



Training Academy

Introduction to
Intelligent
Automation and
UiPath Overview



Course Path

Introduction
to Intelligent
Automation and
UiPath Overview



User Interface
Automation
and Project
Notebook



Microsoft
Automation



Automation
Bootcamp and
Intelligent
Automation Demo



StudioX and
Planning Your
Automation



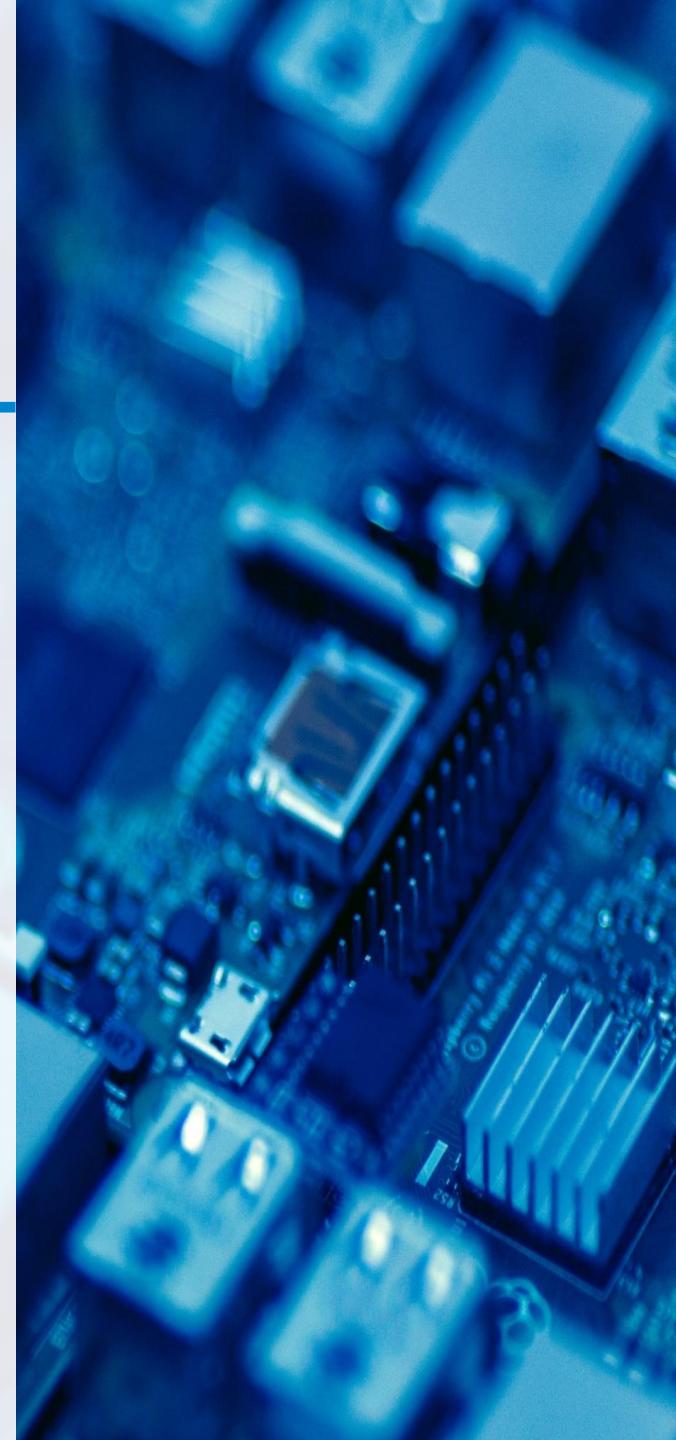
Decisions,
Iterations and
Scenarios with
StudioX



Error Handling
and Automation
Lifecycle

Agenda

1. What Is Intelligent Process Automation?
2. How Do Organizations Successfully Integrate Intelligent Automation?
3. UiPath Overview
4. Automation Journey
5. Discovery
6. Build
7. Run
8. Manage
9. Engage
10. Measure
11. UiPath Ecosystem





Introductions

- Your Name
- Talk a little bit about your background and experience
- Why did you decide to sign up for this course?





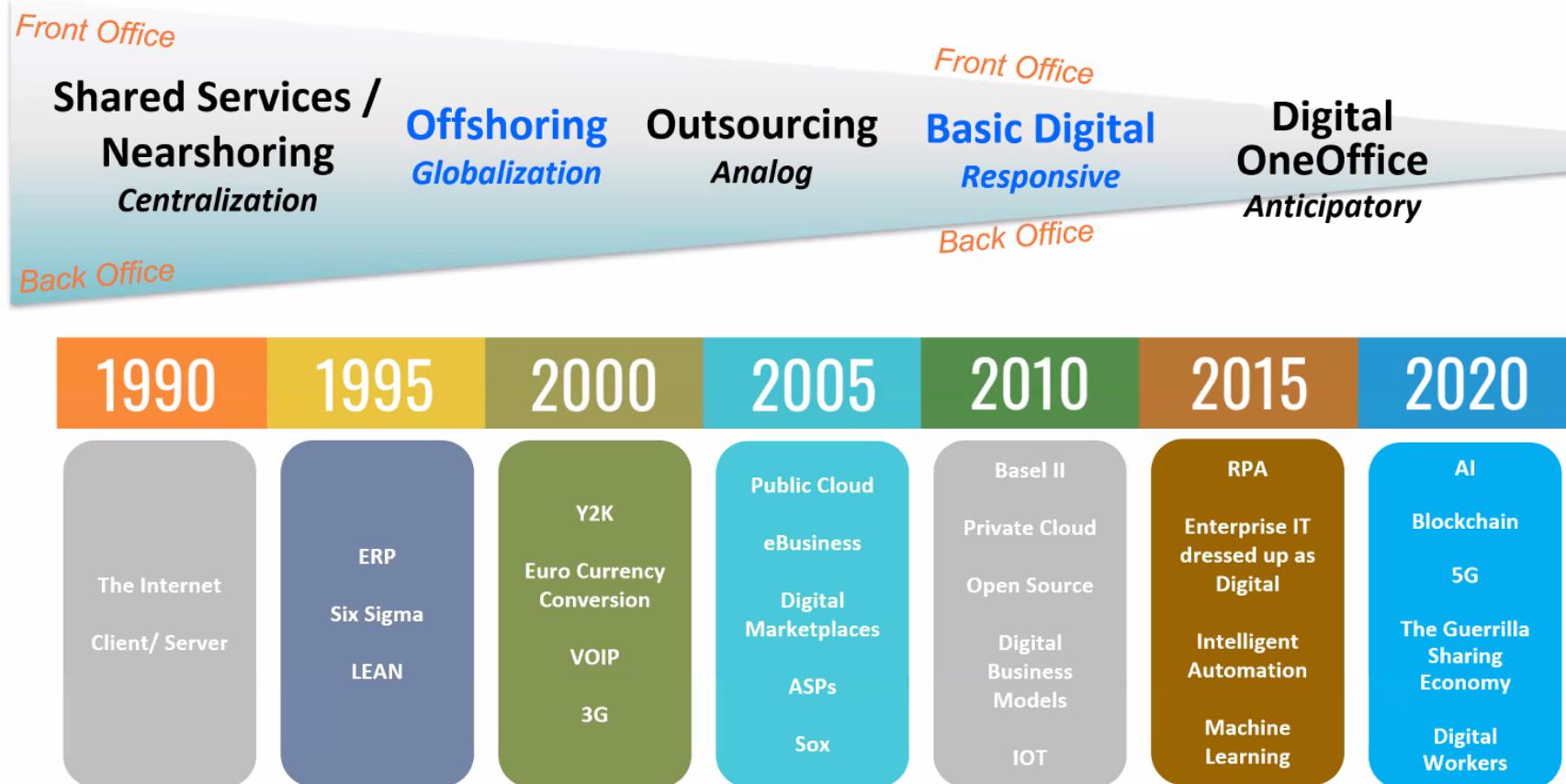
Topic

1

What Is Intelligent Process Automation?



The long sweep of digital technology impacting our economy





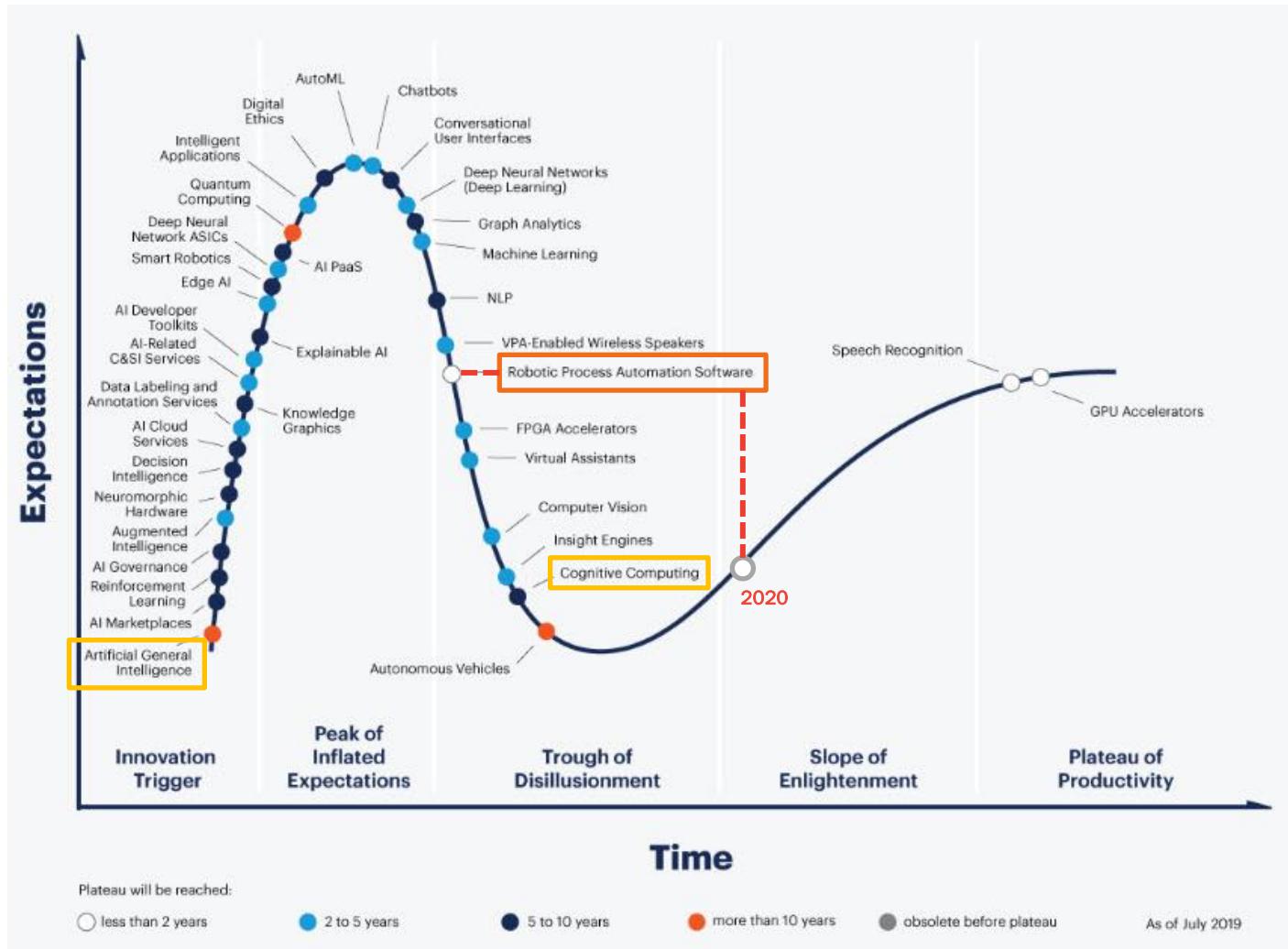
Emerging technology is now key to survival for many organizations

Top-ranked objectives of technology investments

Emerging technology	Pre-COVID-19 (March-April 2020)	Post-COVID-19 (May-June 2020)
Process automation	Cost-reduction (10%), improve brand value (10%), top-line growth (10%)	Essential for future survival (31%)
Artificial intelligence	Cost-reduction (12%)	Essential for future survival (22%)
Smart analytics	Improve decision making (12%)	Essential for future survival (21%)
Hybrid or multi-cloud	Cost-reduction (12%)	Essential for future survival (20%)
Blockchain	Foundation for infrastructure modernization (10%), improve decision making (10%), cost-reduction (10%)	Improve competitive positioning (23%)
Edge computing	Improve brand value (12%)	Improve competitive positioning (20%)
5G	Essential for future survival (10%), improve decision making (10%)	Essential for future survival (22%)

