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Competition in Artificial Intelligence Infrastructure – Note by BIAC

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BIAC

1. Introduction

1. *Business at OECD* (BIAC) is pleased to participate in the OECD Competition Committee roundtable on Competition and AI Infrastructure. This paper builds on previous contributions of BIAC, including BIAC's note to the June 2024 Competition Committee roundtable on Artificial Intelligence, Data and Competition.[1]

2. The discussion for this roundtable will focus specifically on AI infrastructure, specifically the inputs to the development and refinement of foundation models other than data and talent.[2] These infrastructure inputs include the physical, upstream inputs to compute, such as the specialized chips, hardware, data centers, telecommunications networks and energy requirements.

3. These different physical elements of AI infrastructure are characterized by different groups of suppliers and considerations in terms of concentration levels, barriers and regulation. There is no single paradigm that applies. Accordingly, a meaningful discussion of competition and AI infrastructure requires a consideration of these different factors.

4. As there is no one-size-fits-all structure, the "winner takes all" risk is relatively low. At the moment, and also going forward, we see an unprecedented level of investment by numerous firms in physical AI infrastructure seeking to compete, which suggests that the AI physical infrastructure space is characterized generally by dynamic competition. Further, the AI infrastructure supply chain features very high R&D spending, innovation and IP. Due to the scope and scale of investments with various expertise required, many companies have sought partnerships up and down the AI infrastructure value chain, including with multiple providers.

5. BIAC is of the view that existing competition laws are sufficient to address competition concerns in AI infrastructure, should intervention prove necessary. Given the high level of interest by policy makers in this area, BIAC also supports the role that competition agencies may consider taking in advocating for pro-competitive policies.[3]

6. The above-mentioned factors may militate against preemptive competition law intervention. BIAC notes that premature or disproportionate enforcement in developing technology sectors without specific evidence of harm to customers and consumers would undermine the very goals competition policy seeks to advance: innovation and efficiency. While BIAC advocates and supports effective enforcement action, such enforcement action must be guided by substantive evidence necessary to establish specific harm. Otherwise, intervention may deter innovation, delay entry, and create legal uncertainty – ultimately reducing consumer welfare.

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[1] OECD, Artificial Intelligence, Data and Competition – Note by BIAC, DAF/COMP/WD(2024)47 (May 31, 2024), https://one.oecd.org/document/DAF/COMP/WD(2024)47/en/pdf [hereinafter BIAC AI Note].

[2] BIAC understands that these other inputs will be considered in separate sessions.

[3] OECD, Competition in Artificial Intelligence Infrastructure – Background Note, DAF/COMP(2025)11, at 6 (Nov. 6, 2025), https://one.oecd.org/document/DAF/COMP(2025)11/en/pdf.

2. Trends in AI Infrastructure Investment

7. The AI sector is dynamic and characterized by rapid growth, many new entrants, and extraordinary levels of capital investment in the physical AI infrastructure and its required inputs by competing firms. As observed by Bain, "supporting the inference and training demands of next-generation models will require a hard compute build-out, including GPUs, the steel racks they sit in, plumbing, HVAC, cooling, energy management, power supply and literal concrete poured out to build data centers to house all of these components."[4]

8. The broader AI infrastructure industry is increasingly attracting significant investment from a wide array of entities, beyond large, established companies. The global AI infrastructure industry is projected to expand from approximately $135.8 billion in 2024 to between $394 billion and $521 billion by 2030, with annual growth rates approaching 20-30%.[5] Governments are also important participants in this infrastructure space as they use subsidies to try to stimulate broader collaboration and accelerate infrastructure development in their territories.[6]

9. Spending on AI data centers alone is forecast to exceed $1.4 trillion by 2027.[7] This expansion will also drive a surge in energy consumption. Data centers currently account for roughly 415 terawatt-hours of electricity annually, which is around 1.5% of global usage, with AI workloads responsible for 15% of that energy consumption.[8]

10. Importantly, investment trends show a widening field of participants. While venture capital generally continues to chase the next breakthrough in AI models and applications, private equity is increasingly investing in the infrastructure underpinning the AI economy. According to S&P Global Market Intelligence, private equity-backed data center M&A reached $18.5 billion globally in 2024, the highest total in at least five years.[9] As stated by Blue Owl Capital Inc. co-CEO Marc Lipschultz, "[t]here is money to be made on the cutting edge of AI, but investors there risk being left behind by the next disruptive AI innovation. . . . We don't want any of those risks for our investors. . . . If you believe that 10 years from

[4] Rak Garg & Daniel LaBruna, *The Next Phase of Competition in AI*, BAIN CAP. VENTURES (Oct. 16, 2024), https://baincapitalventures.com/insight/the-next-phase-of-competition-in-ai/.

