, at *7 (C.D. Cal. Sep. 4, 2014) (finding a

claim for a computer-based system for communicating with a mobile device was directed to "the

abstract idea of asking someone whether they want to perform the task, and if they do, waiting

for them to complete it, and if they do not, asking someone else"); *Affinity Labs of Tex., LLC v.*

DirecTV, LLC, 109 F. Supp. 3d 916 (W.D. Tex. 2015) (holding patent related to means for

delivering regionally broadcasted radio or television content to an electronic device claimed

abstract idea of dissemination of regionally broadcast content to a device outside the region).

       That *some* of the claims of *some* of the asserted patents, include hardware limitations

does not alter this conclusion. "[T]hat a computer 'necessarily exist[s] in the physical, rather than

purely conceptual, realm'...is beside the point". *Alice*, 134 S. Ct. at 2358. "[T]he mere recitation

of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible

invention." *Id.* In any event at the first stage of the eligibility inquiry, "the Court may ignore the

physical components," particularly when, as here, the claimed hardware is part of the "functional

organization and configuration" of the software system. *GT Nexus, Inc. v. Inttra, Inc.,* No. C 11-

02145-SBA, 2015 WL 6747142, at *5 (N.D. Cal. Nov. 5, 2015).

       Consistent with the above, the prior Patent Owner/inventors made admissions before the

Patent Office, predating *Alice*, that reflect the patent is directed to the concept of an

"intermediate software layer" that allows the motion control device to understand the motion

commands. *See* Section II.C.2 (quoting inventors). The idea that there needs to be a bridge in communication between two things that do not speak the same "language" is also as abstract as it gets. Since the Tower of Babel, humankind has recognized the need for a communication bridge. The idea of a middleman to serve as a communication bridge is a well-known and basic concept. While in the non-computer realm this often takes the form of a human translator, human kind has also used look-up tables and conversion tables, including in computers (e.g., measurement conversions, currency conversions, etc. . .), and other ways of expressing themselves so that they may be understood. The asserted patents merely direct a designer to write code so that the motion control device can understand it, e.g., the foreman must speak in a language that his worker can understand in order to direct that worker to move an object in the factory; the football player must announce plays his teammates understand.

There is nothing less abstract about a "system" that comprises steps wherein a human (the software developer in this case) will write code such that one device can communicate with another. *See, e.g., Listingbook, LLC v. Mkt. Leader, Inc.*, No. 1:13-CV-583, 2015 WL 7176455, at *10 (M.D.N.C. Nov. 13, 2015) (noting claims merely described a computer system for implementing the method, but did not alter the abstract idea). AMS cannot preempt the idea of a three layer hierarchy, wherein the middle layer translates or correlates. The asserted patents, at their core, recognize the need for communication between two things (an application program and a motion control device) that otherwise cannot understand one another, and then propose as the solution, i.e., the "invention," that ***someone write a middle layer of software*** to permit this communication. This is no less an abstract idea. *Loyalty Conversion*, 66 F. Supp. 3d at 845 (representing little more than functional descriptions of objectives, rather than inventive solutions, in finding patent ineligible). "Any novelty in implementation of the idea is a factor to be considered only in the second step of the *Alice* analysis." *Ultramercial*, 772 F.3d at 715

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(rejecting the notion that "the addition of merely novel or non-routine components to the claimed idea necessarily turns an abstraction into something concrete"); *see also Gametek LLC v. Zynga, Inc.*, No. CV-13-2546RS, CV-13-3089-RS, CV-13-3472-RS, CV-13-3493-RS, 2014 WL 1665090, at *4 (N.D. Cal. Apr. 25, 2014), *aff'd*, 597 F. App'x 644 (Fed. Cir. 2015) (accepting the patent challenger's recitation of the patent's purpose where the patent holder identified "several limitations embodied in the claim," but failed to "offer any alternative characterization of the idea underlying its claims").