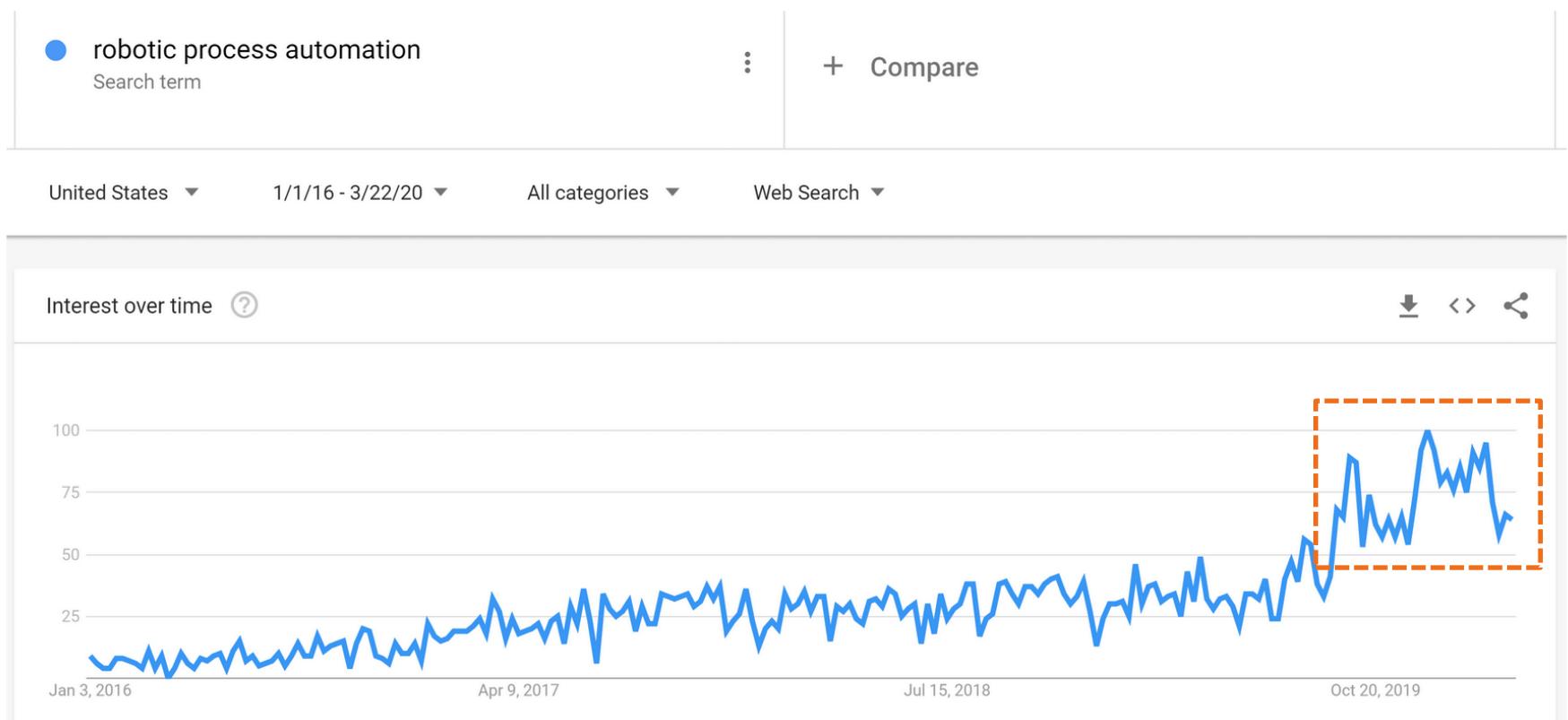


Automation is now past the hype cycle peak and beginning to deliver tangible benefits... while Artificial intelligence is still some years away...



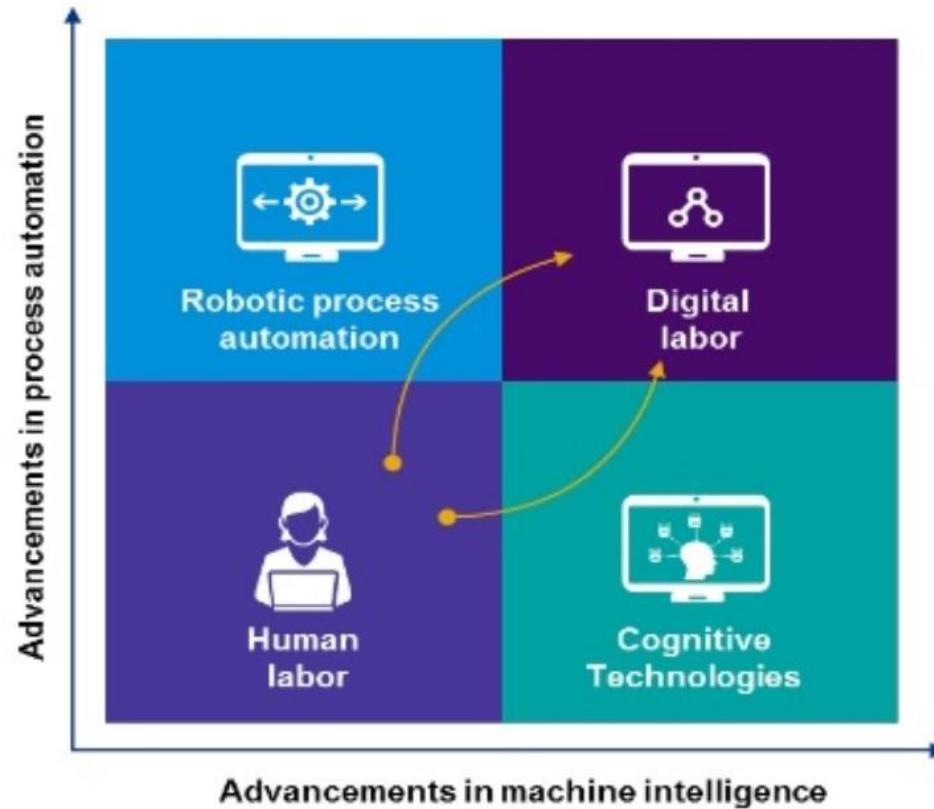


RPA has reached general industry awareness and acceptance





Terms such as “digital worker” and “digital labour” are now part of corporate lexicon





So what exactly is Intelligent Automation?

Digital workers that leverage robotic and cognitive technologies to deliver superior enterprise outcomes

What it is

- Family of existing and emerging software automation technologies that mimic human activity
- Task automation, which is increasingly enhanced with decision making capability

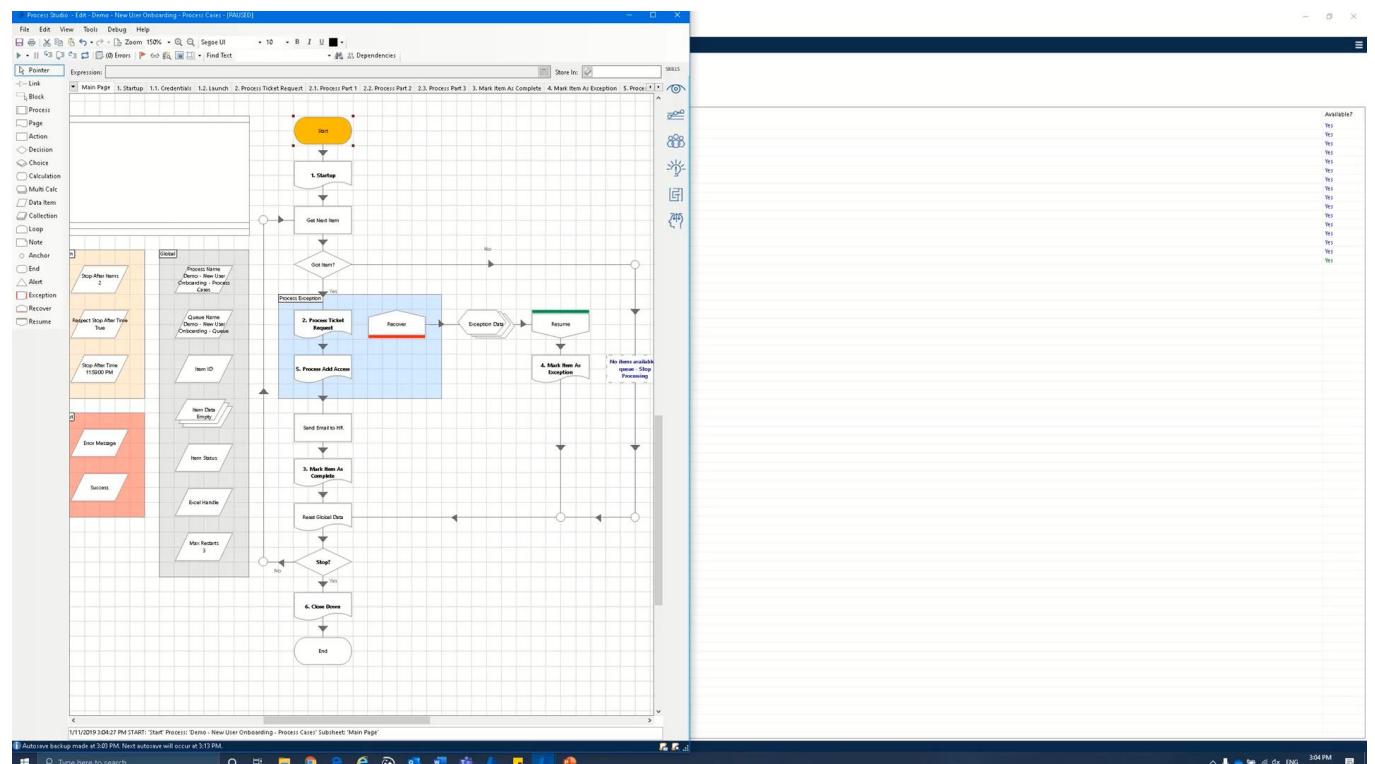
What it's not

- Physical (industrial) robots or talking (chat) bots
- Emulating human intelligence
- A replacement to human workers

Why do it

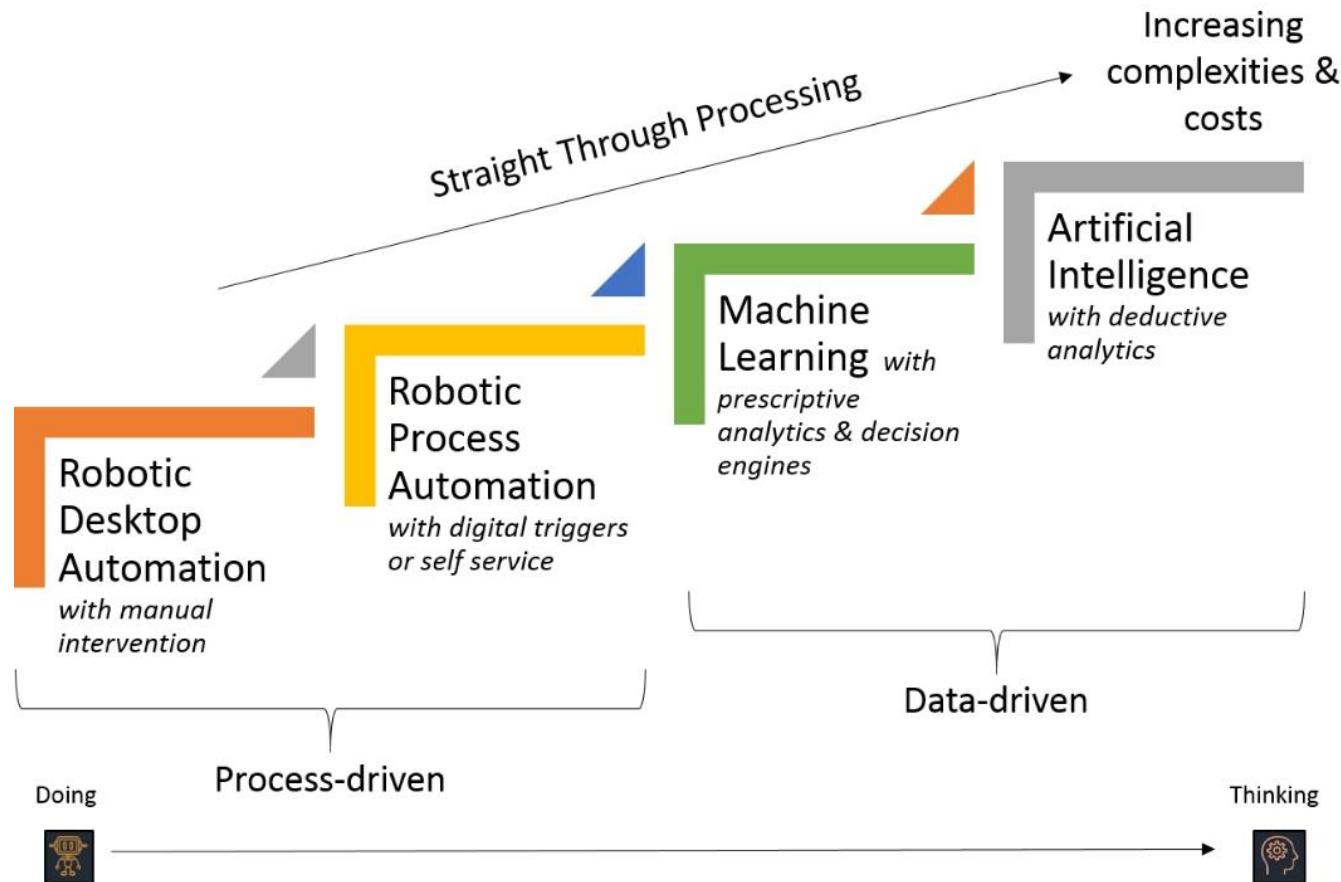
- Greater efficiency, improved customer and employee experience, reduced operational risk, radical acceleration of business processes

