# PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

#### **CONVEYING PARTY DATA**

Name	Execution Date
SUDHI R. SINHA	01/23/2020
YOUNGCHOON PARK	02/12/2020
ADA L. MA	08/09/2018

## **RECEIVING PARTY DATA**

Name:	JOHNSON CONTROLS TECHNOLOGY COMPANY
Street Address:	2875 HIGH MEADOW CIRCLE
City:	AUBURN HILLS
State/Country:	MICHIGAN
Postal Code:	48326-2773

## **PROPERTY NUMBERS Total: 1**

Property Type	Number
Application Number:	17479994

## **CORRESPONDENCE DATA**

Fax Number:

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

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ATTORNEY DOCKET NUMBER:	116048-1176
NAME OF SUBMITTER:	DANIEL WITYAK
SIGNATURE:	/Daniel Wityak/
DATE SIGNED:	12/19/2022

**Total Attachments: 10** 

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PATENT 507655895 REEL: 062148 FRAME: 0476



PATENT REEL: 062148 FRAME: 0477

# **ASSIGNMENT - WORLDWIDE**

For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, each undersigned inventor (hereinafter referred to singly and collectively as "ASSIGNOR") has sold, assigned, and transferred, and by these presents hereby sells, assigns, and transfers, unto

Johnson Controls Technology Company 2875 High Meadow Circle Auburn Hills, Michigan 48326

(hereinafter referred to as "ASSIGNEE") its successors and assigns, the full and exclusive right, title and interest for the United States, its territories and possessions, and all foreign countries in and to the inventions relating to

JCI Ref. No. /	Title	Application	Filing Date
Attorney Docket No.	ocket No.		
19-0264-US	SMART BUILDING AUTOMATION	16/746074	1/17/2020
(116048-0797)	SYSTEM WITH DIGITAL SIGNAGE		
19-0265-US	SMART BUILDING AUTOMATION	16/746316	1/17/2020
(116048-0798)	SYSTEM WITH EMPLOYEE		
	PRODUCTIVITY FEATURES		
19-0267-US	PARKING LOT MANAGEMENT	16/746453	1/17/2020
(116048-0800)	SYSTEM		
19-0268-US	LOBBY MANAGEMENT SYSTEM	16/746476	1/17/2020
(116048-0801)			
19-0269-US	CONFERENCE ROOM MANAGEMENT	16/746517	1/17/2020
(116048-0802)	SYSTEM		
19-0273-US	BUILDING AUTOMATION SYSTEM	16/746529	1/17/2020
(116048-0804)	WITH VISITOR MANAGEMENT		
19-0276-US	BUILDING AUTOMATION SYSTEM	16/746570	1/17/2020
(116048-0807)	WITH FAULT ANALYSIS AND		
	COMPONENT PROCUREMENT		
17BE501-PRO	BUILDING MANAGEMENT SYSTEM	62/798429	1/29/2019
(116048-0182)	WITH CLOUD MANAGEMENT OF		
	GATEWAY CONFIGURATIONS		
17BE274-PRO	SIMULATION AND USER ACTION	62/523247	6/21/2017
(116048-0129)	REINFORCEMENT MACHINE		
	LEARNING FOR HVAC SYSTEMS		
15BE053-PRO	AUTOMATED MONITORING AND	62/190614	7/9/2015
(116048-0171)	SERVICE PROVIDER		
	RECOMMENDATION PLATFORM FOR		
	HVAC EQUIPMENT		

