



Shaping the Future of Work: **The Impact of Autonomous Agency and AGI**

V0.1

Is the rise of **Artificial General Intelligence (AGI)** the beginning of the new era of **Autonomous Agency**?



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Since OpenAI released ChatGPT to the world in November 2022, the internet has been in super-hype mode again. Within a week, **ChatGPT** had gained 1 million users, and since then, we've seen it develop through a number of releases. On March 14th 2023, to much pomp, the latest version of the large language model (LLM) that ChatGPT is powered by, **GTP-4, was released**. This technology promises improved capabilities such as advanced reasoning, the ability to handle complex instructions, and increased creativity.

Before we explore the potential of GTP-4, let's rewind, what are ChatGPT and GTP-4? Well, ChatGPT is an AI-based conversational agent, or chatbot, that uses **natural language processing (NLP)** and **machine learning** to understand and respond to human language. It's based on OpenAI's GPT (**Generative Pretrained Transformer**) architecture, a deep learning model that has been pre-trained on vast amounts of text data. GPT-4 is the latest release of that Generative Pre-trained Transformer architecture that powers ChatGPT.

OpenAI has also made GPT-4 available as an API for developers to build applications and services. As a result, we are currently witnessing unprecedented advancements in the realm of AI applications, the likes of which have never been seen before.

Some people in this technology-driven world have even whispered that we're witnessing the birth of early-stage **Artificial General Intelligence or AGI**. AGI has, of late, become a bit of a buzzphrase, but what is it? For many, AGI is seen as the end goal of AI development; intelligent, autonomous systems that can perform any task set to them and potentially do it better than humans.

As a result of the developer community's ability to access GPT-4 and experiment, we've seen a number of early-stage AGI projects take shape. These include **AutoGPT**, described as 'an experimental open-source application showcasing the capabilities of GPT-4. Its program chains together GPT-4 "thoughts" to autonomously achieve whatever goal you set it. It's one of the first examples of **GPT-4 running fully autonomously**, pushing the boundaries of what is possible with AI.

AutoGPT's features include accessing **the internet for searches** and information gathering, long-term and short-term memory management, GPT-4 instances for text generation, access to popular websites and platforms, and file storage and summarisation with GPT-3.5.

AutoGPT can autonomously rationalise, reflect upon, and improve its behaviour. Give AutoGPT an objective, and it reasons and reflects through a feedback loop of plan, criticise, act, read feedback and plan again, and prompts itself autonomously to complete the said objective. That means it writes its own code. This really does have significant implications for the future of work, including areas such as **DevOps, AIOps, ITSM and ITOM**.



Read more: [ChatGPT Stats and Insights You Can't-Miss](#)

The future is here, how on earth do we deal with it?!

All very exciting these advances, right? However, they've happened so quickly that many people (including the likes of Tesla CEO Elon Musk and Apple co-founder Steve Wozniak) have petitioned to halt work on AI systems that are able to compete with human intelligence.

There are indeed many pessimistic, and some may say, dystopian perspectives, suggesting that if left unchecked, we could face an onslaught of pervasive disinformation and the yielding of human jobs to machines. The genie is well and truly out of the bottle, for better or worse. Alongside that, there's the question of **how and when** organisations will integrate this technology into their business ecosystems. And what kind of structures need to be in place to maintain the integrity of an organisation through and beyond such change.

So are organisations ready for this kind of leap into the future of work?

Many may think absolutely not. However, although the genie is well and truly out of the bottle, it's also opened up a whole new discussion and debate on exactly that subject. The future is here, so how on earth do we deal with it?



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Defining Autonomous Agency

Autonomous agency theory is a concept in social psychology that emphasises the idea that individuals have a certain **level of control** and agency over their own lives, decisions, and actions. According to this theory, individuals are not just passive recipients of their environment, but they actively engage with, and influence their surroundings.

Autonomous agency theory emphasises the importance of personal responsibility and self-determination in shaping one's own life and achieving individual goals. It proposes that individuals can **act independently** and make their own choices rather than being purely shaped by their environment or external factors.

