Human Rights in the AI Supply Chain

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29 STAN. TECH. L. REV. 108 (2025)

ABSTRACT

Artificial intelligence (AI) has taken the world by storm since the launch of ChatGPT in November 2022, with some heralding it as the most significant technology of the century. Counterbalancing excitement for AI's revolutionary potential, experts from fields as diverse as computer science, sociology, and global health are increasingly expressing their concerns regarding the serious risks AI may pose. While much of this attention focuses on downstream harms associated with AI's use, comparatively less scrutiny has been given to human rights violations and environmental harms arising from the upstream processes and materials necessary for AI models' functioning. This Note delves into these upstream harms and, drawing on the concept of the AI supply chain, assesses the ability of existing supply chain due diligence (SCDD) laws to regulate AI companies. Analyzing over a dozen enacted and pending laws from around the world, it argues that while some existing SCDD legislation applies to AI companies, the global legal landscape contains notable gaps that may enable human rights violations to remain unaddressed. The Note concludes with a discussion of proposed solutions and their limitations. Among these, lawmakers should amend or enact legislation to more clearly regulate AI supply chains, while AI companies should proactively self-regulate.

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I. INTRODUCTION

Artificial intelligence (AI) has taken the world by storm since the launch of ChatGPT in November 2022,[1] with some heralding it as "the most consequential technology of this century and perhaps beyond."[2] Although AI has existed in various forms for years,[3] this new wave of AI development has captured the attention of industry and consumers alike.[4] AI is already positively impacting our society by, among other things, enhancing medical diagnoses,[5] boosting productivity,[6] speeding scientific discoveries,[7] and improving climate change adaptation.[8]

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[1] *Introducing ChatGPT*, OPENAI (Nov. 30, 2022), https://openai.com/index/chatgpt [https://perma.cc/7CCU-4H3R].

[2] Raquel Urtasun, *Why It Is Time to Prioritize the Sustainable Development of AI*, WORLD ECON. F. (Jan. 6, 2025), https://www.weforum.org/stories/2025/01/sustainable-development-ai [https://perma.cc/79WR-JSZ7].

[3] *See generally* Tim Mucci, *The History of Artificial Intelligence*, IBM, https://www.ibm.com/think/topics/history-of-artificial-intelligence [https://perma.cc/SK5K-FYQD] (last visited Jan. 11, 2026).

[4] In 2017, only 17% of surveyed American business leaders expressed "familiarity" with AI. Darrell M. West & John R. Allen, *How Artificial Intelligence is Transforming the World*, BROOKINGS (Apr. 24, 2018), https://www.brookings.edu/articles/how-artificial-intelligence-is-transforming-the-world [https://perma.cc/EF47-8EV9]. By August 2023, 90% of Americans reported having at least heard of AI. Michelle Faverio & Alec Tyson, *What the Data Says About Americans' Views of Artificial Intelligence*, PEW RSCH. CTR. (Nov. 21, 2023), https://www.pewresearch.org/short-reads/2023/11/21/what-the-data-says-about-americans-views-of-artificial-intelligence [https://perma.cc/L98Y-KCQ2]. In January 2025, 99% of business leaders "report[ed] having some level of familiarity with gen AI tools." HANNAH MAYER ET AL., MCKINSEY & CO., SUPERAGENCY IN THE WORKPLACE 12 (2025).

[5] Luciana D'Adderio & David W. Bates, Comment, *Transforming Diagnosis Through Artificial Intelligence*, NPJ DIGIT. MED., Jan. 24, 2025, at 1, 1.

[6] Flavio Calvino, Jelmer Reijerink & Lea Samek, *Unlocking Productivity with Generative AI: Evidence from Experimental Studies*, OECD (July 8, 2025), https://www.oecd.org/en/blogs/2025/07/unlocking-productivity-with-generative-ai-evidence-from-experimental-studies.html [https://perma.cc/959H-K9JR].

[7] *See, e.g.*, Laurel Kellner, *How AI and Automation Are Speeding Up Science and Discovery*, BERKELEY LAB (Sep. 4, 2025), https://newscenter.lbl.gov/2025/09/04/how-berkeley-lab-is-using-ai-and-automation-to-speed-up-science-and-discovery [https://perma.cc/G2WN-B7QS].

[8] *See* Victoria Masterson, *9 Ways AI Is Helping Tackle Climate Change*, WORLD ECON. F. (Feb. 12, 2024), https://www.weforum.org/stories/2024/02/ai-combat-climate-change [https://perma.cc/CV5E-JSGM].

Counterbalancing excitement for AI's revolutionary potential, experts from fields as diverse as computer science,[9] sociology,[10] and global health[11] have expressed their concerns regarding the serious risks AI may pose.[12] Much of this attention focuses on harms related to privacy, democracy, employment, and inequality.[13] While vitally important to understand and mitigate, these risk areas emerge primarily from the downstream impacts of AI—those that result from the deployment of AI systems. The upstream[14] processes and materials necessary for AI models' functioning are subject to comparatively less scrutiny, yet they are laden with opportunities for human rights violations and environmental harms.[15] Without increased policymaking and corporate attention, the exponential growth of AI use is poised to multiply and magnify these harms, which could impact the rights of millions of consumers and laborers around the world.[16] This Note delves into these upstream harms and, drawing on the concept of the AI supply chain, assesses the ability of existing supply chain due diligence (SCDD) laws to regulate AI companies. It argues that while some existing SCDD laws apply to AI companies, the global legal landscape contains notable gaps that may enable human rights violations to remain

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[9] *See, e.g.*, Kelvin Chan, *General Purpose AI Could Lead to Array of New Risks, Experts Say in Report Ahead of AI Summit*, ASSOCIATED PRESS (Jan. 29, 2025, at 11:23 ET), https://apnews.com/article/artificial-intelligence-research-danger-risk-safeguards-7b9db4ca69a89a4dd04e05a4294a3dfd [https://perma.cc/BA8F-9AZE]; *Statement on AI Risk*, CTR. FOR AI SAFETY, https://www.safe.ai/work/statement-on-ai-risk#open-letter [https://perma.cc/AMJ6-MH7C] (last visited Mar. 9, 2025).

[10] *See, e.g.*, Kelly Joyce & Taylor M. Cruz, *A Sociology of Artificial Intelligence: Inequalities, Power, and Data Justice*, SOCIUS, Sep. 3, 2024, at 1, 1.

[11] *See, e.g.*, Frederik Federspiel et al., *Threats by Artificial Intelligence to Human Health and Human Existence*, BMJ GLOB. HEALTH, Mar. 9, 2023, at 1, 1.

[12] *See* sources cited *supra* notes 9–11.

[13] *See, e.g.*, U.K. DEP'T FOR SCI., INNOVATION AND TECH. & AI SAFETY INST., INTERNATIONAL AI SAFETY REPORT 67, 110–11, 139 (2025) [hereinafter INT'L AI SAFETY REP.], https://assets.publishing.service.gov.uk/media/679a0c48a77d250007d313ee/International_AI_Safety_Report_2025_accessible_f.pdf [https://perma.cc/YL5E-L2DT].

[14] This Note uses the term "upstream" to refer to all stages of AI development occurring prior to the deployment of the AI system to users, including the hiring of developers and laborers, the sourcing of materials, and the creation of hardware and software. "Downstream" refers to the use of AI systems by people and the impacts arising from AI systems' deployment.

[15] *See* David Gray Widder & Richmond Y. Wong, Thinking Upstream: Ethics and Policy Opportunities in AI Supply Chains 1–2 (Apr. 16, 2024) (unpublished manuscript) (on file with arXiv), https://arxiv.org/abs/2303.07529 [https://perma.cc/U3CZ-WC6H]; Cornelia C. Walther, *Generative AI's Impact on Climate Change: Benefits and Costs*, FORBES (Nov. 12, 2024, at 16:25 ET), https://www.forbes.com/sites/corneliawalther/2024/11/12/generative-ais-impact-on-climate-change-benefits-and-costs [https://perma.cc/6ALL-SV83].

[16] *See* Walther, *supra* note 15; *see also* Widder & Wong, *supra* note 15, at 1–2 (noting the labor rights implications of AI).

unaddressed. Lawmakers should amend or enact legislation to more clearly regulate AI supply chains, while AI companies should proactively self-regulate.

The supply chain is a concept most often used in business contexts to track the constituent components of goods and services from the moment of their extraction or creation to their delivery to the end customer.[17] Supply chains and AI are often discussed together in the context of AI enhancing companies' supply chain resilience, tracking, and performance.[18] Yet AI has its own supply chain, spanning the mining of rare earth metals for computer chips to the data processing that trains AI models and the devices of millions of Americans.[19] Scholars have recently coined the term "AI supply chain" to capture the distinct elements that go into the delivery of an AI service, including the hardware and software.[20]

The AI supply chain contains many opportunities for human rights violations, including those associated with labor, environmental, and health

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[17] *See* Graham C. Stevens, *Integrating the Supply Chain*, INT'L J. PHYSICAL DISTRIB. & LOGISTICS MGMT., Aug. 1, 1989, at 3, 3 ("The supply chain . . . is the connected series of activities which is concerned with planning, coordinating and controlling material, parts and finished goods from supplier to customer."); *What Is Supply Chain?*, MCKINSEY & CO. (Aug. 17, 2022), https://www.mckinsey.com/featured-insights/mckinsey-explainers/what-is-supply-chain [https://perma.cc/6EF8-ZYVF].

[18] *See*, *e.g.*, Rita Uchenna Attah et al., *Enhancing Supply Chain Resilience Through Artificial Intelligence: Analyzing Problem-Solving Approaches in Logistics Management*, 6 INT'L J. MGMT. & ENTREPRENEURSHIP RSCH. 3883, 3884 (2024); Chen Qu & Eunyung Kim, *Reviewing the Roles of AI-Integrated Technologies in Sustainable Supply Chain Management: Research Propositions and a Framework for Future Directions*, SUSTAINABILITY, July 19, 2024, at 1, 2; Samuel Fosso Wamba et al., *ChatGPT and Generative Artificial Intelligence: An Exploratory Study of Key Benefits and Challenges in Operations and Supply Chain Management*, 62 INT'L J. PROD. RSCH. 5676, 5676 (2023).

[19] *See* LEONARDO GAMBACORTA & VATSALA SHREETI, THE AI SUPPLY CHAIN 2–3 (2025), https://www.bis.org/publ/bppdf/bispap154.pdf [https://perma.cc/M5XH-7BDE]; FLORENCE G'SELL, REGULATING UNDER UNCERTAINTY: GOVERNANCE OPTIONS FOR GENERATIVE AI 46–49 (Sep. 2024), https://fsi9-prod.s3.us-west-1.amazonaws.com/s3fs-public/2024-12/GenAI_Report_REV_Master_%20as%20of%20Dec%2012.pdf [https://perma.cc/8ATT-L55T].

[20] GAMBACORTA & SHREETI, *supra* note 19, at 2; *see* Widder & Wong, *supra* note 15. Dr. David Widder and others have since argued that the "AI value chain" is a more accurate and helpful conceptual framework for considering the ethical implications at different stages of AI's development. *See* Blair Attard-Frost & David Gray Widder, The Ethics of AI Value Chains 5–6 (Sep. 18, 2024) (unpublished manuscript) (on file with arXiv), https://arxiv.org/abs/2307.16787 [https://perma.cc/2N3E-MPJF]. Another domain-specific term that has been used is the "AI stack" or "tech stack." *See* Cole Stryker, *What Is an AI Stack?*, IBM (Dec. 10, 2024), https://www.ibm.com/think/topics/ai-stack [https://perma.cc/WGH5-6V8E]. This Note opts to continue the use of the term "supply chain" given its more prevalent use in extant laws around the world. *See, e.g.*, *The German Act on Corporate Due Diligence Obligations in Supply Chains*, GERMAN FED. MINISTRY FOR ECON. COOP. & DEV. (Apr. 2023) [hereinafter German Act on Corporate Due Diligence], https://www.bmz.de/resource/blob/154774/lieferkettengesetz-faktenpapier-partnerlaender-eng-bf.pdf [https://perma.cc/RFR9-LNCY].

rights. For example, OpenAI faced criticism in 2023 after reports that the company employed low-wage workers in Kenya to process violent and psychologically harmful text as part of its ChatGPT model training.[21] Other AI companies, such as Meta, have also used low-wage African workers for content moderation and the processing of training data.[22] Other harmful effects of AI's creation include the significant carbon emissions associated with model training,[23] an issue implicating multiple human rights,[24] as well as unethical labor practices associated with the mining of rare earth metals essential to the advanced computer chips on which AI models run.[25]

Despite these potential and ongoing upstream harms, multiple factors hinder efforts to mitigate them. First, many AI users, policymakers, and perhaps even developers are unaware of the harms.[26] Second, AI companies appear to consider upstream impacts to be outside their scope of ethical and legal responsibility. [27] Third, regulators are still catching up with AI's rapid technological advancement[28]—moreover, those in development tend to focus

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[21] *See* Billy Perrigo, *Exclusive: OpenAI Used Kenyan Workers on Less Than $2 Per Hour to Make ChatGPT Less Toxic*, TIME (Jan. 18, 2023, at 07:00 ET), https://time.com/6247678/openai-chatgpt-kenya-workers [https://perma.cc/7QY8-WLUV].

[22] *See* James Muldoon et al., *Meet Mercy and Anita—The African Workers Driving the AI Revolution, for Just over a Dollar an Hour*, THE GUARDIAN (July 6, 2024, at 11:00 ET), https://www.theguardian.com/technology/article/2024/jul/06/mercy-anita-african-workers-ai-artificial-intelligence-exploitation-feeding-machine [https://perma.cc/N74G-BH79].

[23] Lee-Lean Shu, *The Untold Story of AI's Huge Carbon Footprint*, FORBES (Apr. 26, 2024, at 07:15 ET), https://www.forbes.com/councils/forbestechcouncil/2024/04/26/the-untold-story-of-ais-huge-carbon-footprint [https://perma.cc/HD5X-RLD2].

[24] *See* U.N. Hum. Rts. Comm., Views Adopted by the Committee Under Article 5(4) of the Optional Protocol, Concerning Communication No. 3624/2019, ¶ 3.1, U.N. Doc. CCPR/C/135/D/3624/2019 (Sep. 18, 2023) [hereinafter Billy v. Australia] ("As indicated in the Committee's general comment no. 36 . . . climate change is a matter of fundamental human rights.").

