



AI Agents in Energy: Unlocking Scalable Intelligence

**9th Annual Summit
Go Digital Energy 2025**

*Mark Schütz
Director, Energy and Resources Industry EMEA*



Key Focus for today



AI Agents in Energy Industry

AI is now widely adopted, with industry scaling operations and realizing returns on investment.



Common Design Patterns

Industries are seeking a robust foundation and a trusted ecosystem to support their AI initiatives effectively.



AI in Practice

Customers are looking to Microsoft and partners for clear leadership and direction in implementing Agentic AI.

The background features a vertical gradient from purple on the left to blue on the right. On the left side, several thin, white, curved lines sweep across the frame, creating a sense of motion and depth.

AI Agents in Energy Industry

Energy industry face intense, simultaneous challenges

What we're hearing from our customers



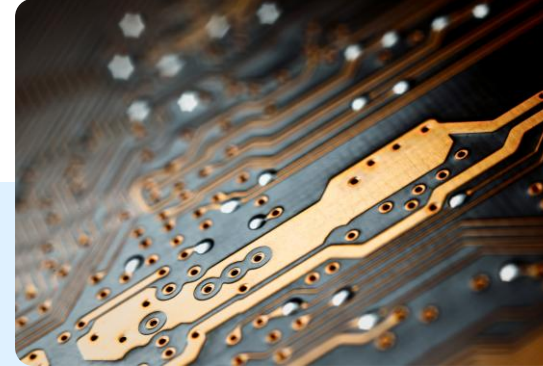
Market & regulatory pressures

- Accelerate sustainability commitments
- Provide transparent ESG disclosures
- Address climate risks and future-proof energy planning with regulatory uncertainties.



Adaptation & resilience

- Reduce environmental impacts
- Safeguard reputation
- Strengthen resilience in the face of climate risks
- Measure and manage sustainability in value chains.



Need for growth

- Develop new sustainability-driven lines of business
- Capitalize on green finance growth and climate risk assessments requirements



Siloed, inaccessible data

- Unify data in a single digital platform
- Democratize insights
- Ensure transparency, security and governance
- Manage AI and technology risks

Organizations face significant challenges with complex, manual, and time-consuming workflows and minimal automation

**Inefficiency
and High
Operational
Costs**

**Lack of
Visibility &
Control**

Human Error

**Scalability
Issues**

The
opportunity for
autonomous AI
is growing...

By 2028, at least **15%**
of day-to-day work
decisions will be
made autonomously
through agentic AI,
up from 0% in
2024.*

* Gartner® 2025 Top Strategic Technology Trends E-Book, Gene Alvarez and Tom Coshov, 2024, [emt.gartnerweb.com/ngw/globalassets/en/information-technology/documents/trends/2025-top-tech-trends-ebook.pdf](https://www.emt.gartnerweb.com/ngw/globalassets/en/information-technology/documents/trends/2025-top-tech-trends-ebook.pdf). GARTNER is a registered trademark and service mark of Gartner, 2nc. and/or its affiliates in the U.S. and internationally and is used herein with permission. All rights reserved.

What are agents?

AI designed to perform a task

Tasks can vary in level of complexity and capabilities depending on your need

Simple



Generation

Generate summaries, images, audio, and more with an AI model and inputs.

Generally available



Retrieval

Retrieve information from grounding data, reason, summarize, and answer user questions