Sample automation of User Onboarding



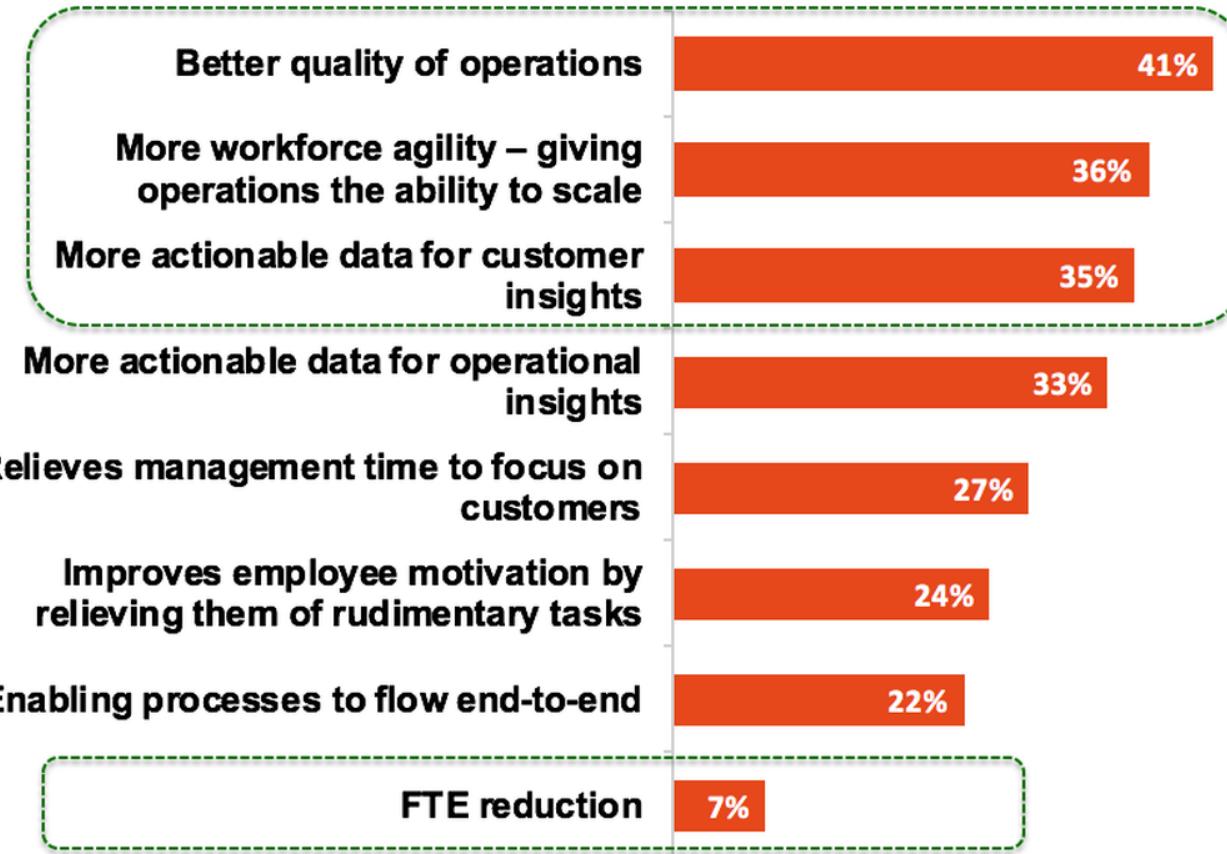


RPA and AI are different ends of a continuum known as Intelligent Automation





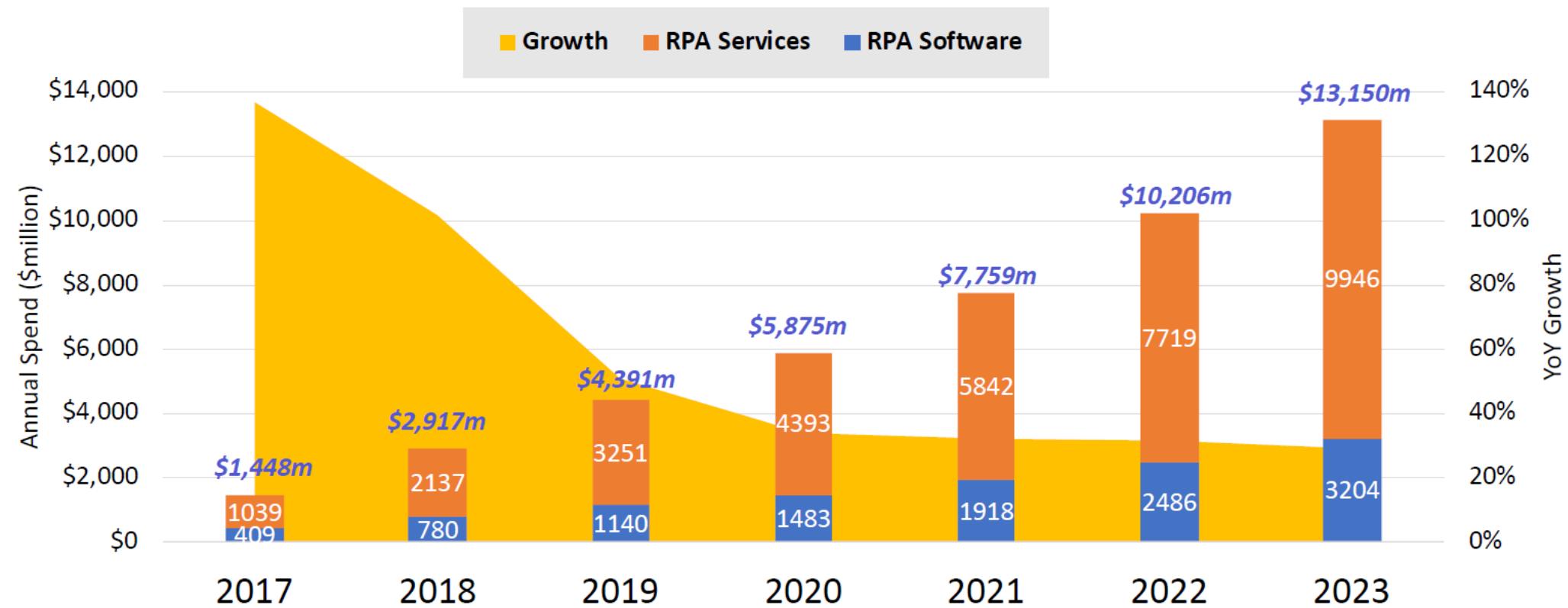
RPA is firmly focused on augmenting labour, not replacing it



Source: HfS Study 2018 (381 C-suite leaders sampled)

