UiPath® The Foundation of Innovation™

Five steps to make Generative AI work for your business

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Introduction: The coming wave

Generative AI has changed the game. Just one year on from the public release of ChatGPT, more than a quarter of Gen X, Gen Z, and Millennials say they use Generative AI tools in the office. Bill Gates described the technology 'as fundamental as the creation of the microprocessor, the personal computer, the Internet, and the mobile phone'.

So, how are you using Generative AI in your business? If you can't answer that question, you're not alone. A recent report from Deloitte showed that 79% of corporate leaders expect Generative AI to transform their organizations in the next three years. However, most are focused on the tactical benefits of the technology rather than using it to drive growth and innovation. Furthermore, only 25% believe they are well prepared to tackle the risks associated with Generative AI adoption.

Business leaders see the transformative potential of Generative AI, but they're still figuring out how to use it. That's a problem. If you're in this position, then not only are you leaving real value on the table, but your competitors may be gaining a competitive advantage over you as they adopt Generative AI technology.

The good news is, your business can leap forward by putting Generative AI to work, but there are a few things you need to consider first. Read on to learn the most important guidelines and steps you can take to unlock the technology's potential.

> **"Generative AI isn't a flash in the pan. It's the beginning of a tidal wave."**
>
> **Edward Challis**, Head of AI Strategy, UiPath

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Understand the potential

Before you attempt to deploy Generative AI in your business, you should understand what it is and what it's capable of. Fortunately, you don't need to be an AI scientist to see the technology's potential or start considering how you might use it!

What is Generative AI?

Generative AI is a type of artificial intelligence that can create new content, such as text or images. It does this through a process called unsupervised learning, where the AI model is fed huge quantities of data and learns to identify and replicate patterns in the data.

In the last few years, Generative AI models, like ChatGPT, DALLE, and Google Bard, have been able to rapidly create quality new content and display reasoning skills that mirror human abilities. This has opened countless new use cases to accelerate productivity and innovation.

Why AI is useful

Uncertainty

You cannot determine an outcome with 100% certainty

- Property Valuation
- Loan Defaults
- Inventory Forecasts

High Variability

There is too much variability for rules based

- Resume Matching
- Purchase Decisions
- Language Translation

Unstructured Data

Information like articles, documents, images, videos and emails

- Invoice Extraction
- Email Routing
- Speech to Text

Some of the most popular business applications include:

- **Productivity enabler:** At the employee-level, Generative AI can work as a sounding board to test ideas and generate new content quickly. As a personal productivity tool, this has enabled employees to get more work done, more quickly.
- **Retrieval-augmented generation:** Generative AI can reference massive collections of business-specific data to retrieve useful information to inform employees, chatbots, and create customized generated content en masse. This has proved very useful in support and customer service, but its potential can go much further.
- **Design and development:** Generative AI can create numerous design variations based on set parameters and constraints. This has allowed businesses to quickly choose optimal designs or identify potential flaws early in the design process.

> **"We've just had the first anniversary of ChatGPT. Imagine that. It's only been a year, but think how much has happened in that time. The applications of Generative AI in the automation space are accelerating."**
>
> **Professor David Barber**,
> Distinguished AI Scientist, UiPath

However, current uses are just scratching the surface of what's possible. And while the technology remains near the peak of its hype cycle according to Gartner, largescale deployments have been slow to take off. Businesses seem reluctant to pull the trigger on largescale investment, and there's good reason for that...

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Recognize the limitations

While it may seem to work as if by magic, it's crucial to remember that Generative AI is another tool. And there's no perfect tool for every job.

As a developing technology, Generative AI has three main limitations:

1. Trust and transparency

2. Context

3. Action

1. Trust and transparency

It's clear that businesses have a trust issue with Generative AI. The most popular models rely on new data to train and improve, and there's no guarantee the data you give to them won't be shared with another user. What's more, people fear what they don't understand, and there's much that even the experts don't know about Generative AI models and how they work.