In an organisation, **leadership and management structures** offer their form of autonomous agency to support the achievement of strategic and operational goals. The clearest example of this is the human-to-human relationship. A relationship where line management is tasked with objectives and goals to fulfil directly or by delegating tasks to a team of humans for whom the manager is accountable. In this human-to-human relationship, a manager may use a **mix of supervised or unsupervised** engagement to facilitate achieving goals.

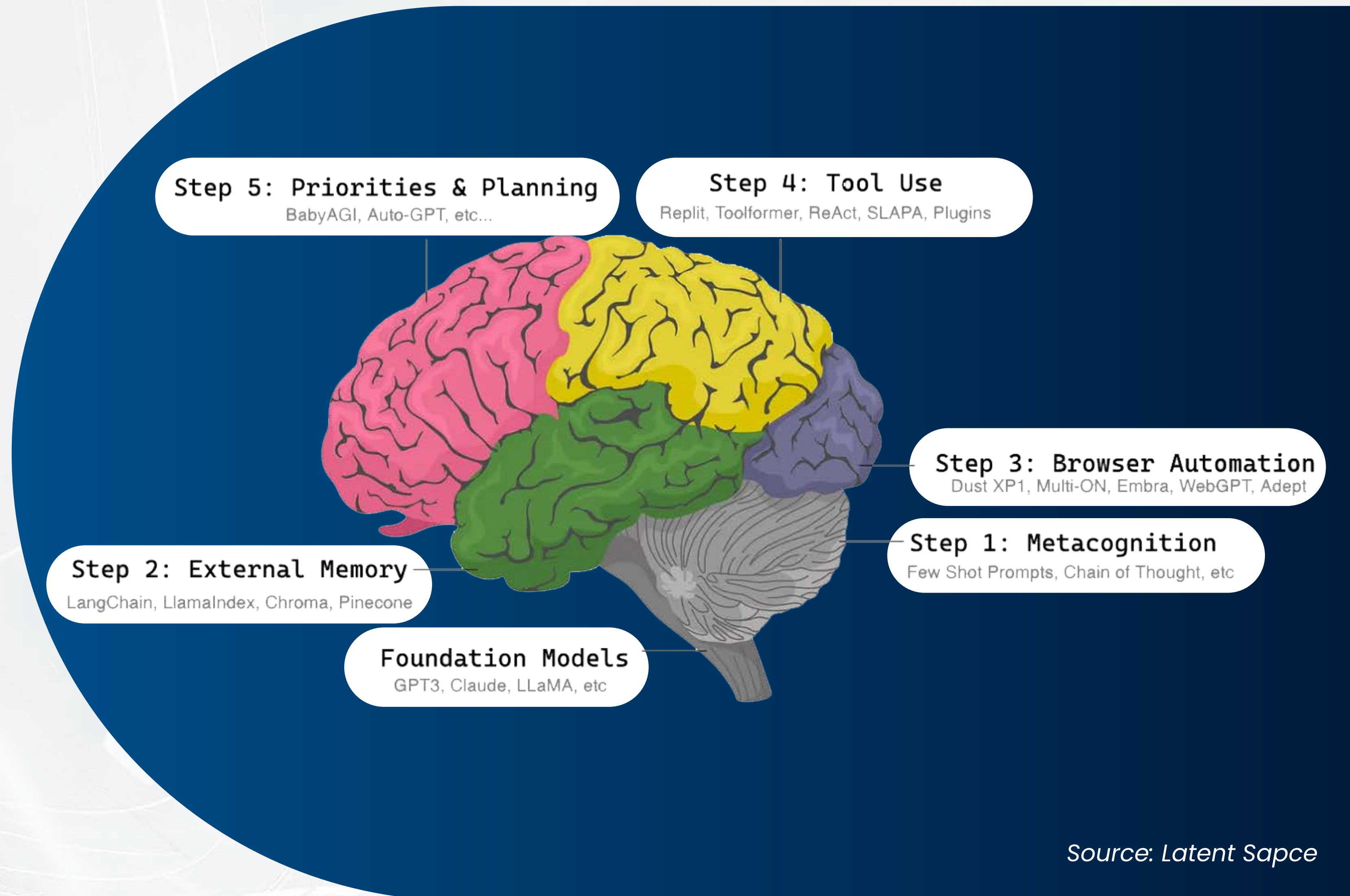
The mix of autonomous agency used to achieve goals in a **human-to-human** the relationship may vary depending on impact, urgency, process adherence, policy, legislation, compliance, contractual obligations, service levels, performance management and success factors. Other considerations relating to the mix of a human-to-human autonomous agency in an organisation may relate to management styles, organisational culture, or the levels of trust between people. Many of us, for example, will have experienced the difference between being micromanaged and being empowered whilst completing objectives.

