AUTOMATION:
FROM ZERO TO SIXTY

THE OFFICIAL GUIDE
TO AUTOMATION SOFTWARE FOR THE UNINITIATED

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Automation:
From Zero to Sixty

The official guide to automation software for the uninitiated

Why automation can change the world... or at the very least yours

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Drinking water from a fountain at the gym.

Choosing from a variety of produce at the grocery store.

Pumping gas, and, why not--going for the carwash too.

Many things we've become accustomed to doing in our daily lives are made possible by organizations dedicated to facilitating convenience, ease, safety, and comfort. Zoom in a bit closer and think about those organizations. When they're performing efficiently internally, they simultaneously have the opportunity to perform efficiently externally, providing their goods and services more rapidly, with more accuracy, and reaching more people.

Performing efficiently means being able to navigate and respond to changing market landscapes, support an infrastructure befitting a growing and thriving organization, give employees the tools they need to be productive, and ensure that customer experiences are seamless and flawless.

It's why businesses today are increasingly turning to technology to help. And automation software is one such type of technology that closely aligns with what businesses want and need. Automation is already pervasive in our lives—from tried-and-true mechanized assembly lines to the dawn of self-driving cars—and "software robots" are what's happening now.

We've created this guide to not only explain to you what we're talking about when we advocate for this nebulous concept of "automation," but also to show you why it has become an essential technology for businesses to adopt—one that has changed the world historically, and is continuing to change the world today—from transforming the way entire organizations work globally to transforming the way you work at your own desk.

When you're finished reading this, we want you to come to a conclusion: Automation isn't just something you can do. It's something you need to do.

But before you come to a conclusion, you need to have an introduction.

Let's dive in.

A one-minute, thirty-second history of automation and automation software

The reason we know automation is changing the world is simple: it already has.

Some say automation began with the invention of the wheel and progressed through other notable inventions: the printing press, the cotton gin, the Babbage engine. With each introduction of automation to a complicated process, the benefit is clear: life gets easier and more efficient. Companies and individuals are free to innovate in other areas. Society advances.

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As the world has become increasingly computerized, it is only natural that automation extends to tasks performed in and with computers. Early manifestations of task and process automation involved creating macros--commands that can be saved and recalled with a keystroke. The idea behind using a macro was simply to "speed up" your work, or free you from performing a repetitive task.

Today, process automation has gone beyond simple macros or one-off task automation, and is available in software that ranges from single-user to enterprise-grade, so that entire corporations can automate tasks performed on their computers with the same goal in mind as the dude with a club who created the wheel:

Advancement. Ease. Efficiency.

Answering the million-dollar question: "What should I automate?" (And the thousand-dollar question: "Why?")

What to automate: Non-value-added work

In the manufacturing world there is a concept of "value-added" vs. "non-value-added" work. Non-value-added work is "waste work" essentially, that doesn't contribute in a meaningful way to a project. Too much non-value-added work is detrimental to a company and often the customer as well. Companies that work towards eradicating non-value-added work tend to be the most successful.

A similar concept can be applied to businesses in any industry, and requires analyzing the work that doesn't utilize employee time and talents, and ultimately hurts the business.

Why automate non-value-added work?

Beyond being stuck in minutia and wanting to offload "pesky," time-consuming processes people could practically do in their sleep (data extraction and entry, batch processing, installations, you get the picture), team leads find that automation software is even more valuable for solving deeper, broader concerns:

"My organization needs to be more efficient—where do we start?"

Seeing that your team spends eight or nine hours at work every day, it's not just your company that wants you to work efficiently and effectively—you do too! With a daily to-do list where you take away one item and add three, it can be difficult to scale, and complete larger projects. Automation has long been touted as an efficiency-booster, and for you and your team, it's likely a shoe-in as well.

"I feel like I don't have reliable information."

The ability to populate your line of business systems with information and then ensure that information migrates immediately to your other line of business systems without a hitch is more critical than ever in today's data-driven world. To get the information and then the business insight you need, you have to connect the dots between the systems, and that can be a time-consuming process that's prone to error. It's also a process that can get you in trouble with the center of your business world: your customers.

"Little errors are causing big problems."

To err is human, but that's not an excuse that will appease your customer if an order is late or faulty. Or something that will fly with your execs if the organization loses money. Automation by nature prevents human error, and therefore solves one of the largest problems organizations face.