Generally available



Action

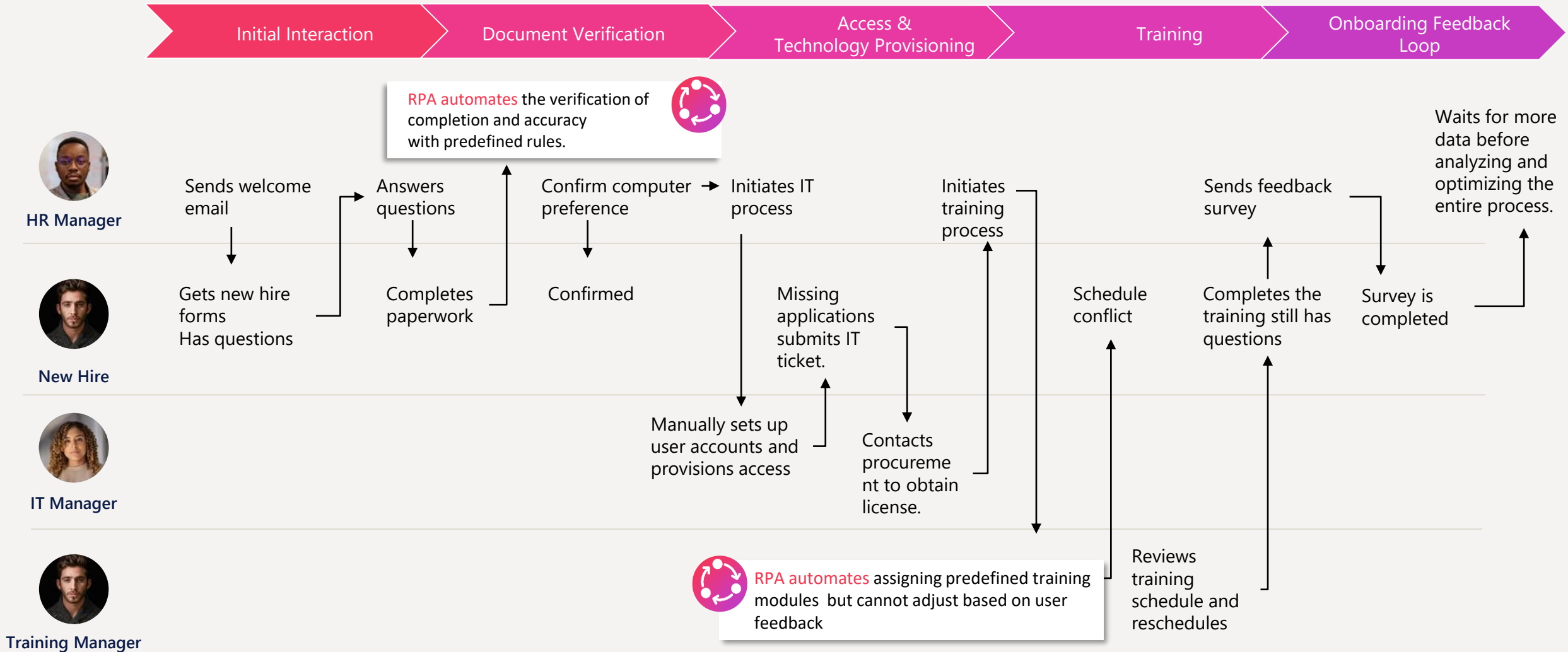
Take actions to automate workflows, and replace repetitive tasks for users