With the emergence of **early-stage AGI**, it's worth contemplating the various relationships within an organisation and the degree of autonomous agency inherent in them. Understanding these dynamics may be instrumental in addressing the potential challenges that advanced AI technology will bring.

The Anatomy of Autonomy

The field of **autonomous intelligence** is rapidly advancing, and there are numerous ways to define it. Our brains become more intelligent when we challenge ourselves and engage in complex thinking. Similarly, autonomous AI systems can learn from data, make decisions, and perform tasks without any human input.

The one thing that all autonomous AI systems have in common is **self-determination**. They can determine how to act independently without just following human instructions. So it's crucial to address how we use autonomous AI technology safely and responsibly as it continues to develop.



Source: Latent Sapce

Autonomous Agency Relationships

There are **3 key autonomous agency relationships** in an organisation, **human to human, human to machine and machine to machine**. The underlying concept suggests that autonomous agency serves as a connecting thread among these relationships, thereby bolstering the operational framework an organisation employs to accomplish its objectives.



Human to human

- **Individuals:** Individuals have agency and control over their own actions and can make decisions based on their own values and goals.
- **Organisational context:** Fostering employee responsibility and alignment with the organisation's objectives.
- **Managerial support:** Providing employees with autonomy and decision-making power and creating a culture of trust and collaboration.

Human to machine

- **Individuals:** Individuals have agency over their interactions with technology and can make decisions about how to use technology to support their own goals.
- **Organisational context:** Empowering employees to use technology in a way that aligns with the organisation's objectives.
- **Managerial support:** Providing employees with training and resources and ensuring technology is user-friendly and aligned with the organisation's goals.

Machine to machine

- **Machines:** Machines can have agency and control over their own actions and can make decisions based on their programming and inputs.
- **Organisational context:** Machines should be designed to align with the organisation's objectives and programmed to make decisions that support those objectives.
- **Managerial support:** Monitoring machine behaviour to ensure that it aligns with the organisation's goals.

Focussing on the machine to machine relationship

Let's consider the **machine-to-machine (M2M)** relationship and the impact of AGI working autonomously to achieve goals. There are a number of factors to consider that could help manage the level of autonomous agency, and the good news is, none of this is new, why? Well, because IT service management has spent the last 30-plus years developing practices that can be applied to all the relationships we've previously discussed. And some of these factors include:

01 Defining clear goals and objectives

02 Governance and oversight mechanisms

03 Identifying potential risks and developing risk management strategies

04 Compliance with relevant laws, regulations, and industry standards

05 Establishing ethical guidelines

06 Security and protection

07 Training and testing

08 Human oversight

09 Data governance

10 Interoperability

11 Scalability

12 Sustainability

13 Privacy

14 Accountability

15 Transparency

16 Effective human-machine interaction

Defining clear goals and objectives for autonomous machines ensures that their actions and decisions align with the organisation's objectives. They can provide a way to evaluate autonomous machines' performance and assess their value. Without clear goals and objectives, autonomous machines may act in ways that can lead to unintended consequences and potential negative impacts.