2.   Step 2: The Asserted Patents Do Not Include An Inventive Concept Sufficient to Transform the Abstract Idea.

Under *Alice*, an abstract idea can become patentable if the claims add an "inventive concept" that is "significantly more" than the abstract idea: "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." *Alice*, 134 S. Ct. at 2355 (quotations omitted). Step two of the *Mayo* analysis inquires whether any claimed element "transform[s] the nature of the claim into a patent-eligible application." *Id.* (quotations omitted). The role of the inventive concept requirement is to provide "practical assurance" the method is not a drafting effort to monopolize the idea. *Mayo*, 132 S. Ct. at 1297. For an abstract idea to satisfy step two, there must be "additional features" that are ***more than "well-understood, routine, conventional activity." Id.*** at 1297-98 (emphasis added); *see also, Ultramercial*, 772 F.3d at 715 (same). Conventional activity includes matter "well known in the art" ***as well as necessary steps*** in order to apply the concept. *Mayo,* at 1298. (emphasis added).

The elements of the asserted claims do not pass this test because they merely recite routine and conventional computer/software limitations that are necessary, to convert from a high level language (e.g., commands inputted by a plant worker into a computer) to a low level

language understood by the motion control devices out in a factory- a necessary part of most, probably all, computer motion control systems. Though phrased in "computer-ese," the claims recite fundamental, generic computer architecture for communicating commands to devices, *i.e.,* applications, drivers, control commands and functions. The asserted patents are addressed in three sections below beginning with the '543 Patent, which includes the broadest form of claims in the asserted patents. Additional limitations build on the broad foundation of claim 1 of the '543 Patent, and are addressed in turn below.

a. The '543 Patent Does Not Add "Significantly More"

Claim 1 of the '543 patent (the only remaining independent claim in that patent) is reproduced below:

> What is claimed is:
> 1. A method of moving an object in a desired manner using a motion control device from a group of supported motion control devices, comprising the steps of:
>   (i) selecting a software driver from a plurality of software drivers, each of the plurality of software drivers comprising driver code to control one or more motion control devices;
>   (ii) generating a control command based on an application program and the driver code of the selected software driver; and
>   (iii) operating the selected motion control device in accordance with the control command to move the object.

(Dkt. 33-5). As shown, this claim recites the following three, extremely broad method steps for moving an object in a desired manner: (1) selecting a software driver, (2) generating a control command, and (3) operating the selected motion control device in accordance with the command. There is nothing inventive about this sequence of steps. To the contrary, this is fundamentally how communication of commands to peripheral devices must operate. This is the basic formula for *all* motion control implemented on computers.

Consider, for example, the ubiquitous use of computers with printers. In order for the computer to give a command to the printer, the user must select/download the appropriate printer driver. When the user wants to print, the user clicks a print option in the application, for example, the print option in WordPerfect. This generates a control command from the application program (e.g., WordPerfect) to the printer driver that then results in the printer moving in accordance with the instruction. **This is precisely the sequence of steps that is claimed, and that Plaintiff would preempt for communicating computer commands to motion control devices**. *See* Dkt. 33-5, 1:37-39 ("the principles of the present invention are generally applicable to any mechanical system that generates movement based on a control signal."). Nothing in claim 1 distinguishes the printer example (the printer being, in fact, a type of motion control device).

Worse yet, the asserted patents *acknowledge* the above communication steps were routine and conventional at the time of the original filing.[12] The specification expressly admits "the ***common programming practice*** in which drivers are provided for hardware such as printers or the like [and] an application program such as a word processor allows a user to select a driver associated with a given printer to allow the application program to print on that given printer." *Id. at* 3:7-12 (emphasis added). Limiting this "common programming practice" to the field of automated motion control does not make it patentable. *See CertusView Techs., LLC v. S & N Locating Servs., LLC*, 111 F. Supp. 3d 688, 717-18 (E.D. Va. 2015) (rejecting argument that limiting application of a database to the environment of geo-locate operations, even if never done

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[12]   This admission is not surprising given the ubiquitous reference to device drivers in the prior art predating by a lot the alleged invention. *See, e.g*., Ex. CC, U.S. Patent No. 4,589,063 (filed in **1983**), Abstract ("the device driver module allows the computer system to communicate with its associated peripheral and I/O devices"); Ex. DD, U.S. Patent No. 4,701,848 (filed in **1984**), 2:25-53 (reciting the use of "terminal independent device drivers").

before, was an inventive concept and sufficient to satisfy step two). In *Diamond v. Diehr*, 450

U.S. 175 (1981), the Supreme Court explained that the prohibition against patenting abstract

ideas (mathematical formulas in that case), "cannot be circumvented by attempting to limit the

use of the formula to a particular technological environment." *Id.* at 191. The Court reiterated

this principle in *Bilski*, stating that "limiting an abstract idea to one field of use . . . [does] not

make the concept patentable." 561 U.S. at 612; *see also Alice*, 134 S. Ct. at 2358. So too, here,

reciting in the preamble that this method–a common programming practice–is to be used with

motion control devices does not render the method patentable.