Generally available

Advanced

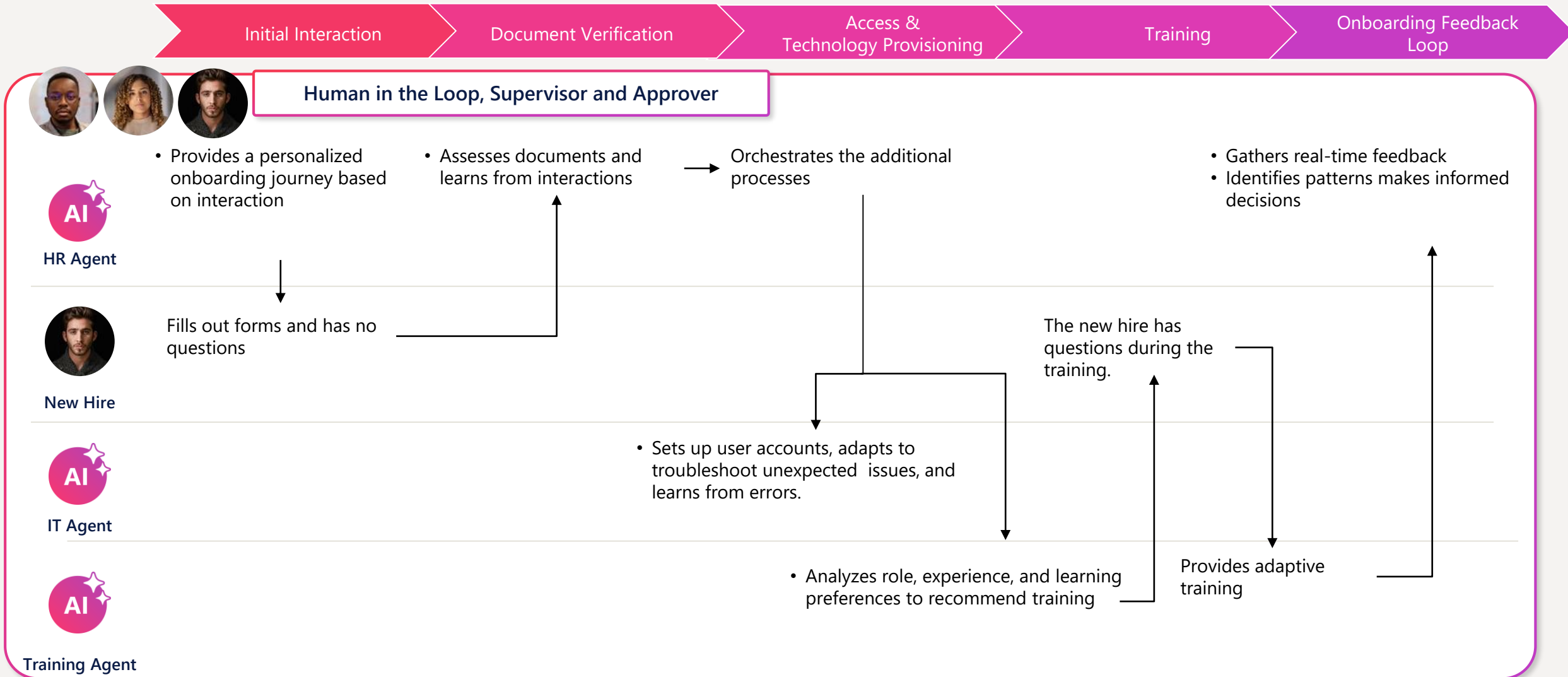
TODAY

Existing solutions can only automate very specific tasks that have clear inputs and outputs



TOMORROW

With AI Agents, these steps can be automated for the first time, while keeping human in the loop.



The background features a vertical gradient from purple at the bottom to blue at the top. On the left side, several thin, white, curved lines sweep across the frame, creating a sense of motion and depth.

