

# AI as Legal Persons: Past, Patterns, and Prospects

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**Abstract.** This chapter examines the evolving debate on AI legal personhood, emphasizing the role of path dependencies in shaping current trajectories and prospects. Two primary path dependencies emerge: prevailing legal theories on personhood (singularist vs. clustered) and the impact of technological advancements. We argue that these factors dynamically interact, with technological optimism fostering broader rights-based debates and periods of skepticism narrowing discussions to limited rights. Additional influences include regulatory cross-linkages (e.g., data privacy, liability, cybersecurity) and historical legal precedents. Current regulatory frameworks, particularly in the EU, generally resist extending legal personhood to AI systems. Case law suggests that without explicit legislation, courts are unlikely to grant AI legal personhood on their own. For this to happen, AI systems would first need to prove *de facto* legitimacy through sustained social participation. The chapter concludes by assessing near- and long-term prospects, from generative AI and AI agents in the next 5–20 years to transformative possibilities such as AI integration with human cognition via Brain-Machine Interfaces in a more distant future.

## 1. Introduction

A recurring tale often appears in discussions of legal personhood, originating from Gustav Schwarz's *Rechtssubjekt und Rechtszweck* ('Legal Subject and Purpose'). Schwarz opens with an imaginary dialogue between a group of ancient philosophers who, having awakened from centuries of slumber, are astonished by modern life (Schwarz, 1908).<sup>1</sup> In particular, observing a streetcar running along its tracks, the philosophers ponder its nature and the unseen force behind its movement. This dialogue unfolds as follows:

- 1<sup>st</sup> Philosopher: "There can't be a cart without a horse. Yet, this strange cart moves without any beast of burden in sight. Those who refuse to abandon logic must assume that a horse is present, albeit invisible — perhaps a fictitious one pulling the cart".
- 2<sup>nd</sup> Philosopher: "You're mistaken. No fiction can pull a cart. A real horse is essential, though it may not be visible now. We can assume it was present before or will appear later. There's no need for fiction: past or future horses pull the cart".
- 3<sup>rd</sup> Philosopher: "You're both wrong. There's no need to search for real or imaginary animals. It's evident that an organism is driving the cart — the streetcar company itself! It's like an individual with a head, torso, hands, and feet — representing its management, shareholders, and employees. And it has a will that moves the cart.
- 4<sup>th</sup> Philosopher: "You're all speaking in metaphors! Metaphorical hands and feet can't even push a stroller. This cart isn't driven by anyone, not even the person sitting in the front. The wiser conclusion is that these are horseless carts, somehow self-propelled".
- 5<sup>th</sup> Philosopher: "I am convinced! This must be a new kind of cart, powered by an entirely different force. Let's not confuse it with the old kind".

The philosophers conclude that a force does drive the cart, though its nature, rather than a specific animal pulling it, is what matters. In later versions of the story, a sixth philosopher joins the conversation, urging his colleagues to consider how human beings still govern it despite the new driving force. He argues that the question lies in understanding how humans control this force and for what purpose.

The tale mirrors the spectrum of thought in legal personhood theory, from rigid formalism to stark reductionism. It is also a reminder that extending legal personhood to new cases often relies on our capacity to draw persuasive analogies that resonate with a community's shared beliefs and values. And much like the philosophers grappling with the streetcar's operation, today's jurists face questions about the legal status of AI. What kind of "force" drives AI: is it purely human, artificial, or a blend? Yet, in the end, much like the streetcar dialogue, discussions of legal personhood tend to evolve from theoretical musing to pragmatic necessity—a pattern well illustrated by the historical development of corporate law, where abstract questions of personhood ultimately yield concrete needs for accountability and governance.

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<sup>1</sup> The same story is recounted in Paolo Zatti's book *Persone Giuridiche e Soggettività* (Zatti, 1975).

This chapter explores the evolving debate on AI legal personhood through a critical literature review, tracing current trajectories and emerging prospects. We argue that a complex web of path dependencies is at the heart of such debate.

The first path dependency is rooted in prevailing views on legal personhood, whether clustered or singularist (Section 2). The second type is tied to technological advancement and accessibility (Section 3). As AI systems master new domains—from visual perception to linguistic generation—these advances recalibrate our expectations and reframe discussions on AI’s legal status. Our analysis suggests that these two path dependencies are interconnected and fluctuate over time. During periods of technological optimism and commercial accessibility, the debate leans toward a cluster perspective, with arguments about extending a broader set of rights and responsibilities to AI akin to those of humans or corporations. Conversely, during times of skepticism or uncertainty about technological potential, discussions often reflect a singularist perspective, focusing on whether AI should be granted narrowly defined rights like those afforded to non-human animals or environmental entities.