A lack of transparency is part of the problem. These systems are black boxes which take in data and transform it into something useful through a mysterious process. It might as well be a form of alchemy, and that's a problem for businesses. Generative AI can't be left alone and its outputs must be closely supervised by human employees in the loop . Businesses have a responsibility to protect their customers and a duty to explain their processes to regulators as well as their shareholders. But Generative AI models can't offer clear and understandable explanations of their decision-making processes.

Businesses and customers demand reliability and transparency. But Generative AI models make mistakes. And they're prone to 'hallucinations'—providing extremely convincing, but wrong, answers. This can be caused by a number of issues, including biases in training datasets and ambiguous prompts. Whatever the reason, using inaccurate AI-generated data on an enterprise scale can have enterprise-level consequences.

> **"Hallucinations are a risk you really can't take. It's fine for creative applications where a human is still in the driving seat, but when you need decisions made at speed and scale, it's not acceptable... That's why you'll always need good governance and a human in the loop to validate AI decisions."**
>
> **Edward Challis**, Head of AI Strategy, UiPath

2. Context

Generative AI tools like ChatGPT and Google's Bard are best thought of as generalists. They're massive models trained on trillions of parameters and data-points. This makes them useful across countless different use cases, and capable of answering almost any question you can think of.

However, while the scope of their knowledge is as wide as the ocean, pry a little further and you'll find their understanding is puddle-deep.

Businesses require accuracy and specificity. Their people are subject matter experts who know the organization's systems, processes, and customers intimately. Yet, Generative AI systems need mountains of business context before they're ready to be let loose on your enterprise. Without context, a Generative AI system is like having access to a good writer who doesn't know anything about your business. They write well, but you wouldn't put them on your IT Helpdesk and have them try to solve customer issues. Generative AI needs business context to be really useful, but the process for collecting this context can be slow, laborious, and expensive.

"If you have Generative AI but no context, all you have is a very generic writer. The problem is that all this context and data lives in different places across your organization – the internet, your CRM, and so on. Think about all the time and effort people spend gathering this information and giving AI models the right context to create a good response. Automation can do that for you instead."

Feiran Hao, VP, GTM Incubation, UiPath

3. Action

The Achilles heel of Generative AI is its inability to act alone. It analyzes, comprehends, learns, and creates. But it needs some help to act. Without integration with other systems, Generative AI can do little more than be a glorified chatbot.

Feiran Hao, VP, GTM Incubation at UiPath, provides a helpful analogy:

"You can ask a Generative AI model for a recipe for baked cookies, and it'll give you a recipe for some of the most delicious cookies you'll ever eat. But try asking it to bake you a cookie. It won't be able to do anything! Now apply that to the enterprise world. You have a Generative AI chatbot – ask it to submit your expenses or turn out the lights in the office. It will tell you how to do those things yourself, but it will stop short of actually doing them."

Much innovation is being focused on making Generative AI models easier to tailor to your business, know your systems, customers, and knowledge. That's useful, but it isn't much more valuable than installing a chatbot on top of your company's knowledge base. In fact, installing the chatbot would be faster and easier than finetuning the model.

The fundamental problem remains – by itself, Generative AI can think but it can't act. It's the proverbial brain stuck in a jar.

But what if we gave that brain a body...

"The limitation with Generative AI right now is everyone is treating it like a curiosity. People are asking it to write poems or asking them when Van Morrison was born. That's cool, but it isn't very useful. It's like having a personal assistant who refuses to do anything. Can you imagine hiring an employee who is only there to talk to you but won't do any work?"

Edward Challis, Head of AI Strategy, UiPath

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Think in a new paradigm: Generative AI plus automation

Business leaders are stuck thinking about Generative AI in one paradigm: as a chatbot and personal assistant. This is only a fraction of the technology's potential. When given the ability to act, safely and reliably, Generative AI takes the breaks off business efficiency, productivity, experience, and success.

> **"Businesses are stuck in the sandpit. They see AI as a playground while they try to figure out how they can use it. They've yet to see the power of AI in automation."**
>
> **George Roth**, AI Evangelist, UiPath

Automation is the missing link. Automation feeds Generative AI context and empowers it to take action. It adds muscle to Generative AI's brainpower and gives it the power to change and make valuable impacts. It's the tool that businesses need to turn AI potential into real, tangible business results.