"My team constantly has 12 screens or systems running."

There's nothing wrong with wanting to "win" at work. Maybe you have work that would require 20 people, but you only have 4 on your team. Perhaps you want to show that you were able to drive costs down. Or you have a deadline that you want to hit no matter what—or even beat. Automation software is technology that produces these very visible "wins," which is exceptionally valuable to both you and your company.

"I want to contribute in a noticeable way."

You need to navigate your SAP system, get the name of a product component, find competitor pricing, compile the information in Excel, email the information to your higher-up, and then accurately record and archive the ensuing conversations—and it's not even 9 a.m. yet. Automation simplifies processes so that your team can get more efficient, streamlining the steps in processes you have to complete.

"I need to implement a solution that tangibly produces business benefits."

So often, the "soft" benefit in purchasing systems is the selling point. Not so with automation. Businesses know that anything that can do things faster, ensure better quality, and reduce cost is good. With automation, businesses can automate a limitless number of processes that produce noticeable productivity increases and cost decreases extremely quickly—immediately, in many cases.

Who's using it?

DEPARTMENTS

Process automation used to be an opportunity available only to people in the "technical know,"; IT folks, engineers, essentially anyone able to write code and create scripts could automate a task.

Because automation software records tasks as they're performed, captures what you type and click, and auto-generates a script based on those actions, the automation floodgates are open. Now business users can automate tasks themselves—without a tech degree. The benefit here? Everyone is able to focus their energy on tasks that add the most value to their business. Including the IT folks who previously would have had to allocate time to manually creating these tasks.

So where have different departments typically found success using automation software?

Financial/Accounting:
Invoice processing, automating AP/AR actions, reporting, auditing

HR:
Automating tasks in PeopleSoft, email notifications, populating/ aggregating employee information

Operations/IT:
Creating accounts, software installations, batch processing, printer set-ups, system integrations

Sales:
Creating and printing invoices, populating customer information into CRMs,

Marketing:
Creating lead gen reports, social sentiment monitoring

Manufacturing:
Inventory management, Excel automation, ERP integration

INDICATORS

INDUSTRIES

Nearly any industry you can think of could benefit from automation. We're not kidding. Why?

Because in every organization there is at least someone performing a manual, time-consuming task. Some key industries that have found wide sweeping success with automation include:

Financial and Banking:
Data validations, data migration between banking applications, customer account management, report creation, comparing mortgage values between cities, form filling, financial claims processing, updating loan data and backing up teller receipts

Technology/Software:
Hardware and software testing for functional, load, and mobile performance, application integration

Telecommunications:
Collect and consolidate data from client phone systems, backing up information from client systems, uploading data, extracting data about competitor pricing, phone manufacturing information, etc.

Manufacturing:
ERP automation, automation of logistics data, data monitoring, product pricing comparisons

Government:
Populating subcontractor forms, verification processes, integrate legacy systems with newer systems, automating daily reports

Healthcare:
Patient data migration and processing, reporting for doctors, medical bill processing, insurance data automation and claim processing, triggering emails from medical billing systems, claim status and eligibility automation, and patient record storage

Consumer goods:
Order processing, data entry, resolution consulting, claims processing, FTP automation, incentive claims processing

Hospitality:
Competitor pricing analysis, guest data processing, data verification, payment processing, user account creation

Retail:
Extract product data from manufacturers websites, automatically updating online inventory and product information, importing website and email sales

The alternatives to automating

THE NAMELESS ALTERNATIVES

Doing nothing

It's simple, really. Your biggest alternative to automating is doing nothing. Or more specifically, doing things as they are currently being done—manually.

What are the ramifications of doing nothing?

- **Being behind the 8 ball competitively:** Your competitors are doing something. And, in many cases, that something is automating their business processes so they can spend more time innovating, analyzing, strategizing, and engaging in customer interactions.

- **Putting too much time and energy into non-value-added work:** As mentioned previously, the goal of automation can really be summed up as eliminating non-value-added work, and allowing people to instead focus on value-added work that builds greater companies. Copy/pasting, manually extracting data, and accessing multiple silos of information multiple times a day does not a great company make. Unburdening employees from doing these necessary but mundane tasks gives them the opportunity to contribute in more meaningful ways to more critical initiatives.