Governance and oversight mechanisms are critical for ensuring autonomous machines' safe and ethical use. So it's important to ensure their actions align with ethical and legal standards. Without adequate governance and oversight, there is a risk that autonomous machines may operate outside these boundaries, leading to unintended consequences, negative impacts, and even legal consequences.

Identifying potential risks and developing risk management strategies is crucial for the safe and effective use of autonomous machines, as their decisions may have far-reaching impacts. Without this groundwork, organisations may not be equipped to deal with unforeseen events, which could lead to technical failures and malicious attacks. Developing contingency plans, implementing security protocols, and establishing procedures for monitoring and reporting risks can help organisations mitigate AGI's potential negative impact and ensure the ethical and responsible use of autonomous machines.

Compliance with relevant laws, regulations, and industry standards is crucial for autonomous machines' ethical and legal use. Failure to comply with laws or regulations could lead to legal and financial penalties, reputational damage, and a negative stakeholder impact. Compliance can include things like establishing procedures for monitoring and reporting violations, conducting regular audits, and ensuring that employees and stakeholders are aware of relevant laws and regulations.



"Without ethical guidelines, there is a risk of unintended consequences and potential negative impacts."

Establishing ethical guidelines for autonomous machines is vital for promoting their responsible and ethical use. Ethical guidelines help to ensure that machines operate within defined ethical boundaries, promoting responsible use and building trust with stakeholders. This includes guidelines for decision-making, data privacy, and transparency, which can also help address issues related to bias and fairness.

Security and protection against cyber threats are essential for autonomous machines' safe and effective use. Without proper security measures, there is a risk of cyber attacks that could compromise the behaviour of machines and an organisation's security. By implementing robust security measures, such as encryption, access controls, intrusion detection and prevention systems, organisations can mitigate potential risks, promote responsible use, and build trust and confidence in using these technologies.

Training and testing are crucial for ensuring autonomous machines' effective and safe use. Additionally, proper training and testing ensure that machine behaviour aligns with the organisation's goals and objectives. They also provide an opportunity to identify and address any issues or concerns before full operation, promoting responsible use and mitigating potential risk.

Human oversight is vital for promoting responsible decision-making and ensuring autonomous machines' ethical and effective use. It fosters transparency, builds stakeholder trust, and provides control, intervention, and accountability when needed. Implementing mechanisms for human oversight ensures that machine actions align with ethical, legal, and organisational standards.

Data governance is crucial for the reliable and responsible use of autonomous machines. Ensuring accurate, reliable, and standardised data is essential for their decision-making processes. Flawed or biased data can lead to unreliable outcomes and unintended consequences. By implementing robust data governance practices, organisations can ensure the accuracy and reliability of the data used by autonomous machines, enhancing their performance and minimising risks.

Interoperability is essential for seamless integration and collaboration between autonomous machines and other systems within an organisation's ecosystem. It ensures compatibility, efficient communication, and data exchange. It also supports scalability, adaptability, and future growth, allowing for the incorporation of new machines without disruptions. All of that enables organisations to maximise the potential of autonomous machines by facilitating streamlined workflows and optimising operational effectiveness.

Scalability is crucial for effectively utilising autonomous machines, allowing them to adapt to changing demands. With scalability, organisations can efficiently allocate resources based on workload variations, ensuring optimal performance and operational agility. It enables organisations to meet increased demand or reduce capacity during periods of lower demand, enhancing cost-effectiveness and resource utilisation. Scalability is essential for maximising the value and efficiency of autonomous machines in dynamic operational environments.

Sustainability is critical for the responsible use of autonomous machines as it addresses their environmental impact. Organisations can minimise their carbon footprint and optimise resource utilisation by designing them with sustainability in mind. This benefits the environment and aligns with societal expectations and corporate social responsibility. Sustainable design choices can lead to cost savings and enhance financial sustainability.