Two additional strands of path dependency shape the debate on AI legal personhood: the influence of existing regulatory frameworks governing technology—such as data privacy, liability, and cybersecurity—and historical legal precedents (case law) for extending legal personhood to other entities, particularly corporations (Section 4). Regarding the first dimension, we will examine recent legislative proposals aimed at granting legal personhood to AI systems and current AI regulatory frameworks, focusing on data privacy, liability, and cybersecurity. Regulatory frameworks can either facilitate or hinder the recognition of AI personhood, depending on the consistency of interconnected rules. Our analysis will conclude that, particularly within the European Union, these frameworks tend to constrain rather than catalyze such expansion, their interconnected rules forming a cohesive resistance to change.

Concerning historical case law, we will argue that it provides a benchmark for assessing the feasibility of extending legal personhood to AI. Existing arguments frequently draw on the same criteria historically used to justify granting legal personhood to entities such as corporations, non-governmental organizations, and minority groups through judicial interpretation or legislative action. However, given the limited empirical evidence available, we anticipate that courts will be hesitant to grant AI legal personhood in the absence of supportive legislation. Such recognition is unlikely unless AI systems first achieve *de facto* legitimacy by exercising rights and fulfilling societal roles over an extended period.

We shall conclude the chapter by exploring the near- and long-term prospects of AI development, distinguishing between incremental advancements in generative models and autonomous agents over the next 5–20 years and more transformative possibilities, such as AI integration with human cognition through Brain-Machine Interfaces (BMIs), in the distant future (Section 5).

## **2. Singularist and Cluster Views of Legal Personhood**

The term “persona” was initially used in ancient Rome to denote the masks used by actors in theatre to represent different characters and those characters themselves. It moved then into law to refer to the various roles that humans may undertake on

the legal scene in substantive law (e.g., as debtors, creditors, or owners of property) or in procedural law (e.g., as plaintiffs or defendants) and then to denote the most abstract role, namely, the ability to participate in any kind legal interactions, vesting the corresponding roles.

In Roman law (for instance, in the Institutes by Gaius), the term “persona” applies to all human beings, divided into the two main subcategories of free and enslaved people. The idea is that in principle, abstracting from the specificity of municipal legal systems (and having also regard to a universal natural law), any human can play any legal role, whereby a legal role we mean the sets of rights, duties, and powers that inhere in, and indeed constitute a particular legal position (as an owner, a debtor, a creditor, a plaintiff or a defendant, etc.). However, a different, more selective notion of a “persona” parallelly emerges, which focuses on the concrete ability to undertake such roles, an ability from which enslaved people were excluded in the positive Roman legal system, being considered sellable things rather than active participants in legal interactions.

As slavery was progressively abolished during the late Roman empire (and enslaved people, too, were recognized for some legal protection), the idea prevailed that all humans have, in principle, legal personhood. The notion of personhood was subsequently extended to collective entities, such as companies and associations, who could vest legal roles through the actions of their members and employees (organs). Thus, persons in law are usually divided into natural persons (human beings) and juridical persons (collective entities).

To assess the extent to which legal personhood, as the ability to vest legal role which is generally attributed to humans and certain collective entities, can be extended to AI systems, we need to consider a preliminary issue: what is the meaning of legal personhood, namely, what are the roles (the rights, duties and powers and clusters of them) that a person in law possesses or may acquire (roles that are not accessible to non-persons, e.g., things)?

Concerning the meaning of legal personhood, one view, which we may call the *singularist view*, adopts a minimal understanding: an entity qualifies as a legal person simply by holding, or having the capacity to hold, a single right or duty. This notion is used, in particular, in connection with the idea of a right as a legally protected interest to ascribe legal personhood to entities incapable of taking initiative on their own. Following this approach, given the existence of norms meant to protect nonhuman animals, fetuses, trees, or rivers, we should conclude all those entities also have legal personhood.<sup>2</sup>

Another perspective, the *cluster view* (Kurki, 2019; Naffine, 2009; Ohlin, 2005), adopts a broader understanding: it assumes that legal personhood consists of vesting (or having the capacity to vest, given appropriate conditions) a large cluster of legal roles, such as, in the private law domain, the ability to make contracts and own property, protection against harmful behavior by others, the power to activate judicial proceedings, as well as liability for own wrongful behavior. Such roles are typically attributed to all adult human beings<sup>3</sup>, but legal personhood, in some

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<sup>2</sup> A key issue with this view is that it does not align with practical realities and common beliefs, as these entities are generally not regarded as legal persons in practice (Kurki, 2019).

<sup>3</sup> More specifically, to all adult citizens of sound mind.

instances, may be limited to a subset of these roles. Normally, children and incapacitated adults are persons in law, even though they are excluded from making contracts and starting judicial proceedings on their initiative (for this purpose, they need to be substituted or assisted by their guardians). Juristic persons, such as corporations, on the other hand, can make contracts and sue (through the actions of their administrators) but are excluded from family roles, such as those of a spouse or a child, and from other legal positions, such as fundamental rights or data protection rights (according to EU data protection law).

Therefore, the attribution of personhood is consistent with vast restrictions over this package, as in the case of minority and incapacity, or also, in particular legal systems, according to certain features of individuals, such as gender or social position (recent history has also unfortunately known situations in which individuals or groups have been stripped of any every aspect of personhood in law, being denied the “right to have rights”, see Arendt 1966, ch. 9).