[25] *See* Fiona Harvey, *UN-led Panel Aims to Tackle Abuses Linked to Mining for "Critical Minerals"*, THE GUARDIAN (Apr. 26, 2024, at 13:47 ET), https://www.theguardian.com/environment/2024/apr/26/un-led-panel-tackle-abuses-mining-critical-minerals [https://perma.cc/W6DQ-93GL]; Filip De Mott, *"The New Battlegrounds for AI Supremacy:" 3 Things to Know About the Trade in Rare Earth Minerals*, BUS. INSIDER (May 3, 2025, at 04:45 ET), https://www.businessinsider.com/ai-rare-earth-metals-tech-data-centers-lithium-cobalt-china-2025-5 [https://perma.cc/NG29-JM4C].

[26] *See, e.g.*, Charles Aaron B. Dungo et al., *Students' Level of Awareness on the Environmental Implications of Generative AI*, 11 J. EDU. SCI., ENV'T & HEALTH 93, 104 (2025) (showing that "a significant portion of" surveyed student AI users did "not have a clear understanding of" AI's upstream environmental externalities).

[27] *See* David Gray Widder & Dawn Nafus, *Dislocated Accountabilities in the "AI Supply Chain": Modularity and Developers' Notions of Responsibility*, BIG DATA & SOC'Y, Jan.–June 2023, at 1, 5.

[28] G'SELL, *supra* note 19, at 2; *Is the Law Playing Catch-Up with AI?*, HARV. L. TODAY (Jan. 16, 2025), https://hls.harvard.edu/today/is-the-law-playing-catch-up-with-ai [https://perma.cc/7ENS-6JA9].

on potential downstream harms.[29] This attention is not misplaced, as the complexities in regulating model weights and data redeployment, as well as the many risks resulting from certain AI models' use, lead to greater difficulty in regulating downstream harms.[30] Additionally, there is greater potential to harness existing trade, environmental, and labor laws to protect against upstream harms.[31] This, however, negates neither the challenges associated with nor the importance of mitigating upstream harms.

This Note draws on the concept of the AI supply chain to argue that only some existing laws that require businesses to monitor, report, and address potential human rights violations in their supply chains apply to AI companies. Where they fall short, lawmakers and business leaders alike should take action to fill the gaps, as it is in their own interests to do so. Part I defines and maps the AI supply chain, highlighting some of the most common entry points for human rights violations. Part II provides an overview of existing SCDD laws internationally and in the United States. Part III argues how these SCDD laws may apply to AI companies and identifies limitations with the existing legal landscape. Part IV proposes legislative and private sector actions that decisionmakers can take to protect human rights throughout global AI supply chains.

II. THE AI SUPPLY CHAIN

Before one can evaluate laws' abilities to mitigate harms in the AI supply chain, it is important to understand what constitutes the supply chain and what types of harms may be present. This Part contends that the AI supply chain is comprised of inextricable hardware and software elements, both of which give rise to potential human rights violations. Subpart I.A introduces the concept of the supply chain and its origins. Subpart I.B defines the AI supply chain, identifying its common stages. Grounded in sources of international law, Subpart I.C examines the array of human rights violations that may arise in the AI supply chain.

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[29] *See* G'SELL, *supra* note 19, at 261, 290 (noting that the European Union's AI Act is tailored to certain use cases and that China's regulations are largely aimed at "prevent[ing] the misuse of AI").

[30] *See id.* at 2–3; *see also id.* at 72–83 (discussing the ethical and social risks of AI).

[31] *See infra* Subparts II.B–C. This said, there remains a gap in the laws as many focus on the production and provision of physical goods rather than services. *See infra* Subpart III.D.

A. The Supply Chain Is a Framework for Understanding Goods' and Services' Development

A supply chain "is the connected series of activities"[32] undertaken by companies from planning and production to the delivery of a good or service to the final customer.[33] The concept was first used in its modern form in the 1980s by management consultant Keith Oliver, who discussed the importance of "supply chain management," or "the process of planning, implementing, and controlling the operations of the supply chain."[34] The specific components of supply chains vary by product, though the most common high-level stages include planning, sourcing, production, and distribution.[35] As products and services have moved online, the concept of the supply chain has expanded to include the flow of information, the processing of data, and the creation of algorithms.[36] The supply chain concept is valuable for business managers, as it can enable them to identify risks and strategically coordinate operations to maximize their organization's efficiency.[37] It is also of interest to consumers, who may care about the quality and source of the parts of the product they are buying,[38] and lawmakers, who may wish to regulate where and how the products entering their legislative jurisdiction are made.[39]

Similar to, but distinct from, the supply chain concept is the "value chain."[40] The value chain includes the supply chain as well as other knowledge economy-based components such as "innovation, design, marketing, and sales."[41] This Note uses the term "supply chain," given its substantive focus and the term's

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[32] Stevens, *supra* note 17, at 3.

[33] *See id.*

[34] Sean Ashcroft, *The History of Supply Chain Management*, SUPPLY CHAIN DIGIT. (Dec. 5, 2021), https://supplychaindigital.com/supply-chain-risk-management/history-supply-chain-management [https://perma.cc/MB6L-UHJH].

[35] *See* Stevens, *supra* note 17, at 3.

[36] *See* GAMBACORTA & SHREETI, *supra* note 19, at 4.

[37] *See What Is Supply Chain?*, *supra* note 17.

[38] *See* Jordan Bar Am et al., *Consumers Care About Sustainability—And Back It Up with Their Wallets*, MCKINSEY & CO. (Feb. 6, 2023), https://www.mckinsey.com/industries/consumer-packaged-goods/our-insights/consumers-care-about-sustainability-and-back-it-up-with-their-wallets [https://perma.cc/M7KS-HS3R]; *OpenText Survey Shows Increase in Demand for Ethically Sourced Goods*, OPENTEXT (Sep. 29, 2021), https://www.opentext.com/about/press-releases/opentext-survey-shows-increase-in-demand-for-ethically-sourced-goods [https://perma.cc/PVV6-C7NN] (finding "[n]ine in ten global consumers want to buy products sourced in a responsible and sustainable way and 83% would pay more for goods that are ethically produced").

[39] *See, e.g.*, German Act on Corporate Due Diligence, *supra* note 20.

[40] *See* Attard-Frost & Widder, *supra* note 20, at 5–6; *What Is Supply Chain?*, *supra* note 17.

[41] *What Is Supply Chain?*, *supra* note 17.

use in due diligence laws.[42] Supply chain regulation has been employed by lawmakers around the world to broaden jurisdiction over the activities of multinational corporations, holding them responsible for mitigating the harms they enable among their suppliers.[43]

B. The AI Supply Chain Comprises Hardware and Software Dimensions

The AI supply chain consists of two distinct but intersecting processes: hardware and software development. On the hardware side, companies design advanced computer chips; source and transport materials; manufacture, assemble, and test chips; build servers to house the chips; and operate data centers to hold the servers that host the AI software.[44] Due to the complex and delicate nature of the technologies, the hardware side of the supply chain is highly concentrated.[45] United States-based Nvidia is a leading chip designer, Netherlands-based ASML produces world-leading lithography machines, and Taiwan-based TSMC manufacturers many of the chip semiconductors.[46] This concentration increases exposure to systemic risks but can also help focus regulation.[47]

On the software side, specific processes vary depending on the type of model being developed. This Note adopts the framework created by Katherine Lee, A. Feder Cooper, and Professor James Grimmelmann, who identify eight software stages of the generative AI supply chain, including the creation of expressive works, data creation, dataset collection and curation, model (pre-)training, model fine tuning, deployment, generation, and alignment.[48] In the first two stages, data is generated by classifying creative works, such as written

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[42] *See* Almut Schilling-Vacaflora & Maria-Therese Gustafsson, *Towards More Sustainable Global Supply Chains? Company Compliance with New Human Rights and Environmental Due Diligence Laws*, 33 ENV'T POL. 422, 423 (2024).

[43] *See id.*

[44] *See* GAMBACORTA & SHREETI, *supra* note 19, at 3.

[45] *See The Race Is On to Control the Global Supply Chain for AI Chips*, THE ECONOMIST (July 30, 2024), https://www.economist.com/schools-brief/2024/07/30/the-race-is-on-to-control-the-global-supply-chain-for-ai-chips [https://perma.cc/8FWV-UZVF].

[46] *Id.*

[47] *See* Adam Jones, *The AI Regulator's Toolbox: A List of Concrete AI Governance Practices*, LESSWRONG (Aug. 10, 2024, at 17:15 ET), https://www.lesswrong.com/posts/EyEeznwJuQEgYERAk/the-ai-regulator-s-toolbox-a-list-of-concrete-ai-governance [https://perma.cc/HQ72-FTVP].

[48] Katherine Lee et al., Talkin' 'Bout AI Generation: Copyright and the Generative-AI Supply Chain 36 (Mar. 1, 2024) (unpublished manuscript) (on file with arXiv), https://arxiv.org/abs/2309.08133 [https://perma.cc/93PC-XNQC].

text, code, and images.[49] During dataset collection and curation, unwanted data, such as harmful speech and images, are filtered out based on the model's purpose.[50] Model (pre-)training is an energy- and resource-intensive stage in which the data inputs are transformed into a trained model.[51] Next, the fine-tuning stage uses more narrowly categorized data to shape the model's ability to perform specific functions.[52] These interim stages of dataset collection and curation, model training, and model fine-tuning all generally employ human operators, who make classification and weighting decisions that mold the model toward the desired purpose.[53] Once the model is deployed to users, it generates outputs for users based on their inputs.[54] The alignment stage, which often starts before deployment but continues thereafter, uses reinforcement learning with human feedback to adjust the model's training and improve outputs.[55] All of these software stages intersect with the AI supply chain's hardware development processes as the model processes data, receives training, and operates on advanced silicon chips, generally housed in data centers.[56] Without these intricate and innovative chips, which provide a tremendous degree of computing power, today's AI models could not exist.[57]

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[49] *See id.* at 33–34.
[50] *See id.* at 37–38.
[51] *See id.* at 39–42.
[52] *See id.* at 42–45.
[53] *See id.* at 37, 40–43.
[54] *See* Lee et al., *supra* note 48, at 45–46, 49.
[55] *See id.* at 53–55.
[56] *See* Jones, *supra* note 47; *see also* Emil Sayegh, *The Billion-Dollar AI Gamble: Data Centers as the New High-Stakes Game*, FORBES (Sep. 30, 2024, at 07:31 ET), https://www.forbes.com/sites/emilsayegh/2024/09/30/the-billion-dollar-ai-gamble-data-centers-as-the-new-high-stakes-game [https://perma.cc/7WVX-7W4B] (reporting on the pivotal role of data centers in AI process and society writ large).
[57] *See* Jones, *supra* note 47.

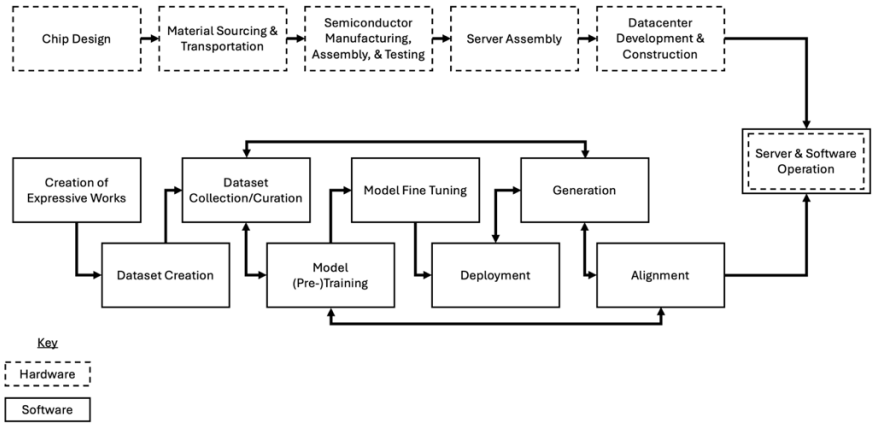

Figure 1: The (Simplified) AI Supply Chain is Comprised of Hardware and Software Dimensions.[58]

Some companies may combine various stages or employ slightly different ones, such as model selection, auditing, and validation.[59] For the purposes of the present discussion, the nuances of these distinctions are not important. What is salient is that, together, these hardware and software processes comprise the AI supply chain. Each stage is just as instrumental in delivering the final AI product to customers as is the growing, harvesting, processing, packaging, shipping, and storage of wheat to the delivery of pasta to customers. Part of the magic of the final AI product is that its constituent stages are hidden from view, leaving users with only the text, image, or data outputs they request.

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[58] The hardware side of the model was developed by the author, drawing on sources such as Erich Grunewald, *How AI Chips Are Made*, INST. AI POL'Y & STRATEGY (Sep. 4, 2025), https://www.iaps.ai/research/how-ai-chips-are-made [https://perma.cc/QUH3-XB4K] and *Server Manufacturing Levels Defined*, AMAX (Jan. 8, 2024), https://www.amax.com/server-manufacturing-levels-defined [https://perma.cc/9VE4-U355]. The software side of the model is replicated (with minor adaptations) from Lee et al., *supra* note 48, at 36.

[59] *See* Jones, *supra* note 47 (identifying different stages of AI models' development processes, such as pre-training and post-training, and highlighting potential governance techniques, including auditing, evaluations, and abuse monitoring).

C. The AI Supply Chain Is Rife with Opportunities for Human Rights Violations

The AI supply chain is vast and spans the globe. Essential metals are mined in countries like the Democratic Republic of the Congo and China, [60] semiconductors are made in Taiwan,[61] and AI models are deployed in nearly every country on Earth. Given this range, the potential for associated human rights violations is significant, and identifying and remedying these harms is challenging. When referring to human rights violations associated with AI supply chains, this Note will specifically focus on labor, health, and environmental harms.

Under the International Covenant on Economic, Social and Cultural Rights, individuals have a right to "[s]afe and healthy working conditions,"[62] as well as "[f]air wages and equal remuneration for work of equal value."[63] They also have a right "to an adequate standard of living"[64] and a right "to form trade unions and join [them]."[65] More fundamentally, under the Universal Declaration of Human Rights, all individuals have a right to be free from "slavery or servitude"[66] and "torture or . . . cruel, inhuman or degrading treatment or punishment."[67] These human rights connected with labor are also recognized in the International Labor Organization's (ILO) Declaration on Fundamental Principles and Rights at Work, which states that all ILO members "have an obligation, arising from the very fact of membership in the Organization," to comply with the ILO's core conventions concerning "fundamental [labor] rights."[68] Labor rights have also been codified in domestic laws around the

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[60] Omanjana Goswami, *Chipping In: Critical Minerals for Semiconductor Manufacturing in the U.S.*, 4 MIT SCI. POL. REV. 118, 118 (2023).

