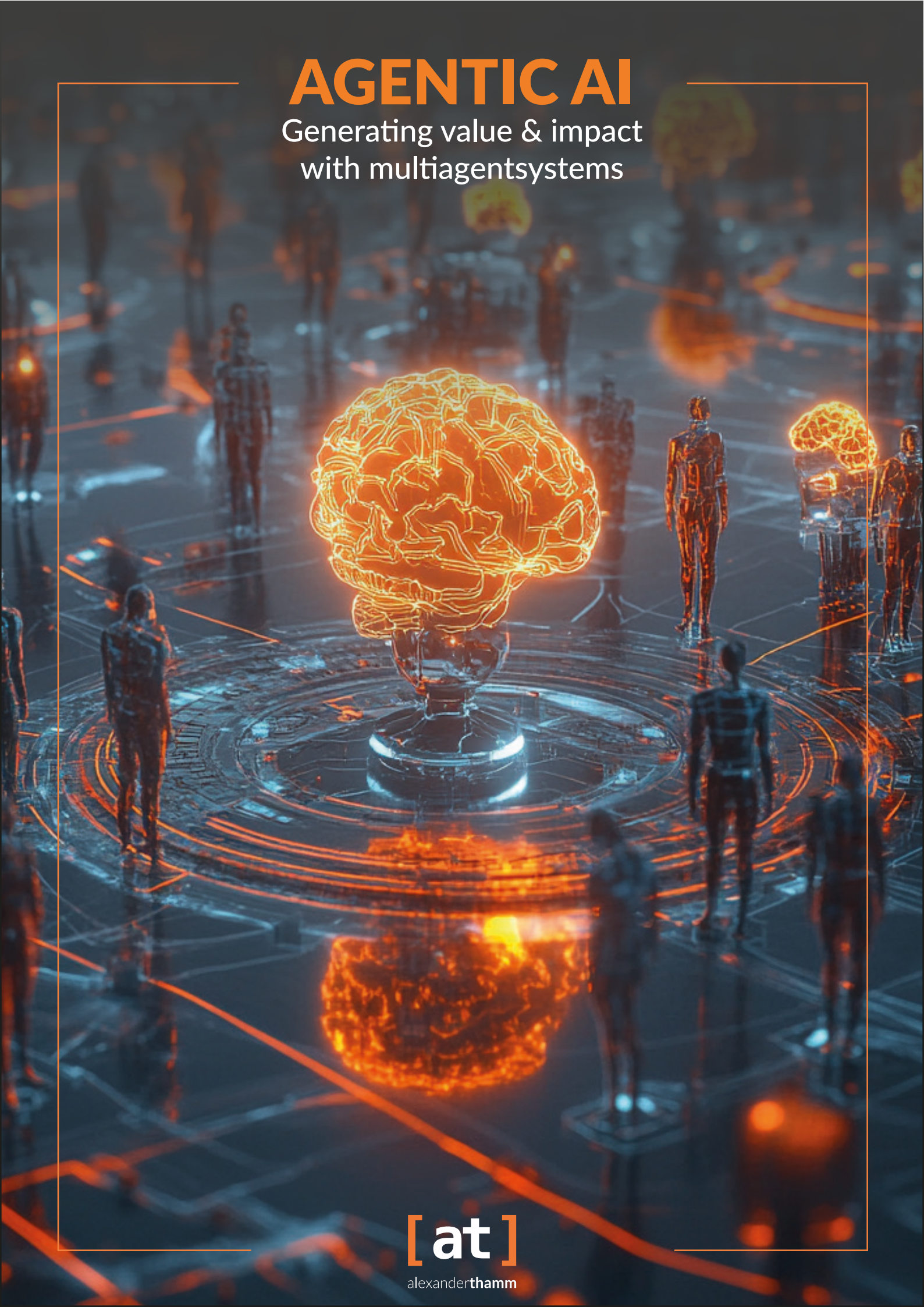
AGENTIC AI

Generating value & impact with multiagentsystems



[at]

alexanderthamm

Agentic AI: multiagent-systems in business

AI agents have enormous potential to fundamentally transform how businesses operate. They mark the beginning of a new era of AI, where autonomous agents collaborate, communicate, and coordinate complex actions to achieve shared goals in dynamic environments. This capability makes them a valuable tool for business operations, offering significant advantages such as increased efficiency, cost savings, and enhanced scalability.