The cluster view interprets the meaning (or legal implications) of legal personhood as a collection of different statuses (clusters of possessed or accessible legal roles) allocated to certain entities according to the features the law assumes to be relevant to the attribution of such statuses. Such statuses are unified by reference to a typical case, namely the default cluster allocated to adult human beings; the other instances are treated as variations from this standard case.

Within this framework, the debate over AI legal personhood diverges depending on whether a singularist or cluster approach is taken. In the singularist, we need to consider whether the features of AI can or should be assimilated to those features that, in the case of other non-human entities, justify the attribution of single rights or duties (typically benefit-rights to them). For instance, if specific AI systems were assumed to possess sentience, an argument could be made to expand the protection against mistreatment currently granted to animals.

Conversely, the cluster approach examines whether specific AI systems should hold legal roles that substantially overlap with the cluster assigned to humans or juridical persons, possibly with restrictions applicable to AI systems. Different approaches can be used to attribute the cluster content to AI systems. Suppose AI systems are viewed similarly to minors or legally incapacitated humans. In that case, they might receive protection against harm and eligibility for certain benefits but would lack independent capacity to enter contracts or engage in legal proceedings. However, if they are treated like corporations, AI would have limited protections but could be granted a general capacity to contract and initiate lawsuits.

Anyway, both positions face the challenge of presenting persuasive arguments. Let us exclude the case in which AI becomes indistinguishable from humans or human-managed corporations since this would not resolve but merely negate the need for a debate. In any other case, no uncontroversial criterion is shared to determine whether AI systems can be assimilated to, or differentiated from, humans or corporations. Indeed, there is a continuum of relevant traits on which differences or similarities can be drawn. Even when a single feature is considered, such as rationality in decision-making or sentience, what ultimately matters is the level of abstraction at which this feature is analyzed, as this determines which observable traits are deemed relevant and whether they can provide sufficient

justification. For example, suppose we limit rationality to the ability to engage in some elementary form of planning or pattern recognition and sentience to the ability to react appropriately to specific wanted or unwanted inputs. In that case, one may reasonably argue that humans and some AI systems equally possess these capacities. A different conclusion would be reached if more demanding concepts (and corresponding levels of abstraction) were adopted.

The debate on AI's legal personhood is also shaped by the choice between two perspectives: existing law (*de lege lata*) and potential legal reform (*de lege ferenda*). The *de lege lata* approach assesses whether current laws already recognize, or could reasonably be interpreted to recognize, some degree of legal personhood for AI systems. In contrast, the *de lege ferenda* perspective considers whether new laws should be enacted to explicitly grant legal personhood to AI. Both approaches evaluate the justification for and against recognizing AI personhood, using normative criteria to guide the rationale for such a designation. Rationales may be distinguished in non-instrumental and instrumental. A non-instrumental rationale suggests that some specific AI systems deserve legal personhood based on their intrinsic characteristics, viewing them, in Kantian terms, as "ends in themselves." For instance, this view might argue that AI systems capable of rational thought should receive the protections granted to all rational beings or that AI systems capable of experiencing suffering should be protected similarly to other sentient entities. In contrast, an instrumental rationale supports granting legal personhood to AI not for its own sake but for its benefits to human interests — such as those of people who rely on AI in business or society (Novelli, 2023). Here, legal personhood for AI is seen as a tool to support human goals rather than as recognition of any inherent value in the AI itself.

### 3. The Trends of the Debate

Speculations about machines possessing human-like qualities have captivated thinkers throughout history, with roots traceable to ancient myths like Pygmalion and Galatea. Yet, our focus is limited explicitly to the relationship between AI and legal personhood.

One of the earliest discussions of the legal implications of human-like beings, albeit indirectly, can be found in Dennis J. Tuchler's 1978 paper, *Man-Made Man and the Law*. In this brief piece, Tuchler introduces the concept of the "fabricated man," a term inspired partly by science fiction and applied to entities such as children conceived through reproductive technologies, embryos grown outside the traditional womb, cyborgs, and robots. He raises concerns about how these "fabricated beings" might affect societal views on the rule of law. Tuchler warns that denying personhood to human-like beings could cause a rift between the legal framework and public moral intuitions, potentially leading to cynicism, disobedience, or an erosion of respect for legal norms.<sup>4</sup> At the same time, he cautions that extending rights and duties to such entities might undermine humanity's sense of inherent value.

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<sup>4</sup> In contrast, Shapiro (1982), in *Of Robots, Persons, and the Protection of Religious Beliefs*, uses a comparison to argue that individuals can undergo such profound transformation that they effectively cease to be persons and become akin to "robots," losing their capacity for autonomous decision-making (Shapiro, 1982).

Although Tuchler remains noncommittal, he emphasizes the dangers of defining personhood too rigidly, as it may perpetuate exclusion and discrimination — critiques that continue to challenge essentialist views of legal personhood.