[61] *Id.* at 119.

[62] G.A. Res. 2200A (XXI), International Covenant on Economic, Social and Cultural Rights, art. 7(b) (Dec. 16, 1966) [hereinafter ICESCR]. This right is similarly reflected in Article 23 of the United Nations Universal Declaration of Human Rights. *See* G.A. Res. 217 (III) A, Universal Declaration of Human Rights, art. 23 (Dec. 10, 1948) [hereinafter Universal Declaration].

[63] ICESCR, *supra* note 62, art. 7(a)(i).

[64] *Id.* art. 11(1).

[65] *Id.* art. 8(1)(a).

[66] Universal Declaration, *supra* note 62, art. 4.

[67] *Id.* art. 5.

[68] INT'L LAB. ORG., ILO DECLARATION ON FUNDAMENTAL PRINCIPLES AND RIGHTS AT WORK AND ITS FOLLOW-UP 9 (amended 2022), https://www.ilo.org/sites/default/files/2024-04/ILO_1998_Declaration_EN.pdf [https://perma.cc/T93L-6C7M]. These include a prohibition on child and forced labor, the elimination of employment-based discrimination, and the right to "a safe and healthy working environment." *Id.* at 9.

world.[69] But AI firms may be violating these rights, based on reports of low wage laborers being exposed to disturbing images, videos, and text as part of generative AI model training and moderation.[70] Such exposure can cause psychological trauma and harm mental health,[71] which would infringe on the rights to safe and healthy working conditions and to health more broadly.[72] Further, the mining of metals required for AI chip production is commonly accompanied by violations of these rights through underpaid, forced, or child labor under dangerous working conditions.[73]

Processes in the AI supply chain may also threaten the human rights to health[74] and to a "clean, healthy and sustainable environment."[75] Rare earth metal mining for chip production often ravages the surrounding environment, implicating human health.[76] Training AI models requires massive amounts of electricity,[77] and data centers are projected to consume as much as twenty-one percent of global energy by 2030, a tenfold increase.[78] This energy consumption is often associated with the creation of fossil fuel emissions that exacerbate

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[69] *See, e.g.*, Occupational Safety and Health Act of 1970, 29 U.S.C. §§ 651–678 (setting employment safety standards in the United States); Health and Safety at Work etc. Act 1974, 1974 c. 37 (setting occupational safety standards in the United Kingdom).

[70] *See* Perrigo, *supra* note 21; Muldoon et al., *supra* note 22.

[71] E. Alison Holman et al., *It Matters What You See: Graphic Media Images of War and Terror May Amplify Distress*, PNAS, July 2024, at 1, 1.

[72] *See* ICESCR, *supra* note 62, art. 12(1) ("The States Parties to the present Covenant recognize the right of everyone to the enjoyment of the highest attainable standard of physical and mental health."); *see also* INT'L LAB. ORG., ILO CURRICULUM ON BUILDING MODERN AND EFFECTIVE LABOUR INSPECTION SYSTEMS: ENSURING COMPLIANCE WITH LEGISLATION ON PSYCHOSOCIAL RISKS 1 (2022) (discussing the duty of employers to protect workers from psychosocial risks).

[73] *See* Harvey, *supra* note 25; De Mott, *supra* note 25.

[74] ICESCR, *supra* note 62, at art. 12(1).

[75] G.A. Res. 76/300, at 3 (July 26, 2022).

[76] *See AI Has an Environmental Problem. Here's What the World Can Do About That.*, UN ENV'T PROGRAMME (Nov. 13, 2025), https://www.unep.org/news-and-stories/story/ai-has-environmental-problem-heres-what-world-can-do-about [https://perma.cc/U5ZB-YC4X].

[77] *See* Qiang Wang et al., *Ecological Footprints, Carbon Emissions, and Energy Transitions: The Impact of Artificial Intelligence (AI)*, HUMANITIES & SOC. SCIS. COMMC'NS (Aug. 14, 2024), at 1, 2 (citing Daniel Probst, *Aiming Beyond Slight Increases in Accuracy*, 7 NAT. REVS. CHEM. 227, 227 (2023)) ("[R]esearch indicates that training a single model like ChatGPT consumes 1.287 gigawatt-hours of electricity, roughly equivalent to the annual electricity consumption of 120 American households.").

[78] Beth Stackpole, *AI Has High Data Center Energy Costs—But There Are Solutions*, MIT SLOAN SCH. OF MGMT. (Jan. 7, 2025), https://mitsloan.mit.edu/ideas-made-to-matter/ai-has-high-data-center-energy-costs-there-are-solutions [https://perma.cc/3BGK-2GTQ]. Despite agreement that data center energy consumption is poised to increase, sources vary in their estimates—for example, the International Energy Agency (IEA) projects that European data center electricity demand will double by 2030. *See* Urtasun, *supra* note 2.

climate change.[79] Courts,[80] as well as the United Nations Human Rights Committee,[81] have indicated that wanton contributions to climate change may constitute a violation of human rights.[82] Similarly, energy generated by fossil fuels emits pollutants, such as lead, into the atmosphere, which can harm human health.[83] By extension, training and using AI models may infringe on "the inherent right to life."[84]

Data centers also need significant volumes of water for cooling, diminishing already scarce water resources that communities may depend upon.[85] When they do so, data centers threaten the right "to sufficient, safe, acceptable, physically accessible and affordable water for personal and domestic uses."[86] This is a significant issue. Even a "relatively small 1 megawatt data[center]" may consume 26 million liters of water per year.[87] Additionally, companies rarely consider water risk when determining data center locations, leading many to be built in areas with high water stress.[88] Similarly, data centers are often located in high-poverty, marginalized areas, leading to disparate negative impacts from pollution.[89]

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[79] Walther, *supra* note 15.

[80] *See* Georgina Rannard, *European Court Rules Human Rights Violated by Climate Inaction*, BBC (Apr. 9, 2024), https://www.bbc.com/news/science-environment-68768598 [https://perma.cc/GF4F-LJCM]; Liliana Gamboa, *A Seminal Case for Climate Litigation*, MALCOLM H. KERR CARNEGIE MIDDLE E. CTR. (June 26, 2024), https://carnegieendowment.org/research/2024/06/a-seminal-case-for-climate-litigation?lang=en&center=middle-east [https://perma.cc/F7TU-LAM3].

[81] Billy v. Australia, *supra* note 24, ¶ 8.5 ("The Committee observes that both it and regional human rights tribunals have established that environmental degradation can compromise effective enjoyment of the right to life and that severe environmental degradation can adversely affect an individual's wellbeing and lead to a violation of the right to life.")

[82] *See id.*; Gamboa, *supra* note 80.

[83] Clara Chaisson, *Fossil Fuel Air Pollution Kills One in Five People*, NRDC (Feb. 19, 2021), https://www.nrdc.org/stories/fossil-fuel-air-pollution-kills-one-five-people [https://perma.cc/VJ94-NHTM].

[84] G.A. Res. 2200A (XXI), International Covenant on Civil and Political Rights, art. 6 (Dec. 16, 1966); *see* Billy v. Australia, *supra* note 24, ¶ 8.5; Chaisson, *supra* note 83.

[85] Masaō Ashtine & David Mytton, *We Are Ignoring the True Cost of Water-Guzzling Data Centres*, THE CONVERSATION (Oct. 19, 2021, at 07:37 ET), https://theconversation.com/we-are-ignoring-the-true-cost-of-water-guzzling-data-centres-167750 [https://perma.cc/J2TE-49FK].

[86] U.N. Comm. on Econ., Soc. and Cultural Rights, Substantive Issues Arising in the Implementation of the International Covenant on Economic, Social and Cultural Rights, General Comment No. 15 (2002), The Right to Water (arts. 11 and 12 of the International Covenant on Economic, Social and Cultural Rights), ¶ 2, U.N. Doc. E/C.12/2002/11 (Jan. 20, 2003); *see also* G.A. Res. 64/292, at 2–3 (July 28, 2010) (recognizing the human right to clean water and sanitation).

[87] Ashtine & Mytton, *supra* note 85.

[88] *Id.*

[89] *See* Lauren Bridges & Ethan McFarlin, CLOUD TOPOGRAPHIES (2024), https://cloudtop-

As these examples illustrate, there are multifarious opportunities for human rights violations throughout the AI supply chain. Without enhanced oversight, disclosure, and enforcement, these are likely to continue as AI grows in popularity and complexity. Fortunately, recently adopted supply chain due diligence laws, aimed at improving human rights protections, may apply to AI supply chains and could be used to combat these upstream harms.

III. AN OVERVIEW OF EXISTING SUPPLY CHAIN HUMAN RIGHTS LAWS

Laws aimed at curtailing human rights violations in the supply chain precede the modern concept of human rights. As early as the 1930s, the United States adopted laws prohibiting the import of goods manufactured using forced labor.[90] More recently, domestic and transnational laws have targeted other forms of upstream harm, such as discriminatory practices and environmental pollution.[91] Influenced by the UN's Guiding Principles on Business and Human Rights (UNGPs) [92] and the Organization for Economic Cooperation and Development's (OECD) 2018 Due Diligence Guidance for Responsible Business Conduct,[93] more countries have adopted supply chain due diligence laws.[94] These laws obligate companies to monitor, mitigate, and disclose human rights violations associated with the delivery of their products or services. Accordingly, this Part assesses the global landscape of legal standards for corporate human rights and SCDD compliance. It argues that while standards and laws that apply to AI companies exist, their non-binding nature or jurisdictional scope limits their effectiveness. Subpart II.A outlines the primary

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ographies.com [https://perma.cc/NM4Z-9JC3].

[90] *See, e.g.*, 19 U.S.C. § 1307 (prohibiting the import of "[c]onvict made goods"). This Note assimilates the term "human rights" with domestic laws protecting rights that fall within this umbrella term, even if the domestic law does not use the term (and, indeed, may have faced opposition if so framed).

[91] *See, e.g.*, German Act on Corporate Due Diligence, *supra* note 20; Commission Regulation 2023/956, 2023 (establishing the Carbon Border Adjustment Mechanism (CBAM)).

[92] U.N. Hum. Rts. Off. of the High Comm'r., Guiding Principles on Business and Human Rights, U.N. Doc. HR/PUB/11/04 (2011) [hereinafter Guiding Principles]. *See also* Human Rights Council Res. 17/4, U.N. Doc A/HRC/RES/17/4, at 2 (July 6, 2011) (unanimously adopting the Guiding Principles on Business and Human Rights); U.N. Hum. Rts. Council, The Practical Application of the Guiding Principles on Business and Human Rights to the Activities of Technology Companies, U.N. Doc. A/HRC/50/56, at 6–9 (Apr. 21, 2022) [hereinafter B-Tech Report] (discussing the corporate responsibility to protect human rights).

[93] *OECD Due Diligence Guidance for Responsible Business Conduct*, OECD (Feb. 1, 2018), https://mneguidelines.oecd.org/OECD-Due-Diligence-Guidance-for-Responsible-Business-Conduct.pdf [https://perma.cc/728H-3RYD] [hereinafter OECD Due Diligence Guidance].

[94] Schilling-Vacaflora & Gustafsson, *supra* note 42, at 423.

transnational human rights SCDD standards. Subpart II.B examines emerging and existing laws in Europe, Asia, and South America. Subpart II.C highlights the absence of SCDD laws in the United States, bringing attention to opportunities for regulation.

A. All Companies Have International Corporate Human Rights Responsibilities

The UNGPs and the OECD's 2018 Due Diligence Guidance for Responsible Business Conduct provide frameworks of responsibility that apply to all corporations. Under the UNGPs, which were unanimously endorsed by the diverse state members of the Human Rights Council,[95] corporations have a responsibility to "respect [internationally recognized] human rights"[96] and "prevent or mitigate adverse human rights impacts that are directly linked to their operations, products or services."[97] To effectuate these responsibilities, companies should "carry out human rights due diligence . . . includ[ing] assessing actual and potential human rights impacts [directly or indirectly linked to their operations], integrating and acting upon the findings, tracking responses, and communicating how impacts are addressed."[98] Many established companies, such as Apple, take these responsibilities seriously and employ teams tasked with ensuring compliance.[99] States, in turn, have a responsibility to implement "effective policies, legislation, regulations and adjudication" to ensure that "all business enterprises domiciled in their territory and/or jurisdiction respect human rights throughout their operations."[100]

The OECD's 2018 Due Diligence Guidance for Responsible Business Conduct notes that due diligence is meant to be "preventative,"[101] "dynamic,"[102] and

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[95] H.R.C. Res. 17/4, *supra* note 92, at 2.

[96] Guiding Principles, *supra* note 92, at 13.

[97] *Id.* at 14. Under this international legal framework, business enterprises are considered "specialized organs of society performing specialized functions" and therefore are "required to comply with all applicable laws and to respect human rights." *Id.* at 1. This obligation is derived from "States' existing obligations to respect, protect and fulfil human rights and fundamental freedoms." *Id.*

[98] *Id.* at 17; *see id.* at 17–24.

[99] *See* APPLE, PEOPLE AND ENVIRONMENT IN OUR SUPPLY CHAIN: 2024 ANNUAL PROGRESS REPORT (2024), https://s203.q4cdn.com/367071867/files/doc_downloads/2024/04/Apple-Supply-Chain-2024-Progress-Report.pdf [https://perma.cc/F244-S87S].

[100] Guiding Principles, *supra* note 92, at 3.

[101] OECD Due Diligence Guidance, *supra* note 93, at 16.

[102] *Id.* at 17.

"informed by engagement with stakeholders."[103] The due diligence process involves six categories of measures: embedding responsible business practices within a company's systems, "identifying actual or potential" harms, "ceasing, preventing or mitigating" harms, "tracking implementation and results," "communicating how impacts are addressed," and "enabl[ing] remediation when appropriate."[104]

These due diligence process stages are reflected in the UN High Commissioner for Human Rights' 2022 annual report,[105] which focused on the "application of the Guiding Principles on Business and Human Rights to the activities of technology companies."[106] In short, the report found that the UNGPs indeed apply to technology companies' products and services, and that due diligence responsibilities encompass both downstream impacts and upstream activities.[107] Together, these international documents set a baseline expectation for technology companies, including AI developers, to conduct SCDD and bear responsibility for preventing and addressing human rights harms associated with the their products' development and use.