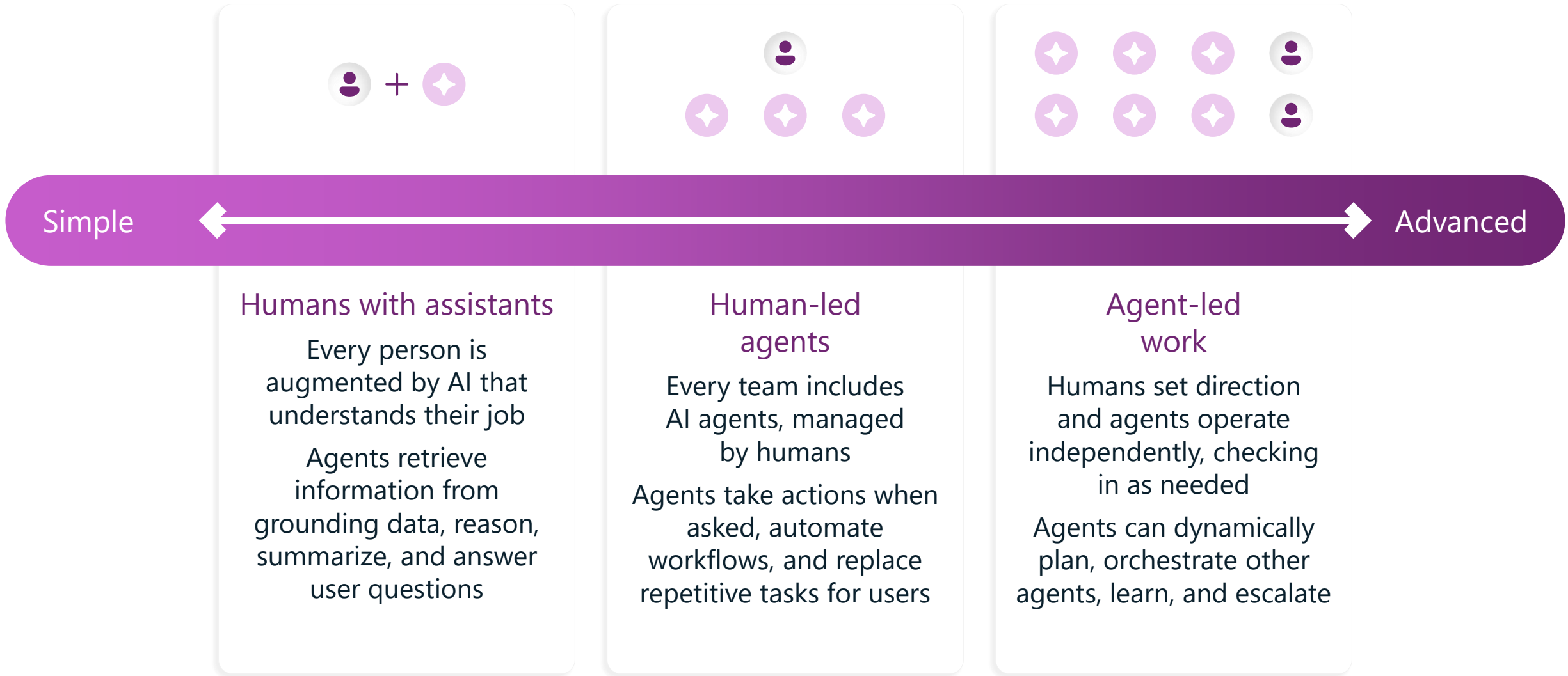
Common

Common Design Patterns

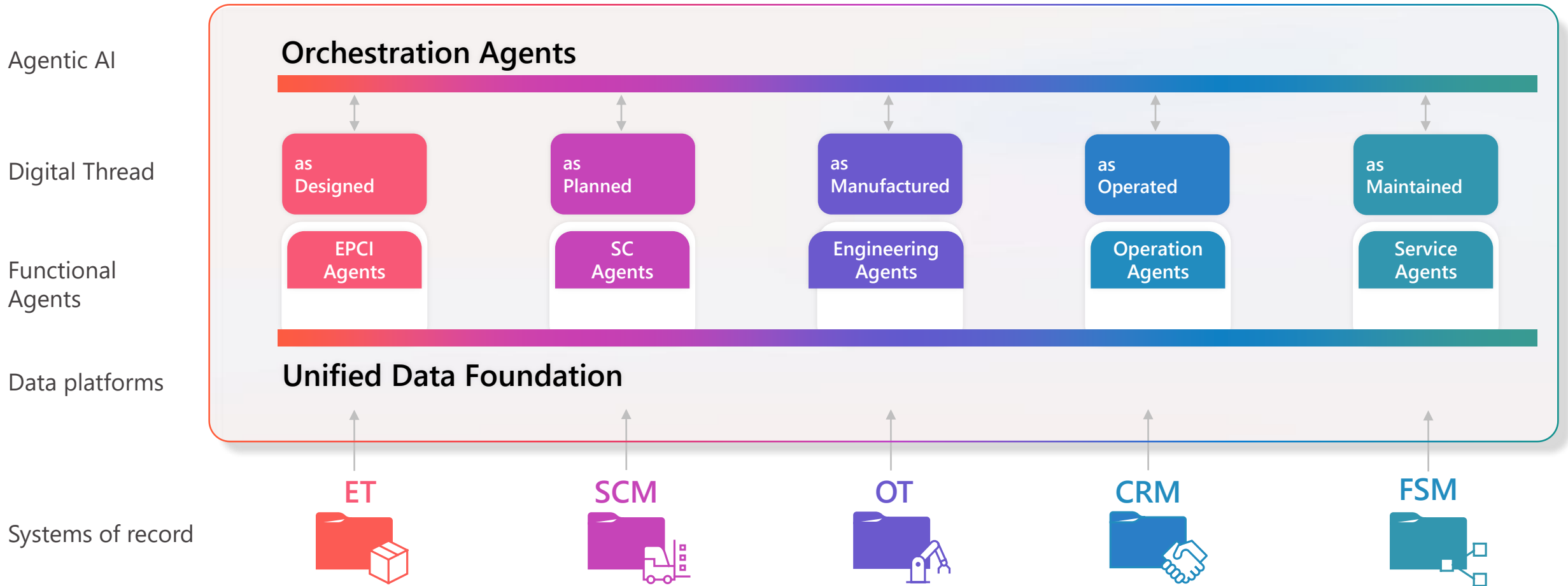
Design

Patterns

Levels of Industrial Agentic Transformation



An *agentic* Digital Thread



Common Design Patterns

RAG Agent



Code Generation Agent



Multi-agent Systems



Multi-domain Agent Systems




Drive efficiency with agents purpose-built for energy and resources




Protect and strengthen critical infrastructure and energy and resources operations