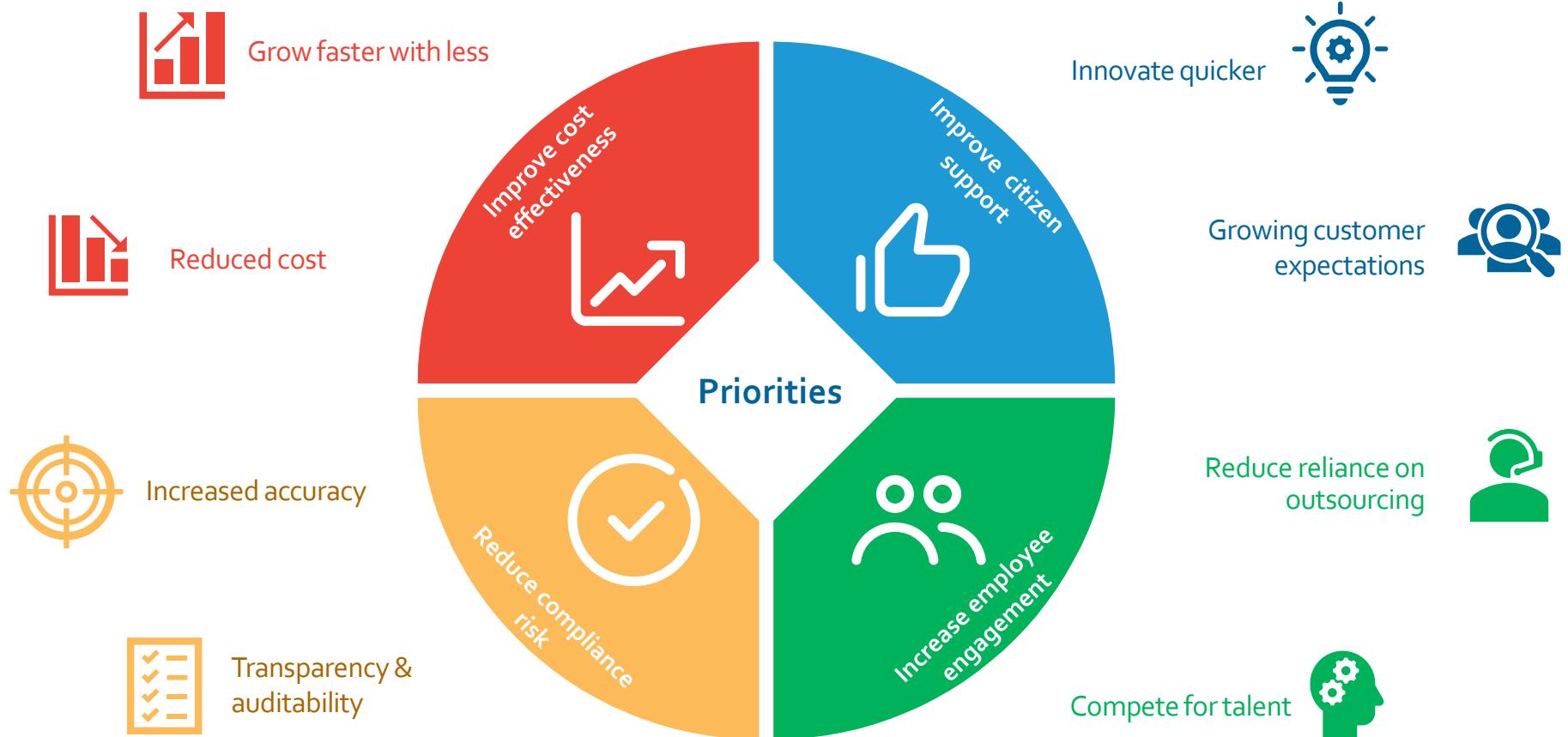


RPA market size and projected growth



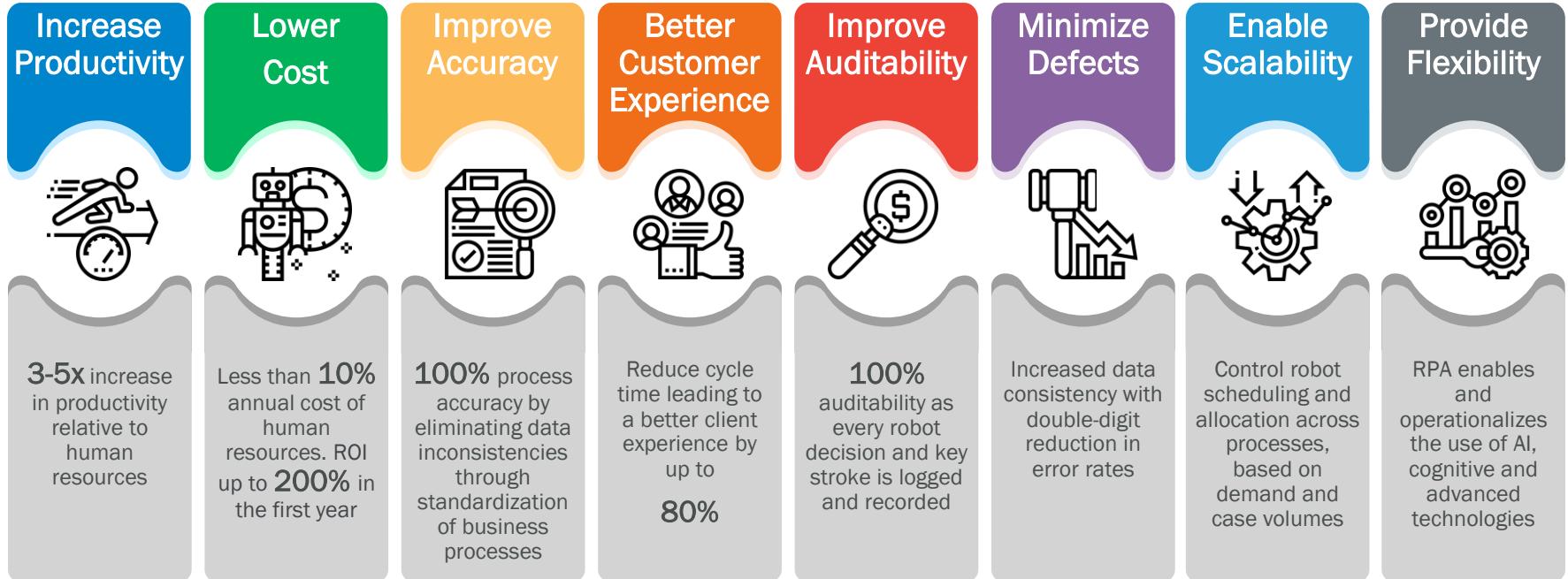


How intelligent automation enables strategic objectives



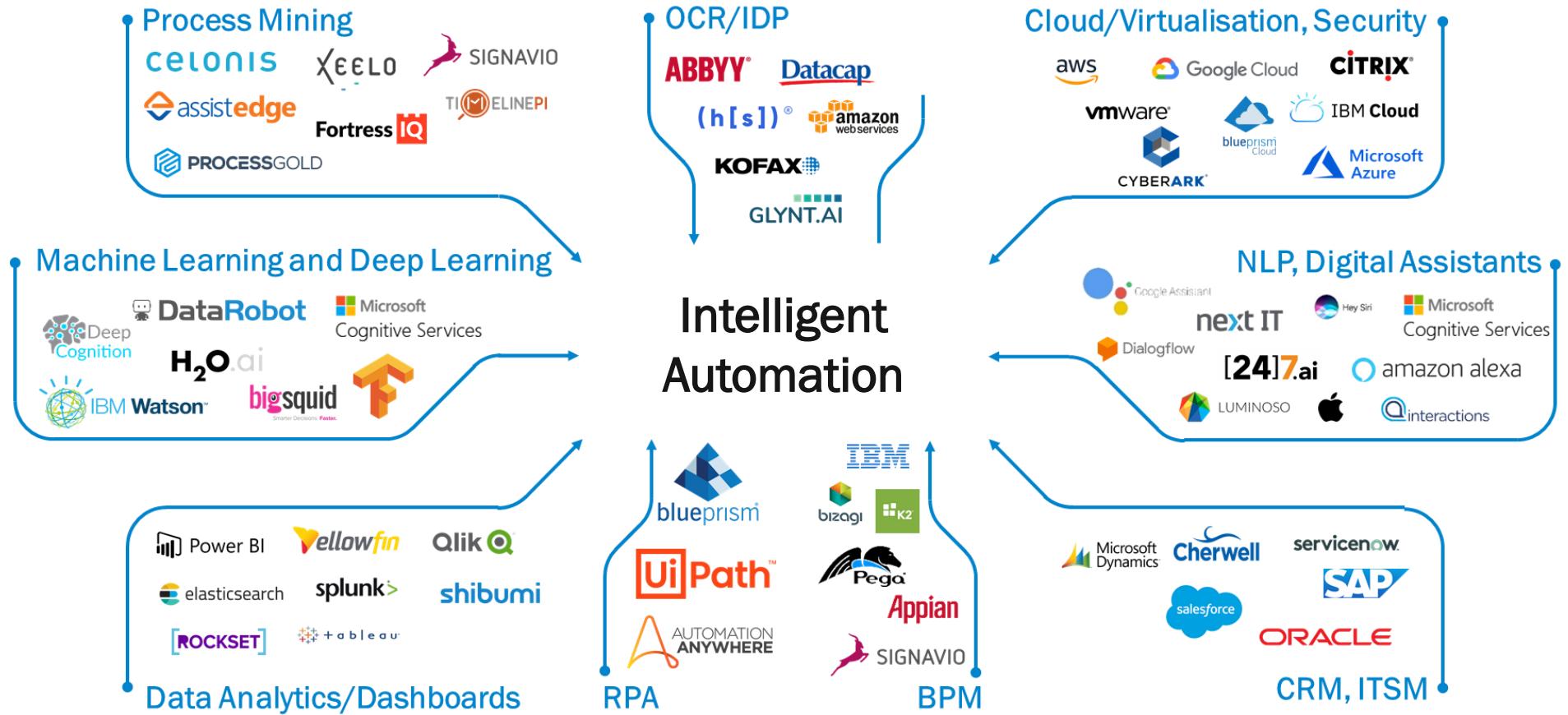


Compared with manual processing, RPA delivers many benefits





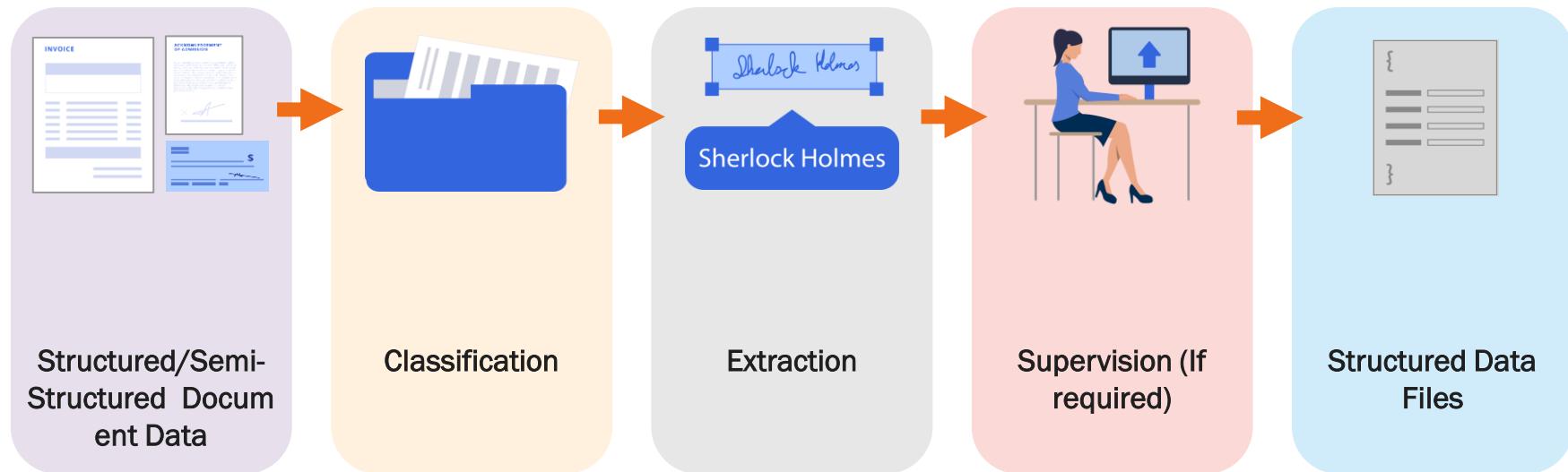
An intelligent automation ecosystem combines complementary tools to create impactful, transformative change





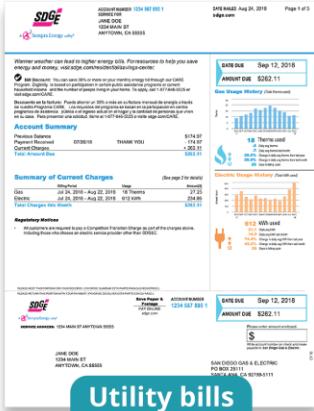
Intelligent document processing tools use Machine Learning to classify and extract data from structured, semi-structured, or unstructured data types

Emerging AI software enables greater accuracy and automation than previously possible

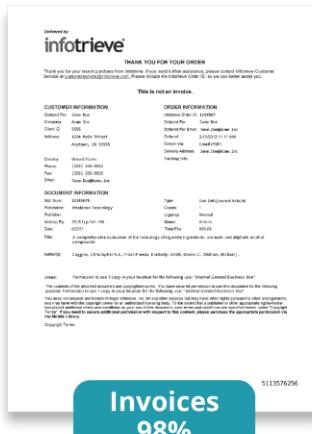




Successful end-to-end automations rely on IDP tools to provide highly accurate data extraction



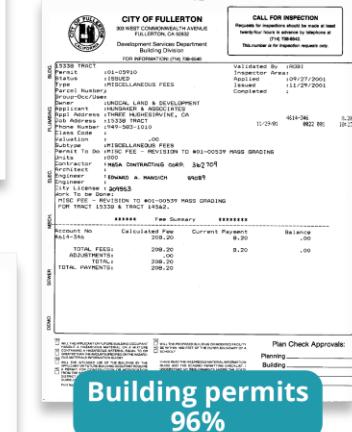
Utility bills
98%



Invoices
98%



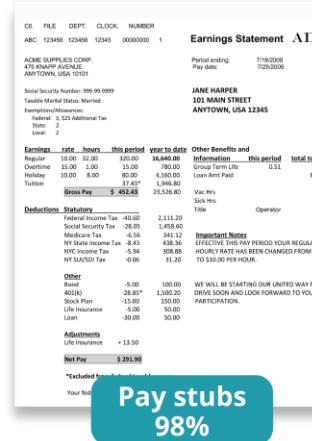
Lab reports
96%



Building permits
96%



Insurance cards
99%



Pay stubs
98%



Topic

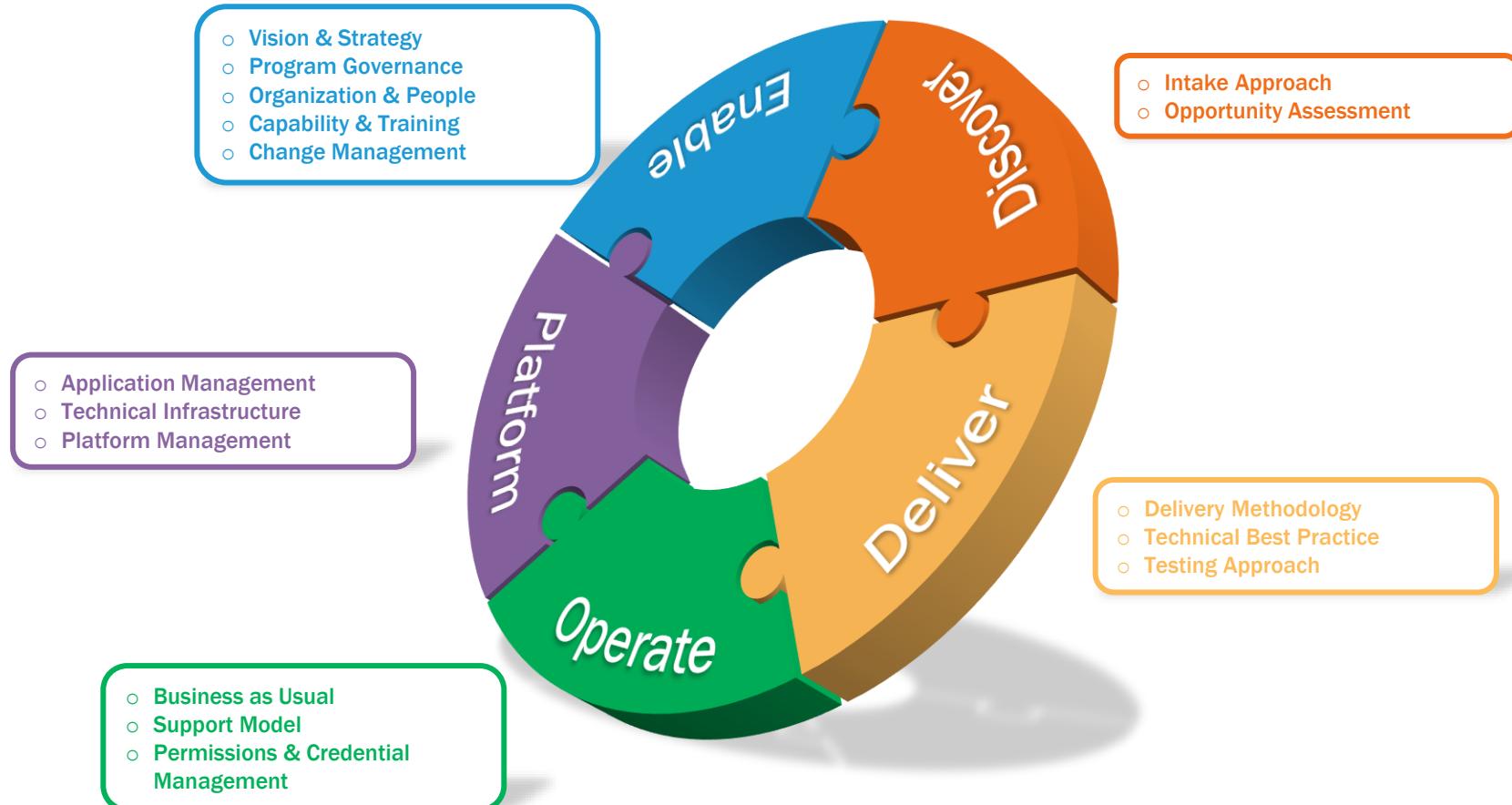
2

How Do Organizations Successfully
Integrate Intelligent Automation?