B. Many Countries Have, or Are Developing, SCDD Laws

The European Union (EU) and its member states have been among the most active countries in codifying corporate due diligence obligations. As of 2025, these fall into categories including due diligence laws, disclosure laws, and sector-specific legislation. Examples of diligence laws include the EU Corporate Sustainability Due Diligence Directive,[108] Germany's Supply Chain Due Diligence Act,[109] France's Corporate Duty of Vigilance Law,[110] Norway's

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[103] *Id.* at 18.

[104] *Id.* at 21; *see also id.* at 22–35 (detailing the stages of the due diligence process for responsible business conduct).

[105] *See* B-Tech Report, *supra* note 92, at 8.

[106] *Id.* at 1.

[107] *See id.* at 6–9.

[108] Directive (EU) 2024/1760 of the European Parliament and of the Council of 13 June 2024 on Corporate Sustainability Due Diligence and Amending Directive (EU) 2019/1937 and Regulation (EU) 2023/2859, 2024 O.J. (L 1760) [hereinafter EU Corporate Sustainability Due Diligence Directive].

[109] Gesetz über die unternehmerischen Sorgfaltspflichten in Lieferketten [LkSG] [Act on Corporate Due Diligence Obligations in Supply Chains], July 22, 2021, BUNDESGESETZBLATT I [BGBL I] at 2959 (Ger.) [hereinafter German Supply Chain Due Diligence Act].

[110] Loi 2017-399 du 27 mars 2017 relative au devoir de vigilance des sociétés mères et des entreprises donneuses d'ordre [Law No. 2017-399 of March 27, 2017 Relating to the Duty of Care of Parent Companies and Contracting Companies], JOURNAL OFFICIEL DE LA REPUBLIQUE FRANÇAISE [J.O.] [OFFICIAL GAZETTE OF FRANCE], Mar. 28, 2017, No. 0074.

Transparency Act,[111] and Switzerland's Conflict Minerals and Child Labor Due Diligence Provisions.[112] These laws generally require large companies to adopt due diligence policies aimed at monitoring and mitigating human rights harms in their supply chains and post periodic reports to their websites.[113] Disclosure laws include the EU Non-Financial Reporting Directive[114] and the EU Corporate Sustainability Reporting Directive.[115] These laws tend to be broader than diligence laws and focus more on reporting requirements than specific internal corporate policies.[116] Legislation targeted at specific sectors includes the EU Conflict Minerals Regulation,[117] the EU Deforestation Regulation,[118] and the EU Batteries Regulation.[119] While similar to due diligence laws in what they require from companies, these laws focus on particular harms and specific sectors.

Outside of the EU, there are fewer SCDD laws in force, though several are in various stages of development.[120] In 2023, members of South Korea's National Assembly introduced a bill, the Act on Human Rights and Environmental Protection for Sustainable Management of Companies, that

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[111] *The Transparency Act*, FORBRUKERTILSYNET (Nov. 1, 2024), https://www.forbrukertilsynet.no/vi-jobber-med/apenhetsloven/the-transparency-act#foreign [https://perma.cc/N5UH-FQGJ].

[112] OBLIGATIONENRECHT [OR] [CODE OF OBLIGATIONS] Dec. 3, 2021, AS 2021 847 (Switz.).

[113] *See, e.g.*, EU Corporate Sustainability Due Diligence Directive, *supra* note 108, arts. 5, 16.

[114] Directive 2014/95/EU of the European Parliament and of the Council of 15 May 2014 Establishing a Framework for the Recovery and Resolution of Credit Institutions and Investment Firms and Amending Council Directive 82/891/EEC, and Directives 2001/24/EC, 2002/47/EC, 2004/25/EC, 2005/56/EC, 2007/36/EC, 2011/35/EU, 2012/30/EU and 2013/36/EU, and Regulations (EU) No 1093/2010 and (EU) No 648/2012, of the European Parliament and of the Council, 2014 O.J. (L 173/191) 1.

[115] EU Corporate Sustainability Due Diligence Directive, *supra* note 108.

[116] *See, e.g.*, NORA HAHNKAMPER-VANDENBULCKE, EUR. PARL. RSCH. SERV., PE 654.213, BRIEFING: IMPLEMENTATION APPRAISAL, NON-FINANCIAL REPORTING DIRECTIVE (2021), https://www.europarl.europa.eu/RegData/etudes/BRIE/2021/654213/EPRS_BRI(2021)654213_EN.pdf [https://perma.cc/2YUP-6TNM].

[117] Regulation (EU) 2017/821 of the European Parliament and of the Council of 17 May 2017 Laying Down Supply Chain Due Diligence Obligations for Union Importers of Tin, Tantalum and Tungsten, Their Ores, and Gold Originating from Conflict-Affected and High-Risk Areas, 2017 O.J. (L 130) 1.

[118] Regulation (EU) 2023/1115 of the European Parliament and of the Council of 31 May 2023 on the Making Available on the Union Market and the Export from the Union of Certain Commodities and Products Associated with Deforestation and Forest Degradation and Repealing Regulation (EU) No 995/2010, 2023 O.J. (L 150) 207.

[119] Regulation (EU) 2023/1542 of the European Parliament and of the Council of 12 July 2023 Concerning Batteries and Waste Batteries, Amending Directive 2008/98/EC and Regulation (EU) 2019/1020 and Repealing Directive 2006/66/EC, 2023 O.J. (L 191) 1.

[120] *See, e.g.*, Kaoru Umino & Jonathan Exten-Wright, *Japan Leads Effort in Asia to Promote Human Rights Due Diligence*, DLA PIPER (May 10, 2023), https://www.dlapiper.com/en/insights/publications/2023/05/japan-leads-effort-in-asia-to-promote-human-rights-due-diligence [https://perma.cc/2HNH-KH7S].

would have brought new SCDD standards to companies doing business in the country, leading one international law firm to note that "mandatory human rights due diligence . . . may be coming to Asia."[121] Despite receiving initial attention, the bill was discarded in May 2024.[122] As of August 2025, Thailand was poised to introduce a binding SCDD law focused on human rights and environmental risks.[123] Meanwhile, Japan has "non-mandatory guidelines" that encourage Japanese businesses to take voluntary due diligence measures.[124] In Latin America, multiple countries, including Peru, Chile, and Colombia, have developed National Action Plans on Business and Human Rights.[125] Several SCDD bills have been introduced elsewhere in the region, including Bill of Law 572 in Brazil and a "bill for the creation of a General Law on Corporate Responsibility and Due Diligence" in Mexico, but none have been adopted.[126]

Several Commonwealth countries have laws that target forced and child labor in supply chains, though their scope is relatively narrow on the spectrum of SCDD laws.[127] In 2018, Australia adopted the Modern Slavery Act,[128] which imposes SCDD obligations related to slavery on Australian companies or corporations operating in Australia with more than $100 million in revenue.[129] The U.K. adopted a similar Modern Slavery Act in 2015, and Canada passed its Fighting Against Forced Labour and Child Labour in Supply Chains Act in 2023.[130]

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[121] Michael R. Littenberg et al., *Is Mandatory Human Rights Due Diligence Coming to Asia?*, ROPES & GRAY (Dec. 4, 2023), https://www.ropesgray.com/en/insights/viewpoints/102iu8h/is-mandatory-human-rights-due-diligence-coming-to-asia [https://perma.cc/HX58-LHZ3].

[122] Yonghee Yoon & Min Ho Lee, *Environmental, Social & Governance Law Korea 2025*, ICLG (Jan. 3, 2025), https://iclg.com/practice-areas/environmental-social-and-governance-law/korea [https://perma.cc/MZV2-WJVT].

[123] Peerapan Tungsuwan, Nam-Ake Lekfuangfu & Varutt Kittichungchit, *Thailand: HREDD Bill—Mandatory Human Rights and Environmental Due Diligence in Supply Chains*, BAKER MCKENZIE (Aug. 26, 2025), https://insightplus.bakermckenzie.com/bm/environment-climate-change_1/thailand-hredd-bill-mandatory-human-rights-and-environmental-due-diligence-in-supply-chains [https://perma.cc/MRK7-5SAQ].

[124] Umino & Exten-Wright, *supra* note 120.

[125] Clara Pacce P. Serva & Luiz Carlos S. Faria Jr., *Mandatory Human Rights Due Diligence in Brazil*, INT'L BAR ASS'N (June 17, 2022), https://www.ibanet.org/Mandatory-human-rights-due-diligence-Brazil [https://perma.cc/P95Z-EQAP].

[126] *Id.*

[127] *See, e.g.*, Fighting Against Forced Labour and Child Labour in Supply Chains Act, S.C. 2023, c. 9 (Can.); *Modern Slavery Act 2018* (Cth) (Austl.); Modern Slavery Act 2015, c. 30 (U.K.).

[128] *Modern Slavery Act 2018* (Cth) (Austl.).

[129] Abigail McGregor & Grace Do, *Modern Slavery Act: What Businesses in Australia Need to Know*, NORTON ROSE FULBRIGHT (Sep. 2022), https://www.nortonrosefulbright.com/en/knowledge/publications/06a565ee/modern-slavery-act-what-businesses-in-australia-need-to-know [https://perma.cc/2EEL-NK2K].

[130] Modern Slavery Act 2015, c. 30 (U.K.); Fighting Against Forced Labour and Child Labour in Supply Chains Act, S.C. 2023, c. 9 (Can.).

While more targeted than some of the EU laws, these laws may serve as a foothold upon which other SCDD legislation could be built.

C. The United States Lacks Comprehensive SCDD Laws

In the United States, there is no comprehensive SCDD law in force at the federal level. Compared with EU laws, the U.S. supply chain laws that do exist are much narrower in scope. For example, section 1307 of the Tariff Act of 1930 prohibits the import of "[a]ll goods, wares, articles, and merchandise mined, produced, or manufactured wholly or in part in any foreign country" that used "forced labor."[131] The Uyghur Forced Labor Prevention Act (UFLPA) references § 1307 and the United States-Mexico-Canada Agreement and similarly targets the import of "goods" made "wholly or in part" with forced labor, specifically from the Xinjiang Uyghur Autonomous Region in China.[132] While serving important purposes, these statutes lack the monitoring, reporting, and disclosure requirements that are hallmarks of most SCDD laws and that increase compliance through procedural governance and enhanced transparency.

At the state level, the California Transparency in Supply Chains Act, enacted in 2010,[133] requires that "[e]very retail seller and manufacturer doing business in [California] and having annual worldwide gross receipts that exceed one hundred million dollars ($100,000,000) [to] disclose . . . its efforts to eradicate slavery and human trafficking from its direct supply chain for tangible goods offered for sale."[134] The law also sets forth specific information required in the disclosure[135] and requires that the disclosure "be posted on the retail seller's or manufacturer's Internet Web site."[136] Like the aforementioned federal laws, this Act does not extend to non-labor harms, such as environmental and health impacts.[137] Other states have yet to adopt similar SCDD requirements.

Federal actions in recent years have indicated some political appetite for a national SCDD requirement, but this potential has not been realized. The House

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[131] 19 U.S.C. § 1307.

[132] Uyghur Forced Labor Prevention Act, Pub. L. No. 117-78, 135 Stat. 1525, § 1 (2021) (codified in scattered sections of 19 U.S.C. and 22 U.S.C.).

[133] S.B. 657, 2009-2010 Leg., Reg. Sess. (Cal. 2010) (enacted) (codified at CAL. CIV. CODE § 1714.43 and CAL. REV. & TAX CODE § 19547.5).

[134] CAL. CIV. CODE § 1714.43(a)(1) (West 2010).

[135] *Id.* § 1714.43(c) (West 2010).

[136] *Id.* § 1714.43(b) (West 2010).

[137] *See The California Transparency in Supply Chains Act*, STATE OF CAL. DEP'T OF JUST., https://oag.ca.gov/SB657 [https://perma.cc/DK7K-BQQ3] (last visited Nov. 1, 2025) (noting that the Act was enacted to combat slavery and human trafficking).

of Representatives passed the Corporate Governance Improvement and Investor Protection Act in 2021[138] before the bill died in the Senate. The measure would have required public companies to report additional information related to various environmental, social, and governance metrics, though these were very broadly defined.[139] Likely contributing to its demise, the bill also required the disclosure of an array of information including data on cybersecurity, workplace harassment, and the "[d]emographic data . . . of the board of directors."[140] In 2024, the U.S. federal government introduced a National Action Plan on Responsible Business Conduct.[141] Notably, this document stated that the government "expects businesses to conduct [human rights due diligence] throughout their value chains in line with internationally recognized standards set out in the UNGPs and the OECD Guidelines."[142] While a helpful affirmation that international laws are applicable to U.S. companies, this guidance is not enforceable. Further, following the recent change in presidential administration, it is questionable whether the plan remains relevant.

Taken together, the international, foreign, and domestic laws related to SCDD represent a patchwork of standards to which companies, particularly large corporations, may be held accountable. Questions remain regarding how companies are being held accountable in practice, as well as the extent to which these laws implicate AI companies—or, at a minimum, the extent to which AI companies and governments *believe* they apply to AI supply chains. Building on this overview of the SCDD law landscape, Part III will examine specific laws and argue how they do, and do not, apply to AI supply chains.

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[138] H.R. 1187, 117th Cong. (1st Sess. 2021).

[139] *See id.* at 4–5.

[140] *Id.* at 73.

[141] U.S. DEP'T OF STATE, 2024 NATIONAL ACTION PLAN ON RESPONSIBLE BUSINESS CONDUCT (2024), https://www.state.gov/wp-content/uploads/2024/03/2024-United-States-Government-National-Action-Plan-on-Responsible-Business-Conduct.pdf [https://perma.cc/YP82-8LSG]; *see also* Thomas Daley & Andrew Current, *New US Government Guidance Promotes Human Rights Due Diligence by Contractors in Federal Supply Chains*, DLA PIPER (Apr. 11, 2024), https://www.dlapiper.com/en-us/insights/publications/2024/04/new-guidance-addresses-requirements-for-contractors-to-conduct-human-rights-due-diligence [https://perma.cc/H7RB-ZRD4] (discussing the U.S. government's new due diligence guidance for government contractors).