Page 1 of 6

17BE274-US	BUILDING MANAGEMENT SYSTEM	16/013638	6/20/2018
(116048-0252)	WITH SIMULATION AND USER		
	ACTION REINFORCEMENT MACHINE		
	LEARNING		
17BE482-US	BUILDING MANAGEMENT SYSTEM	15/993331	5/30/2018
(116048-0254)	WITH AUTOMATED VIBRATION		
,	DATA ANALYSIS		
17BE335-US	SYSTEMS AND METHODS FOR	15/968278	5/1/2018
(116048-0263)	INTELLIGENT PIC VALVES WITH		
,	AGENT INTERACTION		
17BE197-US	MODEL PREDICTIVE MAINTENANCE	15/895836	2/13/2018
(116048-0379	SYSTEM FOR BUILDING EQUIPMENT		
17BE412-US	SYSTEMS AND METHODS FOR	16/036685	7/16/2018
(116048-0384)	AGENT BASED BUILDING	10,00000	,,10,2010
(110010 0501)	SIMULATION FOR OPTIMAL		
	CONTROL		
17BE374-US	BUILDING MANAGEMENT SYSTEM	16/008885	6/14/2018
(116048-0446)	WITH ARTIFICIAL INTELLIGENCE	10,00000	0/11/2010
(110010 0110)	FOR UNIFIED AGENT BASED		
	CONTROL OF BUILDING		
	SUBSYSTEMS		
18-0188-US	BUILDING CAMPUS WITH	16/198696	11/21/2018
(116048-0627)	INTEGRATED SMART	10/190090	11,21,2010
(110010 0027)	ENVIRONMENT		
18-0065-US	WEB SERVICES FOR SMART ENTITY	16/143164	9/26/2018
(116048-0650)	MANAGEMENT FOR SENSOR	10/113101	9/20/2010
(110010 0030)	SYSTEMS		
19-0043-US	SYSTEMS AND METHODS FOR	16/663623	10/25/2019
(116048-0704)	MAPPING A BUILDING SCHEMA	10/003023	10/23/2019
(110040-0704)	INTO A GRAPH DATA SCHEMA		
19-0263-PRO	SMART BUILDING AUTOMATION	62/794370	1/18/2019
(116048-0720)	SYSTEM WITH DIGITAL TWIN	02/174310	1/10/2019
(110048-0720)	CONFIGURATION AND ANALYTICS		
19-0264-PRO	SMART BUILDING AUTOMATION	62/794276	1/18/2019
(116048-0721)	SYSTEM WITH DIGITAL SIGNAGE	02/194210	1/16/2019
19-0265-PRO	SMART BUILDING AUTOMATION	62/794533	1/18/2019
	SYSTEM WITH EMPLOYEE	02/194333	1/10/2019
(116048-0722)	PRODUCTIVITY FEATURES		
10.0266 DDO		62/704525	1/19/2010
19-0266-PRO	SMART BUILDING AUTOMATION	62/794535	1/18/2019
(116048-0723)	SYSTEM WITH SUSTAINABILITY		
10.0267 PRO	FEATURES  PARKING LOTIMANIA CEMENT	(2/70/200	1/10/2010
19-0267-PRO	PARKING LOT MANAGEMENT	62/794389	1/18/2019
(116048-0724)	SYSTEM		

19-0268-PRO (116048-0725)	LOBBY MANAGEMENT SYSTEM	62/794393	1/18/2019
19-0273-PRO	BUILDING AUTOMATION SYSTEM	62/794357	1/18/2019
(116048-0729)	WITH VISITOR MANAGEMENT	02/194331	1/10/2019
19-0271-PRO	SMART BUILDING AUTOMATION	62/794032	1/18/2019
(116048-0727)	SYSTEM WITH SMART SECURITY	02/194032	1/10/2019
(110048-0727)	FEATURES		
19-0269-PRO	CONFERENCE ROOM MANAGEMENT	62/794415	1/18/2019
(116048-0726)	SYSTEM	02,731110	1, 10, 2013
19-0275-PRO	BUILDING AUTOMATION SYSTEM	62/794407	1/18/2019
(116048-0731)	WITH HUMAN RESOURCE FEATURES		
19-0274-PRO	BUILDING AUTOMATION SYSTEM	62/794348	1/18/2019
(116048-0730)	WITH FACILITY MANAGEMENT		
	FEATURES		
19-0276-PRO	BUILDING AUTOMATION SYSTEM	62/794502	1/18/2019
(116048-0732)	WITH FAULT ANALYSIS AND		
	COMPONENT PROCUREMENT		
19-0277-PRO	BUILDING AUTOMATION SYSTEM	62/794489	1/18/2019
(116048-0733)	WITH UNIFIED EVENT		
	MANAGEMENT		
18-0308-US	FRICTIONLESS ACCESS CONTROL	16/294744	3/6/2019
(116048-0759)	SYSTEM FOR A BUILDING		
18-0307-PRO	BUILDING ENERGY MANAGEMENT	62/650401	3/30/2018
(116048-0431)	SYSTEM WITH VIRTUAL AUDIT		
	METRICS		
18-0307-US	BUILDING ENERGY MANAGEMENT	16/366862	10/3/2019
(116048-0760)	SYSTEM WITH VIRTUAL AUDIT		
	METRICS		
18-0831-US	BUILDING MANAGEMENT SYSTEM	16/583966	9/26/2019
(116048-0839)	WITH TIMESERIES BASED		
	ASSURANCE SERVICES		
20-0064-PRO	BUILDING SYSTEM WITH	62/951897	12/20/2019
(116048-0861)	SOFTWARE GATEWAYS		
20-0011-PRO	BUILDING SYSTEM WITH A USER	62/929610	11/1/2019
(116048-0868)	INTERFACE-LESS (UI-LESS) USER		
	EXPERIENCE (UX)		
20-0011-PRO2	BUILDING SYSTEM WITH USER	62/951892	12/20/2019
(116048-0883)	PRESENTATION COMPOSITION		
	BASED ON BUILDING CONTEXT		
20-0176-PRO	BUILDING DATA PLATFORM	62/955856	12/31/2019
(116048-0925)			
18-0020-US2	BUILDING SMART ENTITY SYSTEM	16/533493	8/6/2019
(116048-0649)	WITH AGENT BASED		
	<del></del>		