Claim 2 of the '543 Patent adds the limitation of "each driver function defining one or

more incremental motion steps that may be performed by a motion control device." (Dkt. 33-5).

"Functions" are a basic building block of software code drafting. *See* Ex. E*, Anthony Ralston

and Edwin D. Reilly*, Encyclopedia of Computer Science* at pp. 573 and 1087 (3rd ed. 1993)

("functions" also called "procedures" are "central to programming in general-purpose, high-level

languages"). Reciting that the functions will define one or more "incremental motion steps" is

not inventive. Rather, a software designer must necessarily define at least one motion step that

may be performed by the motion control device, lest there will not be any motion. In terms of the

"incremental" nature of those steps, the number or size of the steps is inherent in the degree and

type of motion the programmer needs to accomplish (more detailed control means more

incremental steps). By merely reciting the use of incremental steps for motion control, the '543

patent does not change the architecture of the control, the manner in which the control is

communicated, or the results achieved (i.e., motion control). Instead, it merely extends the

library of functions available to the applications programmer; a concept well- known at the time

of the alleged invention. *See* Ex. II. l. R. Jacobs, *Computer Aided Design of Control Systems in

the United Kingdom*, (IFAC 1985); Ex. JJ, F. Delebecque and S. Steer, *The Interactive System

Blaise for Control Engineering, (IFAC 1985); Ex. KK L. B. Jorgensen et al., *A Flexible Computer Programme for Calculation of Energy and Material Balances in a Sugar Factory*, (IFAC 1985).

The asserted patents did not invent computerized factory automation, or the use of computers to communicate with and control motion control devices. The use of computers in factory automation, and specifically in connection with motion control, was ubiquitous well before the filing date of the asserted patents. *See, e.g*., Ex. T at pp. 25-39 and 65-91; Ex. F, Computing Science Technology Report No. 99, *A History of Computing Research at Bell Labs* (1937-1975) (Brown and Holbrook 1982); Ex. G, G.J. Suski and M.G. Rodd, *Current and Future Issues in the Design, Analysis and Implementation of Distributed, Computer-Based Control Systems* (1986); Ex. H, *Expert Systems Techniques in a Computer-Based Control Sys. Analysis and Design Envir*. (IFAC 1985); *see also* Ex. I, *An Abbreviated History of Automation & Industrial Controls Systems and Cybersecurity* (Aug. 2014) (discussing controls throughout history). By the late-1960s, for example, General Electric had replaced hardwired relays with a computer system. *See* Ex. J, Jon Stenerson, *Fundamentals of Programmable Logic Controllers, Sensors and Communications* at p. 2 (Regents/Prentice Hall 1993). That there needs to be a software component to permit communication between the computer and the peripheral devices is inherent in the use of a computer for industrial automation. *See generally,* Ex. T at pp. 200-251 and 393-414; Ex. V, *J.R. Leigh, Applied Digital Control, Theory, Design and Implementation* at p. 361-369 (2d ed. 1992) (discussing use of software in control system design and implementation).

Claim 3 of the '543 patent further recites that the application program includes "a sequence of component functions" at least some of which are "associated with driver functions." Again, there is nothing inventive about the concept of associating functions. This is

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fundamentally how software, and particularly software designed to facilitate communication with a peripheral device, i.e., "driver" software, is written. *See* Ex. EE, Computer Dictionary, 4th ed. 1993, p. 102 (defining a "device driver" as "a special section of computer code ***that translates the general commands from an operating system or user programs into the exact code a specific peripheral device needs***"); Ex. HH, *Ques Computer Programmer's Dictionary* (1993), pp. 129 and 186 (defining device drivers and functions); *see also* Ex. U, *Dictionary of Computing*, 3rd Edition, Oxford University Press, 1990, p. 144-145; Ex. E at p. 486. Again, this is fundamentally how software communication to peripheral devices works.