[142] U.S. DEP'T OF STATE, *supra* note 141, at 7.

IV. HOW EXTANT SUPPLY CHAIN DUE DILIGENCE LAWS APPLY TO AI SUPPLY CHAINS

The development of AI involves a supply chain as tangible and intricate as the most complex consumer hardware products.[143] Many of the companies behind AI technologies are large, operate globally, and have advanced capabilities, which suggests high capacity for compliance. Concurrently, SCDD laws generally apply to large companies operating in certain jurisdictions and impose monitoring and disclosure requirements.[144] David Gray Widder and Richmond Wong have suggested that there may be "opportunities to apply human rights law to workers in the AI supply chain" and mentioned several potential laws, but they have not discussed this idea in depth.[145] This Part takes their invitation and pushes further, delving into how existing SCDD laws may apply to workers in the AI supply chain[146] as well as to other potential human rights violations. It argues that several European SCDD laws apply to AI companies' supply chains directly, while other laws may apply indirectly through companies who use AI to develop their products. Subpart III.A analyzes the applicability of five SCDD laws. Subpart III.B articulates how SCDD laws' application to non-AI companies may still implicate AI supply chains. Subpart III.C assesses leading AI companies' current compliance, and Subpart III.D brings together these analyses to describe four material gaps in the SCDD regulatory landscape. In analyzing existing SCDD laws and proposing new ones, this Note will consider four criteria: how *aligned* laws are with the OECD due diligence principles (e.g., requiring monitoring, compliance, enforcement, and auditing), whether they are *applicable* to a wide swath of AI companies, how *enforceable* they are, and, for unenacted measures, to what extent they are *politically feasible* for lawmakers and companies to adopt.

A. Several SCDD Laws May Already or Soon Apply to AI Companies

1. The UNGPs and the OECD's Due Diligence Guidance. First and foremost, it is apparent that the UNGPs and the OECD's Due Diligence Guidance for Responsible Business Conduct apply to AI companies. The text of the UNGPs reads, "[t]hese Guiding Principles apply to all States and to all business

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[143] *See supra* Subpart I.B.

[144] *See supra* Subpart II.B.

[145] Widder & Wong, *supra* note 15, at 2.

[146] For additional discussion of the (often hidden) role of human labor in AI supply chains, see generally ANTONIO A. CASILLI, WAITING FOR ROBOTS: THE HIRED HANDS OF AUTOMATION (2025) (discussing the implications of AI's continued dependence on human labor).

enterprises, both transnational and others, regardless of their size, sector, location, ownership and structure."[147] Under the UNGPs, companies have a responsibility to "carry out human rights due diligence," including "assessing actual and potential human rights impacts, integrating and acting upon the findings, tracking responses, and communicating how impacts are addressed."[148] Similarly, companies are expected to "be prepared to communicate [the human rights impacts and processes] externally."[149] The major caveat is that the UNGPs do not create binding legal obligations, but rather reflect the international community's views on how companies *should* act to uphold internationally recognized human rights.[150]

Similarly, the OECD's Due Diligence Guidance is just that: guidance. It promulgates "non-binding recommendations addressed to multinational enterprises" that provide more specific implementation guidance than the UNGPs, aiming to "promote a common understanding amongst governments and stakeholders on due diligence for [responsible business conduct]."[151] Although companies such as OpenAI and Anthropic would qualify as among the "multinational enterprises" to which these guidelines are meant to apply, they must elect to follow them. Accordingly, these frameworks represent the high-water marks of both the alignment and applicability metrics, but they score low on enforceability. Despite the nonbinding nature of these laws, they provide a meaningful background expectation of human rights due diligence and provide national lawmakers with foundations in which they can ground their laws.

2. The EU's Corporate Sustainability Due Diligence Directive (CSDDD). The EU's CSDDD applies to AI companies that meet its size requirements. At the most basic level, the Directive applies to companies based in the EU with more than one thousand employees and €450 million in "net worldwide turnover"[152] and to companies incorporated elsewhere that "generated a net turnover of more than [€450 million] in the Union in the financial year preceding the last financial year."[153] Beyond these bright-line requirements, the plain text of the

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[147] Guiding Principles, *supra* note 92, at 1.

[148] *Id.* at 17.

[149] *Id.* at 23.

[150] *Id.* at 1 ("Nothing in these Guiding Principles should be read as creating new international law obligations.").

[151] OECD Due Diligence Guidance, *supra* note 93, at 9.

[152] EU Corporate Sustainability Due Diligence Directive, *supra* note 108, art. 2(1).

[153] *Id.* art. 2(2)(a). There are additional ways that companies may become subject to this law, including through meeting certain franchising or licensing royalty thresholds. *See id.* arts. 2(2)(b)–(c).

supply chain activities that are covered further suggests the Directive's extension to AI companies. A qualifying company is responsible for due diligence encompassing the "activities of [its] upstream business partners related to the production of goods *or the provision of services by that company*, including the design, extraction, sourcing, manufacture, transport, storage and supply of raw materials, products or parts of products and the development of the product or the service."[154] This language is significant as it specifically enumerates "provision of services,"[155] rather than merely applying to "goods." The language is also clear that resource "extraction" and the "development of the . . . service" are also within scope,[156] implying AI companies are responsible for both the software and hardware dimensions of their supply chains.

Notably, despite "applying" to companies as outlined above, per the EU's general regulatory structure, the Directive does not bind them directly.[157] Rather, it directs EU member states to integrate the principles into their national laws, which will then be enforceable against companies. The Directive compels EU member states to require companies to, among other things, "integrate due diligence into all their relevant policies and risk management systems,"[158] "identify and assess actual and potential adverse impacts arising from their own operations or those of their subsidiaries,"[159] and "report on the matters covered by this Directive by publishing on their website an annual statement."[160] Under the Directive, "supervisory authorities" of countries within the EU may investigate companies for non-compliance, compel companies to disclose information, and order companies to remedy infringements.[161] The Directive states that these authorities must be phased in by July 26, 2026.[162]

Given its applicability to AI supply chains' hardware and software dimensions, as well as its €450 million turnover threshold,[163] the Directive scores moderately high on the applicability metric, though could be made

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[154] *Id.* art. 3(1)(g)(i) (emphasis added).
[155] *Id.*
[156] *Id.*
[157] *See Types of Legislation*, EUR. UNION, https://european-union.europa.eu/institutions-law-budget/law/types-legislation_en [https://perma.cc/B8FP-YSL2] (last visited Mar. 24, 2025).
[158] EU Corporate Sustainability Due Diligence Directive, *supra* note 108, art. 7(1).
[159] *Id.* art. 8(1).
[160] *Id.* art. 16(1).
[161] *See id.* art. 25.
[162] *See id.* art. 24(7).
[163] *See id.* arts. 2, 3(1)(g)(i).

stronger through a lower or alternative threshold. It is quite well aligned with the OECD principles and models many of its requirements after them.[164] From an enforcement perspective, the Directive scores moderately. Although binding on EU member states, a Regulation would have been stronger, as it could have bound companies directly.[165]

Applying the CSDDD to some of the most notable AI companies in 2026, Microsoft and Alphabet, which are both developing multiple AI products,[166] are clearly subject to the Directive, as they each earn tens of billions of dollars annually in Europe.[167] The Directive will likely soon apply to OpenAI and Anthropic as well. Although OpenAI's specific revenue breakdown is not public, they achieved an annual revenue run rate of $10 billion in June 2025,[168] making it possible that they have exceeded a net turnover of €450 million in Europe. Even if these companies do not yet meet that threshold, they will likely cross it soon. OpenAI's global revenue is projected to exceed $11 billion in 2025,[169] and Anthropic projects up to $34.5 billion in revenue by 2027.[170] The extent to which these companies appear to be complying with the CSDDD's requirements is discussed in Subpart III.C.

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[164] EU Corporate Sustainability Due Diligence Directive, *supra* note 108, ¶ 62.

[165] *See Types of Legislation*, *supra* note 157.

[166] *See, e.g.*, *Copilot*, MICROSOFT, https://copilot.microsoft.com [https://perma.cc/UHZ4-HQPJ] (last visited Jan. 11, 2026); *Gemini*, GOOGLE, https://gemini.google.com [https://perma.cc/9RXN-H9EC] (last visited Jan. 11, 2026).

[167] *See* Alphabet, Annual Report (Form 10-K) 64 (Feb. 4, 2025) (reporting $102 billion in EMEA regional revenue); Microsoft, Annual Report (Form 10-K) 44 (July 27, 2024) (reporting $211 billion in global revenue). It is possible that companies may try to find ways to circumvent this regulation by spinning off aspects of their businesses into subsidiaries or arguing that the regulation should only apply to certain product lines. Under article 2(3) of the Directive, a holding company that "does not engage in taking management, operational or financial decisions affecting the group or one or more of its subsidiaries . . . may be exempted from carrying out the obligations under this Directive." EU Corporate Sustainability Due Diligence Directive, *supra* note 108, art. 2(3). The company however "remain[s] jointly liable" for its subsidiary's compliance. *Id.*

[168] *See OpenAI's Annualized Revenue Hits $10 Billion, up from $5.5 Billion in December 2024*, REUTERS (June 10, 2025, at 04:50 ET), https://www.reuters.com/business/media-telecom/openais-annualized-revenue-hits-10-billion-up-55-billion-december-2024-2025-06-09 [https://perma.cc/2VM4-4HRA].

[169] Effie Webb, *OpenAI's CEO Says It's "Definitely Possible" It Will Triple Revenue in 2025*, BUS. INSIDER (Feb. 21, 2025, at 08:48 ET), https://www.businessinsider.com/openai-cfo-revenue-forecast-chatgpt-2025-2 [https://perma.cc/5Q2F-EM46].

[170] *Anthropic Sees Revenue Potentially Soaring to $34.5 Billion in 2027, The Information Reports*, REUTERS (Feb. 12, 2025, at 21:01 ET), https://www.reuters.com/technology/anthropic-projects-soaring-growth-345-billion-2027-revenue-information-reports-2025-02-13 [https://perma.cc/24VW-UVZP].

3. German Supply Chain Due Diligence Act (GSCDDA). The GSCDDA applies to a few of the largest AI companies, but most do not fall within its scope. Adopted in 2021, the law applies to companies headquartered or with a domestic branch in Germany that have at least 1,000 employees in the country.[171] The Act defines the applicable supply chain as encompassing "all products and services of an enterprise . . . includ[ing] all steps in Germany and abroad that are necessary to produce the products and provide the services."[172] Section Three of the Act places nine due diligence obligations on within-scope companies, including "performing regular risk analyses," "establishing a complaints procedure," and "implementing due diligence obligations with regard to risks at indirect suppliers."[173] Google and Microsoft both meet the requisite employee thresholds, but OpenAI, Anthropic, and many other North American AI start-ups do not.[174] This may signal a limitation in the legislation, given the size and power of these companies and their ability to skirt the requirements by refraining from a physical presence in the country.[175] Simultaneously, this was possibly a consideration and intentional policy decision by lawmakers, who may have wanted to limit the extraterritorial application of their law.

From an alignment standpoint, the GSCDDA scores high, as it requires most aspects of the OECD framework, from risk management to complaint procedures.[176] The Act is also highly enforceable and provides for penalties

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[171] German Supply Chain Due Diligence Act, BGBL I at 2959, art. 1 § 1(1) (July 22, 2021).

[172] *Id.* art. 1 § 2(5).

[173] *Id.* art. 1 § 3(1).

[174] *See* Daniel Holz & Philipp Justus, *Google Invests 1 Billion Euros in Germany's Digital Future*, GOOGLE (Aug. 31, 2021), https://cloud.google.com/blog/products/infrastructure/google-invests-1-billion-euros-in-germanys-digital-future [https://perma.cc/FT56-V9F3] (reporting more than 2,500 Google employees in Germany); *Microsoft in Germany—Impact at a Glance*, MICROSOFT (2023), https://news.microsoft.com/wp-content/uploads/prod/sites/40/2023/03/Summary-Local-Impact-Germany.pdf [https://perma.cc/YK7A-2CWW] (reporting approximately 3,000 Microsoft employees in Germany); *see also* Kyle Wiggers, *OpenAI Plans to Open an Office in Germany*, TECHCRUNCH (Feb. 7, 2025, at 14:49 PT), https://techcrunch.com/2025/02/07/openai-plans-to-open-an-office-in-germany [https://perma.cc/N26F-2C6C] (reporting on OpenAI's plans to open its first office in Germany).

[175] It may also suggest a need for stronger merger scrutiny, bringing AI "frontier labs" like OpenAI and Anthropic within the laws' purview, given these labs' tight coupling with major tech companies. *Cf.* Cade Metz et al., *Microsoft and OpenAI's Close Partnership Shows Signs of Fraying*, N.Y. TIMES (Oct. 21, 2024), https://www.nytimes.com/2024/10/17/technology/microsoft-openai-partnership-deal.html [https://perma.cc/J5K6-7RP6] (reporting that the close partnership between Microsoft and OpenAI may be starting to loosen).

[176] *See* German Supply Chain Due Diligence Act, BGBL I at 2959, §§ 3–18 (July 22, 2021).

such as fines[177] and exclusion from public contracts.[178] However, the Act scores moderately low on applicability. As analyzed above, nearly all international AI companies, and many German ones, do not meet the 1,000-employee threshold. It could be strengthened by an alternative threshold, perhaps associated with annual turnover or number of users. This will be explored further in Subpart IV.A.