[5] Jane Edmonson, *The Boom of AI is Built on Infrastructure*, VETTAFI (July 7, 2025), https://www.vettafi.com/insights/indexing-article-the-boom-of-ai-is-built-on-infrastructure.

[6] *See, e.g.*, *AI Factories*, EUR. COMM'N, https://digital-strategy.ec.europa.eu/en/policies/ai-factories ("AI Factories are dynamic ecosystems that foster innovation, collaboration, and development in the field of artificial intelligence (AI). They bring together computing power, data, and talent to create cutting-edge AI models and applications. They foster collaboration across Europe, linking supercomputing centres, universities, small and medium sized enterprises (SMEs), industry, and financial actors. AI Factories serve as hubs driving advancements in AI applications across various sectors such as health, manufacturing, climate, finance, space, and more.").

[7] Edmonson, *supra* note 5.

[8] *Id.*

[9] Thomas, Dyan & Neel Hiteshbhai Bharucha, *Venture Capital Seeks AI Winners as Private Equity Makes Infrastructure Play*, S&P GLOBAL (June 5, 2025), https://www.spglobal.com/market-intelligence/en/news-insights/articles/2025/6/venture-capital-seeks-ai-winners-as-private-equity-makes-infrastructure-play-89907740.

now, AI will be an important part of the fabric of IT or the way we operate in this economy, then you want the picks and shovels, you want the infrastructure that goes with it."[10]

11. This trend is further reflected in a wave of new infrastructure investments from a broad spectrum of companies. For example, BCE Inc., Canada's largest telecommunications company, announced it plans to invest hundreds of millions of dollars to build AI-optimized data centers across the country, mirroring the aggressive AI infrastructure build-out happening in the United States and abroad.[11] Meanwhile, American clean-tech startup, Exowatt, has developed energy infrastructure purpose-built for AI data centers, and has closed a new $70 million Series A funding round.[12] In another example, Alset AI Ventures Inc. recently announced it has entered into a strategic alliance partnership with CHIP Datacentres Inc. to support the commercial deployment of AI infrastructure.[13]

12. Due to the scope and scale of necessary investments, many companies have pursued partnerships across the AI value chain. Samsung Electronics recently secured a $16.5 billion deal to supply AI chips for Tesla's self-driving cars, robots, and data centers.[14] Google is preparing to partner with Taiwan's MediaTek on the next version of its AI chips, Tensor Processing Units (TPUs), that will be made next year.[15] Further, as part of a strategic collaborative agreement, Amazon Web Services (AWS) and Anthropic announced Anthropic will use AWS Trainium and Inferentia chips to build train, and deploy its future AI models.[16] Most recently, Nvidia announced an investment in Open AI, under which it has agreed to supply high-performance chips.[17]

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[10] *Id*.

[11] Dina Bass, *Canadian Telecom BCE to Build Large Network of AI Data Centers*, FIN. POST (May 28, 2025), https://financialpost.com/pmn/business-pmn/canadian-telecom-bce-to-build-large-network-of-ai-data-centers.

[12] Tristan Rayner, *Thermal Storage Startup Exowatt Gets Funding Injection from Silicon Valley VCs*, PV MAGAZINE (Apr. 25, 2025), https://www.ess-news.com/2025/04/25/thermal-storage-startup-exowatt-gets-funding-injection-from-silicon-valley-vcs/.

[13] Press Release, Alset AI Ventures Inc., Alset AI Forms Strategic Alliance with CHIP Datacentres and Invests in AI Infrastructure Expansion (Aug. 26, 2025), https://www.accessnewswire.com/newsroom/en/business-and-professional-services/alset-ai-forms-strategic-alliance-with-chip-datacentres-and-inve-1065316.