A governance framework is essential for a successful and scalable automation program

“Blueprint for Scale” framework





RPA use cases have been found across a range of front and back office functions

Operations
 <ul style="list-style-type: none">• Service Level Reporting• Inventory Management• Back Office Processing

Finance
 <ul style="list-style-type: none">• Accounts Payable• Accounts Receivable• Reconciliation• Accounting Journal Entries

Technology
 <ul style="list-style-type: none">• Incident Management• Transaction Monitoring• Provisioning• Configuration

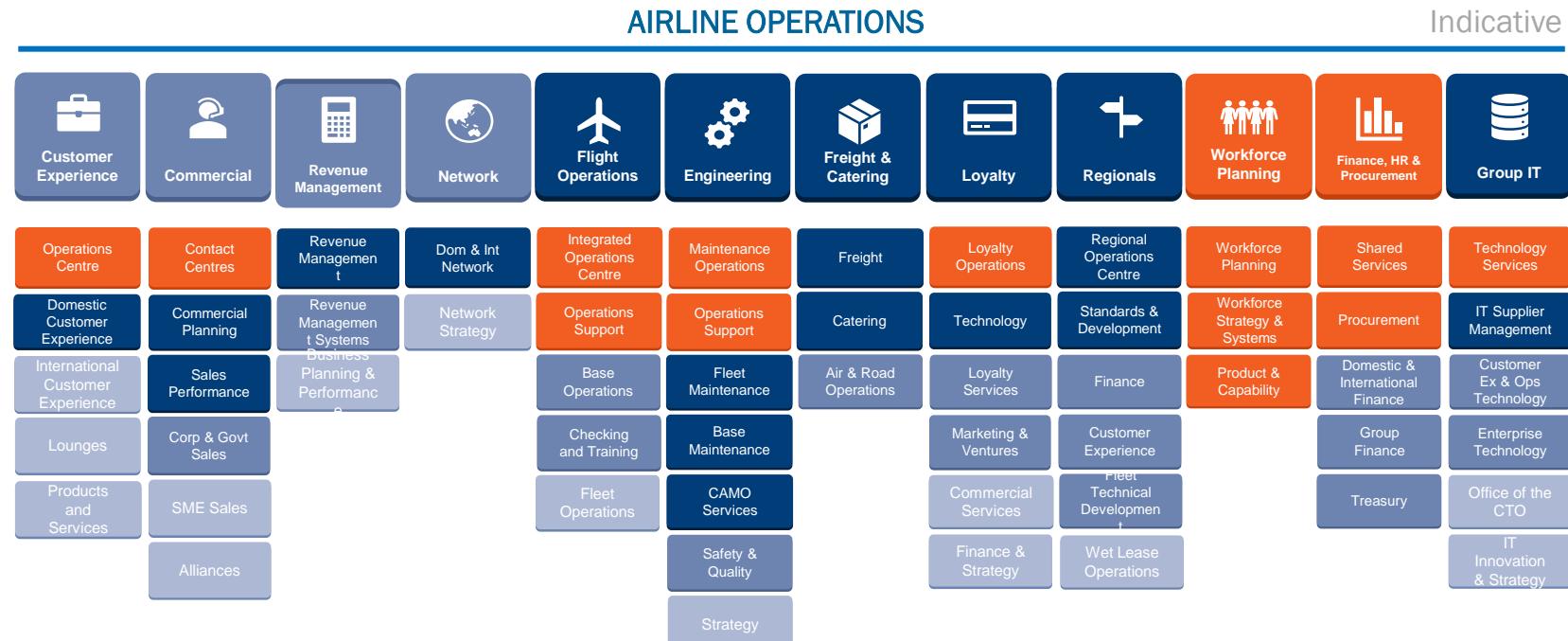
Payroll
 <ul style="list-style-type: none">• Employee Set Up• Salary Processing• Tax Reporting

Sales & Marketing
 <ul style="list-style-type: none">• Customer Management• Credit Checks• Automated Marketing Campaigns• Payment Handling

Human Resources
 <ul style="list-style-type: none">• Absence Management• Starters & Leavers• Employee Administration



Mapping areas of automation potential



Highest Potential (80%+)

Digitized system-driven processing executed against clear business rules

Good Potential (40-80%)

Mostly digitized and rules based. Non-digital processes (i.e. phone calls to customer) have potential to re-channel for digitization.

Some Potential (10-40%)

Some digital, rules-based tasks mixed with human-insight based processing

Low Potential (<10%)

Primarily physical (non-digital) tasks which cannot be automated



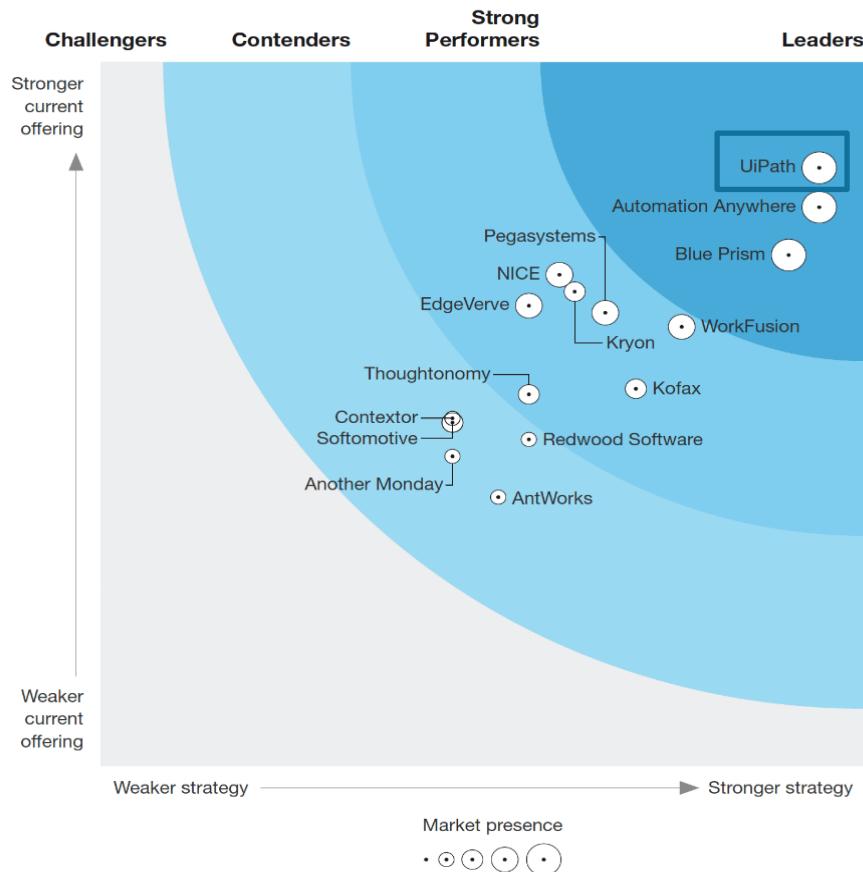
Topic

UiPath Overview

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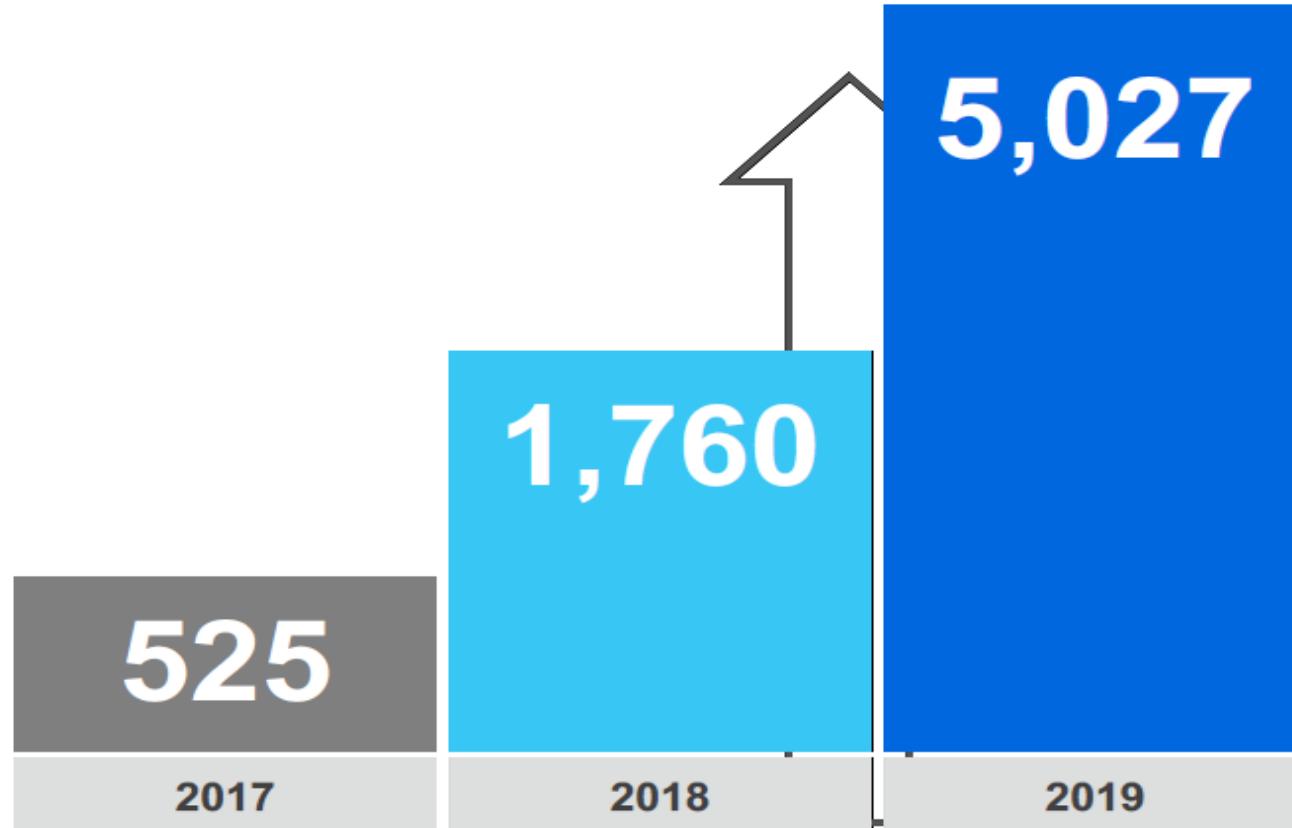


Leading automation platforms





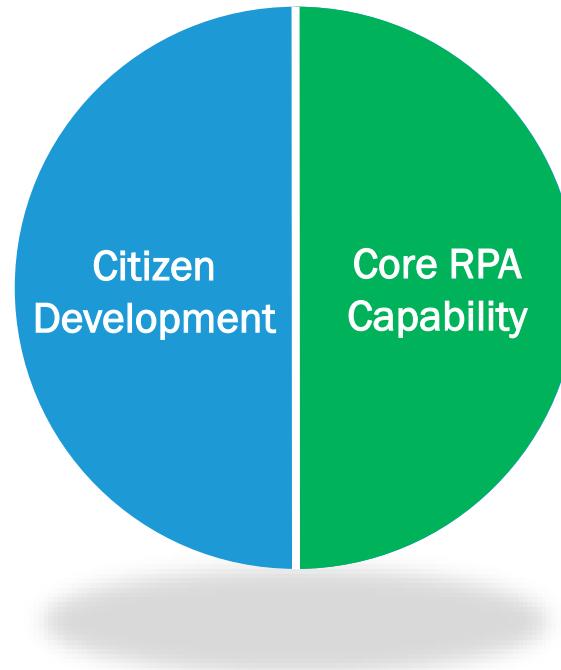
UiPath customer growth





The most successful Intelligent Automation programs utilize both citizen-led and a dedicated development team to promote a cultural shift towards operational excellence through automation

- Task based automation
- Automation built by the person who performs the process
- Manually triggered and runs on the desktop
- Linear sequence of actions with manual intervention
- Task performed in 1-2 applications



- End-to-end process automation
- Automation built by a dedicated delivery team
- Event driven or scheduled and runs without monitoring
- Handles multiple decisions points and referral handling
- Process utilizes multiple applications



Typical roles required for successful automation



Subject Matter Experts



Citizen Developers



RPA Developers



Process Controllers



Business Users

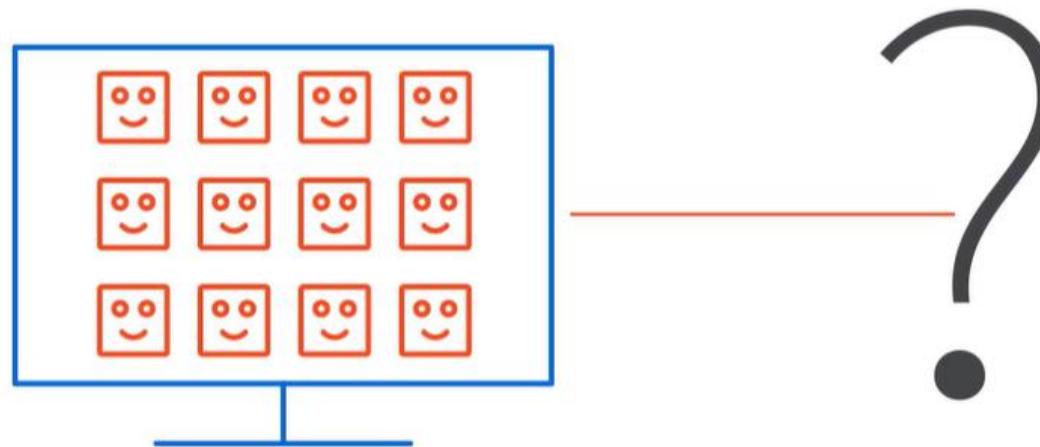


Business Analysts



Group Discussion

- Where are you in your automation journey?
- What is your organization doing in the automation space?
- Describe a process that you would like to automate





