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AGENTS ARE THE FUTURE OF AI. BUT WHAT ARE THEY, AND HOW  
DO THEY WORK?

# Autonomous AI agents are the future of AI. But what are they, and how do they work?

Posted on 6th Jan 2025, in **Intelligent Automation**

## First things first: What exactly is an autonomous AI agent?

Just to put into perspective how rapidly the world of AI is evolving, ChatGPT was only launched two years ago, in November 2022. A year later Microsoft introduced Copilot, marking a significant step in AI-powered productivity. And now we're seeing another big step in AI innovation with the introduction of autonomous AI agents, and what we're now calling agentic automation and AI.

An autonomous AI agent is a self-operating system (or piece of software) that's capable of performing tasks, making decisions, and adapting to changing situations independently, without direct human intervention.

The important development in the autonomous AI agent (compared to existing AI agents) is its ability to self-learn as it completes tasks. It does this by understanding and interpreting its environment, making independent decisions based on its understanding, and taking action to achieve specific goals.

Autonomous AI agents aren't 'uber' new. They're already being used in services like

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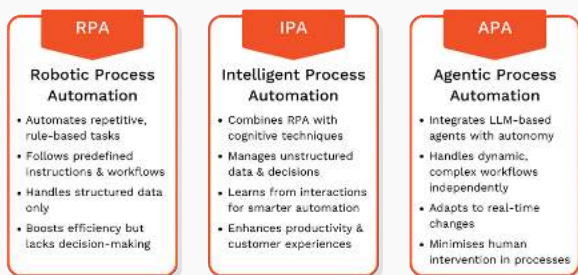
**How can we help?**

Google Assistant and Apple's Siri. Possibly the most complex everyday example is self-driving cars. These use autonomous AI agents to process data gathered by their in-built sensors to navigate roads and make real-time independent driving decisions without the driver needing to be involved. Ride-sharing and food delivery services powered by autonomous vehicles are already operating in some cities around the world.

## The journey we've taken to arrive at agentic AI

The journey we've been taking to arrive here has been quick, but like all things in technology, it's progressed in steps. Since 2022, there has been a continuous evolution in how AI is used, particularly with generative AI.

It started with Robotic Process Automation (RPA) automating rule-based tasks. It progressed through Intelligent Process Automation (IPA), where we saw the addition of AI to handle unstructured data and decision-making. We're now moving into Agentic Process Automation (APA) with the introduction of autonomous AI agents capable of learning, adapting, and independently orchestrating complex, dynamic workflows across systems.



## Autonomous AI agents in business – How they're impacting our working environment

Agentic AI is now entering the status of being 'solution-ready' for our mid-market clients, thanks to autonomous AI agents being able to automate processes that were previously too complex to automate.

In traditional automation projects, you define a

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logical sequence of actions to automate, with each step explicitly programmed. In this scenario, once the agent is programmed, you're locked into the process.

With an autonomous AI agent, the approach is different.

You start by giving it instructions – essentially telling it what outcome you want. Then, you provide it with access to relevant knowledge, such as internal documentation (contracts, proposals, research), website content, and other key data sources. This 'grounds' the AI agent in the necessary context, much like the process you use in developing a Custom Copilot.

The critical difference between traditional AI and agentic AI, is that traditional agents, like those used in RPA, rely on predefined rules and scripts to automate repetitive, structured tasks.

In contrast, autonomous AI agents use artificial intelligence to make decisions as they execute tasks. They adapt to changing circumstances, learn from new data generated during the process, and handle unstructured tasks or complex data, allowing them to adapt to fluid or changing situations.

What this means, is that autonomous agents can adjust their actions based on what's happening around them – i.e., without people needing to get involved.

## **Agentic AI in action**

To see how agentic AI works in practice, take a simple case of automating a customer service returns process, which begins with an email sent by a customer.

At the moment, you can't automate that process because you need a human to understand the original email or message from the customer. So you can't pre-empt the scenario and define a logical sequence of automated actions to follow.

But now, the autonomous AI agent can use natural language processing to understand the detail of the customer's request and interpret the sentiment of the email – to identify if the

customer is really annoyed about something or just making a general enquiry.

The autonomous agent then checks the returns policy details and looks into the customer's history for warranty details or after care sign-ups, for example. With this information it can then make an autonomous decision on how to respond to the customer, based on its understanding of the customer's unique circumstances, in a tone of voice that's commensurate with the customer's mood.

And what's really important is that it will be remembering each different set of responses in each different customer communication, so it can apply these learnings to future scenarios.

You can have a human in the loop to oversee check the process if you like (as you do in self-driving cars), but the agent is operating independently, learning and continuously improving – autonomously.