Further, and although the machine-or-transformation test is no longer the controlling test for patent eligibility, it remains "a useful and important clue" to eligibility. *Clear with Computers, LLC v. Dick's Sporting Goods, Inc.*, 21 F. Supp. 3d 758, 763 n.4 (E.D. Tex. 2014) (citing *Bilski*, 561 U.S. at 605). Under the machine-or-transformation test, a process may be patentable if "(1) it is tied to a particular machine or apparatus, or (2) it transforms a particular article into a different state or thing." *Id*. at 602. The asserted claims of the '543 patent fail this test. The claims are directed to software for use on a general purpose computer. Dkt. 33-5, 5:8-11. ("The personal computer portion 12 of the system 10 can be any system capable of being programmed as described herein, but, in the preferred embodiment, is a system capable of running the Microsoft Windows environment."). A general purpose computer does not satisfy the machine prong of the machine-or-transformation test. *See Bancorp Servs., L.L.C. v. Sun Life Assur. Co. of Canada (U.S.)*, 687 F.3d 1266, 1273 (Fed. Cir. 2012), *cert. denied*, 134 S. Ct. 2870 (2014).

The claims also fail the "transformation" prong. There is nothing transformative in the sense of "[t]ransformation and reduction of an article 'to a different state or thing,'" *Benson*, 409 U.S. at 70, about selecting a driver and generating a command that a peripheral device can

understand. "[M]ere manipulation or reorganization of data ... does not satisfy the transformation

prong." *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1375 (Fed. Cir. 2011); *see*

also Bancorp, 687 F.3d at 1273 (holding the claim failed the transformation prong because it did

"not transform the raw data into anything other than more data"). Here, the asserted process

claims do not transform or reduce an article to a different state, and they do not include particular

machines. "The motion control operations are not specifically related to any particular motion

control device hardware configuration, but are instead ***abstract operations*** that all motion control

device hardware configurations must perform in order to function." Dkt. 33-5, 5:57-61. The

patents merely translate/correlate high level commands to low level commands.

b.   The '897 Patent Does Not Add "Significantly More"

Claim 1 of the '897 patent is reproduced below. As shown, the final three steps recite the

same basic ingredients described above with respect to

the '543 patent, but the claim adds additional words that

merely describe the context or environment in which

the steps are performed. The claim relies on technical

jargon to convey the illusion of greater limitations.

At the outset, it is noteworthy that the method

claim recites 12 steps, of which 9 are described in the

specification as performed by the software designer.

See, e.g., Ex. A, at 6:63-65 (designer defines a set of

motion control operations); 7:16-18 (designer defines

driver functions); 7:29-31 (designer defines component

functions); 7:51-52 (designer develops the software

1. A method of moving an object in a desired manner, comprising the steps of:

    defining a set of motion control operations, where each motion control operation is either a primitive operation that is necessary to perform motion control and that cannot be simulated using other motion control operations or a non-primitive operation that does not meet the definition of a primitive operation;

    defining a core set of core driver functions, where each core driver function identifies one of the primitive operations;

    defining an extended set of extended driver functions, where each extended driver function identifies one of the non-primitive operations;

    defining a set of component functions;

    providing component code for each of the component functions, where the component code cross-references at least some of the component functions with at least some of the driver functions;

    developing a set of software drivers, where (i) each software driver is developed for a motion control device in a supported group of motion control devices and (ii) each software driver comprises driver code for implementing the motion control operations associated with at least some of the driver functions;

    providing an application program comprising a series of component functions, where the application program defines the motion steps necessary to move the object in the desired manner;

    selecting one motion control device from the group of supported motion control devices;

    attaching the object to the selected motion control device;

    selecting from the set of software drivers the software driver developed for the selected motion control device;

    generating control commands based on the component functions of the application program, the component code of the component functions, and the driver code of the selected software driver; and

    operating the selected motion control device based on the control commands to move the object in the desired manner.

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drivers); 8:1-2 (designer develops the application program). Even the selection of the software

driver is performed by a human being. *Id*. at 8:22-24 ("the user 24 then selects the software

driver associated with the selected motion control device."). *Compare CyberSource*, 654 F.3d at

1373 (computerized method for collecting and organizing credit card transaction data invalid

under § 101 because claimed method "***can be performed by human thought alone***") (emphasis

added). The claim recites, essentially, "how to" instructions for writing software for motion

control, using the same basic building block as any software programmer had used for decades.