4. Norway's Transparency Act. Norway's Transparency Act applies to some AI-developing companies but excludes many others. In force as of 2022, Norway's Transparency Act applies to "[l]arger enterprises that are resident in Norway" as well as "[l]arger foreign enterprises that offer goods and services in Norway, and that are liable to tax to Norway pursuant to internal Norwegian legislation."[179] This latter requirement means that even if a foreign company will not be liable to *pay* any taxes in Norway, so long as it "offers goods or services in Norway" and meets the size requirements, the company will still be subject to the law if it meets the tax liability standards under "internal Norwegian legislation."[180] Under Norwegian law, a foreign company is subject to Norwegian tax if it earns "business income . . . from business activity that is carried on through a permanent establishment in Norway."[181] A permanent establishment is "a fixed place of business," such as "a place of management, a branch, an office, [or] a factory."[182]

To be considered large under Norway's Transparency Act, a company must meet at least two of three thresholds: sales revenue greater than NOK 70 million, a balance sheet total of more than NOK 35 million, and 50 full-time equivalent employees in the financial year on average.[183] The law places a duty on these companies to "carry out due diligence in accordance with the OECD Guidelines for Multinational Enterprises on Responsible Business Conduct," "publish an account of their due diligence annually," and "provide information" upon the written request of "any person."[184]

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[177] *Id.* § 24.
[178] *Id.* § 22.
[179] *The Transparency Act*, *supra* note 111.
[180] *Id.*
[181] *Permanent Establishment—Foreign Businesses*, THE NORWEGIAN TAX ADMIN., https://www.skatteetaten.no/en/business-and-organisation/foreign/tax-returns-and-tax-assessment-notices/permanent-establishment [https://perma.cc/DC66-GJDC] (last visited Mar. 21, 2025).
[182] *Id.*
[183] *The Transparency Act*, *supra* note 111.
[184] *Id.*

Based on the Act's standards, Google and Microsoft would be directly subject to the law but, at time of writing, it appears that OpenAI and Anthropic would not. Google and Microsoft both meet the size thresholds,[185] have offices in Norway,[186] and sell products and services there.[187] While OpenAI and Anthropic both generate business income by offering services in the country,[188] they do not have sufficient physical presence to meet the permanent establishment requirements. Other lesser-known AI companies, such as Intellectsoft,[189] may, however, be subject to the law due to their physical presence in Norway. The law therefore scores moderately on the applicability metric. It could be broader but does not impose as onerous a threshold as does Germany.[190] The Act scores high on its alignment with OECD principles, as it incorporates them by reference, and is highly enforceable.[191]

5. California Transparency in Supply Chains Act. Turning to the United States, in the absence of federal laws, California has taken state legislative action to compel supply chain due diligence. Its actions are of consequence given that the state's economy rivals that of many nations, ranking fifth in the world by size.[192] While a step in the right direction, the California Transparency in Supply Chains Act does not regulate AI supply chains. The law applies to every "retail seller and manufacturer" with annual receipts over $100 million operating in California, and it requires these companies to disclose their "efforts to eradicate slavery and human trafficking from [their] direct supply chain for tangible goods offered for sale."[193] Under a plain-text reading of "retail seller or manufacturer,"[194] the law cannot apply to companies that solely offer AI services. Per Merriam-Webster, "retail" is defined as "the sale of commodities

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[185] *See supra* note 167 and accompanying text.

[186] *Our Offices*, GOOGLE, https://about.google/intl/ALL_us/locations/?region=europe [https://perma.cc/4U6U-5VG6] (last visited Mar. 21, 2025); *Norway*, MICROSOFT, https://careers.microsoft.com/v2/global/en/locations/norway.html [https://perma.cc/5YGX-DFM6] (last visited Mar. 21, 2025).

[187] *See Our Offices*, *supra* note 186; *Norway*, *supra* note 186.

[188] *See Supported Countries and Territories*, OPENAI, https://platform.openai.com/docs/supported-countries [https://perma.cc/N6MB-K2J6] (last visited Mar. 21, 2025); *Supported Countries & Regions*, ANTHROPIC, https://www.anthropic.com/supported-countries [https://perma.cc/82D5-BL6M] (last visited Mar. 21, 2025).

[189] *See Intellectsoft Firm Profile*, MGMT. CONSULTED (Oct. 15, 2024), https://managementconsulted.com/intellectsoft [https://perma.cc/H7P8-34KD].

[190] *See supra* Subpart III.A, pp. 27–30.

[191] *See The Transparency Act*, *supra* note 111.

[192] *See infra* notes 240–241 and accompanying text.

[193] CAL. CIV. CODE § 1714.43(a)(1) (West 2010).

[194] *Id.*

or goods in small quantities to ultimate consumers."[195] "Manufacturer" is defined as "one that manufactures,"[196] which in turn is defined as "to make into a product suitable for use" or "the process of making wares by hand or by machinery especially when carried on systematically with division of labor."[197] By the former definition, it is possible that the creation of an AI service could be considered "manufacturing," but this is inconsistent with the other definition's use of the term "wares" as well as the ordinary meaning of the word, which evokes the creation of physical products.[198] The statute would therefore apply to Google and Microsoft, which each produce physical products in addition to their AI services. However, the language that the due diligence requirement extends only to the "direct supply chain for tangible goods offered for sale"[199] seemingly excludes AI supply chains from the law's purview.

That said, the scope of the words "direct" and "tangible" is perhaps ambiguous and could be litigated. The actual sale of AI services or model access could conceivably be considered tangible. However, an analysis of the law's object and purpose cuts against a widening of the law's scope. The law was enacted in 2010, by which point California was already home to hundreds of leading technology service companies. The exclusion of any reference—in the law itself and in associated documents—to services or products other than physical objects of the type usually kept on store shelves strongly suggests a legislative intent to exclude service providers from regulation.[200] Analyzed against the SCDD law metrics, California's Act scores moderately high on enforceability, as it is part of the state's civil code but does not have associated monetary or criminal penalties.[201] However, it scores moderately on alignment

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[195] *Retail*, MERRIAM-WEBSTER.COM, https://www.merriam-webster.com/dictionary/retail [https://perma.cc/9N7E-BTJ2] (last visited Mar. 21, 2025).

[196] *Manufacturer*, MERRIAM-WEBSTER.COM, https://www.merriam-webster.com/dictionary/manufacturer [https://perma.cc/2A65-5EWE] (last visited Mar. 21, 2025).

[197] *Manufacture*, MERRIAM-WEBSTER.COM, https://www.merriam-webster.com/dictionary/manufactures [https://perma.cc/4MXJ-UXBN] (last visited Mar. 21, 2025).

[198] *See Ware*, MERRIAM-WEBSTER.COM, https://www.merriam-webster.com/dictionary/wares [https://perma.cc/H2BM-ZSDG] (last visited Mar. 21, 2025). Although a tertiary definition of "ware" is "an intangible item (such as a service or ability) that is a marketable commodity," the primary definitions, "manufactured articles" and "goods," are much more common in everyday use. *See id.*

[199] CAL. CIV. CODE § 1714.43(a)(1) (West 2010).

[200] *See, e.g.*, KAMALA D. HARRIS, STATE OF CAL. DEP'T OF JUST., THE CALIFORNIA TRANSPARENCY IN SUPPLY CHAINS ACT: A RESOURCE GUIDE 1 (2015), https://oag.ca.gov/sites/all/files/agweb/pdfs/sb657/resource-guide.pdf [https://perma.cc/CB5S-HKD4] ("[G]oods range from everyday items like coffee, cotton and shoes to more complex products such as carpets, minerals, or furniture.").

[201] *See* CAL. CIV. CODE § 1714.43 (West 2010).

because its disclosure requirements are imprecise [202] and very low on applicability based on the preceding analysis.

Much like the California Transparency in Supply Chains Act, the plain text of 19 U.S.C. § 1307 and the UFLPA suggest that they do not apply to AI companies directly. The language of "[a]ll goods, wares, articles, and merchandise" [203] and "goods," [204] respectively, implies physical objects. Together, the exclusion of software services from these laws creates a gap in the already limited coverage of U.S. supply chain due diligence laws.

B. SCDD Laws Can Apply Indirectly to AI Supply Chains

Although many of these SCDD laws may not cover most AI companies directly, they could still apply to the AI companies' supply chains indirectly when AI serves as an essential part of the supply chain of a product that is subject to SCDD regulation. When a company uses AI as part of the design, sale, or delivery of its products—for example, by helping to optimize its supply chain, draft emails, or generate ideas—the AI services become intertwined with the company's supply chain. Under most of the laws highlighted in the preceding Subpart, the AI company would then be considered a supplier of the end user, and the company utilizing AI would therefore have an obligation to engage in due diligence of the AI supplier's supply chain. This would certainly be the case under the EU SCDDD's broad definition of "scope of activities," which require a qualifying company to engage in due diligence encompassing the "activities of [its] upstream business partners related to the production of goods or the provision of services by that company."[205]

As another, more concrete example, OpenAI's AI supply chain likely falls indirectly within the scope of the GSCDDA, as large German companies are using its products as part of their workflows. For instance, the German insurance giant Allianz is using a customized version of OpenAI's ChatGPT in its employees' "daily work."[206] Should this tool be deemed "necessary" for Allianz

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[202] For example, the law requires that a company "disclose . . . its efforts to eradicate slavery and human trafficking from its direct supply chain for tangible goods offered for sale," CAL. CIV. CODE § 1714.43(a)(1), including "[c]onduct[ing] audits," *id.* § 1714.43(c)(2), and "[m]aintain[ing] internal accountability standards and procedures," *id.* § 1714.43(c)(4).

[203] 19 U.S.C. § 1307.

[204] Uyghur Forced Labor Prevention Act, Pub. L. No. 117-78, § 1, 135 Stat. 1525 (2021).

[205] EU Corporate Sustainability Due Diligence Directive, *supra* note 108, art. 3(1)(g)(i).

[206] *AI at Allianz: The Impact of AllianzGPT*, ALLIANZ (Feb. 18, 2025), https://www.allianz.com/en/mediacenter/news/articles/250218-ai-at-allianz-the-impact-of-allianzgpt.html [https://perma.cc/4498-VT6X].

to "provide [its] services,"[207] it would then fall within the GSCDDA's required due diligence scope.[208] The German automaker Volkswagen may similarly be obligated to report on the AI supply chain behind ChatGPT, as it has begun to integrate the technology directly into its vehicles.[209] While less direct than if companies such as OpenAI and Anthropic were themselves subject to these laws' due diligence and reporting requirements, this application may still serve as a valuable check on potential human rights violations in the AI supply chain, so long as the reporting companies are aware of this extension of their own compliance. A limitation of this indirect application is that, should compliance become too costly, AI companies with high business-to-consumer revenue may elect to cease their business-to-business (B2B) services to avoid added scrutiny. This scenario is possible but improbable, as the cost of compliance is unlikely to outweigh the costs of losing B2B revenue and the potential reputational damages associated with such a move.

C. AI Companies Are Not Currently Complying with Their SCDD Obligations

Based on publicly available information, it appears that neither OpenAI nor Anthropic, two of the biggest generative AI companies, is fully complying with its pending supply chain due diligence obligations under the EU's CSDDD. OpenAI has a page on its website detailing its "Supplier Code of Conduct," which features "values and principles" that suppliers are required to follow.[210] However, it does not define "suppliers and their subsidiaries" or report meaningful data on the companies' compliance performance, such as how many incidents it has addressed in the past year or how it is monitoring suppliers' compliance.[211] Anthropic does not have a readily apparent supplier

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[207] German Supply Chain Due Diligence Act, BGBL I at 2959, art. 1 § 2(5) (July 22, 2021).

[208] This determination would be made by a court should the issue be litigated. Given the company has stated that the technology "significantly enhances productivity and allows our employees to focus on higher-value activities" and "optimizes processes and assists with communication by crafting individual responses that make customer interactions more dynamic and effective," it seems likely that it would meet the definition of "necessary." *AI at Allianz: The Impact of AllianzGPT*, *supra* note 206.

[209] *World Premiere at CES: Volkswagen Integrates ChatGPT into Its Vehicles*, VOLKSWAGEN NEWSROOM (Jan. 8, 2024), https://www.volkswagen-newsroom.com/en/press-releases/world-premiere-at-ces-volkswagen-integrates-chatgpt-into-its-vehicles-18048 [https://perma.cc/JM89-R76L].

[210] *OpenAI Supplier Code of Conduct*, OPENAI (Oct. 10, 2023), https://openai.com/policies/supplier-code [https://perma.cc/6DN9-3XLV].

[211] *See id.*

code of conduct. Instead, it focuses on "commitments" related to downstream harms arising from AI's use.[212] These actions, and lack thereof, appear to fall short of the EU's CSDDD's requirement that companies "report on the matters covered by this Directive by publishing on their website an annual statement."[213] As previously discussed, it is possible that the companies do not yet meet the European net turnover threshold to become subject to this Directive. Further, the Directive has not yet been fully integrated into the national laws of EU member states, which have until July 2026 to do so.[214] In any case, we should expect to see the companies ramp up their supply chain due diligence practices and reporting in the next year or two. As they do, they should take care to engage in due diligence regarding both the hardware and software dimensions of their supply chains.

Microsoft and Google both publish annual supply chain reports to comply with applicable laws.[215] Interestingly, Microsoft specifically evaluates its compliance against the German Supply Chain Due Diligence Act and the Norwegian Transparency Act, as well as the Australian, British, and Canadian Modern Slavery Acts.[216] It also expressly adopts an approach consistent with the OECD's Due Diligence Guidance.[217] Google, by contrast, does not map its policies onto specific legislation,[218] but it does state that it developed its supplier policies based on standards including the UNGPs, the OECD's Due Diligence Guidance, the ILO's principles, and more.[219] Both companies seem to be engaged in the due diligence process and promoting ethical practices within their supply chains, at least publicly. This apparent due diligence is particularly

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[212] *See Responsible Scaling Policy*, ANTHROPIC (Oct. 15, 2024), https://assets.anthropic.com/m/24a47b00f10301cd/original/Anthropic-Responsible-Scaling-Policy-2024-10-15.pdf [https://perma.cc/9WU5-296R].

[213] EU Corporate Sustainability Due Diligence Directive, *supra* note 108, art. 16(1).

[214] *Id.* art. 24(7).

[215] *See* MICROSOFT, FY24 MICROSOFT SUPPLY CHAIN INTEGRITY STATEMENT (2024), https://cdn-dynmedia-1.microsoft.com/is/content/microsoftcorp/microsoft/msc/documents/presentations/CSR/Microsoft-Supply-Chain-Integrity-Statement.pdf [https://perma.cc/X5MJ-6Z34]; GOOGLE, SUPPLIER RESPONSIBILITY REPORT 2024, (2024), https://www.gstatic.com/gumdrop/sustainability/google-2024-supplier-responsibility-report.pdf [https://perma.cc/RA3Z-NGQN].

[216] *See* MICROSOFT, *supra* note 215, at 50–51.

[217] *See id.* at 17.

[218] *See* GOOGLE, *supra* note 215.