“Autonomous Agents can gather data from various sources such as sensors, APIs, or databases. They then use AI models to analyse data, recognise patterns, and make predictions. By applying algorithms and logic they can then decide their next actions based on their objectives and the current context. This enables them to carry out tasks, communicate results, or trigger other processes. And through feedback and/or additional data, they improve their performance over time.”

To summarise all this, an autonomous AI agent basically has four unique characteristics which defines its functionality. These are:

- **Autonomy** – they can operate without continuous human guidance, making decisions and taking actions on their own.
- **Reactivity** – they can understand and interpret (perceive) and respond to changes in their environment in real-time.
- **Proactivity** – they're able to anticipate future states and take initiative to achieve their objectives.

- **Social** – they can interact and collaborate with other agents or humans to accomplish complex tasks.

## **Microsoft and UiPath are leading the field in AI innovation**

In collaboration with our intelligent automation partners, Tecala is making autonomous AI work for our mid-market clients.

Microsoft has recently introduced new capabilities in Copilot Studio, announced at the 2024 Ignite conference. These allow you to create and enhance Copilot agents in Microsoft 365 Copilot. And as explained earlier, when these agents are ‘grounded’ in your organisation’s knowledge and data, they enable more sophisticated and value experiences from Copilot.

In a recent blog from Microsoft<sup>1</sup>, they explain: “These agents can draw from valuable data in SharePoint, Microsoft Dynamics 365, or your line of business systems, and help Copilot become significantly smarter about your business and its processes. You can also expand the capabilities of agents by equipping them with new skills, such as sending emails, updating records, or creating support tickets. And Copilot agents can integrate with your existing line of business systems, enabling your employees and customers to easily take action in their flow of work.”

Earlier in 2024, UiPath announced the launch of UiPath Autopilot™, which allows you to automate complex, repetitive, or multi-task steps across various platforms and applications – both Microsoft and non-Microsoft.

UiPath explains that its Autopilot is: “A new set of AI capabilities embedded across the UiPath Platform. It enables employees to complete their work faster and more effectively by interacting with a simple, AI-powered interface that creates workflows, tests, and performs actions across applications.”<sup>2</sup>

## **Tecala is partnering with leading AI vendors to deliver**

## effective solutions for your organisation

Because we're partners with both Microsoft and UiPath, the team at Tecala can leverage their technology collaborations into intelligent automation solutions that can drive genuine transformation in your organisation.

By combining Microsoft Copilot (AI in productivity tools) and UiPath's Autopilot (an enterprise-ready automation platform), we can now automate entire workflows that span multiple applications, platforms, and systems.

Previously, integrating intelligent automation across Microsoft and non-Microsoft systems required complex custom development. Now, with these developments from UiPath and Microsoft allowing for easier integration, automation becomes plug-and-play.

We can seamlessly integrate disparate systems and platforms to unify your AI experience. We can use AI-powered agents to not only automate repetitive tasks but also make intelligent decisions, such as prioritising workflows, interpreting natural language commands, or identifying anomalies in processes.

For example, if you're a Finance Manager your monthly reporting process might look like this:

**Now...** You manually consolidate data from emails, spreadsheets, and ERP systems, analyse it, and create presentations – i.e., a tedious, multi-step process that wastes a lot of your time and creates dread at the end of each month.

**But...** With the Microsoft and UiPath integration, Microsoft Copilot summarises data insights from Excel. UiPath Autopilot pulls additional data from ERP systems and generates visual dashboards. AI agents trigger actions like emailing stakeholders or scheduling a Teams meeting to discuss findings. And your month end starts to look way more doable.

Tecala's expertise in Automation, Data, and AI, combined with our partnerships with leading AI and automation providers, makes us the ideal partner for implementing an effective agentic AI

strategy.

With our [Data Landscape Maturity Assessment \(DLMA\)](#) and [Data Evaluation](#), we can ensure high-quality data goes into your agentic AI platform.

And with our [Art of the Possible](#) session, we can make recommendations on the best way to get started.

It's a comprehensive approach that enables you to work towards an outcome where your employees are able to complete their work faster and more effectively across different applications, platforms and systems that are now seamlessly connected and automated. Thus accelerating your brilliance in just about any direction. And with our Automation Membership Program, all this can be available for an affordable and predictable monthly fee.

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<sup>1</sup> Microsoft, [Unveiling Copilot agents built with Microsoft Copilot Studio to supercharge your business](#); September 2024.

<sup>2</sup> UiPath, [Autopilot meets Copilot: Creating AI-powered automation experiences](#); August 2024.