[14] Heekyong Yang & Hyunjoo Jin, *Tesla-Samsung $16.5 Billion Supply Deal May Spur Chipmaker's US Contract Business*, REUTERS (July 28, 2025), https://www.reuters.com/business/tesla-samsung-165-billion-supply-deal-may-spur-chipmakers-us-contract-business-2025-07-28/.

[15] *Google Preparing to Partner with Taiwan's MediaTek on Next AI Chip, Information Reports*, REUTERS (Mar. 17, 2025), https://www.reuters.com/technology/artificial-intelligence/google-preparing-partner-with-taiwans-mediatek-next-ai-chip-information-reports-2025-03-17/.

[16] *Amazon and Anthropic Deepen Their Shared Commitment to Advancing Generative AI*, AMAZON (Mar. 27, 2024), https://www.aboutamazon.com/news/company-news/amazon-anthropic-ai-investment.

[17] Faarea Masud, *Nvidia to Invest $100bn in OpenAI*, BBC (Sept. 22, 2025), https://www.bbc.com/news/articles/c0knp3557j2o.

3. Description of AI Infrastructure Elements and Relevant Considerations

13. There are three key layers in the context of AI technology: the deployment layer, the development layer, and the infrastructure layer.[18] This paper specifically focuses on the infrastructure layer, which consists of the tools needed to run AI, each of which is described below.

3.1. Computer Micro-Processing Units

14. The technological foundation of AI is computer hardware, specifically, computer micro-processing units, colloquially known as chips. These chips use transistors to quickly make the enormous number of calculations required by AI.

15. Chips come in three basic varieties. The primary of these are graphical processing units (GPUs).[19] These were originally designed for processing images, but GPUs are now general-purpose chips and have become the principal way to train AI models. Each new generation of GPU accelerates and expands AI development because they deliver efficiency gains over chips of prior generations, which have "larger, slower, and more power-hungry transistors" and thus give rise to "huge energy consumption costs" that are "unaffordable" for less well-capitalized firms.[20]

16. The other two main types of chips are field-programmable gate arrays (FPGAs) and application-specific-integrated circuits (ASICs).[21] ASICs are notable because they are, as their name suggests, application-specific. These chips are optimized to perform specific tasks, which could help deploy certain AI applications at scale.

17. The supply of chips is relatively highly concentrated. As chip technologies have become more sophisticated, fewer firms are able to supply the needed technologies. While reports differ, Nvidia, which designs chips, recently appears to have accounted for a significant portion of the business in GPU chips used for AI.[22] However, other companies, such as Advanced Micro Devices, Intel, Google, Amazon, and Microsoft, are entering the segment and gaining traction.[23] At a price of $10,000 per chip for Nvidia's A100, or $200,000 for its 8-chip system, the cost of deploying AI at scale is substantial.[24]

[18] *Consultation on Artificial Intelligence and Competition: What We Heard*, GOV'T CAN. (Jan. 27, 2025), https://competition-bureau.canada.ca/en/how-we-foster-competition/education-and-outreach/consultation-artificial-intelligence-and-competition-what-we-heard ("Deployment Layer: The economic markets where the final AI products or services are produced and sold. . . . Development Layer: Creation of AI models, algorithms and architecture that can be integrated into a final product or service. . . . Infrastructure Layer: Consists of the tools needed to run AI. Includes compute, AI chips, supercomputers and cloud computing.").

[19] Tejas Narechania & Ganesh Sitaraman, *An Antimonopoly Approach to Governing Artificial Intelligence*, 43 YALE L. & POL'Y REV. 95, 111 (2024).

[20] Saif M. Khan & Alexander Mann, *AI Chips: What They Are and Why They Matter* 6 (Ctr. Sec. & Emerging Tech., Apr. 2020), https://cset.georgetown.edu/wp-content/uploads/AI-Chips%E2%80%94What-They-Are-and-Why-They-Matter-1.pdf.

[21] Narechania & Sitaraman, *supra* note 19, at 111.

[22] *Id.* at 112.

[23] Don Clark, *The Furious Contest to Unseat Nvidia as King of A.I. Chips*, N.Y. TIMES (Dec. 3, 2024), https://www.nytimes.com/2024/12/03/technology/nvidia-ai-chips.html.