	COMMUNICATION AND CONTROL		
18-0067-PRO	BUILDING MANAGEMENT SMART	62/611984	12/29/2017
(116048-0241)	ENTITY CREATION AND		
	MAINTENANCE USING TIME SERIES		
	DATA		
18-0067-US2	BUILDING SMART ENTITY SYSTEM	16/533499	8/6/2019
(116048-0655)	WITH AGENT BASED DATA	10,000 133	0,0,2013
	INGESTION AND ENTITY CREATION		
	USING TIME SERIES DATA		
19-0277-US	BUILDING AUTOMATION SYSTEM		
(116048-0808)	WITH UNIFIED EVENT		
	MANAGEMENT		
17BE501-US	BUILDING MANAGEMENT SYSTEM	16/775032	1/28/2020
(116048-0887)	WITH CLOUD MANAGEMENT OF		
	GATEWAY CONFIGURATIONS		
20-0011-US	BUILDING SYSTEM WITH A USER		
(116048-0930)	INTERFACE-LESS (UI-LESS) USER		
	EXPERIENCE (UX)		
19-0274-US	BUILDING AUTOMATION SYSTEM		
(116048-0805)	WITH FACILITY MANAGEMENT		
	FEATURES		
19-0084-US	BUILDING SYSTEM WITH A TIME	16/685814	11/15/2019
(117277-0835)	CORRELATED RELIABILITY DATA		
	STREAM		
19-0084-US2	BUILDING SYSTEM WITH	16/685834	11/15/2019
(117277-0836)	PERFORMANCE IDENTIFICATION		
	THROUGH EQUIPMENT EXERCISING		
	AND ENTITY RELATIONSHIPS		
16BE038-US2	USER CONTROL DEVICE WITH	15/961488	4/24/2018
(112444-0834)	CANTILEVERED DISPLAY		
17BE495-US2	THERMOSTAT WITH HALO LIGHT	16/246366	11/1/2019
(112444-1087)	SYSTEM AND EMERGENCY		
	DIRECTIONS		
18-0820-US	OPTIMIZED THERMAL CONTROL OF	16/579686	9/23/2019
(112444-1227)	DATA CENTER		
17BE495-US3	TERMOSTAT WITH AREA LIGHT	16/717887	12/17/2019
(112444-1233)	SYSTEM AND OCCUPANCY SENSOR		

as well as in and to (a) all improvements and modifications of the above-identified invention or inventions, (b) the above-identified application and all other applications for Letters Patent of the United States and countries foreign thereto for above-identified invention or inventions and all

improvements and modifications thereof, (c) all Letters Patent which may issue from said applications in the United States and countries foreign thereto, (d) all divisions, continuations, reissues, and extensions of said applications and Letters Patent, and (e) the right to claim for any of said applications the full benefits and priority rights under the Patent Cooperation Treaty, the Paris Convention and any other international agreement; such right, title, and interest to be held and enjoyed by ASSIGNEE, its successors and assigns, to the full end of the term or terms for which any and all such Letters Patent may be granted as fully and entirely as would have been held and enjoyed by ASSIGNOR had this Assignment not been made.

ASSIGNOR HEREBY AUTHORIZES ASSIGNEE to file patent applications in any or all countries on the above-identified invention or inventions in the name of the undersigned or in the name of ASSIGNEE or otherwise as ASSIGNEE may deem advisable under the International Convention or otherwise.

ASSIGNOR HEREBY AUTHORIZES AND REQUESTS the Commissioner of Patents and Trademarks to issue said Letters Patent to ASSIGNEE as assignee of the entire interest, for the sole use and benefit of ASSIGNEE, its successors and assigns.

ASSIGNOR HEREBY AGREES (a) to communicate to ASSIGNEE, its successors and assigns, or their representative or agents, all facts and information known or available to ASSIGNOR respecting said invention or inventions, improvements, and modifications including evidence for interference, reexamination, reissue, opposition, revocation, extension, or infringement purposes or other legal, judicial, or administrative proceedings, whenever requested by ASSIGNEE; (b) to testify in person or by affidavit as required by ASSIGNEE, its successors and assigns, in any such proceeding in the United States or a country foreign thereto; (c) to execute and deliver, upon request by ASSIGNEE, all lawful papers including, but not limited to, original, divisional, continuation, and reissue applications, renewals, assignments, powers of attorney, oaths, affidavits, and declarations, depositions; and (d) to provide all reasonable assistance to ASSIGNEE, its successors and assigns, in obtaining and enforcing proper title in and protection for said invention or inventions, improvements, and modifications under the intellectual property laws of the United States and countries foreign thereto.