Protecting privacy is essential for the responsible use of autonomous machines, safeguarding personal information, and maintaining customer confidence in an era where privacy concerns are critical. By prioritising privacy, organisations can establish trust, prevent privacy breaches, and avoid legal and reputational risks.

Accountability is crucial for the responsible use of autonomous machines. It addresses issues promptly and enhances trust and confidence in deploying autonomous machines. Organisations can trace errors or mistakes back to their source by establishing a transparent chain of accountability. To ensure accountability, it's important to maintain logs, conduct audits, and establish error reporting and resolution mechanisms.

Transparency allows stakeholders to assess autonomous machines' fairness, bias, and ethical implications, promoting accountability and addressing potential risks. It also builds trust and confidence among employees, customers, and regulators. By explaining their decisions and understanding their behaviour, organisations can foster trust, address concerns, and ensure autonomous machines' responsible and ethical use.

Effective human-machine interaction is crucial for seamless collaboration and building trust between humans and autonomous machines. Organisations can facilitate human oversight and leverage human expertise in decision-making processes by prioritising human-machine interaction.



Prioritising human-machine interaction is essential for building trust, enabling effective collaboration, and ensuring the responsible integration of autonomous machines.



M2M Autonomous Agency Framework

With all this considered, it's clear that managing the level of **autonomy in M2M relationships** requires considerations beyond the technical capabilities that autonomous machines can offer. That means we may need to consider new ways to interact with intelligent technology in ways that resemble how we interact with other humans. To do that, **reframing traditional frameworks** and incorporating new theoretical methodologies will need to translate into practical, why, what, and how, advice and guidance. Taking this thought process one step further, a draft governance framework could look something like this.

1. Purpose and Scope

- Clearly define the purpose and scope for using autonomous agents and AGI.
- Define the organisational objectives that autonomous agents and AGI are expected to support.

2. Goals and objectives

- Establish clear and measurable goals for the use of autonomous agents and AGI.
- Ensure that the use of autonomous agents and AGI aligns with the organisation's broader goals and values.

3. Governance and oversight

- Establish a governance framework for the use of autonomous agents and AGI.
- Define the roles and responsibilities of individuals and teams involved in developing, deploying, and overseeing autonomous agents and AGI.
- Establish procedures for monitoring and regulating the behaviour of autonomous agents and AGI.

4. Ethics

- Establish ethical guidelines that promote the responsible use of autonomous agents and AGI.
- Develop standards for fairness, transparency, and accountability in decision-making processes.
- Ensure that the use of autonomous agents and AGI aligns with the organisation's broader ethical values.

5. Compliance

- Ensure that autonomous agents and AGI use comply with relevant laws, regulations, and industry standards.
- Establish procedures for monitoring and reporting compliance violations.
- Conduct regular audits to ensure compliance.

6. Security

- Develop security protocols to safeguard the use of autonomous agents and AGI.
- Ensure that data collected and used by autonomous agents and AGI is secure and confidential.
- Conduct regular security assessments and address identified vulnerabilities.

7. Risk Management

- Develop risk management strategies to identify and mitigate potential risks of using autonomous agents and AGI.
- Establish procedures for monitoring and reporting risks.
- Develop contingency plans for managing unforeseen risks.

8. Transparency

- Ensure that the use of autonomous agents and AGI is transparent to stakeholders.
- Provide clear and understandable explanations of how autonomous agents and AGI make decisions.
- Develop methods for stakeholders to access and review data used by autonomous agents and AGI.

M2M Autonomous Agency Framework

9. Accountability

- Establish clear lines of accountability for the development, deployment, and oversight of autonomous agents and AGI.
- Define roles and responsibilities for individuals and teams.
- Develop procedures for addressing ethical and legal violations.

10. Training and Awareness

- Ensure employees have the necessary skills and knowledge to operate and maintain autonomous agents and AGI.
- Educate stakeholders on the benefits and potential risks of autonomous agents and AGI.
- Train and test the autonomous agents and AGI to ensure that they operate effectively and safely.