Doing it yourself

It's been said that if you want a job done right, you should do it yourself. As we all know, though, this shouldn't always be the case. (How's your basement or bathroom remodel coming along, BTW?). And when it comes to automation, it's definitely not the case. Even those proficient in coding and script writing often turn to an automated solution to perform the task for them, simply to free up time to shift their focus to more important job functions.

What are the ramifications of DIY automation?

- **Time spent:** As mentioned before, even if you can script in your sleep, is that the best use of your 9-5 time? And if you're figuring out how to automate tasks for the first time, much of your day could be spent simply figuring out *how* to do it.

- **Potential error:** : The more time you put into automating on your own, the more time you're likely to spend discovering and repairing errors in scripts just to make tasks work, let alone make them work optimally. Our take? Not worth the time and patience required.

- **Outsourcing:** Alright, perhaps you don't have the time, but someone on oDesk does. You can outsource task automation, but this is truly only effective for one-off or small tasks? And it still costs money.

Asking IT to do it

Our first inclination when our technical know-how fails us is to put out a call to IT to save the day. If you're finding yourself in the midst of a failing DIY automation project or if you deter-mine that it's simply not possible for you to do, IT might be the first place you turn. However,

What are the ramifications of having IT do it?

- **Diverting IT attention:** It's a well-known fact that IT attention is often wrapped up in tasks that they shouldn't have to be doing anymore. (We like this TechRepublic article which lays out a few). Many of the problems you might be coming to IT to solve can be fixed with automation, but without the proper software to do it, IT time is spent creating the tasks, and automation becomes yet another thing on their "I-shouldn't-have-to-do-this" list.

- **The unavoidable legacy application problem:** In order to automate certain tasks, IT needs to connect to legacy applications that lack user-friendly codes which need to be entered manually to work (think when a grocery store supervisor needs to manually en-ter an override code). Trying to make legacy applications work in the context of a larger automated task can become a square peg/round hole situation pretty quickly, costing time and causing frustration.

- **Widening the efficiency gap, not closing it:** As much as organizations work to auto-mate and implement systems meant to foster efficiency, oftentimes inflexibility in their IT infrastructures and market changes make it difficult to automate at the rate necessary to keep pace with complexity and remain competitive.

THE NAMED ALTERNATIVES

There are a variety of solutions that are either a more general term for process automation or "flavors" of the same thing. Here's a sampling:

Business Process Management (BPM)

Definition: We like Gartner's definition—BPM as "the discipline of managing processes (rather than tasks) as the means for improving business performance outcomes and operational agility."

What's the difference? After reading Gartner's definition of BPM, read Wikipedia's, which calls it a "process optimization process." Recursive as it may be, it accurately describes what's involved in implementing BPM: it requires enterprise software which in turn requires back-end integration into tools you're looking to automate. Very large organizations who have the luxury of time to implement and get it right find this to be a perfect solution—and they do go the distance. But it takes time, patience, and APIs.

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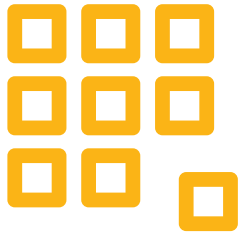
Business Process Reengineering (BPR)

Definition: Business process reengineering consists of assessing and analyzing how processes and workflows currently run, and then implementing strategies or technology to make them run more efficiently.

What's the difference? Companies that need to actually "reengineer" processes also generally have to hire consultants with plenty of experience in effectively implementing new process solutions and eliminating systems impeding company success. Reengineering requires ample time to construct and enact long-term plans, and generally is more of a company overhaul than a solution.
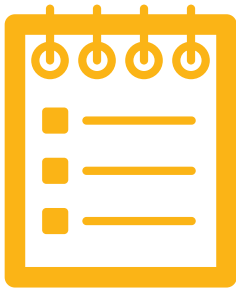
Business Process Model and Notation (BPMN)

Definition: BPMN refers to plotting out processes and analyzing those processes for potential improvements. You would readily recognize those tell-tale circles, rectangles, and diamonds used to notate a process and its permutations in its entirety. BPMN has long been accepted as a method for instituting change that produces greater efficiency on an ongoing basis.