See, e.g., Ex. X, B. Walraet, *Programming, the Impossible Challenge*, Elsevier Publishers B.V.,

1989, p. 3-20; Ex. W, K. M. Brenan et al., *Introduction to Computers and Basic Programming*,

West Publishing, 1984, pages 65-82. There is nothing inventive about instructing a designer to

use known techniques to write software so the command typed by the plant worker is understood

by the motion control device.

      With reference to the designer drafted "software," the '897 patent adds the further detail

that the operations are "primitive or non-primitive motion operations." *Id*. This, again, is nothing

inventive. Sometimes, for ease of programming, functions or "operations" are grouped together,

and this series of instructions is known as a subroutine. *See, e.g*., Ex. Y, *Computer Programming*

Techniques Analysis and Mathematics, Prentice Hall, 1973, pages 335-366 (Chapter 7:

Subprograms). That the patent labels operations as "primitive" (i.e., those necessary to perform

motion control and that cannot be simulated using other motion control operations) or "non-

primitive" (i.e., everything else), and notes the ability of a software designer to write code in the

form of "primitive" motion operations (e.g., "get position" and "move relative") is nothing

inventive. *See,* Ex. U, p. 354 ("primitive element" defined), Ex. LL,

https://www.techopedia.com/definition/3860/primitive ("Primitive types are basic programming

language building blocks. Primitive types may or may not have a one-to-one relationship with

computer memory objects and are the fastest existing language constructs."). It is merely

categorizing and reusing labels *already in use* in computer programming long before the asserted

patents were filed. *See* Ex. Z, Anthony J. Barbera, *An Architecture for Robot Hierarchical*

Control Systems at I-28 (NBS Spec. Publ 500-23, Dec. 1977) (discussing in robotics context the

use of modular design to create a universal control system that can run any robot if the robot-

dependent modules are supplied and using the term "*primitive*" to refer to certain operations like

"grasp"); *see also* Ex. MM, S. D. Goodfellow et al., *Integra, an Input Translation Facility for*

Computer Aided Control Systems Engineering, (IFAC 1985) at p. 91, ("A set of *primitive*

actions will be present which provide flow control, labelling, expression evaluation, assignment

and macro management. The developer may create an alternative high level language using

graphs containing these actions.") (emphasis added).

With reference to the machine-or-transformation test, the claims of the '897 patent

likewise fail. As indicated above, the claims of the '897 are directed to processes or methods,

and thus fail to recite any specific machine, nor are they tied to any particular machine. *See* '897

patent, Ex. A at 1:5-7 ("present invention relates to . . . *hardware independent* motion control

software.") (emphasis added). Further, the claims of the '897 recite the defining of software (*e.g.*,

drivers, application programs, etc.) and the use of the software, but fail to transform the data

inherent in the commands, or the object itself. *See Smart Sys.*, 2015 WL 4184486, at *6 ("On the

whole, there is nothing that the 'ordered combination,' which is really what Smart Systems leans

on, transforms. And although the physical production of a different state or thing is merely one

way of demonstrating a patentable process, Smart Systems offers no other argument for why its

use of its claimed components together is 'anything more than' a grouping of 'conventional

steps' and extant technology."), *citing Ultramercial*, 772 F.3d at 716–17 (finding no

transformation in claim directed computer-based transaction using advertising as a currency); *see*

also, Thales Visionix, Inc. v. United States, 122 Fed. Cl. 245, 256 (2015) (holding motion

tracking technology failed both prongs of machine or transformation test).

> ### c. The '557, '058, and '236 Patents Do Not Add "Significantly More"

The non-process, "system" claims of the other asserted patents (the '557, '058 and '236

patents) fare no better. For example, claim 1 of the '557 patent recites the same basic ingredients

discussed above, only in the form of a system claim (e.g., an application program, a motion

controller that can control a device and a software driver that can communicate between the

application program and the motion controller). *See* Dkt. 33-3. Though veiled in the jargon of

software coding, the claims instruct a human software developer to set up a software system

using "routine, conventional activit[ies]." *Mayo*, 132 S.Ct. at 1298.[13]

In prior proceedings, the asserted patents, and particularly the '557 Patent, has been

characterized by the patent owner as claiming "a unique software architecture" in which "an

intermediate software layer (the 'motion control component') and a set of controller-specific

software drivers work together to convert controller independent 'component functions' called

by the application program into controller dependent control commands that can be understood

by a selected motion control device." Ex. D at p. 9. Implicit in any code drafting is the need to

write code in a way that can be understood. If the application program speaks one "language,"

and the motion control device speaks another, it goes without saying that the software code

employed to facilitate the application program "speaking" to the motion control device, will need

to bridge the communication gap. Telling a software designer that he or she will need to

associate functions between the top-level application program and the low-level device driver

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[13]   Any claims not specifically addressed recite limitations, in the same or a similar format, already discussed herein, comprise a combination of those limitations, or recite nothing beyond well-understood, routine, conventional activity, *see, e.g.* "over a network" in claim 1 of the '058 patent.