It's time for business leaders to think in a whole new paradigm.

Automation-powered AI

Automation is everywhere. It's so prevalent in our businesses that it's almost become invisible. Automation describes the use of technology to perform human tasks. Robotic process automation (RPA) is one of its most common forms, using software robots to automate repetitive computer-based tasks. It boosts productivity and enables human workers to focus on more valuable, strategic, and complex work.

What makes automation the perfect partner for Generative AI? It's integrated across a variety of business processes and can take real action almost anywhere.

Automation feeds Generative AI the context of multiple data sources. In addition to the sources you can already access via ChatGPT or Microsoft CoPilot—for example, SharePoint and Word documents—it grabs information from critical enterprise systems such as Salesforce, Oracle, and SAP, as well as websites and social media.

Furthermore, it gives you the ability to action this data at scale across the business. Whether that's to personalize customer interactions en masse, or get concise summaries of complex Know Your Customer (KYC) data to deliver faster decisions.

Automation allows Generative AI to collect all the relevant context it needs, then gives it the power to act on that data at scale.

> **"AI is a brain for business. It still needs muscle – to bring in context, to perform actions, to create real value. Automation can be that muscle."**
>
> **Luke Palamara**, VP, AI Product Management, UiPath

AI-powered automation

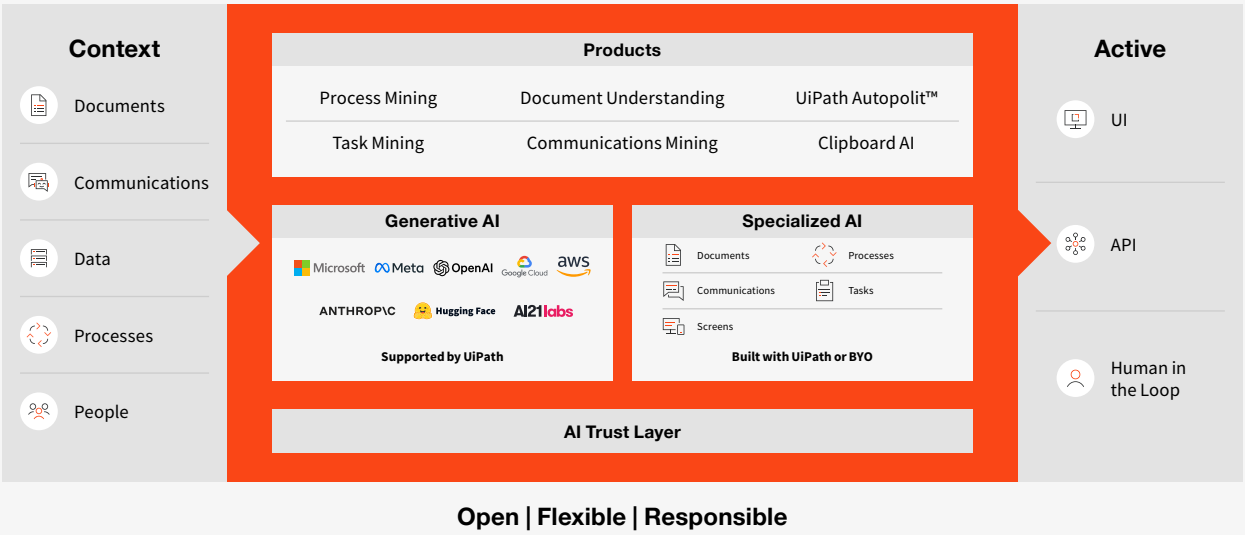
However, this isn't a one-sided relationship. Automation gives AI the power to act, but AI in turn gives automation the power to really think and make a big impact.

It's important to remember that Generative AI isn't the only show in town. It's just the latest show, but AI has been around in business for much longer than that. Generative AI generates content for general-purpose use cases, but businesses have long used **Specialized AI** models for:

- Understanding and interpreting screens - called computer vision
- Data analysis
- Processing documents - called intelligent document processing (IDP)
- Processing communications – called communications mining

A Generative AI tool like ChatGPT performs well across a wide number of different tasks and use cases, but Specialized AI models are more like a perfectionist for a specific task. That's why it's an ideal partner, not replacement, for 'general-purpose' generative models, adding accuracy, reliability, and strong controls to Generative AI's power and flexibility.