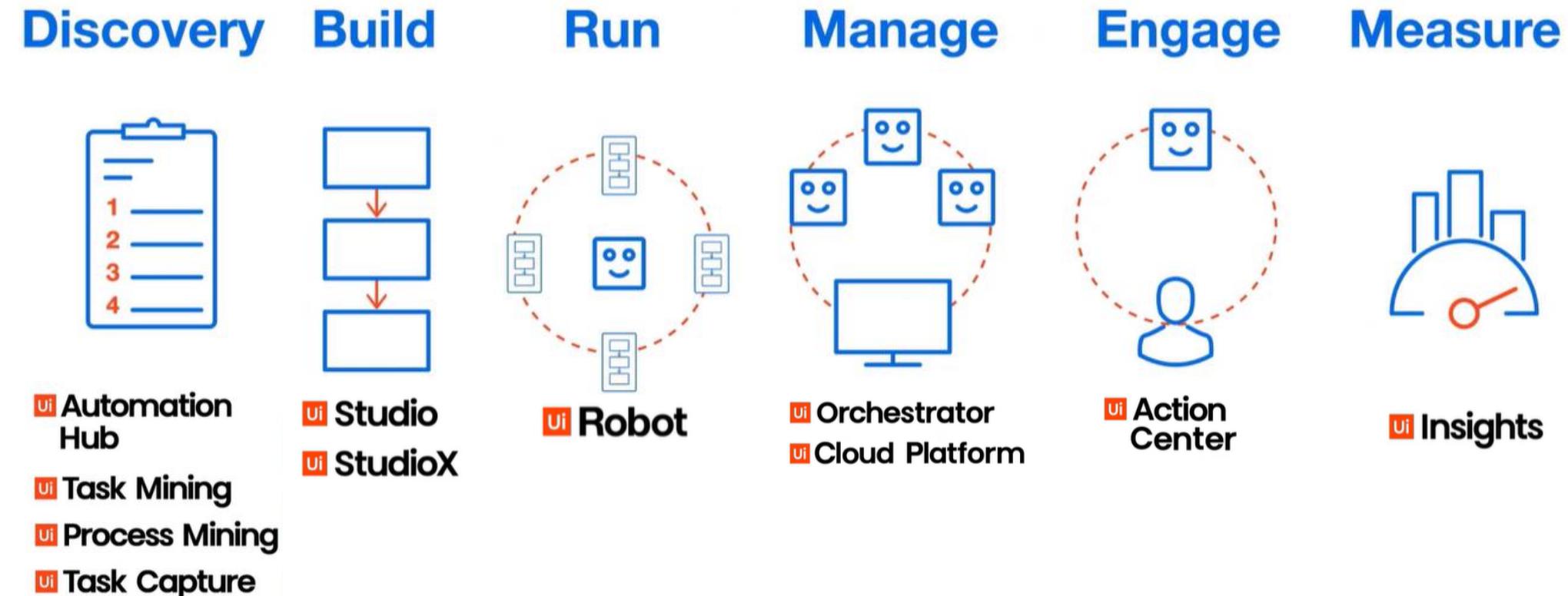
Topic

Automation Journey

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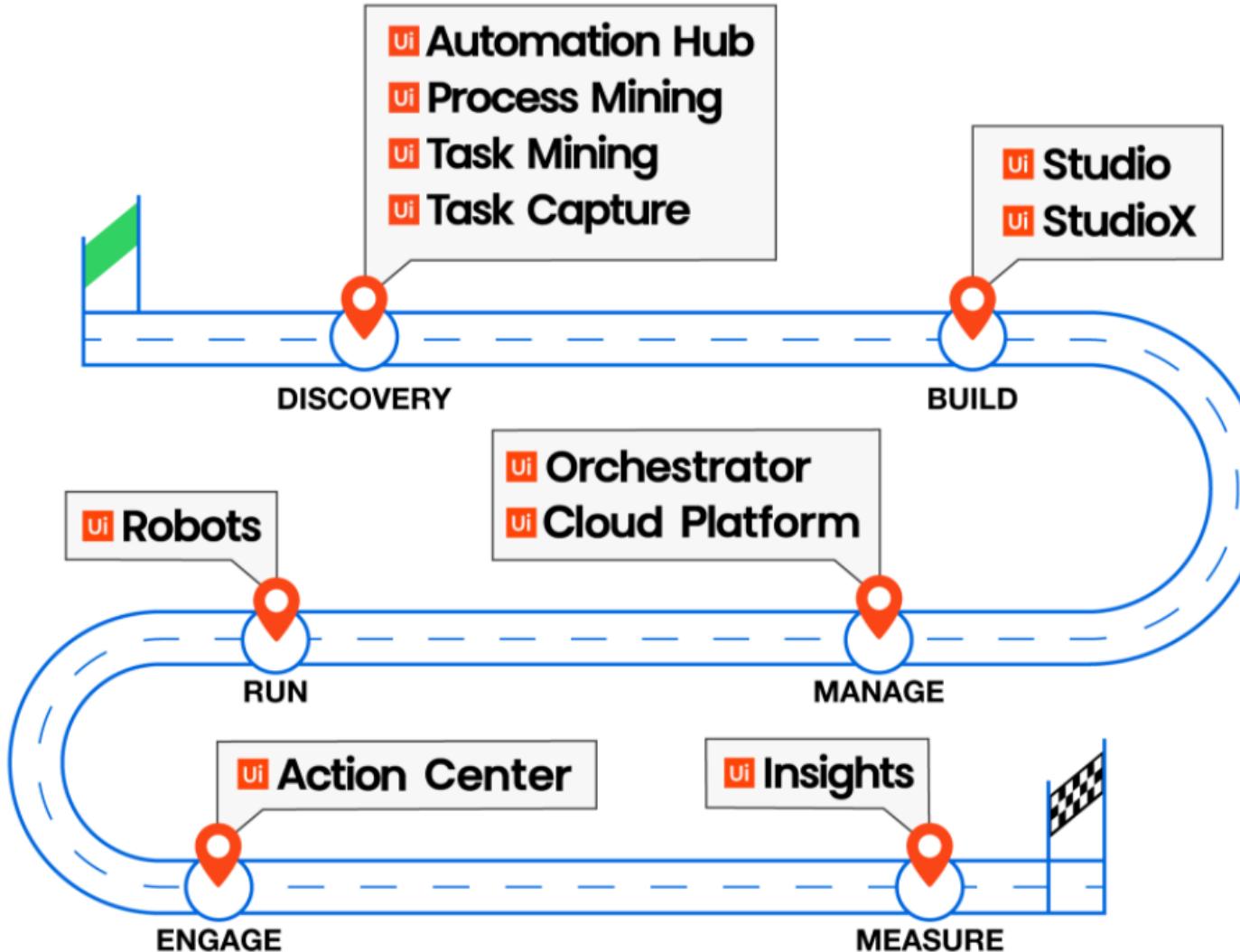


Automation Phases Overview





Typical Automation Journey





Topic Discovery

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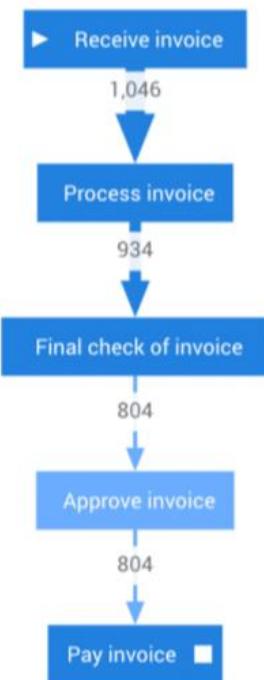


Discovery

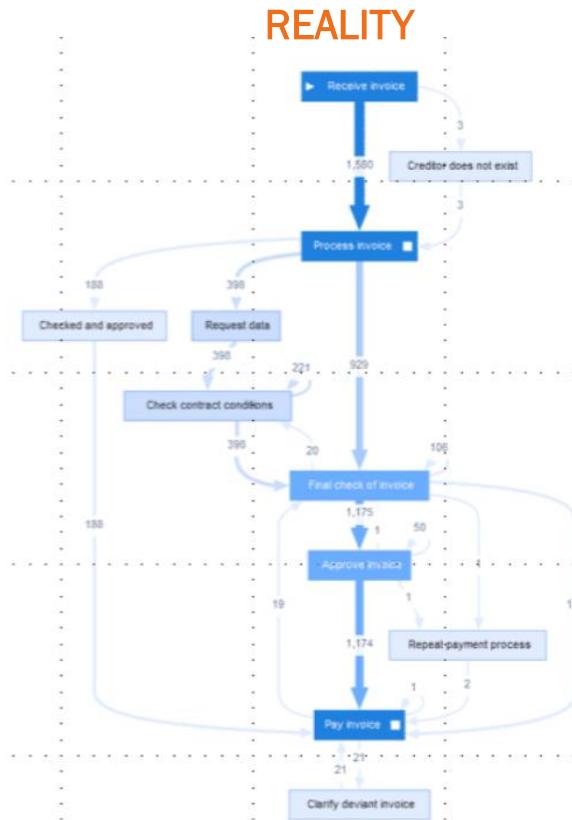
The Scientific Process Discovery:

The typical enterprise-scale RPA implementation starts with testing the capabilities of automation for one process. And the results are good, so naturally you want to automate more. As the scaling starts, you need the best understanding of the "as is" processes in order to prioritize them for automation.

EXPECTATION



REALITY





Challenges of Process Discovery

1

Process maps are built by business users or process experts and lack reliable data on types of exceptions and how often they occur;

2

Even when process data is available, it's difficult to bring all sources together to build objective and meaningful process maps;

3

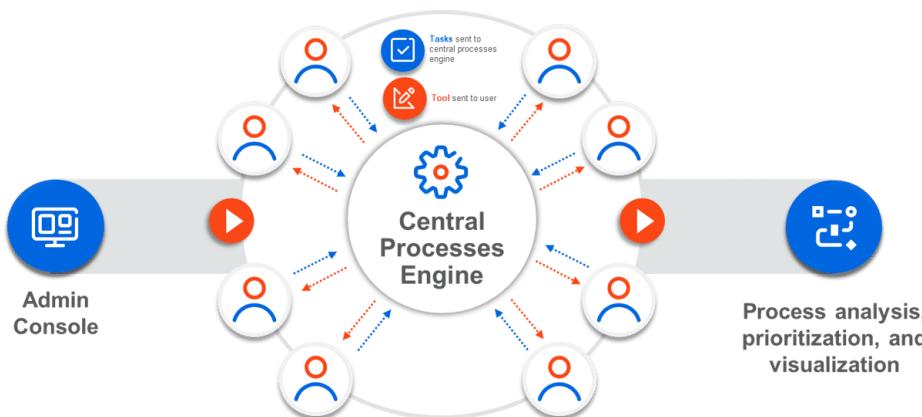
Even when process maps are available, it's hard to assess their automation suitability and prioritize them.



UiPath's Discovery Suite

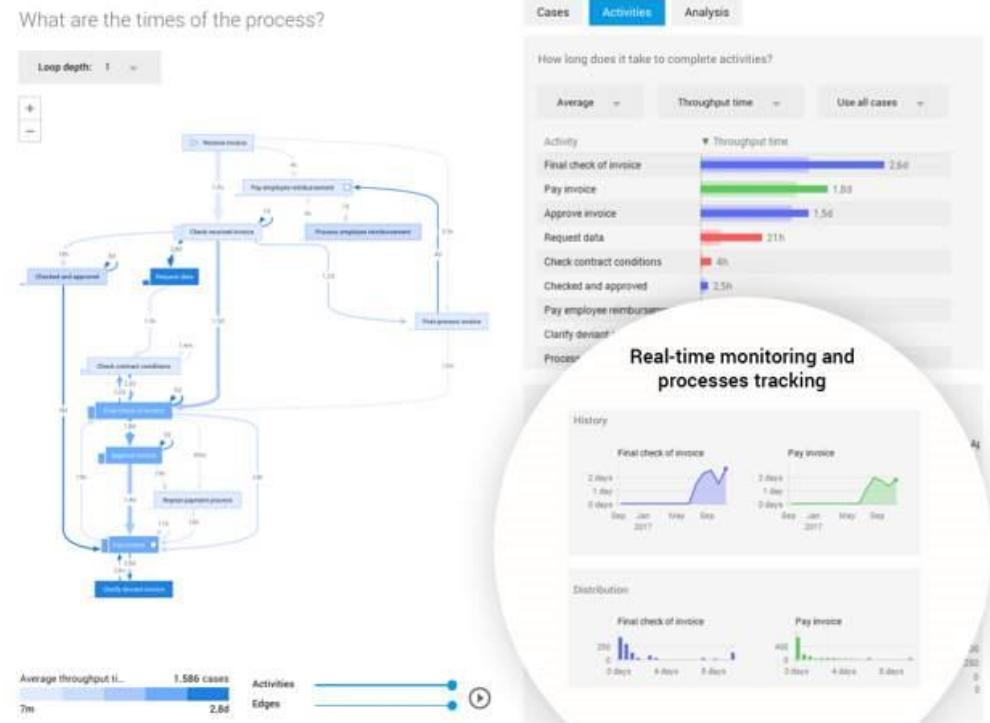
TASK MINING

- Centralized Tool with Easy Setup
- Data-driven Process Map
- Process Insights & Automation Report



PROCESS MINING

- Comprehensive View on Processes Based on Existing Data
- Automation Opportunity Assessment
- Continuous Process Monitoring





Knowledge check

TASK MINING

Captures data from the users performing the tasks

PROCESS MINING

Connects with databases without third-party tools

Use existing data from ERP, CRM and other applications

Is integrated with UiPath Orchestrator



UiPath Automation Hub & Task Capture

Automation Hub

Crowdsourcing Automation Ideas
Managing the Automation Pipeline
Storing Process Documents
Measuring the Performance

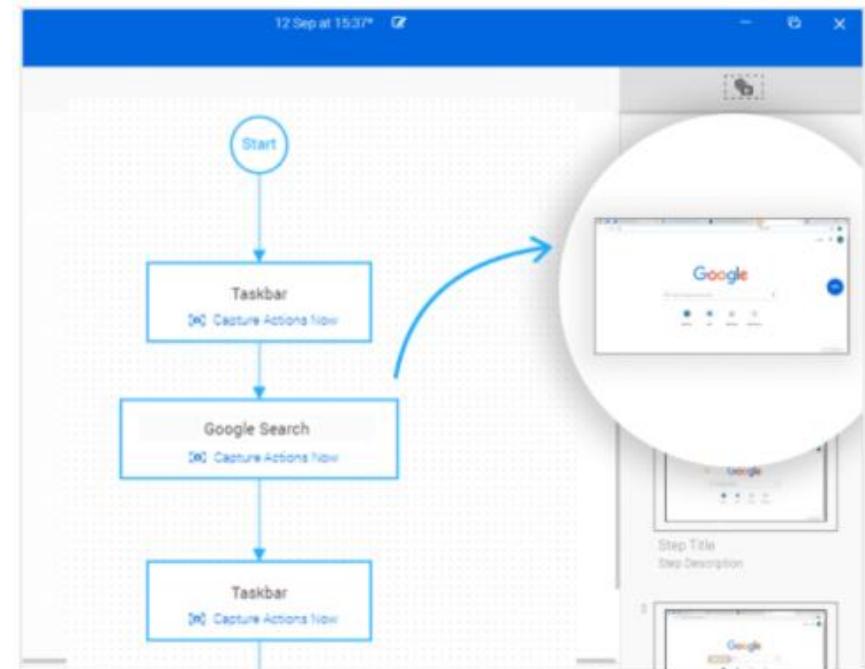
The screenshot shows the 'Leaderboard' section of the Automation Hub. At the top, there are navigation links: 'Automation Hub', 'Workspace', 'Explore', 'Admin Console', 'Submit Idea', and user profile icons. Below the navigation is a search bar with placeholder text 'Search Automation Ideas'. The 'Leaderboard' section displays two profiles:

User	Rank	Automations	Components	Badges	Achievements	Points
Jill	1	52	10	5	5	6300
John	2	45	8	5	5	6290

Each profile includes a small profile picture, rank, automation count, component count, badge count, achievement count, and total points.