What's the difference? BPMN can map out tasks—an important piece of the automation process—but doesn't actually record automated tasks. Automation software today will often feature ways to perform BPMN as a means to expedite and streamline error-free automation.
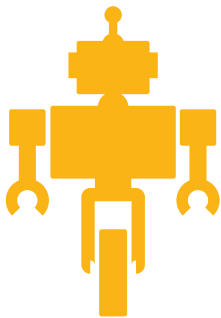
Robotic Process Automation (RPA)

Definition: A relatively new kid on the block, RPA is, according to the Institute for Robotic Process Automation, the "application of technology that allows employees in a company to configure computer software or a "robot" to capture and interpret existing applications for processing a transaction, manipulating data, triggering responses and communicating with other digital systems."

What's the difference? The difference is the name. RPA is automation-made- tangible by using the word "robot," something we are all familiar with and fascinated by. It's much easier to explain automation in terms of little, invisible bots that do our bidding—and more fun to discuss at parties.

Insert other acronym here
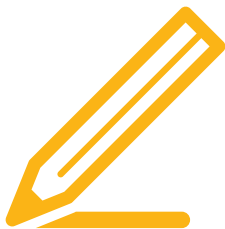
Yes, the title is intentional. There are plenty of other offerings that do pieces of what auto-mation software does. Keyword here: pieces. Businesses have discovered that investing in technology that meets a variety of needs is much more prudent in the long-term than creating more information silos that they then have to connect. (BTW- have we mentioned that auto-mation software takes care of that problem too? Stay tuned.)

Who provides it?

We're not the only ones who believe in the value of automation. Different solutions meet different, specific needs in the industry, and the choice to implement automation software should be one that aligns with your current and future needs and goals. Different solutions meet different, specific needs in the industry, and the choice to purchase automation software should be one that aligns with your current and future needs and goals.

The way we see it, automation solutions break down into 4 categories:
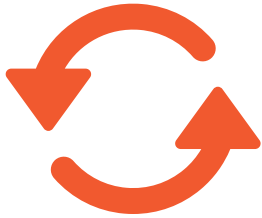
1. Macro recorders

If you have several simple tasks to automate (filling in forms, populating information from a text file to a spreadsheet on a daily basis, etc.), a spunky macro recorder might be the right tool to do the job. These types of recorders are not necessarily suited to grow your use of automation in your organization, but can do the trick if you, as an example, are using it to run a single task on a single computer (continuously refreshing a web page, for instance). We know the world of macros well; it's how our organization started!

Look out for:

- **Level of "competence":** A free or low-cost macro recorder will likely not be able to handle complex scenarios.

- **Ability to edit:** Lightweight recorders often have no mechanism to edit scripts or manipulate them quickly to adhere to different scenarios. Therefore, you might find yourself in scenarios where you have to re-record tasks, which will ultimately cancel out time savings.

2. Application-level macro recorders

A number of macro recorders are specifically created to work in certain applications or programs, like Excel or Windows. Because of that, they are highly effective at automating tasks specific to their parent entity, but the challenge is clear: if you want to automate outside of those applications or programs, you likely won't be able to do so effectively. Often, application-specific recorders are a nice gateway to automation, but not the "be-all, end-all" software necessary to build far-reaching, long-term efficiency.

A main difference between application-specific and enterprise-grade automation is scope. With comprehensive automation software, you essentially extend the value of automating in one application, like Excel, to other applications like Word, your CRM, ERP, the web, and more, thereby multiplying the time-savings and error reduction you experience by automating one application already.

Look out for:

- **Reliability:** AApplication-specific automation generally requires manual re-checking of work to ensure accuracy. Automation software, conversely, ensures that the formulas and components necessary to successfully automate tasks are already built in, leaving no human error in setup, and no human error in execution.

- **Long-term benefit:** IIf you're already benefitting from automating in one application based on its built-in macros, you'd likely benefit from automating elsewhere. Take a good look at your goals going forward and assess whether or not automation software that can automate tasks in any application could be a strong investment that would propel you and your organization forward.
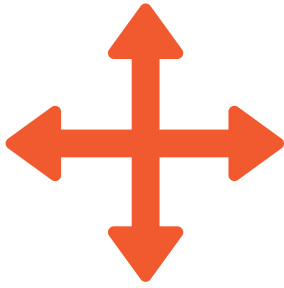
3. Business process automation (BPA)

BPA software is your go-to, backend automation system. It's designed to be scalable and automate any application. Those that implement BPA technology typically have (or plan on forming) a full automation strategy to make use of the software's ability to automate multiple processes throughout an organization. BPA solutions generally do not require coding knowledge to use, making them all the more practical for widespread use. This is another area we're very familiar with; we still do quite a bit of business in this space, but in many ways we've evolved to RPA (see section below!)