- [Microsoft Security Copilot agents](#) 1st party
- [Partner agents in Microsoft Security Copilot](#) Partner




Improve frontline worker productivity and safety with real-time insights

- [Employee self-service agent in Microsoft 365 Copilot](#) Build
- [Factory Safety agent](#) 1st party
- [Copilot for Utilities](#) Partner
- [Microsoft 365 Copilot for Service](#) 1st party
- [Autonomous service agents in Dynamics 365](#) 1st party




Enhance energy and resources resilience and risk management with data-powered decision making and AI-powered forecasting

- [Energy asset evaluation accelerator](#) 1st party
- [Analyst in Microsoft 365 Copilot](#) 1st party
- [Researcher in Microsoft 365 Copilot](#) 1st party
- [S&P Global AI Ready Data](#) Partner



Streamline energy and resources permitting and automate complex utility rate case workflows


- [Permitting accelerator](#) 1st party
- [Neudesic AI Rate Case Assistant](#) Partner



Accelerate exploration with generated insights and intelligent search

- [Search and summary](#) 1st party
- [Simulations and modeling](#) Build

 Watch the [analyst](#) and [researcher](#) agents in action

The background features a smooth gradient from purple on the left to blue on the right. On the left side, several thin, white, curved lines sweep across the frame, creating a sense of motion and depth.

AI in Energy in Practice



Eneco moves to Microsoft Copilot Studio to better support over 1.5 million customers

[Read full story here](#)



Microsoft Copilot Studio has provided us with dramatically better guard railing than our previous chatbot and also enables better intent recognition and control of responses to customer questions.”

– Ellen Van Caillie,
Head of conversational AI, Eneco

Situation

Eneco is a leading provider of sustainable energy in Belgium, serving over 1.5 million customers in consumer and businesses markets. Eneco runs multiple service channels including web, mail, telephone and live chat. However, growing call volumes had become increasingly difficult to manage. The system was already coming under strain as far back as 2022, when inbound traffic almost doubled during the COVID pandemic.

Solution

To address the problem, the company decided to move to a new platform – Microsoft Copilot Studio. Eneco was already using multiple Microsoft technologies which worked seamlessly with the platform. Better yet, the development team found that Copilot Studio enabled better control of the conversational experience.

Impact

The performance of the new AI agent has been impressive, with an intent recognition score of over 95%. More effective recognition of a customer’s needs combined with ongoing training of the model has led to a better conversational experience overall. In fact, 67% of customer conversations can be managed satisfactorily by the AI agent without requiring hand-off to a live agent. With the previous chatbot, only 40% of conversations could be managed without live agent support.



Enerjisa Üretim revolutionizes sustainable energy management with Microsoft Azure and AI

[Read full story here](#)



We can predict average daily production for turbines for the next two months. The prediction isn't a simple extrapolation of our current production values. It considers the condition of assets, upcoming site availability, weather conditions, wind speed, and even factors like rain that may reduce turbine efficiency."

– Ali İnal,
Deputy General Manager, IT and Digital Business, Enerjisa Üretim,

Situation

Enerjisa Üretim is the leading player in Türkiye's energy sector, with 57 percent of its energy portfolio consisting of domestic and renewable resources. Operating 27 power plants – comprising wind, hydroelectric, solar, natural gas, and domestic lignite – Enerjisa Üretim has a diversified generation capacity of 3.7 GW – enough to power approximately 2.5 to 3.6 million homes. But the energy sector requires constant innovation and vigilance.