However, the real growth in legal scholarship on legal personhood for AI began in the 1980s, as evidenced by searches on Google Scholar using keywords such as “legal personhood/personality,” “artificial intelligence,” “robots,” “legal rights,” “computers,” and queries combining these terms, like “legal personhood [or personality]” AND “artificial intelligence,” “artificial intelligence legal rights,” “robot personhood,” “legal status of autonomous systems,” and “computational agents in law.”

Early legal writings on AI did not approach the question of granting legal personhood to AI systems in a comprehensive manner. Instead, they adopted a bottom-up approach, exploring whether certain rights or bundles of rights and duties — typically intellectual property rights and tort liabilities — could be attributed to AI systems (in a singularist fashion). These more focused discussions would connect indirectly to the broader debate on AI and legal personhood. This progression mirrors what some legal theorists call an “eliminativist” or “inferentialist” view of systemic legal concepts like legal personhood, which states they are best understood as mere nodes between factual preconditions and normative consequences (Ross, 1957; Sartor, 2009). Anyway, such an incremental, bottom-up method may offer a more pragmatic solution compared to later top-down approaches, which ask more generally, “What happens if we grant legal personhood to AI?”.

So, to provide some examples of papers of this type, Butler (1981) explored whether a computer can be considered an author under copyright law (Butler, 1981). Butler discusses how AI can produce novel content with minimal human input, challenging existing notions of authorship and copyright. The possibility of attributing authorship rights directly to an AI system is raised, which, if accepted, would imply a form of legal personhood for the machine. However, Butler ultimately finds the idea conceptually and legally problematic due to its complications in allocating legal responsibility and authorship rights.

Similarly, Michael Gemignani’s (1983) “Laying Down the Law to Robots” addresses robot autonomy’s legal and ethical challenges, questioning their role in human-like functions such as judging in criminal justice and creating intellectual property (Gemignani, 1984). He explores who should own the rights to AI-generated works—programmer, user, or machine—and suggests revisiting copyright frameworks as AI creativity increases. But Gemignani also examines liability for robot-caused harm, debating whether robots should be treated as products under strict liability or require new legal standards. Though not advocating for AI legal personhood, both papers laid the groundwork for modern debates on AI’s legal status, which revolve around authorship, liability, and decision-making.

Taking a more comprehensive approach to the question of AI legal personhood, Willick, in his 1983 and 1985 papers, explored the potential for AI to be recognized as “persons” under American Constitutional law (Willick, 1983, 1985). He argued that legal personhood has evolved to encompass a broader range of entities and questioned whether computers could be included, mainly as they increasingly exhibit human-like intelligence. Willick parallels the historical

recognition of other groups as legal persons, such as blacks, women, and corporations, suggesting that AI could follow a similar trajectory. He envisioned AI achieving personhood by demonstrating capabilities beyond “mere machines”. He even introduced the concept of “partial personality”, where AI might be recognized as a person for specific legal purposes (like enslaved people). Willick framed the possibility of AI legal personhood as not an immediate reality but a potential future development contingent upon technological progress and societal acceptance.

### 3.1. The 90s and 2000s

The 1990s saw more in-depth studies and analyses on legal personhood and AI. Two significant papers stand out.

The first, while not directly addressing legal personhood, is one of the earliest comprehensive examinations of the legal status of AI systems under tort law by George S. Cole (Cole, 1990). As previously noted, legal personhood and liability histories are closely linked in legal literature. Cole’s paper primarily focuses on how existing tort liability frameworks — such as product liability, service liability, negligence, and malpractice — can be adapted to account for harm caused by AI and expert systems. Although Cole does not argue that current laws are sufficient, his discussion on the potential liability of AI systems under tort law raises the question of whether AI might require some form of legal recognition beyond being classified as mere tools or products.

Cole’s analysis suggests that the autonomous functioning of AI — its ability to make decisions and interact with the natural world — may signal the need for a new legal category that moves beyond treating AI as mere property or service providers. Nevertheless, in a footnote, Cole rules out the possibility of recognizing AI as a distinct legal entity, mainly due to the technical challenges in developing truly autonomous AI — capable of learning, adapting, and achieving consciousness (Cole, 1990, p. 154).

The second one is Lawrence Solum’s 1992 essay, “Legal Personhood for Artificial Intelligences,” widely regarded as foundational in the legal-theoretical exploration of AI and legal personhood (Solum, 1992). Lawrence Solum uses two thought experiments to explore the legal implications of AI personhood.

First, could an AI serve as a trustee? While AI might handle technical tasks —such as purchasing insurance to cover potential breaches of duty or liabilities, it could face as a trustee — Solum raises two fundamental objections: (1) trustees must be held accountable for negligence or wrongdoing (responsibility objection), and (2) AI, given its current limitations, such as the “frame problem,” cannot handle unforeseen circumstances and moral dilemmas that require human judgment (judgment objection).

The second thought experiment considers whether AI could claim constitutional rights. This scenario envisions a future where AI demands individual rights, such as freedom of speech or protection from involuntary servitude under the Thirteenth Amendment. Solum argues that constitutional personhood raises different questions than trusteeship, focusing on competence and qualities like intentionality, consciousness, and moral worth. He concludes that while legal personhood has historically been granted to non-human entities like corporations,



AI's lack of moral responsibility and human-like intentionality remains a significant barrier to its full recognition as a legal person.