ASSIGNOR HEREBY REPRESENTS AND WARRANTS that ASSIGNOR has the full and unencumbered right to sell, assign, and transfer the interests sold, assigned, and transferred herein, and that ASSIGNOR has not executed and will not execute any document or instrument in conflict herewith.

ASSIGNOR HEREBY GRANTS to the law firm of **Foley & Lardner LLP** the power and authority to insert in this Assignment any further identification which may be necessary or desirable to comply with the rules of the U.S. Patent and Trademark Office for recordation of this Assignment.

ASSIGNOR UNDERSTANDS AND AGREES that the attorneys and agents of the law firm of **Foley & Lardner LLP** do not personally represent ASSIGNOR OR ASSIGNOR's legal interests, but instead represent the interests of ASSIGNEE; since said attorneys and agents cannot provide legal advice to ASSIGNOR with respect to this Assignment, ASSIGNOR acknowledges its right to seek its own independent legal counsel.

	NAME AN	O SIGNATURE	OF INVENTOR
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Name: SUDHIR SINHA SIGNATURE

DATE 1/23/2020

#### ASSIGNMENT - WORLDWIDE

For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, each undersigned inventor (hereinafter referred to singly and collectively as "ASSIGNOR") has sold, assigned, and transferred, and by these presents hereby sells, assigns, and transfers, unto

Johnson Controls Technology Company 2875 High Meadow Circle Auburn Hills, Michigan 48326

(hereinafter referred to as "ASSIGNEE") its successors and assigns, the full and exclusive right, title and interest for the United States, its territories and possessions, and all foreign countries in and to this invention relating to

#### BUILDING CAMPUS WITH INTEGRATED SMART ENVIRONMENT

as set forth in these United States Patent Applications

	] executed concurrently	herewith,
	] executed on	,
ľ	X ] Serial No. 62/590,167	Filed <u>11/22/2017</u>
	X ] Serial No. 16/198,696	Filed <u>11/21/2018</u>

as well as in and to (a) all improvements and modifications of the above-identified invention or inventions, (b) the above-identified application and all other applications for Letters Patent of the United States and countries foreign thereto for above-identified invention or inventions and all improvements and modifications thereof, (c) all Letters Patent which may issue from said applications in the United States and countries foreign thereto, (d) all divisions, continuations, reissues, and extensions of said applications and Letters Patent, and (e) the right to claim for any of said applications the full benefits and priority rights under the Patent Cooperation Treaty, the Paris Convention and any other international agreement; such right, title, and interest to be held and enjoyed by ASSIGNEE, its successors and assigns, to the full end of the term or terms for which any and all such Letters Patent may be granted as fully and entirely as would have been held and enjoyed by ASSIGNOR had this Assignment not been made.

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ASSIGNOR HEREBY AUTHORIZES AND REQUESTS the Commissioner of Patents and Trademarks to issue said Letters Patent to ASSIGNEE as assignee of the entire interest, for the sole use and benefit of ASSIGNEE, its successors and assigns.

Page 1 of 5

4837-5370-0271.1

ASSIGNOR HEREBY AGREES (a) to communicate to ASSIGNEE, its successors and assigns, or their representative or agents, all facts and information known or available to ASSIGNOR respecting said invention or inventions, improvements, and modifications including evidence for interference, reexamination, reissue, opposition, revocation, extension, or infringement purposes or other legal, judicial, or administrative proceedings, whenever requested by ASSIGNEE; (b) to testify in person or by affidavit as required by ASSIGNEE, its successors and assigns, in any such proceeding in the United States or a country foreign thereto; (c) to execute and deliver, upon request by ASSIGNEE, all lawful papers including, but not limited to, original, divisional, continuation, and reissue applications, renewals, assignments, powers of attorney, oaths, affidavits, and declarations, depositions; and (d) to provide all reasonable assistance to ASSIGNEE, its successors and assigns, in obtaining and enforcing proper title in and protection for said invention or inventions, improvements, and modifications under the intellectual property laws of the United States and countries foreign thereto.

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Atty. Dkt. Nos. 18-0188-PRO (116048-0260) 18-0188-US (116048-0627)

	AND SIGNATURE OF INVE		14 O	
Name:	YOUNGCHOON PARK	SIGNATURE	1 Chox	
		DATE	2/12/2020	

Atty. Dkt. No. 18-0188-PRO (116048-0260)

Executed this 44 day of August , 2018.

ADA L. MA

Page 5 of 5