AI-powered Automation



Open | Flexible | Responsible

How UiPath puts Generative AI to work

The UiPath Business Automation Platform combines the best of Generative and Specialized AI with the agility and speed of enterprise automation. That means your business doesn't just get smarter. You can harness Generative AI to streamline processes, eliminate errors, and deliver better experiences to customers and employees.

Now, let's take a closer look at our approach for putting Specialized and Generative AI to work in the automation process:

> **"AI adds an intelligent layer to discovery, development and operations in automation. AI is becoming more and more invisible to the users of the UiPath Platform."**
>
> **George Roth**, AI Evangelist, UiPath

Generative AI in the automation process

Discover

Achieve better business outcomes with continuous discovery and deeper insight into your processes

Automate

Connect front and back to deliver a new way of working across the value chain that supercharges productivity

Operate

Change how your business operates end-to-end with an enterprise-ready platform

Discover

Generative AI can play a significant role in process discovery. We call the outcome 'process intelligence.' AI capabilities are added to advanced process and communications mining that allows organizations to gain a better, deeper understanding of their processes.

For example, the ability to collect data from unstructured documents and use this data to inform decisions or to fuel downstream automations. Using Specialized AI to extract information from large volumes of communications data at scale drives intelligent report generation. And this granular but far-reaching insight means greater efficiency as further opportunities for automation and improvement are discovered.

UiPath solves real-world business problems by putting AI to work: identify automation opportunities

UiPath provides a full suite of continuous discovery tools - Process Mining, Task Mining, and Communications Mining – to mine, monitor, and improve efficiency across the enterprise. Specialized AI models expose bottlenecks and inefficiencies, streamlining complex business processes. Communications Mining is further enhanced with the addition of Generative AI, extracting value from business communications faster and with little to no model training.

Learn how Continuous Discovery and intelligent automation can supercharge your business. Contact us today!

Automate

Generative AI democratizes automation. No-code, conversational interfaces provide developers and end-users with better, more streamlined experiences.

Using natural language interfaces, enterprises can supercharge automation development, and essentially automate the process of automation itself. Prompting via natural language not only removes the barrier to entry but enables complex logic to be handled at much faster speeds. For instance, IDP augmented by Generative AI makes extracting, classifying, and tagging valuable data faster and easier. Time-to-value with AI just got a whole lot shorter.

And it's the scale at which this is all possible—thanks to Generative AI and automation working together—that supercharges development and delivers enterprise-wide efficiency and value.

Intelligent document processing from UiPath: faster time to value with AI

UiPath is a recognized leader and innovator in IDP. Specialized AI is at the core of UiPath Document Understanding and UiPath Communications Mining, enabling businesses to process and automate structured and unstructured data, documents and communications, at speed and scale.

The IDP capabilities of the UiPath Platform are also enhanced with Generative AI that accelerates model training and time to value:

- **Generative annotation**—automatically annotate document samples and message clusters to reduce model training time.
- **Generative classification**—classify documents faster with Generative AI; you can just define the document types with no need to write rules or train new ML models.
- **Generative extraction**—leverage the ability of Generative AI to answer questions and summarize content to extract complex unstructured data from documents and messages.
- **Generative validation**—Generative AI reviews the data extracted by Document Understanding, cutting review times and improving the automation rate of key processes.

Contact us to Learn more about how the IDP capabilities of the UiPath Platform accelerate model training and time to value for AI.

Operate

AI-powered automation can transform enterprise operations across delivery, analytics, testing, and management. Generative AI delivers faster analytics that enables businesses to make decisions based on more complete, accurate, insightful data.

Testing can be transformed—reducing test cycles and increasing reliability. Generative AI generates tests from requirements, generate codes from comments, and can surface actionable insights from execution results.

Transform testing with UiPath Autopilot™ for Test Suite

Most software testing is still done manually, which is costly and slow. While most organizations struggle to automate even 20% of their tests, customers that adopt Test Suite automate at least 80% of their testing within the first six months.