Business Benefits of AI Agents:

Automation of Complex Processes:
AI agents can autonomously perform routine and complex tasks, reducing the workload on human employees and enabling better resource utilization.

Optimization and Adaptability:
With memory and planning modules, AI agents leverage historical data to make accurate decisions and adapt to changing conditions.

Enhanced Customer Support:
By delivering contextual and personalized responses, they improve customer experiences and reduce response times.

Increased Security:
AI agents assist in detecting fraud by analyzing transaction data in real time and responding to anomalies.

Flexibility and Scalability:
Businesses can easily scale their processes as AI agents efficiently handle large volumes of data, providing valuable insights for strategic decisions.

Value for Your Business:
Integrating AI agents unlocks new opportunities for enhancing efficiency, saving time and costs, and enabling companies to dynamically adapt to market changes. From automated customer support to forecasting business needs, agentic AI offers a clear competitive advantage. Discover the potential of this technology to optimize your operations and drive sustainable success.

Summary:
„Agentic AI“ provides significant business benefits. In manufacturing, [at] achieves cost savings of 17%-27%, and in software development, up to 35%. As a pioneer in multi-agent solutions, [at] has already implemented numerous projects for its European clients. Below is an overview of individual success stories showcasing the impact of „Agentic AI.“

About [at]:

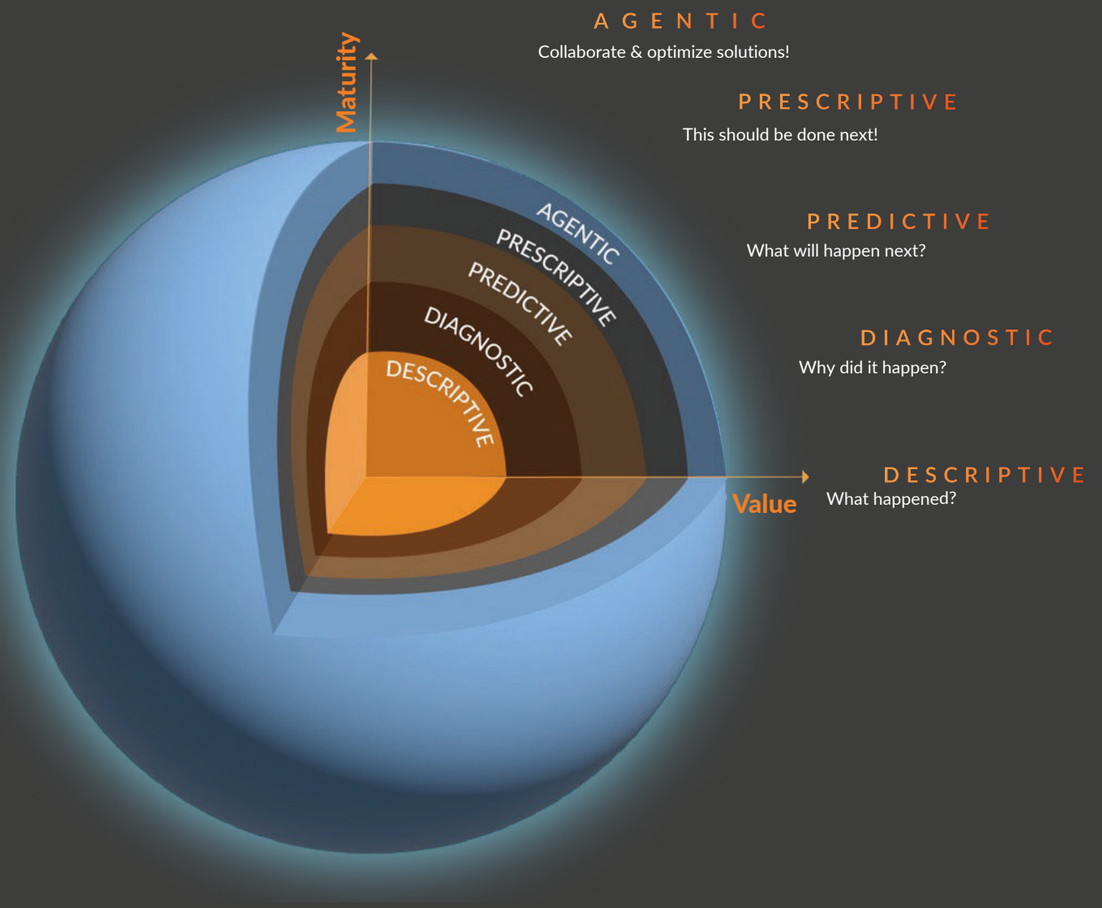
Alexander Thamm GmbH, abbreviated as [at], is a consulting firm specializing in data and artificial intelligence. Founded in 2012 by Alexander Thamm, it now employs over 500 people and is one of the leading consultancies in Europe. [at] sees itself as a partner that combines expert advice with concrete implementation. To date, [at] has successfully completed more than 2,500 data and AI projects. The firm supports numerous DAX-listed companies and medium-sized enterprises on their data journey and operates locations in Germany (Munich, Berlin, Cologne, Frankfurt, Stuttgart, Leipzig, Essen), Austria (Innsbruck, Vienna), and Switzerland (Zurich).