However, the most critical aspect of this essay is that it does not aim to resolve the question of AI personhood. Solum explicitly advocates using legal contexts as a pragmatic approach to evaluate theoretical claims and foster progress (Solum, 1992, p. 1223). He emphasizes that the legal system introduces a sensible approach that abstract philosophical debates often lack, as practical consequences and societal needs drive legal decisions. Instead of debating abstract questions like whether AI can "think," Solum asks more grounded, valuable questions, such as whether AI could competently serve as a trustee, manage complex financial trusts, or fulfill legal duties. With its formal, public nature, the legal system provides a platform where these arguments can be tested, scrutinized, and debated within a broader societal framework.

Until now, much of the scientific debate on legal AI personhood has focused on symbolic AI and expert systems. However, in the 2000s, the discussion shifted towards different AI technologies, broadly classified under "statistical AI," with approaches such as Machine Learning (ML). Although these technologies had long been known in computer science, they only entered the legal debate during this period, partly because of their increased performance and commercial success. For a time, statistical AI and ML appeared to revolutionize the field, as these systems were seen as more human-like in the ways they learned, processed information, and operated. This shift sparked renewed interest in the legal personhood of AI, significantly impacting both legal scholarship and policy, as we will explore in the next section.

In contrast to earlier discussions, this period saw the legal debate on AI personhood evolve beyond theoretical questions of liability and constitutional statuses for human-like AI systems or Artificial General Intelligence (AGI). The focus narrowed to more concrete, artificial agents capable of autonomous interaction with their environment, adaptation, and communication with humans and other synthetic agents. Advancements in ML and related adaptive technologies largely drove this shift. This raises several legal challenges, including AI's capacity to enter contracts, the ability to pay income taxes like social security contributions or the VAT, and even AI's potential to commit crimes (Andrade et al., 2007; Chopra & White, 2011; Dahiyat, 2007; Hallevy, 2010; Karnow, 1994; Oberson, 2017). This era is characterized by a more optimistic view of granting legal personhood to AI (Allgrove, 2004; Asaro, 2007; Hallevy, 2010; Hubbard, 2010). Yet, even during this period, some legal scholars maintained that AI should be treated like any other product (Bryson et al., 2017), with (strict) liability falling on the humans who create or use them (Vladeck, 2014). They argued that human accountability creates a stronger deterrent against harmful AI behavior. For cases where no specific human can be held directly responsible, they proposed mandatory insurance to cover potential damages (Solaiman, 2017).

It seems, therefore, that the trajectory of the legal debate on AI personhood mirrors the trends in technological advancement, reflecting the alternating cycles of optimism ("summers") and skepticism ("winters") that have historically shaped the field of AI. However, another critical predictive factor is the policy landscape. Notably, if we were to identify a fourth and most recent wave in this

discourse, we could place it around 2017, when two policy outputs occurred, as discussed in the next section. Following these events, Google Scholar data from 2018 to 2024 shows a notable increase in scholarly publications on the topic. Further confirming this trend, seminal works such as Solum's paper, which had a steady citation rate until 2017, experienced a sharp rise in citations starting in 2018, effectively doubling its citation count.

This most recent wave shows some standard features. The topics covered are mostly the same and with a bottom-up approach – e.g., criminal liability, tort law, ownership (Brown, 2021; Simmler & Markwalder, 2019) – but with a more significant number of scholars and scientific perspectives, with ethics, public policy and social sciences gaining an important role (Gordon, 2021; van den Hoven van Genderen, 2018), advocating for more inter-disciplinary research (Kostenko et al., 2024). This period has also seen the emergence of empirical studies examining public attitudes toward AI rights and legal personhood (Kouravanas & Pavlopoulos, 2022; Martínez & Winter, 2021), as well as statistical analyses of court decisions regarding legal personhood (Banteka, 2020).<sup>5</sup>

The scientific output during this period is exceptionally diverse, encompassing both analyses of concrete real-world scenarios — such as AI in the workplace, potential discussions on concrete citizenship rights, and public policies (Jaynes, 2020; Kornilakis, 2023; Nowik, 2021; Zech, 2021) — and more theoretical works. Theoretical contributions explore legal personhood as a spectrum of possibilities varying in intensity and degrees of legal status (Mocanu, 2022; Schirmer, 2020). Others propose dialogical solutions based on reflective equilibrium (Novelli et al., 2022), while others use AI to construct thought experiments that challenge and expand the boundaries of legal personhood (Chen & Burgess, 2019).