Task Capture

In-Depth Process Capturing
Process Diagram Editing
Flexible Exporting





Topic 6

Build

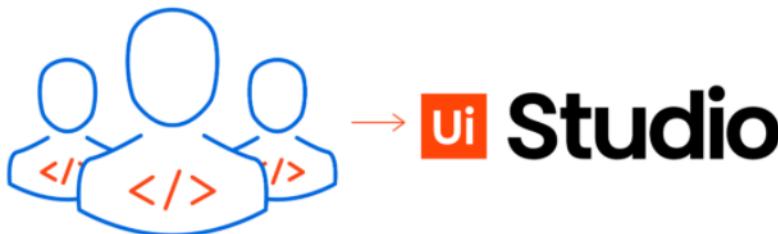


Overview of the Build Stage

UiPath solutions facilitate two complementary approaches to automation:

The **company-driven approach**, in which a specialized team called Center of Excellence is tasked with finding the best processes for automation and driving the entire automation process;

UiPath Studio is ideal for developers with a programming background who are looking to create complex automation projects.



The **employee-driven approach**, in which individuals who know their tasks best are empowered and equipped with the tools to automate.

UiPath StudioX is ideal for business users who want to create task automation for personal use





To simplify things, both tools are included as profiles in the same application. With the same UiPath Studio license, you will be able to switch between the two profiles.



Choose a Profile

Choose from the list below the profile you'd like to use.



UiPath Studio

Ideal for developers with a programming background looking to create complex automations.



UiPath StudioX Preview

Ideal for business users looking to create task automations for personal use.



Introduction to UiPath Studio

UiPath Studio is at the core of RPA capabilities. It's where RPA goes from idea to reality.

And while it was created for professional developers, it shares with StudioX some capabilities that make it easy to use, such as the visual editor and the drag-and-drop activities.

The Features of a Professional Automation Building Tool

Every automation building tool should offer the features and capabilities needed for quick and a production-ready project .These include:

- Capabilities for individual productivity and fast moving into production;
- Team collaboration capabilities, as the many processes to be automated require the work of a team of developers.
- Ensuring the reliability of the automation solutions in the production environment;
- Easy integration with the most used technologies and applications.





Wondering what it looks like.....

The screenshot shows the Microsoft Azure Logic Apps Designer interface. The top navigation bar includes HOME, DESIGN, and DEBUG tabs. The DESIGN tab is selected, showing a toolbar with New, Save, Save as Template, Debug, Copy, Paste, Manage Packages, Data Extraction, Remove Unused Variables, Analyze File, Export to Excel, and Publish buttons.

The main workspace is titled "Main" and contains a "Sequence" activity. A tooltip for the sequence activity says "SequenceX" and "Drop Activity Here".

The left sidebar lists "Activities" under "Available" categories: Favorites (Assign, Sequence, Write Line), Recent (Message Box, Get Credential, Get Asset), and Available (App Integration, Application, Business, Orchestrator, Programming, System, UI Automation, Workflow).

The Properties pane on the right shows the activity's type as "System.Activities.ActivityBuilder" and its properties: DisplayName set to "Main" and ImplementationVersion.

The bottom navigation bar includes Project, Activities, Snippets, Variables, Arguments, Imports, Properties, Outline, Orchestrator Resources, Output, Error List, Breakpoints, and a status bar with "Orchestrator Academy" and "Add To Source Control".



UiPath Studio's Main capabilities

Automate Faster

- The visual editor as the automation canvas, making the projects easy to follow by anyone;
- Pre-built activities for many actions that humans perform. These are easily added in the projects with drag and drop;
- A universal search for all the resources, including the project in development, libraries and activities;
- A powerful debugging tool to help move faster your projects from development to production.

Automate Smarter

- An automation template built by UiPath for enterprise implementations, readily available for all the Studio developers;
- Pre-built activities for easy integration with the most used technologies and applications, such as SAP, Salesforce, Azure or AWS;
- Possibility to incorporate custom code directly into an automation workflow.

Automate Together

- Integration with version control systems - Git, TFS and SVN;
- Creating and sharing custom libraries and custom code written in other programming languages.



Introduction to UiPath StudioX

As a pledge for the democratization of RPA, UiPath created StudioX, the tool for business users that want to take automation in their own hands. Not only ideas origination and prioritization, but actual development...

The Challenges StudioX Solves

We know that, on average, 37% percent of your time at work is spent on repetitive tasks. But it's you who knows best on which tasks exactly.

What we do know is that these tasks are tedious, repetitive and with few variations, such as:

- Moving data from one application to another (Excel often being one of the applications);
- Creating, copying and moving files and folders;
- Processing data using simple patterns, with no interpretation involved;
- Processing no-value added emails.

These are exactly the kind of tasks that we wanted StudioX to take care of.



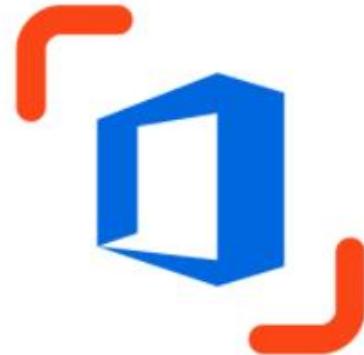


The Pillars of StudioX

StudioX was designed as a solution for the business users that want to automate, but don't have coding experience. Thus, StudioX comes with a couple of special features:



**Straightforward business
task automation**



**Seamless Office
integration**



**A simplified interface for
easy access to features**



How StudioX Works

StudioX has been created to offer you strong capabilities for programming the robots to perform the most important actions that RPA is known for, at the same making the development process accessible for business users.

The entire development process relies on the following capabilities:

Click and forget UI Automation: The identification and interaction with desktop applications and web pages is done using the best technologies brought together and enabled behind the scenes. What that means is that you can simply identify a UI element with a simple click and know that it will be identified every time the automation is run.

Resources and Actions: Resources define the scope of your automation. So if your task automation works with 3 different applications or Excel files, you will need to break down your automation using one Resource for each of these. resources basically provide the scope for the actions in your automation, by identifying the application or the file used.

The Project Notebook: A project notebook in the form of an Excel file is available for every project in StudioX, containing some of the most useful formulas for dates, text, numbers and filenames. You can use it also as a Scratchpad for your automation, thus reducing the need of using variables.

Attended Automation: Once you have one or more than one automations ready, you can use the UiPath Assistant on your machine to trigger them when needed.



Differences between UiPath Studio and StudioX

Overview

The simple distinction between UiPath Studio and UiPath StudioX is from the perspective of the people that use each of them. Below you can go through this distinction in detail.

STUDIO PRODUCT	UiPath StudioX	UiPath Studio
 USER TYPE	Business user	RPA developer
 CODING SKILLS	No code	Basic programming knowledge
 OPPORTUNITY IDENTIFIER	Employee	Employee and COE driven



Workflow Automation Approach

STUDIO PRODUCT	UiPath StudioX	UiPath Studio
AUTOMATION APPROACH	Bottom up	Top down
AUTOMATION TARGET	Straightforward tasks	Complex processes
TYPE OF WORKFLOWS	Sequence	Sequence, flowcharts, state machines
PROJECT SIZE	Single file	Multiple files per projects
FILE COMPATIBILITY	StudioX only	Supports both Studio and StudioX files
LICENSE TYPE	StudioX + attended	Studio only



Key Features

STUDIO PRODUCT	UiPath StudioX	UiPath Studio
Granular UI automation		✓
Debugging		✓
Citrix, terminal automation		✓
Orchestrator activities		✓
Invoke processes		✓
Long running processes		✓
Forms		✓
Workflow analyzer	✓	✓
Computer vision	✓	✓
Semi-structured/unstructured document understanding	✓	✓

✓ CURRENT FEATURES

✓ FEATURES TO BE ADDED IN 2020

STUDIO PRODUCT	UiPath StudioX	UiPath Studio
Data manager	✓	
Saved values	✓	
Variables and arguments management		✓
Excel workspace / scratchpad	✓	
Recorder, data scraping	✓	✓
Word, PDF activities	✓	✓
GSuite support	✓	✓
Input contextual menu	✓	✓
Redesigned activities panel	✓	
Common scenarios	✓	✓
Application scopes		✓
Application cards	✓	✓



Topic

Run

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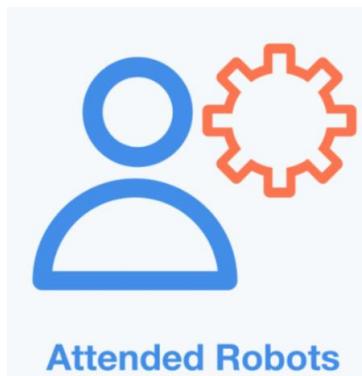
Introducing Attended and Unattended Robots

Overview

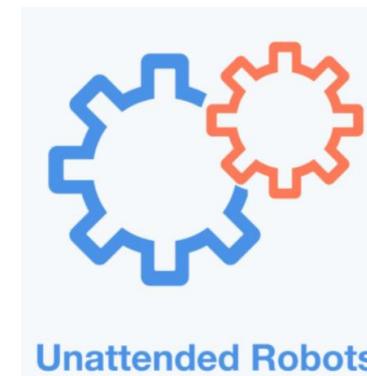
An automation built with Studio or StudioX can be run in several ways and they all involve the use of Robots. Simply put, Robots are just that - agents that execute the automation packages. But they are also versatile, being able to accommodate different automation scenarios.

The whole point of using Robots is to create a partnership with the human user and split the tasks, with the Robot taking the tedious and repetitive ones.

From the point of view of human intervention, there are 2 types of Robots:



Attended Robots work under the supervision of human users and on the same workstations. The activities are directly related.



Unattended Robots work independently and usually on separate virtual machines. They may require human intervention for questions and exceptions.



Attended Robots

An Attended Robot should be as close to a digital assistant as possible:

Easy to Use User Interface

The Attended Robot comes with a dedicated interface called UiPath Assistant, through which processes can be started, stopped, monitored and even scheduled with recurrences.

Direct and Indirect Triggers

Besides being started and stopped directly from the UiPath Assistant interact, the Attended Robots can be set up to run multiple processes in parallel, including monitoring the actions of the human users and starting their own actions.

Low Maintenance

Attended Robots can be programmed to start processes immediately when the workstation is open. If they are connected to Orchestrator, they will receive the latest process updates automatically and can even be instructed to run processes from Orchestrator.



Unattended Robots

An unattended robot should be as productive and independent as possible. If human input is required, the robot should be able to continue working until it receives it.

Easy and Effective Distribution of Work

Unattended Robots should be implemented in an architecture led by UiPath Orchestrator, which is an RPA management tool. UiPath Orchestrator allows grouping of robots and distribution of work items through queues with SLAs.

Deployment in Virtual Machines

Unattended Robots are usually deployed in virtual machines, where there is no risk of accidental human intervention.

Engagement with Human Users

In complex business processes in which they need validation, unattended robots can create tasks and distribute them to humans, and then continue their work. When the human input comes, the robots are able to continue their processes from the same point.