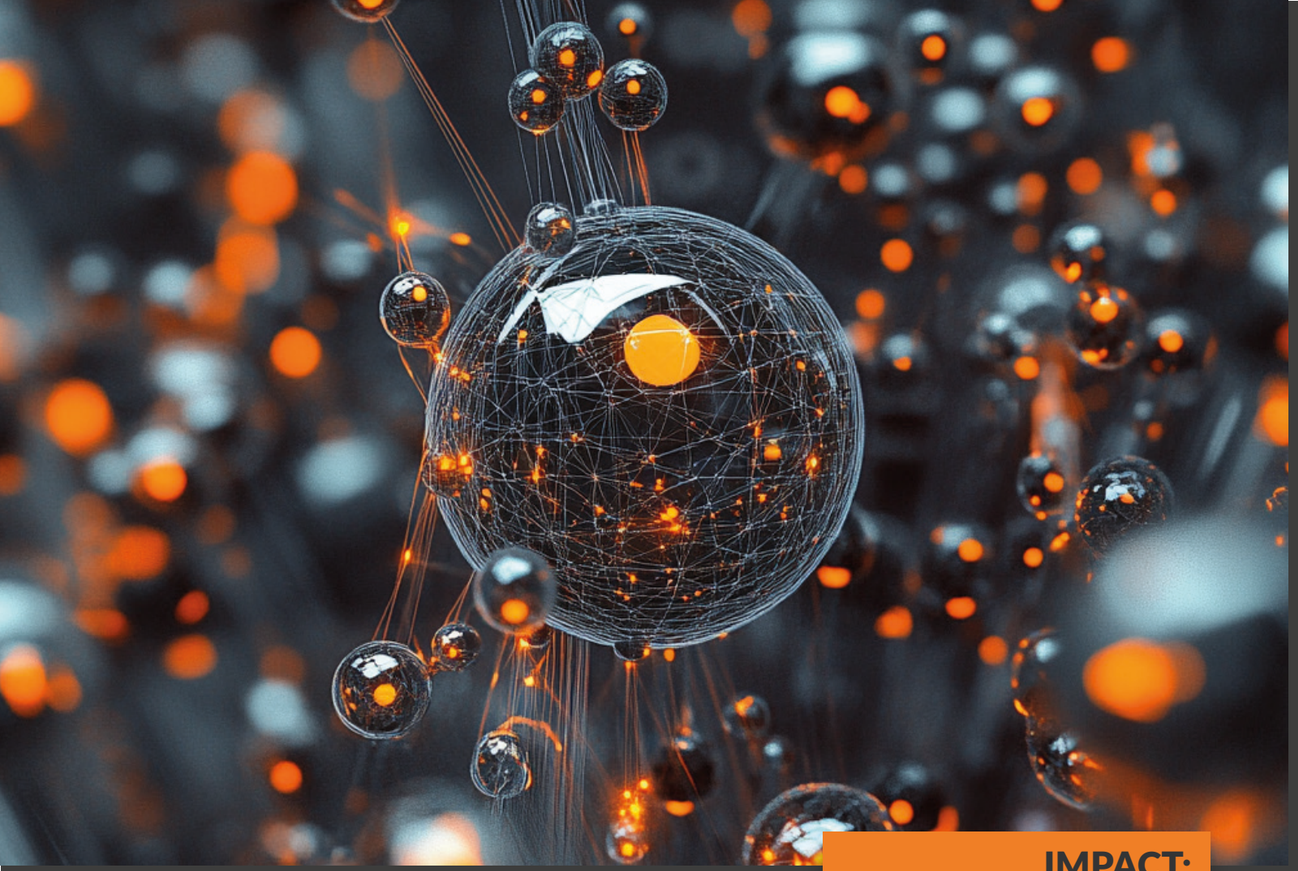
Agentic AI: Maturity Model

The more mature the AI system, the greater the value it delivers.

Over time, we‘ve progressed from descriptive AI (analyzing what happened) to diagnostic AI (understanding why it happened), then to predictive AI (forecasting what will happen next), followed by prescriptive AI (suggesting what actions to take).

Today, we’re entering the era of agentic AI - where systems not only perform all of the above but also collaborate with other systems and people to optimize solutions. Agentic AI acts autonomously, driven by networked, self-learning agents that work together and adapt dynamically. Their ultimate goal is to create synergies and solve complex problems in real-time, creating unprecedented value across applications.





Agentic AI in marketing

IMPACT:
66% less time needed

Challenge
Creating marketing texts for a leading automotive manufacturer is a resource-intensive and repetitive process that significantly impacts efficiency and productivity. Additionally, consistently adhering to brand guidelines poses an ongoing challenge, making it difficult to ensure a unified tone and consistent language style across all communication channels.

Solution
To address these challenges, [at] developed a solution leveraging the power of Large Language Models (LLMs): a Marketing Text Generator with an integrated RAG (Retrieval-Augmented Generation) system. This tool generates new, high-quality marketing texts based on existing content and user input. Complementing this is the Brand Tonality Assistant, which analyzes and optimizes input texts to ensure adherence to company-wide guidelines and maintain brand consistency.

Result
The results are impressive. Transitioning from proof of concept to production was achieved in just six months, with a Minimum Viable Product (MVP) available after only four months. The use of serverless infrastructure enabled a scalable solution for 40-50 users while keeping costs low, even during scale-to-zero operations. Furthermore, the modular design of the software allowed for easy customization for future projects, extending its benefits beyond the initial implementation.

Agentic AI in sustainability

Challenge