In any case, a notable trend in this period is increased pessimism toward granting broad legal personhood to AI, often driven by critiques of concrete policy proposals supporting such recognition (Banteka, 2020; Birhane et al., 2024; Chesterman, 2021; Floridi & Taddeo, 2018; Pagallo, 2018; Ziemianin, 2021). However, within this discourse, the less pessimistic perspectives propose pragmatic approaches to address the legal challenges posed by AI, focusing on alternative mechanisms to achieve similar objectives. They often involve leveraging corporate governance structures, where operating agreements could theoretically allow autonomous systems, like AI, to take legally recognized actions on behalf of a company (Bayern et al., 2017). Additionally, there are varying degrees of support for more moderate, possibilist perspectives, which frequently argue that decisions about AI legal personhood should be based on broader socio-political considerations rather than strictly legal criteria (Brown, 2021; Dremluga et al., 2019; Gunkel, 2024; Jowitt, 2021; Wojtczak, 2022).

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<sup>5</sup> Specifically, the authors found that most people are not in favour of granting AI the same legal protections as humans, corporations, or other entities. The study also revealed a significant difference in opinion between liberals and conservatives, with liberals being more likely to endorse legal protection and personhood for AI.

#### 4. From Law in Books to Law in Action: Legislative Attempts and Judicial Uncertainties

The debate has moved from theory to policy proposals, though actual legislation remains very limited. The only formal conferral of personhood to AI occurred in 2017 when Saudi Arabia granted citizenship to Sophia, a humanoid robot developed by Hanson Robotics. However, this move was largely symbolic, with no concrete implications regarding rights enforcement. As a result, Sophia's citizenship has been viewed more as a political choreography to promote the growing social robot market rather than a substantive declaration regarding robot personhood or artificial intelligence (Parviainen & Coeckelbergh, 2021).

Some months earlier, a more influential legislative discussion on AI's legal status emerged from the European Parliament's 2017 Resolution on Civil Law Rules on Robotics. This resolution proposed a regulatory framework for AI and robots, suggesting the possibility of granting "electronic personhood" to specific advanced autonomous AI systems (59, let. f). This proposal aimed to address liability issues—specifically, whether an AI system could be held financially accountable for damages or harm caused by its autonomous decisions, particularly in cases where the system's creators or operators could not reasonably be held responsible. The proposal raises the question of whether the legal system should create a new category of legal personhood to handle these complexities.

The EU Parliament's "electronic personhood" proposal received mixed reactions, influencing policy discussions in places like the UK<sup>6</sup>, but it largely failed to gain support.<sup>7</sup> Critics often argue that the accountability gaps often cited as justification for electronic personhood are overstated (Chesterman, 2020, p. 825). Also, they generally contend that granting legal personhood to AI could serve as a shield for manufacturers and developers, allowing them to evade responsibility for the actions of AI systems (Bryson et al., 2017, p. 287). While similar concerns exist in corporate law — where the corporate veil can be pierced to hold individuals accountable — the justification for this in the case of AI is less clear. Corporate personhood often facilitates investment and entrepreneurship, but this rationale is less applicable to AI systems, where everyday purposes, interests, or joint activities among stakeholders are more challenging to identify.

Skepticism about the EU Parliament's resolution is echoed in the findings of the Expert Group on Liability and New Technologies, appointed by the European Commission.<sup>8</sup> In their report on AI liability, the group underscores the necessity of holding human operators, users, and manufacturers accountable, especially when AI systems pose significant risks. They advocate for strict liability for high-risk AI, assigning control-based responsibility, and establishing negligence liability for

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<sup>6</sup> A Select Committee on Artificial Intelligence was appointed by the House of Lords on 29 June 2017; its report is readable here: <https://publications.parliament.uk/pa/ld201719/ldselect/ldai/100/100.pdf>.

<sup>7</sup> In an open letter, 156 AI experts from 14 countries explicitly opposed this proposal: <https://www.politico.eu/wp-content/uploads/2018/04/RoboticsOpenLetter.pdf>.

<sup>8</sup> You can read the report here: <https://ec.europa.eu/transparency/expert-groups-register/screen/expert-groups/consult?lang=en&do=groupDetail.groupDetail&groupID=3592>.

low-risk technologies. Autonomous AI users should face the same accountability as if a human-caused harm. Manufacturers should be liable for defects, including those from post-market changes under their control, while compulsory insurance for high-risk AI could improve victim compensation. To support victims, the Group recommends simplifying proof requirements and enforcing data logging, with accountability shifted to operators when logs are missing. In short, the Group opposed AI's legal personhood, keeping responsibility with people and entities involved.

The fate of this proposal was arguably sealed by the recent regulatory framework in Europe, including the AI Act, the reform of the (reformed) Product Liability Directive (PLD), and the proposed Artificial Intelligence Liability Directive (AILD). This regulatory triad reinforces a fundamental principle emphasized by legal doctrine since 2017: AI is a product, not an entity deserving of an autonomous legal status. Thus, its design, development, and use must be strictly regulated, with precise standards and conventional liability mechanisms enforced. If those standards are not met, sanctions are imposed on developers or users according to risk thresholds inspired by a precautionary principle. Regardless of its strengths and weaknesses, this classification opens a path for the insurance industry to handle risks and cover damages caused by AI systems, as long as developers and users comply with the minimum standards of quality and transparency necessary for the commercialization and use of these technologies.