[24] Narechania & Sitaraman, *supra* note 19, at 112.

3.2. Supercomputers, AI Data Centers and AI Factories

18. AI supercomputers are networks of connected AI chips, designed to store and process large quantities of data and perform complex AI tasks. Supercomputers may be hosted in data centers, which are facilities designed to efficiently host computational hardware at scale. Data centers feature advanced computing, networking, and storage architectures, along with robust energy and cooling systems optimized for the demands of AI workloads.[25]

19. Supercomputers hosted by a data center can be used by the data center owner themselves or supplied to third parties through cloud compute.[26] Publicly owned or at least partially financed supercomputers are emerging as an alternative in this space, offering shared access to compute resources for research and development.[27]

20. AI data centers are data centers which are optimized to run AI applications and offer the necessary compute power. Instead of normal CPUs they use GPUs and need a significantly more powerful cooling system and have a significantly higher energy demand than normal data centers. Accordingly, the cost to build and operate an AI data center is significantly higher for a normal data center.

21. Such AI data centers are also called "AI factories." They orchestrate the entire AI lifecycle, from data ingestion to training, fine-tuning and, high-volume inference.[28] According to Nvidia, "AI factories do more than store and process data – they manufacture intelligence at scale, transforming raw data into real-time insights."[29] AI Gigafactories build on this concept and are large-scale AI compute infrastructure facilities designed to develop, train, and employ very large AI models and applications at an unprecedented scale.[30] To achieve this, AI Gigafactories bring together the computing power of over 100,000 advanced AI processors, a strong emphasis on power capacity, reliable supply chains, advanced networking, energy efficiency, and AI-driven automation.[31] The race for AI infrastructure has attracted significant public investment, as well, as represented by the EU's investments in AI Factories: "To propel Europe to the forefront of AI development, the InvestAI Facility will comprise a new European fund of €20 billion to create up to 5 AI Gigafactories. The InvestAI Facility will foster public-private partnerships to guarantee a

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[25] Alexandra Jonker & Alice Gomstyn, *What is an AI Data Center?*, IBM (Feb. 21, 2025), https://www.ibm.com/think/topics/ai-data-center.

[26] Competition Bur. Can., Artificial Intelligence and Competition: Discussion Paper § 2.2.3 (Mar. 20, 2024), https://competition-bureau.canada.ca/en/how-we-foster-competition/education-and-outreach/artificial-intelligence-and-competition.

[27] For example, the Government of Canada's High Performance Computing infrastructure includes the two most powerful supercomputers in Canada, which are among the most powerful commercially available computer systems in the world. *High Performance Computing Supercomputers*, GOV'T CAN. (July 14, 2025), https://www.canada.ca/en/shared-services/corporate/hosting-services/high-performance-computing.html.

[28] Dion Harris, *AI Factories are Redefining Data Centers and Enabling the Next Era of AI*, NVIDIA (Mar. 18, 2025), https://blogs.nvidia.com/blog/ai-factory/.

[29] *Id*.

[30] EuroHPC JU, Call for Expression of Interest in AI Gigafactories (AIGFs), at 2 (Apr. 9, 2025), *available at* https://www.eurohpc-ju.europa.eu/public-consultation-ai-gigafactories-2025-04-09_en.

[31] *AI Factories*, *supra*, note 6.

secure investment landscape and nurture a competitive and innovative AI ecosystem within Europe."[32]

3.3. Connectivity Services and Energy

22. AI networks serve as crucial infrastructure to data centers and AI factories. Without the high capacity, speed, and low-latency advantages of fiber and indeed 5G mobile networks AI data and applications cannot scale or move effortlessly from the chip processing/GPUs to users.[33] AI needs data, data needs data centers, and data centers need connectivity.[34] High fiber density enables rapid data transfer to and from AI models. As AI workloads increase, advanced fiber networks become essential to sustaining and scaling AI systems effectively. Network and AI-ready fiber architectures are increasingly designed for a gigabit world. Major impacts for fiber are seen in data processing, cloud connectivity, edge computing, and revitalized services to end users of fiber networks.[35]

23. As mentioned, AI data centers have a very high-power demand and availability of the needed power is currently the single biggest constraint as utilities and grid operators might not be able to provide the additional demand readily. Massive investments into additional power generation and into the grid are required.[36]

24. The physical infrastructure supporting AI, cooling systems, fiber connectivity, and data storage, is composed of inputs that are not necessarily scarce or highly concentrated. Many of these components have alternative uses beyond AI applications.