An energy company faced the challenge of developing an app that helps users make sustainable decisions, thereby reducing their ecological footprint. The app also needed to provide personalized product and content recommendations based on user preferences, encouraging environmentally conscious actions.

Solution
The GenAI-based app implemented by [at] is a prime example of the capabilities of multi-agent systems (MAS). Unlike traditional LLMs or chatbots, where users interact with a single bot (agent), this app employs a network of specialized agents that collaboratively address user requests. Each agent has access to multiple tools to effectively process queries.

The system architecture supports large language models and allows the integration of open-source alternatives. Additionally, the system learns from user behavior and can immediately utilize new information and products. To protect privacy, all data within the system is anonymized before being shared with external services.

Result
The result is an intuitive MAS chatbot that provides users with a quick and easy way to explore sustainability in-depth. It supports users in effectively reducing their ecological footprint, making sustainable living more accessible and actionable.

IMPACT:
ø 10Kg CO2 reduction / user

IMPACT:
13 mio € saved

Agentic AI in production

Challenge
Root cause analysis in production-related quality management in the automotive industry is often time-consuming and requires significant resources. To conduct thorough and precise investigations, data from various areas must be collected and comprehensively analyzed.

Solution
Instead of manual creation, such as building an Ishikawa diagram with categories like „Man," „Machine," „Method," „Environment," and „Material," a multi-agent system (MAS) automatically analyzes the available production data. The agent setup mimics real roles within the company, facilitating communication between quality managers, production leads, and developers.
A project manager agent oversees the conversation flow and ensures targeted coordination.

Result
The agents are modeled and equipped with the necessary information. They communicate with each other and can incorporate chatbots from other business areas when needed.
This cooperative communication enables a partial Ishikawa analysis to be generated within minutes.

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