UiPath Autopilot™ for Test Suite empowers software testers to perform at their highest potential across the entire testing lifecycle.

Learn more about how UiPath Autopilot™ can put AI to work across your business. Get in touch with us!

Better together

Generative AI doesn't change the DNA of automation. Automation still does what it's always done at UiPath. The difference is it's become even better. All the work that slows down developers and business users in delivering greater value is provided through automation, leaving more space in which to innovate.

Automation is the conduit for extracting value from AI. AI is the enabler for unleashing intelligent automation across your business. **UiPath is AI at work**.

"How do you create intelligent systems that can carry out actions accurately without requiring vast amounts of human effort and data labelling? That's something that we are working on very heavily at UiPath. We're trying to make automation models, with the world's best capabilities in understanding and comprehension, you can trust to carry out actions on your behalf. That's the goal we're working towards."

Professor David Barber, Distinguished AI Scientist, UiPath

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Understand the risks

Automation is the conduit for extracting value from Generative AI. It provides crucial business context and the ability to take action across enterprise systems. However, you need to do more before you can truly trust your Generative AI system.

To gain maximum value from AI, you also need strong governance and controls. But this has long been a challenge with Generative AI. Significant questions remain around safety, bias, and data privacy. Over half (52%) of companies practice some level of responsible AI, but 79% of those say their implementations are limited in scale and scope.

These and other areas need to be addressed as part of a robust and AI-specific data policy before enterprises can confidently put Generative AI to work. Before you can safely rely on your system, you need to know...

1. **Who has access to what?** We know that AI systems rely on data to continuously improve, but you need to know your company's data remains just that. How can you be sure your data isn't feeding into the training of third-party LLMs? Could your data be used by competitors to get an edge in development?

2. **How secure is your data end-to-end?** Where and how is data being sent? How is data protected at every stage of its journey—when being stored, moved, and processed? What steps can be taken to protect against data loss and leakage (either malicious or accidental)?

3. **Are the answers and actions right?** Is there bias in the training data that's affecting outputs? Are business users making decisions and determinations based on Generative AI hallucinations? How can we mitigate this?

AI success starts with good governance. And only enterprise-level security guardrails will enable businesses to scale AI-powered automation and realize Generative AI's potential—safely as well as successfully.

The UiPath AI Trust Layer: the foundation of trustworthy AI

Trust, transparency, and control provide the guardrails enterprises need for responsible, secure use of Generative AI. These are the cornerstones of the UiPath AI Trust Layer.

The initiative enhances existing UiPath enterprise data privacy policies and responsible AI principles with software-defined governance for safe use of Generative AI in business:

Trust: The highest levels of integrity, security, and privacy are applied to all data interactions with UiPath products and third-party LLMs. It answers the questions of who, when, and where in relation to data storage, processing, and use, providing an audit trail that's essential to maintain ethical and compliance standards.

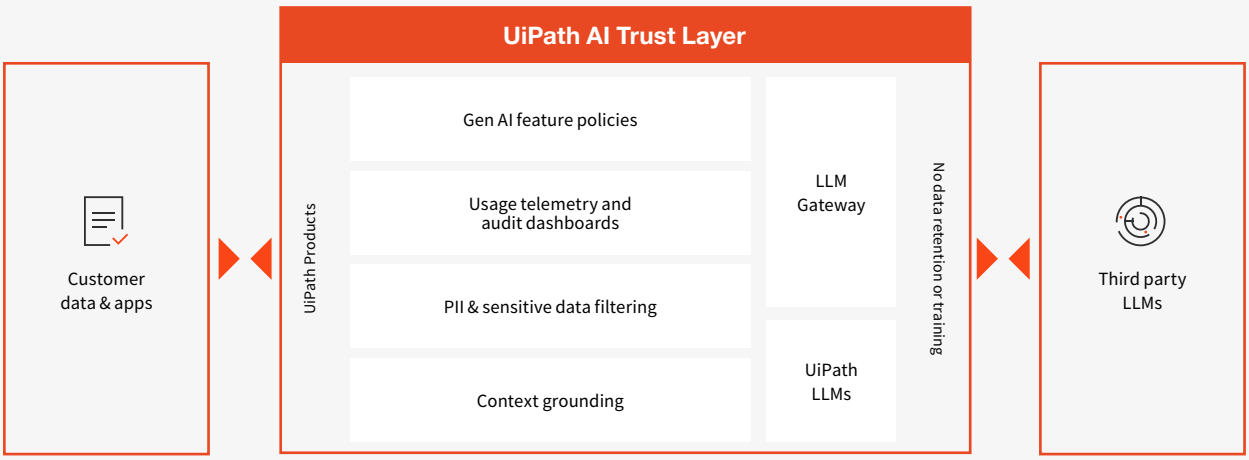
Transparency: Providing complete visibility into Generative AI features, models, and the transfer of data from the UiPath Platform to third-party models. Data isn't shared outside customer-managed UiPath tenants.