[219] *Google Supplier Code of Conduct*, GOOGLE (Mar. 2025), https://about.google/company-info/supplier-code-of-conduct [https://perma.cc/ZC6T-WNRA].

significant given that many AI companies, including OpenAI, use cloud computing services provided by Microsoft.[220]

In theory, so long as cloud providers engage in thorough due diligence of their hardware, this practice goes a long way toward mitigating potential harms, such as the forced and child labor often associated with the mining of rare earth metals and the environmental pollution tied to data centers.[221] That said, potential for human rights violations still exists on the software side of the supply chain,[222] warranting additional due diligence. It is also worth noting here the high costs associated with comprehensive due diligence mean that additional requirements create barriers to entry that can benefit incumbents. Although large tech companies have the resources to employ third parties to assist with due diligence and compliance, many smaller competitors do not. In an ironic twist, due diligence in mergers and acquisitions is increasingly drawing on AI to increase efficiency,[223] and this may be deployable in the SCDD context as well, enhancing SCDD in AI supply chains using AI to decrease the costs of due diligence.

D. The SCDD Legal & Regulatory Landscape Has Multiple Serious Limitations

Although several new SCDD laws have been enacted around the world over the past decade, meaningful gaps persist in the regulatory landscape. First, the world's largest national economy, the United States, does not require companies to proactively monitor, mitigate, and disclose human rights violations associated with their business practices.[224] While many of the country's biggest multinational corporations may be subject to such requirements abroad, this is not a meaningful replacement for more tailored requirements that cover a broader span of companies operating in the United States. Similarly, there are few, if any, comprehensive SCDD laws in effect in the

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[220] Greg Brockman, Ilya Sutskever & Sam Altman, *OpenAI and Microsoft*, OPENAI (Nov. 15, 2016), https://openai.com/index/openai-and-microsoft [https://perma.cc/9WVE-EY8S].

[221] *See* Harvey, *supra* note 25; Amber X. Chen, *A.I. Is on the Rise, and So Is the Environmental Impact of the Data Centers That Drive It*, SMITHSONIAN MAG. (Sep. 29, 2025), https://www.smithsonianmag.com/science-nature/with-ai-on-the-rise-what-will-be-the-environmental-impacts-of-data-centers-180987379 [https://perma.cc/SNR2-2EJT].

[222] *See, e.g.*, Perrigo, *supra* note 21.

[223] *See* Nima Noghrehkar, *Best AI Tools for M&A Due Diligence*, INST. FOR MERGERS, ACQUISITIONS & ALLIANCES: BLOG (Jan. 24, 2024), https://imaa-institute.org/blog/ai-for-due-diligence/#:~:text=M%26A%20Due%20Diligence%20is%20a,of%20potential%20mergers%20or%20acquisitions [https://perma.cc/DP6W-RBVV].

[224] *See supra* Subpart II.B.

Asia-Pacific region.[225] This enables many large companies that do not operate in Europe to skirt substantive due diligence requirements. Chinmayi Arun refers to the "transnational legal order" that insulates United States–based technology companies as the "Silicon Valley Effect."[226] Per this effect, companies harness their profitability and scale to "seek legal protection of their supply chains, business models, and access to markets"[227] and "overwhelm states[']regulatory institutions."[228] The Silicon Valley Effect certainly seems to be influencing the AI regulatory landscape, with OpenAI CEO Sam Altman advocating openly for his preferred regulatory approach.[229] As applied to SCDD assessment criteria, this leads to both applicability and enforcement issues.

Second, existing SCDD laws, mostly in the EU, still exclude many significant companies from their scope, allowing them to avoid required due diligence procedures. For example, Norway's Transparency Act requires physical presence in the country, which is of little practicality when it comes to regulating AI.[230] The EU Directive's €450 million net turnover threshold[231] is also quite high, considering that a company as large as Anthropic may not currently be subject to it. Third, although this Note has focused on the upstream harms of AI, the potential downstream harms—such as enabling discriminatory hiring and policing, violating people's right to privacy, and threatening the right to work by contributing to mass workforce displacement—are serious and already shape our lives.[232] Existing SCDD laws do not meaningfully address these downstream consequences, but perhaps they should, particularly in the context of AI.

A final, less obvious limitation of existing SCDD requirements is the question of which companies must report on certain supply chain stages or violations. For example, if Microsoft owns a data center and leases it to OpenAI,

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[225] *Global Spread of Human Rights Due Diligence Continues with Japanese Initiative*, LEXISNEXIS (Nov. 13, 2023), https://www.lexisnexis.com/community/insights/professional/b/industry-insights/posts/human-rights-due-diligence-japan [https://perma.cc/X2WD-Z572]; *see also supra* notes 121–124 and accompanying text (discussing the state of various supply chain due diligence laws in Asia).

[226] Chinmayi Arun, *The Silicon Valley Effect*, 61 STAN. J. INT'L L. 55, 84 (2025).

[227] *Id.*

[228] *Id.* at 85.

[229] *See* Ben Sherry, *OpenAI Details How It Would Like AI to Be Regulated*, INC. (Jan. 14, 2025), https://www.inc.com/ben-sherry/openai-details-how-it-would-like-ai-to-be-regulated/91107453 [https://perma.cc/8YTP-TMH3].

[230] *See The Transparency Act*, *supra* note 111.

[231] EU Corporate Sustainability Due Diligence Directive, *supra* note 108, art. 2(2)(a).

[232] *See* INT'L AI SAFETY REP., *supra* note 13.

must OpenAI report on the potential labor harms associated with the chips in the data center? It presumably should, based on general SCDD best practices and understandings.[233] However, the language in applicable laws is too often nonspecific—one example being California's language requiring due diligence associated with the "direct supply chain for tangible goods offered for sale"—creating room for corner-cutting.[234] Even if these laws are actively applied to AI companies, there is reason to be concerned that certain aspects of the AI supply chain may avoid scrutiny. In these cases, AI companies should recall their responsibilities under prevailing international responsible business frameworks[235] and take remedial actions on their own accord.

V. PROPOSED ENHANCEMENTS TO THE SUPPLY CHAIN DUE DILIGENCE LEGAL LANDSCAPE

The existing SCDD regulatory landscape leaves gaps by which many companies, particularly AI developers, can avoid actively monitoring and reporting on human rights compliance within their supply chains. Although leading AI companies may adopt supplier codes of conduct,[236] these are ultimately just text on a page unless they are implemented and externally evaluated. Similarly, laws are of limited value if they are not actively enforced. This Part contends that actions by lawmakers and AI companies alike can and should be taken to address the limitations of the SCDD legal landscape identified in Subpart III.D. Subpart IV.A proposes three categories of legal, policy, and self-regulatory measures that would enhance human rights protections in AI supply chains. Subpart IV.B outlines and rebuts some of the primary limitations associated with adopting and implementing these measures.

A. Enhanced Regulation and Self-Regulation Can Help Protect Human Rights in the AI Supply Chain

1. Strengthen the U.S. SCDD Legal Regime. To ensure companies headquartered and operating in the United States take adequate measures to

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[233] *See generally* OECD Due Diligence Guidance, *supra* note 93 (highlighting the importance of comprehensive, multilevel due diligence).

[234] CAL. CIV. CODE § 1714.43(a)(1) (West 2010).

[235] *See generally, e.g.*, Guiding Principles, *supra* note 92 (outlining a comprehensive set of guiding principles for business and human rights); OECD Due Diligence Guidance, *supra* note 93 (providing guidance for businesses' implementations of supply chain due diligence).

[236] *See OpenAI Supplier Code of Conduct*, *supra* note 210.

protect human rights in their supply chains consistent with their international responsibilities, federal and state legislators should adopt SCDD statutes aligned with the UNGPs and the OECD's Due Diligence Guidance. At the federal level, this could be a modified version of the Corporate Governance Improvement and Investor Protection Act (H.R. 1187),[237] or it could be an entirely novel measure grounded in the Commerce Clause.[238] At the state level, legislators could enact laws focused on companies subject to the jurisdiction of their states. If Delaware alone were to adopt such a law, it could have a broad impact, as more than a million business entities, including two-thirds of the Fortune 500, are incorporated in the state.[239] Similarly, as California is the fifth largest economy in the world[240] and the home to many major AI companies,[241] state laws could have an outsized impact. In crafting these laws, lawmakers will face a policy choice regarding whether their SCDD law should cut across industries, as many existing laws do, or target AI specifically. Bringing in the fourth SCDD criterion, these decisions will impact the political feasibility of the proposed regulation. Targeting AI specifically narrows the scope in a manner that could lead to less political opposition, but it could spark concerns regarding AI innovation: namely, that regulation threatens progress and that cutting-edge AI development is essential for keeping the country technologically and economically competitive.[242] Keeping the law broad could help avoid concerns about a specific industry being targeted, increase the scope of its impact on human rights, and enable it to draw on language from existing laws, such as the EU's SCDDD.

At a time where the U.S. federal government is trying to increase domestic production and reduce its reliance on foreign countries,[243] enacting a supply

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[237] H.R. 1187, 117th Cong. (2021).

[238] U.S. CONST. art. I, § 8.

[239] *About the Division of Corporations*, DEL. DIV. OF CORPS., https://corp.delaware.gov/aboutagency [https://perma.cc/S7AP-VAA8] (last visited Mar. 28, 2025).

[240] Sarah Bohn & Jenny Duan, *California's Economy*, PUB. POL. INST. OF CAL. (Jan. 2025), https://www.ppic.org/publication/californias-economy [https://perma.cc/9A5R-B52X].

[241] *See* Rashi Shrivastava (ed.), *AI 50*, FORBES (Apr. 11, 2024, at 06:30 ET), https://www.forbes.com/lists/ai50 [https://perma.cc/2SUL-8A7H].

[242] *See* Peter Goettler, *Why AI Overregulation Could Kill the World's Next Tech Revolution*, CATO INST. (Sep. 3, 2025), https://www.cato.org/commentary/why-ai-overregulation-could-kill-worlds-next-tech-revolution [https://perma.cc/GZG9-4RPE].

[243] *See, e.g.*, Aimee Picchi, *Trump Announces 25% Tariffs on Foreign-Made Cars*, CBS NEWS (Mar. 27, 2025, at 10:26 ET), https://www.cbsnews.com/news/trump-auto-tariffs-gm-ford-stellantis-car-prices [https://perma.cc/PN6S-MVP4]; *Fact Sheet: President Donald J. Trump Takes Immediate Action to Increase American Mineral Production*, THE WHITE HOUSE (Mar. 20, 2025), https://www.whitehouse.gov/fact-sheets/2025/03/fact-sheet-president-donald-

chain due diligence law—whether a general statute or a measure targeted at AI companies—could be one way of both increasing global human rights protections and encouraging domestic production, where it is easier to monitor compliance and minimize abuses. This could thereby appeal to U.S. conservatives, who are actively promoting protectionism and presently control all three branches of the federal government.[244] Granted, the current conservative government's anti-regulatory bent, as exemplified by the White House's Executive Order 14179 on removing barriers to AI development,[245] suggests this could be an uphill battle. However, leading with a protectionist and pro-innovation framing could yield some support. An AI SCDD law should also appeal to U.S. progressives, who regularly support, or at least purport to support, social and economic rights.[246] Adding to these motivations, lawmakers on both sides of the aisle may feel compelled to act if the legislation is framed as one way to advance AI regulation in the face of China's comparatively more developed AI regulations.[247] The framing would be that the United States has the opportunity to take a smarter, more holistic approach to AI regulation throughout its supply chain, rather than overly constraining the end product. Although political realities are not so clear-cut, there are reasons to believe that, if framed in the right way, a federal AI SCDD law could achieve a degree of bipartisan support. That said, a state-level approach is likely to be more politically feasible,[248] given the precedent of California's Transparency Act and

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j-trump-takes-immediate-action-to-increase-american-mineral-production [https://perma.cc/9P8Q-4ZHE].

[244] *See* Picchi, *supra* note 243; *Navigating the Balance of Power in the U.S. House and Senate to Drive Policy Wins*, BLOOMBERG GOV'T (June 4, 2025), https://about.bgov.com/insights/congress/balance-of-power-in-the-u-s-house-and-senate/#which-party-currently-controls-congress [https://perma.cc/Q6EF-7EZR]; *Who Are the Justices on the US Supreme Court?*, BBC NEWS (Feb. 8, 2024). https://www.bbc.com/news/magazine-33103973 [https://perma.cc/M2WS-NQ7R].

[245] 90 Fed. Reg. 8741 (2025).

[246] *See* Mark P. Lagon & William F. Schulz, *Conservatives, Liberals, and Human Rights*, HOOVER INST. (Feb. 1, 2012), https://www.hoover.org/research/conservatives-liberals-and-human-rights [https://perma.cc/33N9-MBW9].

[247] *See* G'SELL, *supra* note 19, at 290–95.

[248] This paper was written prior to Executive Order 14365, "Ensuring a National Policy Framework for Artificial Intelligence," of December 11, 2025. *See* Exec. Order No. 14365, 90 Fed. Reg. 58499 (2025). The Executive Order states that "[i]t is the policy of the United States to sustain and enhance the United States' global AI dominance through a minimally burdensome national policy framework for AI." *Id.* Further, the order suggests that the federal government may soon "adopt a Federal reporting and disclosure standard for AI models that preempts conflicting State laws." *Id.* at 58500. It is not clear from the language of the order whether it would apply to the types of upstream, due diligence–style regulations discussed herein. It does, however, indicate lower potential feasibility of both federal and state-level regulation, at least in the next three years.

California and Delaware's legislatures being relatively internally unified on this issue.[249]

Another approach could be for human rights advocates to litigate the "direct supply chain" language in California's Transparency in Supply Chains Act.[250] If interpreted broadly, this phrase could implicate AI companies if other companies that offer "tangible goods" for sale use AI in their business processes. If uses of AI in supply chain management software, invoicing emails, or sales contract drafting are found to be within the scope of companies' "direct supply chains" under the Act, companies subject to the Act would need to disclose their efforts to eradicate slavery and human trafficking in their AI suppliers' supply chains. While a way around new legislation, this would still leave other human rights—such as the rights to fair wages, physical and psychological safety, and a clean and healthy environment[251]—unprotected by the California law, given its narrow focus on slavery and human trafficking.[252] Alternatively, California could broaden the scope of its law to companies selling "services" and require reporting related to other human rights. This may be possible, as the law's existence, along with the state government's enactment of a swath of AI regulations over the past year,[253] suggests some degree of political appetite.