25. In addition, certain aspects of this infrastructure are subject to regulatory oversight. For example, energy usage may be affected by environmental regulations. In an industry marked by frequent disruptions, many companies are unwilling to wait for regulated utilities to solve this looming problem. Microsoft was an early mover, dedicating a considerable investment of approximately $10 billion to construct 10.5 gigawatts of electricity generation.[37]

26. Fiber networks may also be subject to regulation by sectoral telecommunications regulators, which typically have tried to balance mandating access to networks to allow competition against the need for carriers' return on investment in order to support the building of networks. The emerging environment may require recalibration of this balancing towards greater incentives for investment. Some of the end-user interaction with AI will incrementally be over mobile devices such as smartphones, with resultant impact on mobile data traffic. Accordingly, incentives and policies for enabling environment for investment in 5G networks will also be important to realizing the benefits of AI.

[32] *Id*.

[33] Peter Cresse, Accelerating AI with Fiber Systems and Strategies, at 4 (Mar. 2025), https://fiberbroadband.org/wp-content/uploads/2025/03/FBA-087_AI_WhitePaper_FIN.pdf.

[34] *Id*.

[35] *Id*. at 5.

[36] Lisa Martine Jenkins, *Power is AWS' 'single biggest constraint'*, LATITUDE MEDIA (Aug. 5, 2025), https://www.latitudemedia.com/news/power-is-aws-single-biggest-constraint.

[37] William Helander, *The Power Behind AI: Challenges and Opportunities in Meeting the Energy Demands of Data Centers*, WTW (Mar. 25, 2025), https://www.wtwco.com/en-ca/insights/2025/03/the-power-behind-ai-challenges-and-opportunities-in-meeting-the-energy-demands-of-data-centers.

4. Implications for Competition Enforcement

4.1. General Principles

27. Due to the sheer size of the investments required, many firms involved in AI infrastructure tend to be large.[38] This should not, in itself, be a reason for competition concerns and even less so for competition law enforcement. The key question is not the size of businesses, but the nature of the competitive dynamics in the industry and the relevant competitive conduct at issue.[39] Competition rules do not punish "bigness," nor do they begrudge companies for being successful in the marketplace. Indeed, the question in the United States is whether a particular company has unlawfully obtained or attempted to obtain a monopoly. In Europe, the question is whether companies have obtained or are perpetuating dominance through exclusionary conduct or are abusing their dominant position.

28. While certain large firms have a strong position in input segments, due to high investments in the sector and continued promotion of partnerships between large and small firms, the AI input space is quite small and medium enterprise friendly.[40]

29. Similarly, the fact that many firms may seek to partner with others in order to meet the requisite investments and expertise – particularly in research and development or sharing infrastructure – should not, in itself, be a reason for heightened scrutiny. Such partnerships generate significant benefits and lead to increased innovation and efficiencies. This is often a productive way for the companies to be able to compete effectively.

30. Given the dynamic nature of the AI infrastructure space and the large investments required, it is important to avoid the potential dampening effects that either early or unwarranted intervention may have on efficiencies, competition, innovation and investment. Any intervention should be fully supported by an economically-sound theory of harm, factual and economic evidence as well as an examination of the relevant counterfactuals.

31. The rapid pace of the development and application of AI technology has placed pressure on the timelines typically associated with the implementation of major infrastructure projects. As fears mount of geographical disparities in technological development, direct governmental involvement in promoting AI infrastructure has grown. This brings into focus the OECD competitive neutrality principles, which require competition authorities to engage with the relevant government departments in an effort to ensure that industrial policies and regulation do not undermine long term investment and competition incentives, while remaining non-discriminatory.[41]

4.2. Theories of Harm

32. Commonly discussed theories of harm regarding competition in AI infrastructure relate to:

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[38] This holds true for the firms building and equipping the data centers and not necessarily for all of the suppliers of the different physical inputs.

[39] Competition Bur. Can., *supra* note 26.