Control: Customers maintain administrative control of all Generative AI feature access and use at an organization and tenant level, with default opt-out training policies for third-party models.

The UiPath AI Trust Layer enables contextualized customer data, and customer interactions with UiPath products, to securely flow to trusted third-party LLMs.

Learn how the UiPath AI Trust Layer can help deliver trustworthy and transparent AI for you.

Trust, Transparency and Control for Responsible AI



"UiPath is built upon the pillars of trust, transparency, and control. Our AI Trust Layer safeguards customer data, embodying responsible AI principles. It provides the confidence enterprises and public sector organizations need to fully harness Generative AI's potential."

Mark Geene, SVP Product Management, UiPath

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Choose the right cloud provider for Generative AI

The power of Generative AI plus automation wouldn't be possible without the infrastructure to support it. The cloud has been a catalyst for enterprise transformation for some time now. It's no surprise then that it also plays a starring role as an enabler of both AI and automation.

Cost, however, is a big factor: even large enterprises can't afford to run the high-performance infrastructure that Generative AI workloads require. But equally important is the access to Specialized AI frameworks, pre-trained models and APIs.

By leveraging leading cloud services, businesses can capitalize on Generative AI without the time and resource commitment, freeing teams to focus on internal and customer-facing innovations.

Picking the perfect cloud partner for Generative AI

Power to scale: Generative AI workloads require significant computational resources. Choose a provider offering scalable compute options, including GPUs and TPUs, that can handle your AI workloads efficiently.

Flex to your budget: Generative AI workloads can be expensive, especially when scaling up. Understand the pricing model of the cloud provider for compute, storage, and data transfer. Look for options to optimize costs, like committed use discounts or customizable compute options.

Protection and compliance: They're dealing with your data, so robust security measures are table stakes. Data encryption, compliance with industry standards (like GDPR, HIPAA), and secure data transfer mechanisms are key.

Innovation and invention: Your cloud provider should be at the forefront of AI and ML innovation, investing in providing the most comprehensive set of capabilities across the entire Generative AI stack. Check they are.

Experience and expertise: Generative AI may be relatively new, but some cloud providers are further ahead than others. Look for a partner with a strong track record of supporting AI workloads for world-leading brands.

Service level confidence: Mission-critical applications require stronger service level agreements and expert customer support. Evaluate the support services and uptime guarantees offered by the provider.

Ethical AI: AI systems should be geared around transparency and explainability, with respect for principles of fairness and privacy. AI can also be energy-intensive. Consider the sustainability practices of the cloud providers and select the partner that best aligns to your own sustainability and ethics goals.

The UiPath and Microsoft partnership

Microsoft Azure makes it simpler and more efficient for businesses to build, deploy, and manage Generative AI models, fostering innovation and growth.

UiPath has partnered with Microsoft to help accelerate digital transformation and the adoption of AI-powered automation. UiPath can automate a lot of the "care and feeding" of your Azure Cloud deployment and gives you greater flexibility to scale your infrastructure as your AI requirements grow.