Knowledge check

ATTENDED ROBOTS

Gathering data in real time about a caller

Process multiple excel files to create a simple management summary

Sorting complaints from a webform and distributing them to different departments

Filing a warranty requires based on the data collected by the agent during a call

UNATTENDED ROBOTS



Topic Manage

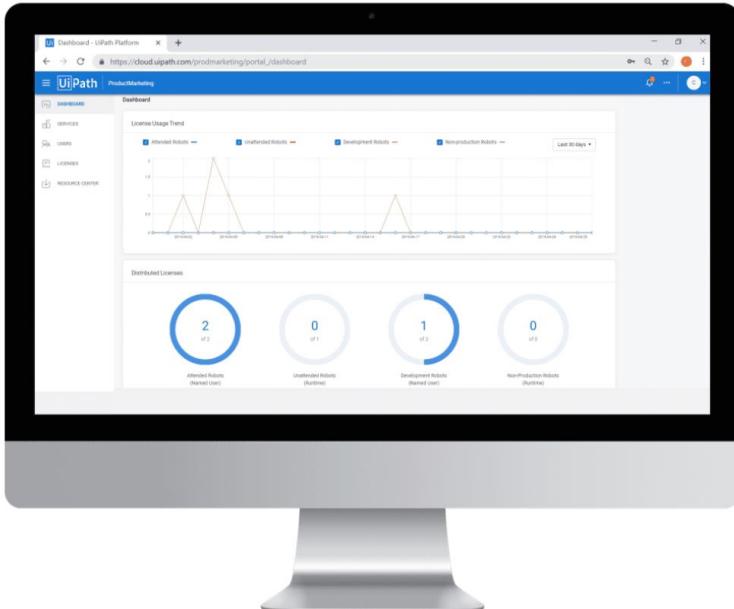
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Managing RPA Capabilities

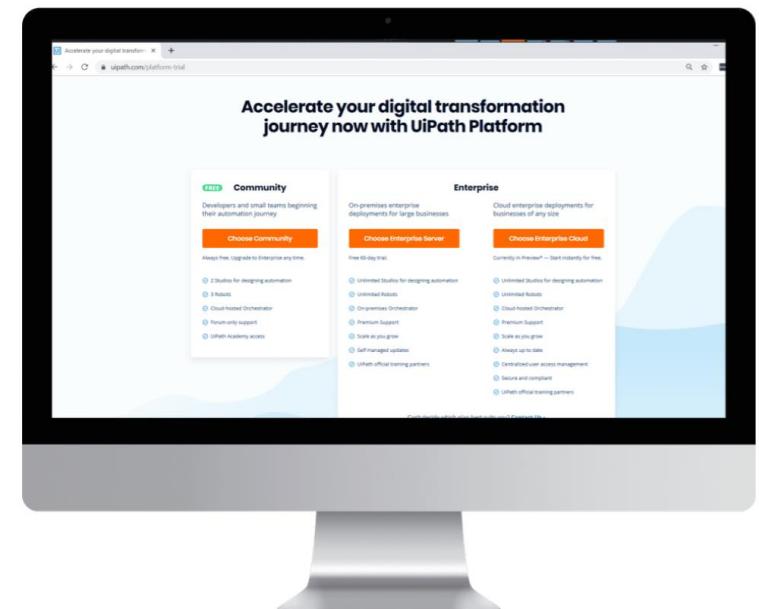
As an enterprise solution for digital transformation, RPA should offer solid management capabilities, that each company needs:

- human user and robot license management;
- robot provisioning to individual machines;
- distribution of automation processes and tasks to robots;
- monitoring and logging.



At the same time, the robot management solution should be flexible in accommodating different scenarios and needs:

- Most companies would appreciate a fast start with RPA and low cost of entry;
- As RPA starts to produce benefits, the solution should be easy to scale for these companies;
- Large enterprises who prefer an on-premise or private cloud solution internally governed.





Introducing UiPath Cloud Platform

Easy Sign-up and Quick Setup:

- As soon as the account is created, you have automatic license management and access to download UiPath Studio and setup your robots;
- With no infrastructure setup required, you have access to robot management from the cloud;
- The Community plan is free and can be easily updated to Enterprise anytime.

Simple Scaling:

- You can scale your Robot workforce and building capabilities easily, without any infrastructure upgrades;
- Software as a Service licensing model - you pay only when you add Robot and Studio capabilities, and the setup is immediate.

Secure Automation and Simplified Compliance:

- Guaranteed uptime (99.5%) and disaster recovery;
- Service updates managed by UiPath;
- Accessible audit trail.



Introducing UiPath Orchestrator

On top of the main RPA management capabilities presented in the previous section, many large enterprise clients have certain needs, starting with having the solution installed on-premises or in a private cloud.

Other needs may include:

- permanent availability;
- integration with other technologies in which they have invested, such as CyberArk or Active Directory;
- segregation of roles, licenses and automation projects between departments and business lines;
- easy license management when there are many robots and human users involved.

UiPath Orchestrator has been historically our first solution for robot and license management. After the release of **UiPath Cloud Platform**, it is mostly preferred by large enterprise customers with on-prem or private cloud deployments.



UiPath Orchestrator Features

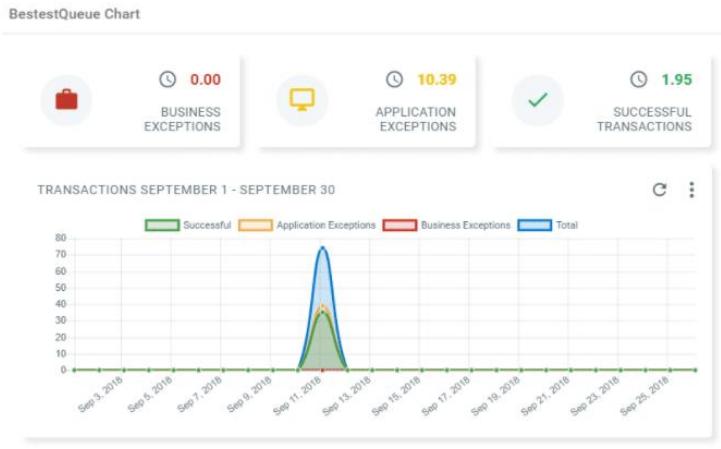
Enterprise-Scale Management Capabilities: Folders are available in UiPath Orchestrator to separate automation workflows and user rights. Together with the integration with Active Directory at user and group level, it provides low-touch license management: as long as a user is part of an Active Directory group with access to licenses, a robot will be automatically provisioned and will have the group rights.

The screenshot shows the 'Folders' tab on the left with a tree view of folder structures: Default, Lev1, Lev2, LevA, LevB, and LevL. The 'Default' tab on the right displays a list of users with their roles:

USERNAME	ROLES
admin	Administrator
gabriel.pene@uipath	Administrator
mirela.rugina@uipath	Test
madalina.boboc@uipath	Administrator, Test

Credential Store Integration: If the company has already a credential store set up; it can be integrated with Orchestrator. The users and robots will not only be able to access it, but they will also be able to edit.

High Availability: UiPath Orchestrator can be deployed as multi-node, using a solution developed for UiPath. This solution ensures permanent availability and disaster recovery. At the same time, the multi-node infrastructure can be used to ensure a balanced distribution of robots.



Queues with Predictive SLAs: As many large organizations tend to have clear and strict SLAs for processes, these should apply to automations. Queues in UiPath Orchestrator can be set up with SLAs and clear procedures when these are at risk or exceeded, such as provisioning extra robots.



Topic Engage

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Engage Overview: Introducing UiPath Action Centre

RPA is about creating a true partnership between robots and human users, with the activities split to match the strengths of each actor - speed and accuracy for the robot, and critical thinking and complex decision making for humans.

Engage is about creating an ecosystem in which the way activities are carried out by humans and robots don't generate breaks in the processes, instead ensuring a continuous and effective flow.

UiPath Action Center was released under the name UiPath Apps and the name was later changed.

The Challenges UiPath Action Center Solves

Even after automation, most of the end-to-end business processes consist of parts that connect through handoff points, in which either robots need to process the information, or humans need to validate or handle business exceptions.

Moreover, an effective use of RPA means robots that work continuously.



UiPath Action Centre Features

Tasks for Robot-Human Hand-off:

- Whenever the robot reaches a human intervention point, a Task is being created and sent to Orchestrator. The robot is now freed to take the next job;
- The human user receives the task in a centralized inbox and provides input in different forms;
- A free robot (not necessarily the one that created the task) can resume the automation from where it was handed off to the human user.

Flexibility:

- Human in the loop scenarios can be accommodated by the UiPath Enterprise RPA Platform through specific activities and processes in UiPath Studio and flexible integration with Orchestrator through Jobs, Tasks and Queues;
- Tasks can be accessed and processed by humans using the Orchestrator mobile application or desktop instance.

End-to-End Process Monitoring: Carrying out a long-running workflow as a single process is not enough, you need to be able to monitor it as a single process. And this is what we offer through the Process Monitoring capability in Orchestrator. You get:

- a process execution summary of robots, human and triggers to identify and resolve bottlenecks;
- an end-to-end visibility across the entire process in a single place, to be able to make decisions to optimize it.



Topic 10

Measure



Measure: Introducing UiPath Insights

Measuring return on investment and process indicators is something that most companies do. And RPA implementations should be measured both as regular business processes, and also using specific metrics. Monitoring can start with the first RPA implementation and should become an important part of the cycle when companies scale RPA and look for continuous improvement.

UiPath Insights is a powerful, embedded analytics tool that helps you measure, report and align RPA operations with strategic business outcomes.

Why you may need it: On one side, the RPA operations team wants to measure the success rate of automation and to dig into details like processing speed, volume and health indicators without the proper tools.

On the other side, business leaders and process owners want to deep dive into individual processes and assess metrics like transaction volumes, performance against SLAs costs avoided and the overall ROI of the investments.

How it works: Embedded AI throughout the product allows the RPA operations team to track and measure RPA performance from errors, utilization or success rates. Then it aggregates all the data into out of the box or customized dashboards such as reports on money saved, time saved, and ROI.

Then leaders across the organization and operations teams can look at data to understand how well the automated processes are working, how bottlenecks can be removed, and inefficiencies improved. Sharing findings in the organization becomes easier and making aligned and guided decisions becomes possible.



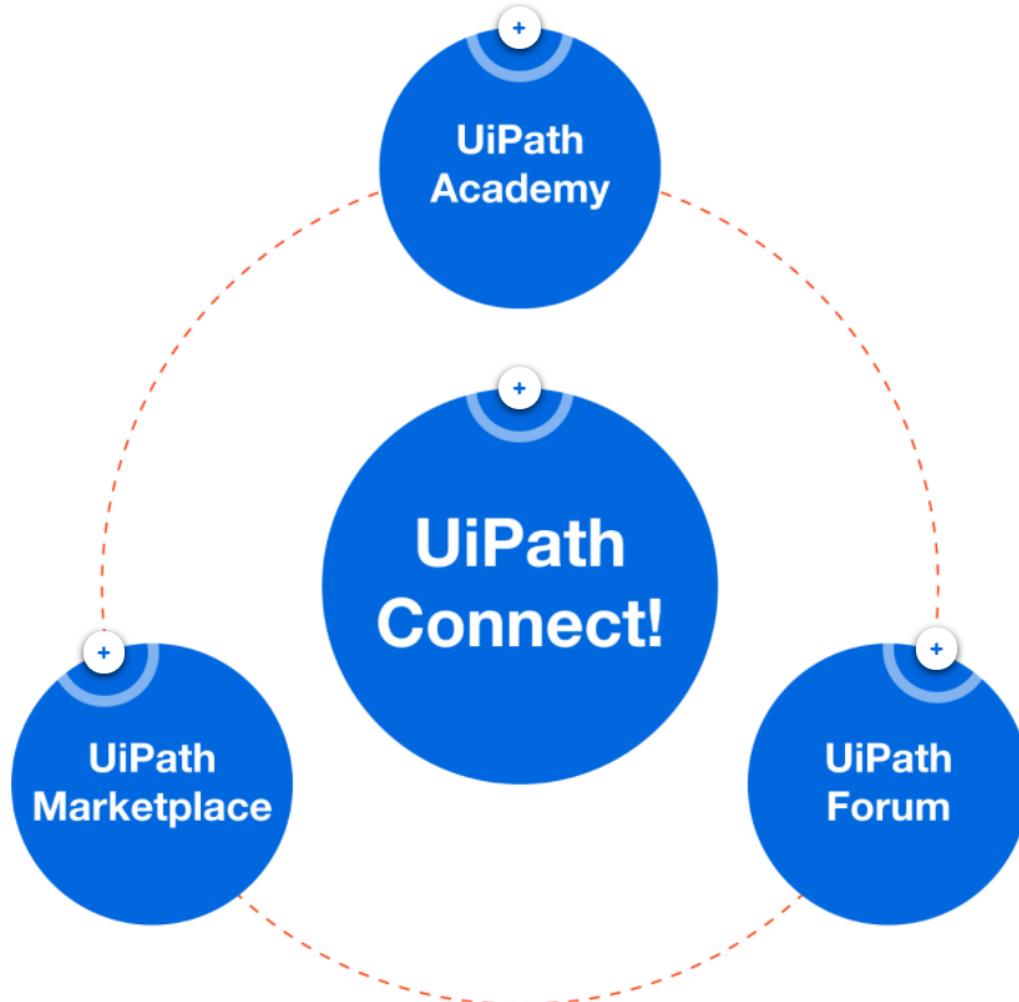
Topic

UiPath Ecosystem

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UiPath Community Ecosystem



UiPath Academy: access free and regularly updated online courses on various topics

UiPath Forum: get answers to your RPA related questions, connect with RPA enthusiasts, and UiPath team

UiPath Marketplace: download reusable components that you can use in your automation. Showcase your RPA work through components and get feedback from the community.

UiPath Connect: get visibility in the RPA world (RPA professionals, companies); access a centralized gamified achievement system; browse a centralized repository of UiPath opportunities for RPA developers; participant in joint case studies, use cases, blogs, webinars, and podcasts



For Next Class

- Review Module 1 slides
- Install UiPath StudioX by following the steps in the **Get Started with UiPath StudioX**