[40] *Consultation on Artificial Intelligence and Competition*, *supra* note 18.

[41] OECD, Recommendation of the Council on Competitive Neutrality, OECD/LEGAL/0462 (May 31, 2021), https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-0462.

- Vertical mergers,
- Partnerships and joint ventures, and
- Unilateral conduct, such as monopolization or abuse of dominance.

33. Consideration of these theories of harm with respect to AI infrastructure requires a rigorous and evidence-based approach, based on the established principles and concepts of competition law, applied on a case-by-case basis. This includes a consideration of the different market structures, dynamics, and environments applicable to different infrastructure elements in the AI value chain.

4.2.1. Vertical Mergers

34. Vertical mergers combine companies that operate at different levels of the supply chain. A vertical merger can result in another firm's suppliers or customers becoming part of its competitors and could possibly result in enhanced market power from the weakening of competition in either the upstream or downstream market.

35. Where post-merger the combined entity operates across multiple related markets, there may be increased ability or incentive to engage in anti-competitive practices. Any merger involving a company that supplies critical compute inputs, such as chips, may warrant scrutiny due to the already high concentration in these markets. The FTC suing to block the agreement for Nvidia to acquire ARM Limited (ARM) highlights the increasing scrutiny of vertical mergers.[42] The FTC was concerned about the potential harm caused by Nvidia's alleged ability to use control of Arm to reduce or foreclose competition from Nvidia's rival chipmakers.

36. However, as rapid innovation drives shift in demand for inputs and computing resources, companies must be free to adapt their structures and operations dynamically. Vertical mergers, partnerships, and joint ventures are often key ways to achieve this adaptability.

37. Due to the competitive benefits that stem from inherent efficiency gains, vertical mergers will rarely present factual circumstances which suggest that competitive harm is likely. Any consideration of vertical mergers must weigh the efficiency benefits associated with such transactions. A vertical merger could raise competition concerns if it were likely to result in, or increase, the ability and incentive to limit or eliminate competitors' access to inputs or markets. However, vertical integration is an important vehicle used by firms to lower their costs and compete more effectively. Thus, vertical mergers presumptively should be viewed as competition enhancing arrangements and should not be subjected to regulatory or enforcement intervention absent extraordinary circumstances that demonstrate a significant likelihood of competitive harm.[43]

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[42] Press Release, Fed. Trade Comm'n, FTC Sues to Block $40 Billion Semiconductor Chip Merger (Dec. 2, 2021), https://www.ftc.gov/news-events/news/press-releases/2021/12/ftc-sues-block-40-billion-semiconductor-chip-merger.

[43] OECD, Vertical Mergers, DAF/COMP(2007)21, at 309 (Note by BIAC) (Nov. 12, 2007), https://www.oecd.org/content/dam/oecd/en/publications/reports/2007/11/vertical-mergers_d598244f/b6cf1dcb-en.pdf [hereinafter BIAC Vertical Mergers]. See also Secretariat Background Note, *supra*, note 3, at para. 73: "Vertical integration in the AI supply chain (as in other markets) has the potential for several benefits to consumer welfare. This includes enhancing investment incentives for producers, improving efficiency through enhanced co-ordination and removing double marginalization."

38. Established theories of harm regarding vertical mergers relates to: (i) input foreclosure, and (ii) customer foreclosure. These theories of harm are well understood in the economic literature and competition enforcement precedents.

Input Foreclosure

39. Input foreclosure is a unilateral effect of a vertical merger and can serve as a permissible basis for enforcement against vertical mergers. A necessary (though not sufficient) condition for foreclosure is that the merging parties possess significant market power at one stage of the supply chain.[44] If the merged firm holds market power at the upstream level, input foreclosure may become a concern. This occurs when the merged entity has the ability and incentive to foreclose downstream competitors. This could occur either by raising their input costs or by cutting off access to key inputs entirely. Meanwhile, the downstream arm of the merged firm continues to access inputs at marginal cost, giving it a competitive edge.

40. This strategy can harm competition by increasing competitors' costs or excluding them from the market altogether. This is highly unlikely if the upstream market remains competitive or if downstream firms can easily switch to alternative suppliers. An assessment of switching costs, margins, market concentration, and the availability of substitute inputs is therefore essential.