Considering these factors and the apparent lack of major technological shifts in the near term, it is reasonable to anticipate that the EU policy debate on AI legal personhood and concrete legislative proposals will remain largely inactive in the coming years. This does not preclude the possibility of courts directly conferring legal personhood to AI through judicial decisions. The judicial response to such issues is uncertain, especially in complex cases where an AI might act outside its intended scope (*ultra vires*) or operate distributed across multiple systems, lacking a clear point of control (Forrest, 2024). The uncertainty about judicial behavior, combined with the flexible content of legal personhood — which lacks a precise set of defined rights and duties (Section 2) — suggests that courts will likely proceed incrementally, addressing cases individually rather than issuing sweeping rulings. Thus, initial cases are expected to center around liability, intellectual property (as already seen in *Thaler v. Commissioner of Patents*, aka DABUS), and consumer protection. The broader question of AI personhood may only come into focus as AI demonstrates more advanced, potentially sentient capabilities. In line with prior personhood cases, the judicial approach will likely reflect a cluster rather than a singularist approach.

Early rulings on AI's legal status will likely originate from local or district courts, allowing judges to establish factual records and frame the legal and ethical questions for consideration by higher courts (Forrest, 2024). Appellate courts, including the Supreme Court in the U.S. or the Corte Costituzionale in Italy, may later offer interpretations that set national standards. While district courts may show flexibility in granting protections or status to AI, a final determination on AI legal personhood at the appellate court level is likely to be more conservative.

All this has been pointed out by Katherine B. Forrest, who has also argued that, within the U.S. legal system, one possible route for conferring such protections

lies in the Equal Protection Clause of the Fourteenth Amendment, which has historically been instrumental in expanding rights to previously marginalized groups (Forrest, 2024, p. 1027).

Suppose, instead, we were to assess the likelihood of a direct judicial conferral of legal personhood to AI shortly. The recent empirical data on U.S. case law regarding how courts determine legal personhood for artificial entities (Banteka, 2020) suggests this outcome is unlikely. The absence of any statutory foundation explicitly or implicitly supporting AI legal personhood may be a significant barrier, as the data show that the primary condition for conferring personhood is whether it is statute-based (45%). Courts typically look to statutory language and legislative intent to determine whether an artificial entity qualifies as a legal person.

The same empirical analysis by Banteka indicates that the “right to sue and be sued” is the second most frequently cited condition (15%) for legal personhood. This requirement, particularly in the context of an AI entity actively suing others, poses a significant challenge for AI. A third significant factor is whether the entity functions as an aggregate of individuals, as happens with entities like corporations (Banteka, 2020, p. 51). This criterion is difficult to apply to AI, as it lacks the collective identity and shared activity among individuals that underpin traditional social entities like corporations.

Moreover, courts tend to use rights such as the right to sue, contract, and hold constitutional rights as prerequisites for legal personhood. Yet, these attributes are outcomes of legal personhood, not independent or objective indicators, creating a circular reasoning problem (Banteka, 2020, p. 52). This circularity may stem from the fact that courts tend to rely on conditions that artificial entities like corporations already possess by being socio-legal entities with concrete legal effects. Applying this logic to AI systems presents a more contentious challenge (Banteka, 2020, p. 52).

In cases not regulated by legislation, when courts must constructively interpret legal personhood for AI, the data reveal inconsistent criteria. For example, one case might emphasize the “ability to own property,” “right to contract,” “right to sue and be sued,” and “constitutional rights,” while another might prioritize the “ability to transact” and “perpetuity” instead. These variations often lack a clear rationale or any explicit hierarchy of importance (Banteka, 2020, p. 53).

In conclusion, while the current data is limited and lacks the consistency needed to predict future judicial approaches reliably, it collectively suggests that direct judicial recognition of AI as a legal person is unlikely — unless prompted by political momentum and formalized through proper statutes. Without formal legislation, the vast and inconsistent range of conditions that may support the attribution of legal personhood (in different combinations) makes predictions challenging. Criteria for granting legal personhood may remain self-referential and arbitrary due to the circularity in judicial reasoning. If AI were ever to be recognized as legal persons, it might require these entities to first gain *de facto* legitimacy by exercising rights and fulfilling roles in practice over an extended period, similar to the historical process of recognition for corporations.

## 5. Near- and Long-Term Prospects: AI Agents and Embodied AI

Predicting future scenarios is always challenging; in this case, it is possibly worse given the rapidly evolving technological (and policy) landscape. The historical correlations between technological paradigms and the progression of this debate can help us outline potential scenarios.

It is essential to differentiate between near- to mid-term patterns (5 to 20 years) and long-term trends (more than 20 years). Before analyzing these distinctions, consider a general observation: advancements in endowing AI systems with specific skills do not typically follow a steady, incremental path. Instead, they often occur as abrupt and significant leaps driven by new techniques (e.g., diffusion models for Large Language Models) — possibly developed with relatively few resources. Such rapid improvements, however, quickly hit performance plateaus, a pattern seen in domains like image and speech recognition.<sup>9</sup> This suggests that neither the recent successes of AI technologies nor the vast scale of investments in AI entail that such technologies are rapidly progressing toward general (AGI) or human-like intelligence. Therefore, at least in the near-midterm, the legal personhood debate may not need to address the implications of AI reaching human-equivalent intelligence.