Look out for:

• **Pricing as related to ease of use:** The overarching goal of purchasing automation software should be choosing one that any member of your organization could use. With that in mind, make sure that the software you purchase doesn't have so many service components that you wouldn't be able to automate tasks yourself. If you're going to have to repeatedly pay extra for training, consultation, or services, the software may not be the right one for you. Simultaneously, do make sure that the software includes the support structure necessary to help you go further with automation if you require, or steer you through more complex processes if you need a guide.
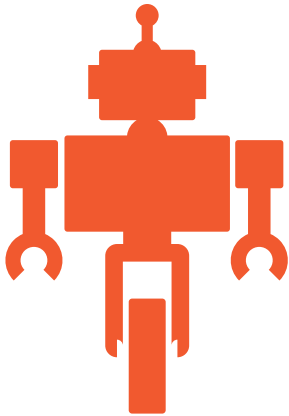
4. Robotic Process Automation

As mentioned before, RPA brings automation to life; it's essentially software that creates software robots. Representing the future of process automation in enterprises, RPA takes into account that the world is moving increasingly towards automating tasks that are better performed by computers and allowing the human workforce to focus their attention on tasks that require creativity, judgment, and personal interaction. Typically RPA solutions give organizations the ability to automate on the front-end, making for fast implementation, and hedging bets for user adoption.

RPA is a newly-forming category, and as it evolves and shows its ability to handle more complexity and scale for larger organizations, we get lumped in here more often. The difference for us? Our approach to RPA doesn't require the same level of upfront investment or the creation of artificial intelligence.

Look out for:

- **Software meant to replace rather than supplement:** Software doesn't drive your company success, people do. Make sure that RPA solutions you're vetting actually supplement human work in a meaningful way so that you can truly be getting the most out of the software's potential as well as employee potential.

You know you need automation software if...

Two groups of people go looking for automation software: those that have felt a pain and now need to fix it, and those that anticipate the pain and want to get ahead of it. If you're experiencing any of the pains below, or see the writing on the wall for what's coming, you're looking at the right thing at the right time.

Your team is experiencing the "Groundhog Day Effect"

Bill Murray had to experience the same day over and over and over again in the delightfully repetitive movie Groundhog Day and the ramification was clear: it was driving him crazy. Sometimes the annoyance of simply having to complete mundane, repetitive tasks consistently is enough to justify automation—particularly if multiple people in the organization are in the same boat. Here again—if you and your team aren't free to focus on value-added tasks, it's a liability for you professionally and your company strategically. The more people focusing their energy on non-value-added work, the more "organizational entropy" you'll experience.

You lack situational awareness

A slight continuation on the point above, if you don't have accurate, immediate information (situational awareness), you are unable to take productive action. The ability to rely on actionable intelligence is absolutely critical to upper management, particularly in large companies with many, many informational silos.

Your team is spending too much time on manual input or output

If you and your team members are manually inputting or pulling data and it's taking hours of time each day, week, or month, you should consider the benefit of performing those tasks automatically. Business is getting to a point where there's just not room for copy/pasting or manually keying and re-keying data into multiple systems, particularly when your time can be

spent on value-added tasks instead.

There's no single point of truth

Imagine something as simple as changing your phone number. You can go on your social networks and let people know it's changed that way, send an email to your contact list, or tell people when you run into them. However your old number is everywhere: saved in people's contact lists on their computers, in online databases, on business cards you've distributed, the list goes on and on, and it's nearly impossible to connect all of your "systems" to reflect the change accurately.

The parallel is clear, right? In your business if disparate systems aren't connected (i.e., the data isn't identical in the systems), you can't be confident that accurate, current information is being used, analyzed, and distributed. When you or others access these multiple silos of information to complete tasks, you might end up with faulty output.

6 qualities your automation software should possess

Obviously, all organizations have unique needs, but in our years of talking to companies interested in automation, we've identified several common features/capabilities that can be considered "must-haves."

1.

Software that can literally run everywhere

Business runs internationally, and whether you're a small business or a major conglomerate, your automation software should adjust to different environments, and recalibrate as needed without having to touch established scripts. Seek out software that really does make life easier; you should be able to perform a task on your desktop in Michigan which triggers a task across the world in Tokyo to execute automatically or alert someone to take action.

2.