12. Continuous Improvement

- Continuously evaluate the effectiveness of the governance framework for autonomous agents and AGI.
- Conduct regular assessments of the use of autonomous agents and AGI to identify areas for improvement.
- Adapt the governance framework to technological changes, regulatory requirements, and industry best practices.

13. Data governance

- Develop a data governance framework that ensures the responsible collection, use, and sharing of data by autonomous agents and AGI.
- Include guidelines for data quality, security, privacy, and ownership.

14. Interoperability

- Develop standards for interoperability between autonomous agents and AGI.
- Develop standards for interoperability between autonomous agents and other systems within the organisation's ecosystem.
- Develop protocols for data exchange, communication, and integration.

15. Human-machine interaction and oversight

- Develop guidelines for the interaction between humans and autonomous agents and AGI.
- Include guidelines for human oversight, feedback, and intervention in autonomous decision-making processes.

16. Explainability

- Develop algorithms that can explain decisions made by autonomous agents and AGI.
- Develop plans for ensuring business continuity in the event of a failure or disruption to autonomous agents and AGI.
- Develop contingency plans and redundancy measures.

17. Social impact

- Develop a framework for assessing the social impact of autonomous agents and AGI.
- Identify potential unintended consequences and develop strategies to mitigate negative impacts and promote positive outcomes.

Wider body of knowledge

I've deliberately not discussed the **pros and cons of AGI** in this paper, there's plenty to consider, and this probably isn't the right place to open that can of worms. It will, however, be interesting to see how governments, countries, sectors, industries, organisations and individuals (including Elon Musk) come to terms with what's happening right now. We certainly need leadership and **collective unbiased advice** and guidance to help us come to terms with the fact future is here.



We don't need an AGI race. We don't need global power brokers battling for supremacy. We need honest, open, transparent global collaboration and a globally recognised governance framework outlining guidance for the ethical and responsible use of autonomous agents and AGI.

There may soon be a need to foster a collaborative body of knowledge, drawing from the **DevOps, AIOps, ITSM, and ITOM** communities. This collective wisdom could encompass a variety of subject matter including:

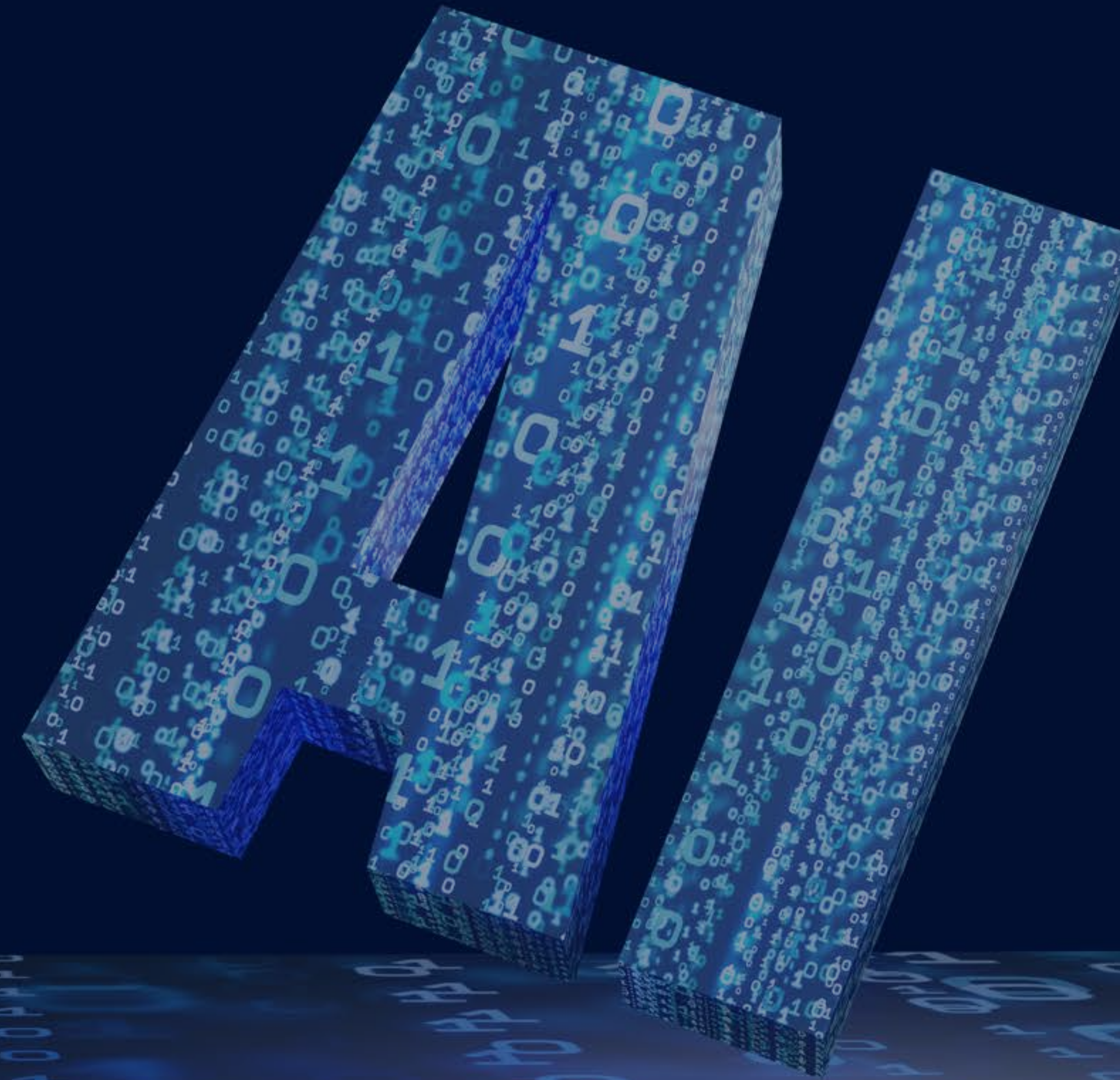
- The Advantages of Autonomous Agency
- Impact of Autonomous Agency on the Enterprise
- Increased Efficiency
- Cost Savings
- Improved Decision Making
- Increased Accuracy and Consistency
- Reduced Human Error
- Ethical Implications of Autonomous Agency
- Bias and Fairness
- Privacy and Security
- Accountability and Transparency
- The Legal and Regulatory Landscape of Autonomous Agency
- The Future of Autonomous Agency in the Enterprise
- Key Considerations for Implementing Autonomous Agency
- Defining Goals and Objectives
- Governance and Oversight
- Risk Management
- Compliance
- Ethics
- Security
- Training and Testing
- Human Oversight
- Data Governance
- Interoperability
- Scalability
- Sustainability
- Privacy
- Bias and Fairness
- Accountability
- Transparency
- Human-Machine Interaction

Conclusion

In conclusion, developing the concept of autonomous agency and creating a comprehensive governance framework for using autonomous machines and AGI is imperative in today's rapidly evolving technological landscape. Such an approach ensures that organisations can harness the potential of autonomous machines while mitigating risks, promoting responsible use, and aligning with ethical, legal, and societal considerations.

This approach offers numerous benefits by encompassing key aspects such as goal alignment, risk management, compliance, ethics, transparency, and human oversight. It enables organisations to maximise the value and effectiveness of autonomous machines, foster trust and accountability, ensure data privacy and security, address potential risks and unintended consequences, promote sustainability, and facilitate seamless collaboration between humans and machines.

Embracing this approach could empower organisations to navigate the challenges and unlock the transformative potential of autonomous machines, paving the way for a future of innovation, efficiency, and responsible technological advancement.



About SDI

The SDI company vision statement is "Connecting people globally to make their today and tomorrow better."

The SDI company mission statement is "Inspire Service Desk & Support Teams to be brilliant."

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