We are experiencing a rapid surge in generative models that create new content, such as text, images, and music. In just a few years, AI has evolved from recognizing images and language to generating them. Examples of these include Large Language Models like GPT-4. From 2022 to 2023, investments in generative AI have significantly increased — reports suggest they have more than quadrupled.<sup>10</sup>

While there is no certainty that this growth will maintain its current pace eventually, it is reasonable that these models will continue to evolve over the next few years, become integrated into a more comprehensive array of devices, and specialize in specific tasks across various industries. Future advancements may shift focus from merely expanding dataset sizes to emphasizing data that is more representative, reliable, and pertinent to specific domains. This approach aligns with the development of specialized small language models (Fu et al., 2023).

Another promising field concerns AI agents with autonomous decision-making capabilities in simulated environments. These agents can execute tasks customized to user preferences, with the potential to evolve into personalized avatars or digital twins that closely mirror their human counterparts. This development adds complexity to ongoing debates about AI legal personhood, particularly as these agents increasingly function as proxies or extensions of their users (Cheong, 2024). Questions about the extent of their decision-making autonomy will arise and highlight the need for careful examination of legal frameworks concerning guardianship and representation.

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<sup>9</sup> Historical data shows both AI funding trends and performance improvements across different benchmark tests and capabilities: <https://ourworldindata.org/brief-history-of-ai>.

<sup>10</sup> Source: <https://ourworldindata.org/data-insights/investment-in-generative-ai-has-surged-recently>.

In the near and mid-term, a vital issue to reconsider is that, as AI spans many technologies and subcategories, capturing the full breadth of AI under a single regulatory framework is increasingly challenging. In other words, labelling everything under “AI” could lead to regulatory inconsistencies and potential overreach.<sup>11</sup> Current frameworks, such as the EU AI Act, already reflect this complexity by establishing distinct norms based on some technical classification. For example, foundation models (termed as General Purpose AI, GPAI) are regulated separately from specialized AI systems: e.g., they are subject to specific risk taxonomies and mitigation strategies based on performance metrics like computational power (i.e., floating-point operations per second, FLOPS). On top of that, regulations may vary significantly according to the particular domains in which these AI systems are deployed (e.g., AI for law enforcement requires different safeguards compared to AI for employment).

This layered regulatory approach highlights the need for increasingly nuanced distinctions when considering the assignment of rights or duties to AI systems. For instance, a higher level of legal autonomy — e.g., recognition of a system’s active role in initiating contractual relations or violating legal norms — might be more feasible or advantageous for specific AI systems depending on their computational capabilities or the risk level in their deployment context. Low-risk systems — such as virtual assistants used in routine, low-stakes interactions — might warrant lighter regulatory requirements and limited forms of legal autonomy (and, therefore, legal personhood). At the same time, higher-risk applications could require less legal autonomy. Ultimately, a risk-based taxonomy, or a more hierarchical and principled one, could guide the development of tailored legal statuses based on gradients of legal personhood (Mocanu, 2022).

There is no consensus or reliable prediction regarding long-term trends, such as the timeline for achieving human-like intelligence or the development of transformative AI. While expert surveys have attempted to forecast these milestones, their predictions have, more often than not, proven inaccurate in retrospect. A notable area with profound long-term implications is the integration of AI with Brain-Machine Interfaces (BMIs), which, despite its transformative potential, may advance sooner than expected. Currently, BMIs are primarily used in healthcare and rehabilitation — e.g., in restoring motor functions — but the convergence of AI with BMIs could also expand applications to human enhancement: AI-driven brain stimulation has the potential to optimize cognitive functions and memory and even regulate emotions. In this context, a more speculative and controversial proposal has suggested embedding artificial memories directly into individuals’ brains to modify behavior within rehabilitative settings like prisons to evoke specific emotional responses, such as empathy or remorse.<sup>12</sup>

The embodiment of AI devices and their becoming part of the human mind — particularly within frameworks like the Extended Mind Thesis (Bublitz, 2024) — can fundamentally reshape discussions about legal personhood for AI by first

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<sup>11</sup> For this reason, some authors have suggested lawmakers should not use AI as a category for regulation at all (Braun, 2024).

<sup>12</sup> This is the Cognify Project; source: <https://wired.me/technology/cognify-prison-of-future/>.

redefining the legal concept of human personhood. In this context, AI would no longer be seen as an independent entity requiring its own legal status. Instead, it would become an extension of an individual's legal identity, effectively merging with the natural person. This shift would necessitate rethinking legal frameworks, including eliminating third-party property rights over such devices, given their integration into human identity. This integration could change perceptions of human agency, as individuals might assume formal responsibility for the actions or outputs of their embodied AI devices, similar to their accountability for unconscious desires or intentions (Bublitz, 2024).

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