Features that lend themselves to "fast work"

Your software in its most basic form should include the features you need to create and run tasks quickly and effectively. Among these features should be things like wizards, drag-and-drop commands, a clean, friendly user interface, and out-of-the-box integrations with every-day-use systems like Excel or PeopleSoft.

3.

The ability to scale

Looking at automation in terms of a one-off problem is like treating allergy symptoms with cold medicine. It may alleviate the pains, but not the big-picture problem. Find a system that can solve your problem today, and also can handle future issues—including at an enterprise level—as your organization grows, expands, and looks for more and more ways to be extremely efficient.

4.

Support team that can be your automation "Siri"

Your software should come fully equipped with real people. For the questions about system usage that will undoubtedly arise as you begin to automate, be sure that the vendors you're looking at have support teams that can answer your questions practically as quickly as you think them up.

5.

Cooperation with your other LOB system

You should be able to create automated tasks that utilize all of your line of business systems without a single hiccup. We're talking 1998 legacy systems, ERP, cloud applications, Microsoft, your Spotify, everything.

6.

The ability to easily edit or alter scripts

Scripts can be thousands and thousands of lines, depending on the complexity of the task being automated. If tasks need editing, you'll need a way to easily pinpoint and make the changes in the script without losing time or causing a negative ripple effect. Play around a bit with free trials of software you're looking at to assess how easy or difficult it is to modify simple tasks (which will indicate how much work you'll have to put into modifying more complex tasks down the line).

Measuring success

You've done it. You've automated. Some process (or series of processes) that previously hindered your focus on mission-critical initiatives is now running itself. That in itself is a success. But now how do you translate that success to overarching and continuing ROI?

We see true automation success as falling into two categories: tactical success and strategic success.

TACTICAL SUCCESS-- Fixing the pain areas

1. The journey took you to your destination.
Whatever goal you set out to achieve with automation is wasted if you didn't get there. The very first measure of success is the most obvious: that you automated the process(es) you set out to automate, and are reaping the benefit you intended to.

2. You've created a "single point of truth." As mentioned before, one of the main benefits of using automation software is that it can unify your disparate systems, creating a way to access a "single point of truth" for your data throughout the organization (I.e.- when you update a customer's go-live date in one system, ALL systems update, etc.). If you're able to rely on your data with greater confidence, you in turn can be confident in a more efficient, agile business.

3. You're achieving ROI that meets or exceeds your expectations.
With many, many processes, once you've automated all—or even a portion—of them, you should immediately begin to see noticeable, positive differences, particularly in time/effort saved and error reduction. Automation software users often say that automation software pays for itself in a single process.

4. There's a (surprising?) increase in morale
Somewhat surprisingly (though it shouldn't necessarily be), companies across the board note a positive difference in employee morale when using automation software. The reason, when you think about it, is clear: we'd all rather be focusing on work that is intrin-

Interested in giving it a try?

You've mastered the concepts behind automation...now try it out yourself, no strings attached. Automation Anywhere provides a free trial of its automation soft-ware—**just download and go.**

Want to chat with an expert about what you've read?

Automation just happens to be our favorite topic! We've got automation experts standing by to discuss your unique automation ideas whenever you'd like. **Click here to get in touch with them.**

sically beneficial and makes a difference in our company. Rarely when given the choice between brainstorming on customer engagement strategies and copy/pasting informa-tion from multiple systems to create a report would any person say the latter is the work they are excited to dive into. If that work (which is still critically important) can be done accurately and automatically, company and employee mutually benefit.

STRATEGIC SUCCESS --Prepping for growth and innovation

By implementing automation software, you've laid a foundation to build on as you grow, change, scale, and innovate. Automation is a solution that should solve more than one issue. The software can solve problems that span multiple departments, groups, roles, geographies, and processes. More importantly, though, as we discussed earlier, now that you have automation software, you are fully equipped to counter complexity, close the automation "density gap" and remain competitive in a dynamic market. This ability to start automating and then actually keep at it on an ongoing basis—it's invaluable.

On with changing the world...

So you have an idea of what automation is, and what it can do for you.

Now, comes the important part.

What can *you* do with it? How can your own, great, unique organization leverage it? Making faster? Helping more? Reaching further? Reacting quicker? When you consider your goals, which ones can be better accomplished if you have a virtual set of helping hands performing your mundane or repetitive work for you?

The world is becoming increasingly automated. Is it time to automate yours?