41. Raising competitors' input costs typically will only harm competition if those increased costs are passed through to end customers in the form of higher prices. Even when price increases do occur, the profitability of foreclosure depends on whether the downstream gains outweigh the upstream losses from forgoing sales to competitors. These trade-offs, the ability of the merged firm to commit to a foreclosure strategy, and the availability of counterstrategies by competitors, must all be weighed carefully in any competitive assessment. Moreover, efficiencies from the vertical merger, such as the elimination of double marginalization, reduced transaction costs, and enhanced productivity for the integrated firm, may counter the risk of competitive harm.[45]

Customer Foreclosure

42. Under the conventional customer foreclosure theory, a vertically integrated firm may stop purchasing inputs from independent upstream suppliers, relying exclusively on its affiliated upstream entity. This shift in sourcing reduces demand for independent suppliers, potentially shrinking their addressable market and limiting their sales volumes. Over time, if these upstream competitors cannot adapt or implement effective countermeasures, they may be forced to exit the market due to the loss of scale efficiencies. The competitive concern in customer foreclosure lies in the merged company's ability to restrict its competitors' access to customers, thereby reducing their revenues. The analytical framework for assessing customer foreclosure is similar to that used for input foreclosure and includes examining market definition, product characteristics, the level of competition, and barriers to entry.[46]

43. Despite similarities, input and customer foreclosure differ in their potential competitive effects. Input foreclosure can lead to immediate price increases by raising costs

[44] EUR. ECON. & MKTG. CONSULTANTS, COMPETITION COMPETENCE REPORT: INPUT AND CUSTOMER FORECLOSURE: NON-HORIZONTAL MERGER GUIDELINES, at 1, https://www.ee-mc.com/fileadmin/user_upload/Input_Customer_Foreclosure.pdf.

[45] BIAC Vertical Mergers, *supra* note 43, at 311.

[46] *Id.*

for downstream competitors. In contrast, customer foreclosure is less likely to impact prices in the short term, as harm typically arises only after unintegrated upstream rivals exit the market.[47] Given these timing differences, competition policy must distinguish between the two theories and assess them accordingly.

44. Given the significant cost of chip development, a developer of foundation models is unlikely to have a strong incentive to foreclose competitors' access to its chips. Broad distribution helps recoup substantial investments, supports growth, and retaliatory market behavior. Likewise, providers of infrastructure elements that are widely available, such as data centers, may lack the ability to engage in foreclosure, due to the presence of multiple alternative suppliers, enabling customers to easily shift to alternatives. As a result, individual suppliers often lack both the market power and the economic rationale to engage in exclusionary conduct.

4.2.2. Partnerships and Joint Ventures

45. Partnerships, investments, and strategic agreements between existing firms are common across the AI value chain. The CMA mentions over 90 partnerships between, on the one hand, Google, Amazon, Meta, Microsoft, Apple and Nvidia and, on the other hand, foundation model developers, deployers and developer tool suppliers.[48] More recently, OpenAI signed deals with AMD and Broadcom for six and ten gigawatts of compute respectively.[49]

46. Partnership agreements that may be "'an essential ingredient for the success of independent developers' are looked upon with some suspicion as they could theoretically be used to eliminate or diminish competitive threats, 'even where it is uncertain whether those threats will materialise.'"[50] The CMA has evaluated several strategic AI partnerships and investments but has not identified anticompetitive practices.[51]

47. Companies operating in the AI infrastructure sector often lack end-to-end strength and independence across all layers of the AI value chain. As a result, companies frequently depend on partnerships and joint ventures to access complementary capabilities, reduce costs, and bring products to market more efficiently. These arrangements are pro-competitive, enabling smaller or more specialized players to remain viable, get access to the necessary funds and foster innovation. Partnerships and joint ventures are typically pursued for legitimate efficiency and pro-competitive objectives and enable companies to grow, innovate and compete. As these partnership agreements differ in their characteristics, they should be considered on a case-by-case basis.

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[47] *Id.*

[48] COMPETITION & MKTS. AUTH., AI FOUNDATION MODELS UPDATE PAPER ¶ 43 (Apr. 11, 2024), https://assets.publishing.service.gov.uk/media/661941a6c1d297c6ad1dfeed/Update_Paper__1_.pdf.