Solution

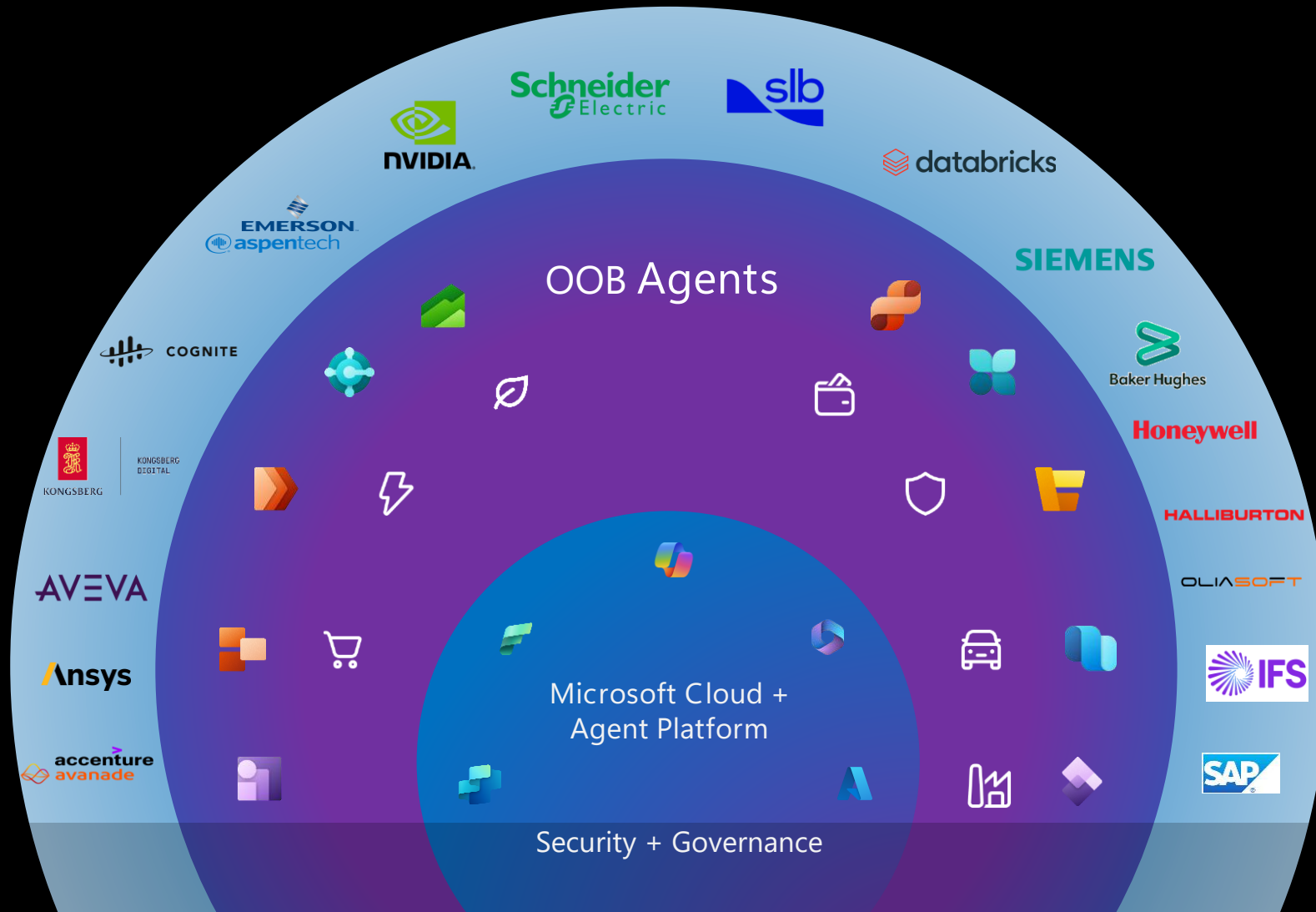
Enerjisa Üretim embraced the power of artificial intelligence (AI) to redefine energy production. It developed Onepact AI, which uses Azure OpenAI Service, to access and analyze its IOT data collected from ~40.000 datapoints combined and correlated with operational data.

Impact

This solution increased the efficiency and ease of operation of more than 20 power plants. Previously, the team commented that this work would have required a team with an energy expert, a market expert, and a meteorological expert, and would likely take a week to compile. Now with Generative AI, the company can get an answer in seconds.

Our Call to Action

Ecosystem Acceleration and Scale



The background features a vertical gradient from purple on the left to blue on the right. On the left side, several thin, white, curved lines sweep across the frame, creating a sense of motion and depth.

Thank you!