2. Broaden EU SCDD Laws' Scope. In Europe, the EU and its member states should take steps to both tighten and expand their existing laws to ensure the coverage of AI companies. At the highest level, the EU could turn its Directive into a Regulation, making it directly binding on corporations across the Union.[254] This would improve the law's enforceability, but it may be of lower political feasibility, as the EU's Commission, Council, and Parliament could have done this in the first place but instead opted for a Directive. Yet it would not be without precedent, as the EU took a similar approach in the context of data

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[249] *See California Assumes Role as Lead US Regulator of AI*, LATHAM & WATKINS LLP (Oct. 15, 2025), https://www.lw.com/en/insights/california-assumes-role-as-lead-us-regulator-of-ai [https://perma.cc/U5UF-8HRS]; Press Release, Del. House Democrats, Delaware Lauches Bold AI Sandbox Initiative, Cementing Its Role as a National Leader in Responsible Tech Innovation (July 23, 2025), https://housedems.delaware.gov/2025/07/23/delaware-launches-bold-ai-sandbox-initiative-cementing-its-role-as-a-national-leader-in-responsible-tech-innovation [https://perma.cc/PJ8T-QMC3]; *Delaware General Assembly*, BALLOTPEDIA, https://ballotpedia.org/Delaware_General_Assembly [https://perma.cc/Z6H8-KQWK] (last visited Nov. 2, 2025).

[250] CAL. CIV. CODE § 1714.43(a)(1) (West 2010).

[251] *See supra* notes 62–86 and accompanying text.

[252] CAL. CIV. CODE § 1714.43(a)(1) (West 2010).

[253] *See California Assumes Role as Lead US Regulator of AI*, *supra* note 249.

[254] *See Types of Legislation*, *supra* note 157.

regulation.[255] At a national level, countries that have yet to issue laws in compliance with the SCDDD should enhance the applicability of their laws by reframing them to encompass both goods and services. If permitted under their domestic jurisdiction laws, they should also avoid any physical presence requirements. Such requirements would reduce accountability for companies that operate within a country but do not have offices there, which tends to be the case for many AI companies. Countries could go further and specify that AI companies are subject to their SCDD laws and that the laws apply to both the software and hardware dimensions of their supply chains. New laws could also seek to include due diligence requirements related to the downstream impacts of AI, though this may infringe on the legislative scheme of the EU's AI Act.[256] Alternatively, member states could augment the AI Act, though further discussion of how this could look is beyond the purview of this Note.

In terms of reforming existing laws, the GSCDDA's applicability could be broadened by lowering the employee threshold for the domestic presence of foreign companies,[257] or, more pragmatically, changing the metric to one better tied to a company's availment of a jurisdiction's economic market. At a minimum, instead of a 1,000-employee threshold, Germany should consider a threshold of one or two hundred employees. If a company is not headquartered in Germany but still maintains hundreds of employees there, it is likely to have the resources and capabilities to engage in SCDD. Similarly, as discussed broadly above, Norway could change the physical presence requirement in its Transparency Act.[258] This may be tougher than changes to the German law, as the jurisdiction of Norway's Act is grounded in its domestic tax laws.[259] Changing the tax laws so the Transparency Act is altered would be impractical, so it would make more sense for the law's jurisdictional scope to be updated directly. Rather than basing a regulation's applicability on a firm's number of employees, a metric such as monthly users or annual revenue generated would better reflect the impact of the company within a given jurisdiction. If a foreign

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[255] *See The History of the General Data Protection Regulation*, EUR. DATA PROT. SUPERVISOR, https://www.edps.europa.eu/data-protection/data-protection/legislation/history-general-data-protection-regulation_en#:~:text=The%20EU's%20data%20protection%20laws,the%20headings%20Did%20you%20know [https://perma.cc/E642-MWSU] (last visited Apr. 20, 2025) (providing that the EU replaced the 1995 Data Protection Directive with the 2016 the General Data Protection Regulation, also known as "GDPR").

[256] *See generally* Council Regulation 2024/1689, 2024 O.J. (L 1689) (focusing regulation on AI developers' processes).

[257] German Supply Chain Due Diligence Act, BGBL I at 2959, art. 1 § 1(1) (July 22, 2021).

[258] *The Transparency Act*, *supra* note 111.

[259] *See id.*

company generates $10 million in revenue or has more than 100,000 users within a country, it seems reasonable to subject it to that country's SCDD laws. For example, the EU Digital Services Act is a European regulation that applies to digital platforms based on the number of customers they reach, indicating political feasibility.[260] Together, these proposed changes could bolster the robustness of the EU's SCDD regulatory landscape amid the rise of AI.

3. Increase Self-Regulation Among AI Companies. Ultimately, regardless of the presence of binding laws, AI companies should voluntarily increase their SCDD practices, including by posting and enforcing supplier codes of conduct, actively monitoring for violations in their supply chain, providing accessible reporting mechanisms, and publicly disclosing their procedures. Companies have a responsibility under the UNGPs to take these measures and should take these responsibilities seriously. Beyond moral or ethical incentives, AI companies may have economic incentives to engage in SCDD beyond regulatory compliance. Users tend to care how their products are created,[261] and companies that engage in SCDD could differentiate themselves as "ethical AI" or the like. Companies such as Apple regularly promote their social impact initiatives,[262] generating customer goodwill.[263] Although the challenges associated with this form of "greenwashing" are debatable, they nonetheless may be effective while serving a positive purpose. Engaging in SCDD self-regulation, or even encouraging legislatures to enact SCDD laws, may favor AI incumbents by creating barriers to entry that would make it harder for new entrants to compete, given the costs associated with SCDD.

As competition between AI companies heats up, social responsibility initiatives could become a valuable differentiator shaping consumers' choices. Naming and shaming tactics by corporate watchdogs or human rights organizations may also facilitate self-regulation by bringing consumer attention to human rights violations attributable to AI development. These voluntary

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[260] *See The Digital Services Act*, EUR. COMM'N, https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/europe-fit-digital-age/digital-services-act_en [https://perma.cc/7S6R-ZPWA] (last visited Apr. 20, 2025).

[261] *See* Bar Am et al., *supra* note 38; *OpenText Survey Shows Increase in Demand for Ethically Sourced Goods*, *supra* note 38.

[262] *See, e.g.*, APPLE, ENVIRONMENTAL PROGRESS REPORT (2024), https://www.apple.com/environment/pdf/Apple_Environmental_Progress_Report_2024.pdf [https://perma.cc/4S2T-RMNP]; APPLE, *supra* note 99.

[263] *See* Noam Noked, *Investing in Corporate Social Responsibility to Enhance Customer Value*, HARV. L. SCH. F. CORP. GOVERNANCE (Feb. 28, 2011), https://corpgov.law.harvard.edu/2011/02/28/investing-in-corporate-social-responsibility-to-enhance-customer-value [https://perma.cc/XHL7-NYS9].

actions score very low on enforceability but high on applicability, given any company could choose to adopt them. They score moderately on political feasibility, given the potential upsides of compliance. How self-regulation aligns with the OECD principles would depend on the specific actions being adopted. Taken together, if the right pressure is applied by consumers, investors, and the media, this approach may be the most feasible in the short term.

B. The Adoption and Implementation of These Changes Will Face Limitations

Efforts to adopt or amend laws are likely to be hindered by political polarization as well as concerns about SCDD laws' implementation. For example, there are valid concerns that SCDD laws, particularly as applied to AI companies, could stifle innovation at a time where innovation may be needed to advance medical and environmental breakthroughs and maintain national security.[264] This argument suggests that SCDD regulations would draw companies' attention away from technological development toward regulatory compliance or require time-consuming innovation to enable compliance. This concern could readily be addressed through creating a regulatory phase-in period, so companies have time to prepare to comply. It also ignores the fact that new SCDD laws would likely only apply to large, sophisticated companies with the resources to manage new regulatory requirements.

There is also an argument that such laws may make AI less safe for users. If we accept that humans are currently required for sorting through harmful content to train models, and if this worker exposure to psychologically damaging material would be considered a violation under SCDD laws, then implementing these laws and removing humans from the process could lead to an uptick in harmful images and text in AI products, potentially harming thousands or millions of users. Lawmakers will need to weigh these considerations as they amend or craft new laws.

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[264] For example, AI is already helping industries to cut their carbon emissions in the face of catastrophic global warming, Masterson, *supra* note 8, improving medical diagnoses of serious illnesses, Madeleine North, *7 Ways AI Is Transforming Healthcare*, WORLD ECON. F. (Aug. 13, 2025), https://www.weforum.org/stories/2025/08/ai-transforming-global-health [https://perma.cc/PN5U-E5ZZ], and causing concern among security experts that it may enable the rapid development of more advanced weapons by experts and nonexperts alike, JIM MITRE & JOEL B. PREDD, RAND, ARTIFICIAL GENERAL INTELLIGENCE'S FIVE HARD NATIONAL SECURITY PROBLEMS 3–7 (2025).

Another practical limitation arises from the highly concentrated structure of the AI industry.[265] OpenAI, for example, may have few options when selecting its servers and chips,[266] making it difficult to exercise influence over the hardware side of its supply chain. Nonetheless, it does retain direct control the software side of its supply chain. This apparent limitation does not negate the value of reporting and monitoring, even if other larger companies still hold structural power. For example, companies may set up complaint hotlines online or via phone, creating opportunities for violations by suppliers' employees to be reported and investigated.

On a deeper level, there are critiques of human rights that may challenge the premise of promoting human rights through SCDD laws. Some of these critiques include that human rights are a Western construct that is incompatible with some cultures,[267] that many rights are a "luxury" that certain people cannot afford to prioritize before other basic needs,[268] and that a focus on individual rights may obscure the necessity of larger systemic reform.[269]

These critiques are not without merit. Western countries did lead the drafting of the Universal Declaration of Human Rights (UNDHR) following World War II.[270] Human rights are individual rights, and systemic reforms may well be needed to improve conditions within countries or internationally. Imposing human rights-focused SCDD laws may lead to the loss of some relatively well-compensated jobs in low-income countries and may further encourage automation, leaving some without employment. Yet this is a tradeoff that arises

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[265] *See* Andrew Kersley, *Big Tech's Cloud Oligopoly Risks AI Market Concentration*, COMPUTERWEEKLY.COM (Apr. 15, 2024), https://www.computerweekly.com/feature/Big-techs-cloud-oligopoly-risks-AI-market-concentration [https://perma.cc/7G5F-M95L]; Jai Vipra & Anton Korinek, *Market Concentration Implications of Foundation Models: The Invisible Hand of ChatGPT* (Brookings Ctr. on Reg. and Mkts. Working Paper, Paper No. 9, 2003), https://www.brookings.edu/wp-content/uploads/2023/09/Market-concentration-implications-of-foundation-models-FINAL-1.pdf [https://perma.cc/WP2T-4A2T].

[266] *See* Tripp Mickle, *Nvidia Is Now Worth $5 Trillion as It Consolidates Power in A.I. Boom*, N.Y. TIMES (Oct. 30, 2025), https://www.nytimes.com/2025/10/29/technology/nvidia-value-market-ai.html [https://perma.cc/S9C6-PC6J] (reporting Nvidia controls 90% of the AI chip market); Kersley, *supra* note 265; Vipra & Korinek, *supra* note 265.

[267] Malcolm Langford, *Critiques of Human Rights*, 14 ANN. REV. L. & SOC. SCI. 69, 72–73 (2018).

[268] Andrew Gilmore, *The Global Backlash Against Human Rights*, U.N. OFF. HIGH COMM'R HUM. RTS. (Mar. 12, 2018), https://www.ohchr.org/en/statements/2018/06/global-backlash-against-human-rights [https://perma.cc/A2TW-M9QH].

[269] *See* David Kennedy, *The International Human Rights Movement: Part of the Problem?*, 15 HARV. HUM. RTS. J. 101, 112–13 (2020).

[270] *See* MJ Altman, *The Universal Declaration of Human Rights Is Turning 75: Here's What You Need to Know*, U.N. FOUND. (Dec. 6, 2023), https://unfoundation.org/blog/post/the-universal-declaration-of-human-rights-is-turning-75-heres-what-you-need-to-know [https://perma.cc/K73L-KALN].

in various instances where human rights are being infringed, and it is arguably preferable to compel corporate decisionmakers to respect fundamental human rights than to turn a blind eye to violations. As to the other critiques, the UNDHR was drafted alongside non-Western countries and has since been signed by all 193 UN member states.[271] Similarly, a broad swath of countries, representing cultures from around the globe, came together in the UN Human Rights Council to unanimously adopt the UN Guiding Principles on Business and Human Rights in 2011.[272]

Human rights are a widely accepted tool for protecting human beings from violations to their bodies, livelihoods, and dignity, and human rights SCDD laws can play a role in surfacing harms so that companies and governments can respond. Furthermore, notwithstanding increased voluntary compliance and the suggested EU Regulation, the proposed legal reforms in Subpart IV.A advocate for the adoption or amendment of SCDD laws at the domestic level, which should enable countries to use these laws in a manner consistent with their cultural conception of human rights. Countering this is the extraterritorial reach of most of the existing SCDD laws, though this implicates a broader debate regarding human rights, corporations, and neocolonialism that is beyond the scope of this Note. While these limitations should be noted by lawyers and lawmakers considering SCDD developments, they should not bar thoughtful consideration of the proposals contained herein.

VI. CONCLUSION

Artificial intelligence models and products are rapidly advancing in scale, capability, and influence. As they grow, so do their upstream and downstream impacts on human rights. While lawmakers and AI developers should maintain their focus on mitigating the downstream harms of AI, including its impacts on privacy, employment, and democracy, they should not neglect the potential harms in the AI supply chain. Several existing European laws and policies apply, or could soon apply, to leading AI companies, but opportunities remain for enhanced regulatory oversight. The United States should introduce federal or state laws requiring AI supply chain due diligence, while Europe should consider refining the scope of its existing and forthcoming laws. Meanwhile, AI companies should undertake proactive measures to voluntarily comply with the

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[271] *See id.*

[272] *See* Human Rights Council Res. 17/4, U.N. Doc. A/HRC/RES/17/4, at 2 (July 6, 2011).

responsible business best practices outlined by the UNGPs and the OECD's Due Diligence Guidance. These measures to protect human rights in the AI supply chain will not solve the majority of the risks posed by AI, but they may help protect the rights of thousands or even millions of people around the world and send a strong signal that the AI industry is not immune from fundamental responsibilities by virtue of its innovative digital products.