[49] Robbie Whelan and Berber Jin, "OpenAI, AMD Announce Massive Computing Deal, Marking New Phase of AI Boom," Wall St. J. (Oct. 6, 2025), https://www.wsj.com/tech/ai/openai-amd-deal-ai-chips-ed92cc42.

[50] BIAC AI Note, *supra* note 1, ¶ 39 (internal citations omitted).

[51] Jenine Hulsmann, Chris Chapman & Lucy Chambers, *Can't Take My AIs, Off You: The CMA's Review of AI Partnerships*, LEXOLOGY (Apr. 15, 2025), https://www.lexology.com/library/detail.aspx?g=d503f1d2-f3b3-4587-a064-dd3cafc6753b.

4.2.3. Unilateral Conduct

48. Vertically integrated firms could both supply an important AI input, such as compute and AI models, while also competing in the same downstream markets as the firms they supply to.[52] This could possibly raise competition concerns if these firms were to engage in behavior to exclude their downstream competitors from the market.

49. Many AI providers are firms who compete in various sectors. These firms may engage in tying and bundling, which are common strategies employed in many industries and can be associated with strong cost efficiencies and customer benefits. On the other hand, firms with existing dominance in a given market, may theoretically use tying and bundling strategies to enhance or maintain dominance or monopoly power in other markets they compete in.[53]

50. However, there are often benefits in offering customers more than one service. Bundling or integrating AI services with existing infrastructure offerings can lower costs, improve performance, and increase user convenience. Therefore, these packages can in fact be pro-competitive and efficiency enhancing. Such practices may result in increased competition in adjacent markets or the development of innovative new infrastructure. Accordingly, it is essential to distinguish between purely exclusionary acts by a firm with established dominance and vigorous competition: “Whether any particular act of a monopolist is exclusionary, rather than merely a form of vigorous competition, can be difficult to discern: the means of illicit exclusion, like the means of legitimate competition, are myriad.”[54]

51. New or evolving labels for theories of harm, particularly in fast-moving sectors like AI infrastructure, should not serve as a pretext for bypassing the necessary conditions for competitive harm, or, more generally, result in the lowering of the evidentiary burden required to establish antitrust violations. Any enforcement action must continue to be grounded in rigorous, fact-based analysis that demonstrates actual or likely harm to competition, rather than relying on speculative or novel theories unsupported by market evidence. This is particularly important to ensure legal certainty and maintain the credibility of antitrust enforcement in complex, dynamic and innovation-driven markets.

52. BIAC is of the view that if, upon proper inspection, genuine competition law risks materialize, the current competition rules, if used effectively, are sufficiently flexible and adaptable to address any potential anticompetitive conduct arising in the AI infrastructure space.

53. In particular, existing concepts of dominance, monopoly, and market power continue to provide an appropriate framework for considering when enforcement action may be warranted in respect of unilateral conduct. While there may be specific indicia and considerations regarding market power in the context of AI infrastructure, this does not fundamentally change the ability of established competition law principles to address any anti-competitive concerns regarding leverage or other theories of harm.[55]

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[52] Narechania & Sitaraman, *supra* note 19.

[53] *Id.*

[54] United States v Microsoft Corp., 253 F.3d 34, 58 (DC Cir. 2001).

[55] BIAC AI Note, *supra* note 1, at 14.

5. Conclusion

54. Like the AI sector itself, the AI infrastructure space is very dynamic and rapidly evolving. To ensure that premature enforcement does not disrupt the necessary generational investments required, authorities should apply a rigorous and evidence-based approach to the competitive assessment of the relevant markets, based on the established principles and concepts of competition law.

55. While BIAC supports the close monitoring of developments in AI infrastructure by competition authorities, it believes that existing competition laws include the appropriate and necessary toolbox for enforcement of competition laws in relation to AI infrastructure. There is no immediate need for new tools or enforcement intervention. However, given the high level of interest by policy makers and public funding in this area, BIAC also supports that Competition agencies should advocate for pro-competitive policies.

56. The different AI infrastructure segments exhibit key distinguishing characteristics and structures in terms of the number of participants, barriers to entry, conditions for investment and other factors such as regulation. Competition authorities must take each of these into account when considering whether to intervene.