Automate across the Microsoft Enterprise with UiPath

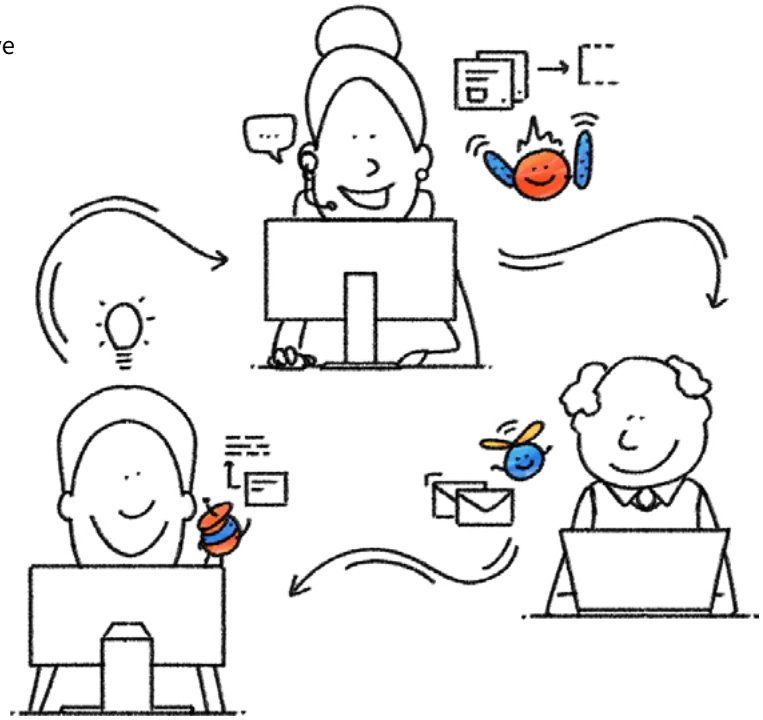
Conclusion: The bridge between people and machines

The value potential of Generative AI is clear. When paired with automation, it means supercharged productivity, improved data quality, enhanced ROI, greater efficiency, and the mass customization of customer and user experiences.

So, what does the future hold? What can we expect as we move along the adoption curve and enterprises increasingly experiment with infusing Generative AI into their business models?

- **More specialized systems will emerge:** Current Generative AI systems are still very new in relative terms and they're understandably extremely general. This will change as businesses adopt the technology. They won't need masses of general capabilities, but rather business-specific, use case-specific systems.
- **Machine 'intelligence' will grow:** We know machines can learn, and this learning potential brings the very real possibility that they'll one day have reasoning and perception capabilities far beyond human scope. This will mean faster reaction times and AI that's refined and customized to every business, task, and process. It could lead to a whole new operating model for businesses and a watershed moment in the world of work.
- **The cost of adoption will fall:** The ability to store models locally and at the edge will bring down the cost of data processing. This will make it more accessible and encourage the necessary cycle of experimentation and adoption of AI-powered automation into the business landscape. Serverless computing will also help improve transparency in AI decision-making and make hallucination detection easier.

> **"There's a huge bottleneck between humans and machines, which is, for now, filled by the graphical user interface. What makes AI so fundamental is its ability to unlock this gap between machines and people... AI is the bridge between the world of people and the world of machines."**
>
> **Edward Challis**, Head of AI Strategy, UiPath



However, to make this potential reality, Generative AI needs automation, governance, and the right infrastructure today.

- **Automation**, combined with Specialized AI, supplies generative models with crucial business **context**, the data, and the integration needed to take **action**.
- Strong **governance**, enforced by an overarching **trust layer**, gives you **transparency** into how Generative AI models work for your business and ensure they stay on their best behavior.
- Finally, your **cloud infrastructure** is the glue that holds everything together, letting you capitalize on the best AI innovations for a fraction of the cost of going it alone.

Businesses that understand these key ingredients can finally take the training wheels off and put their Generative AI models to work.

"In the future, when you start working at a company, you will be given an AI-powered autopilot which is associated with you and will learn with you based on your role. From the beginning, you will have the personal assistant, the tools, and the ability to help you automate repetitive, non-creative work. That's why we call it AI at work."

George Roth, AI Evangelist, UiPath

Discover how UiPath is driving the safe and successful adoption of Generative AI in the enterprise, enabling new use cases and maximizing the value of the technology through automation. Get in touch!