(basically a look-up table in the software drafting) is like telling the factory foreman that in order

to instruct a new worker on the steps necessary to perform an automated task (e.g., make paper,

process petroleum, treat wastewater), he or she will have to do so in a way the worker can

understand (e.g., if the worker speaks French, he will have to associate the English words with

the French words, and speak the instructions in French, or if the worker does not understand

acronyms unique in the business, those would have to be explained).

In short, the asserted patents (including the '236 and '058 patents, which include *fewer*

limitations than the '557 patent) add nothing to this basic concept of computer-based

communication with devices. Indeed, the asserted patents are not even automating anything.

Rather, the asserted patents specifically contemplate that a software system designer, ***a human***

being, will write the application program and then write the associated software drivers. (The

specification states that the "software system designer"–a human being writing the software code

and setting up the system–will perform some act no less than eleven times, *see,.e.g.,* "[t]he

software system designer initially defines a set of motion control operations that are used to

perform motion control. . .*the software system designer* next defines a service provider interface

(SPI) comprising a number of driver functions. . .*the software designer* next defines an

application programming interface (API) comprising a set of component functions." In short, the

asserted patents are directing software programmers to do what they already necessarily do, *i.e.,*

write software code for drivers in order to permit communication with, and control of, supported

peripheral devices.

Analogous cases have concluded that this sort of general recitation of known computer

architecture does not result in patent eligible subject matter. For example, in *Intellectual*

Ventures II LLC v. JP Morgan Chase & Co., No. 13-CV-3777 (AKH), 2015 WL 1941331, at *9-

12 (S.D.N.Y. Apr. 28, 2015) the claims were directed to a data packet filtering firewall. The

court found this failed the second step of *Mayo* because it simply takes "information conventionally sent to a firewall" and implements the process with a generic computer. *Id.* Similarly, in *Tranxition, Inc. v. Lenovo (U.S.) Inc.*, the patents recited a system and method for automatic transitioning of configuration settings from one computer to another. 3:12-cv-01065-HZ, 2015 WL 4203469, at *8 (D. Or. July 9, 2015). Finding the claims patent ineligible under *Alice*, the court concluded that "once one cuts through the 'patent-ease'" the patents described the "abstract idea of collecting and organizing generic data in a computer-readable format," and nothing more. *Id.* at *9. The court found that the recited steps were nothing more than "rudimentary computer operations" (e.g., "providing configuration information," "generating an extraction plan that identifies the configuration settings to be extracted", "retrieving" and "transitioning"), and did not constitute an inventive concept. *Id.* at *11; *see also Dick's Sporting Goods, Inc.* 21 F. Supp. 3d at 764-65 (finding limitations including "receiving at a configuration engine of a computer system" and "determining by the configuration engine. . ." did not add any inventive concept to the abstract idea of inventory based selling claimed in the patent); *Affinity Labs of Texas, LLC v. Amazon.com, Inc.*, No. 6:15-CV-0029-WSS-JCM, 2015 WL 3757497, at *1, *14 (W.D. Tex. June 12, 2015) (holding claims for "wirelessly communicating selective information to an electronic device" accomplished "using computer hardware and software recited in 'purely functional and generic' terms" were not patent eligible).

IV. CONCLUSION

The asserted patents serve no useful purpose and impede the progress of innovation. The basic steps/building blocks disclosed in the asserted patents belong to the public. For the foregoing reasons, Emerson respectfully requests that the complaint be dismissed pursuant to Rule 12(b)(6), because the asserted patents are invalid under 35 U.S.C. §101 and *Alice*. Further, Emerson respectfully requests a hearing and oral argument on this motion.

Dated: May 2, 2016   Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that on this 2nd day of May, 2016, the foregoing was filed electronically with the Clerk of Court and to be served via the Court's Electronic Filing System upon all counsel of record.

/s/ Rudolph A. Telscher, Jr.

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