



July 15, 2024

VIA EMAIL

Department of Justice  
Antitrust Division  
950 Pennsylvania Ave., NW  
Washington, DC 20530  
ATR.2024AIworkshop@usdoj.gov

**Re: Invitation to Comment on Promoting Competition in Artificial Intelligence**

Dear Antitrust Division:

The Software & Information Industry Association (“SIIA”) appreciates the invitation to provide these comments on competition in the AI ecosystem.

SIIA is the principal trade association for the software and digital information industries worldwide. Among our nearly 400 members are cloud service providers, developers of software (including AI applications), and platforms, as well as digital content providers and users in academic publishing, education technology, and financial services. SIIA is dedicated to fostering a healthy environment for the creation, dissemination, and productive use of information, and we believe in a competition policy that is focused on promoting innovation, protecting the competitive process, and providing consumers with superior products and services at competitive prices.

While generative AI is still very early in its development, competition is working well. An extraordinary wave of innovation has led to an intense and growing rivalry between market participants to deliver value, service and choice to all types of consumers, at all levels – as reflected in the many comments at the May 30 workshop on “Promoting Competition in Artificial Intelligence.” As several of the workshop panelists explained, a wide range of competitors are releasing apps that incorporate AI-powered features. Thousands of apps are in development, and are being built on the technology and with the investments that are pouring into this space.

Our submission is intended to provide context around the issue of AI and competition, including partnerships among AI companies and cloud services companies. We begin with an overview of the elements of the AI stack, which provides important context. Next, we address various potential competition law concerns in the context of an industry that remains nascent, dynamic, and rapidly evolving. After that, we look specifically at the interplay between the cloud and foundation models. Based on all of this, we recommend against an aggressive enforcement approach as we believe it will have a chilling effect on innovation, without providing benefits to consumers or businesses.



## 1. What are the Main Components of the AI Stack

AI can be defined as “an engineered or machine-based system that can, for a given set of objectives, generate outputs such as predictions, recommendations, or decisions influencing real or virtual environments.”<sup>1</sup> As an initial matter, it is also important to understand that AI is not a novel concept. It is widely used by governments, businesses, and, in fact, all of us in our everyday lives, and has been for years. A few examples that almost anyone can relate to are internet search engines, social media platforms, and recommendation systems employed by platforms, such as YouTube and Netflix.

It is also important to note that AI does not consist of a stand-alone piece of hardware or software. Rather, it is made up of a combination of interrelated components that must integrate and work together seamlessly in order to generate optimal outputs.<sup>2</sup> This is what is often referred to as the AI stack or AI value chain.

One helpful way to think about the AI stack is to break it down into key components, including compute (semiconductors, or chips); data; models (or algorithms); storage (such as cloud computing); AI applications; and people (or “talent”).

The foundational layer of the AI stack is made up of the necessary compute resources, which consists of semiconductors or chips. At a basic level, the role of these types of chips is to interpret basic computer commands, and to allocate those commands between other components running the computer.<sup>3</sup> To properly train and run AI models, however, requires significantly more computational resources than an ordinary computer. This compute power is supplied by specialized computer chips that can break down large tasks into smaller ones and process mind-numbing amounts of data in parallel and at the speed that is necessary to train individual models.<sup>4</sup> While there is increasing competition, this layer of the stack is dominated by a handful of companies, such as chip-designer Nvidia<sup>5</sup>, and Taiwan Semiconductor Manufacturer Company (“TSMC”), which manufactures Nvidia’s chips.<sup>6</sup>

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<sup>1</sup> National Institute of Standards and Technology, U.S. Department of Commerce, *Artificial Intelligence Risk Management Framework (AI RMF 1.0)*, January 26, 2023, at 1. Available at <https://www.nist.gov/itl/ai-risk-management-framework>

<sup>2</sup> National Security Commission on Artificial Intelligence (U.S.). Final Report: National Security Commission on Artificial Intelligence, report, March 1, 2021, at 31. Available at <https://reports.nscai.gov/final-report/>

<sup>3</sup> TechTarget: Definition of processor (CPU). Available at <https://www.techtarget.com/whatis/definition/processor>

<sup>4</sup> *Exploring opportunities in the generative AI value chain*, McKinsey Featured Insights, April 26, 2023. Available at <https://www.mckinsey.com/capabilities/quantumblack/our-insights/exploring-opportunities-in-the-generative-ai-value-chain>

<sup>5</sup> Fitch, Asa, *How a Shifting AI Chips Market Will Shape Nvidia’s Future*, Wall Street Journal, February 25, 2024. Available at <https://www.wsj.com/tech/ai/how-a-shifting-ai-chip-market-will-shape-nvidias-future-f0c256b1?page=1>

<sup>6</sup> Shilov, Anton, *TSMC Solidifies Leadership on Foundry Market as Intel Jumps Into Top 10*, Anandtech, December 6, 2023. Available at <https://www.anandtech.com/show/21182/tsmc-solidifies-leadership-on-foundry-market-as-intel-jumps-into-top-10>

Data is another critical part of the AI stack. Access to large amounts of data is essential for AI models. Data must be sufficiently robust to mitigate the potential for unintended bias and, in the context of foundation models (“FMs”), hallucinations, overcorrections, and other undesirable outputs. While some AI models can be built on data from relatively structured, focused datasets, FMs will rely on data from many different sources.

Next is storage, including cloud infrastructure. Section 3, *infra*, has a detailed analysis of the cloud industry segment and its highly competitive characteristics, so for present purposes suffice it to say that in order to reach the processing scale necessary to train FMs, developers usually rely on cloud computing.<sup>7</sup> At its most basic, the cloud consists of “a vast network of remote servers around the world which are hooked together and meant to operate as a single ecosystem” and can be accessed remotely over the internet.<sup>8</sup> Some of the larger companies in the cloud segment are Amazon Web Services (AWS), Azure from Microsoft, and Google Cloud. But there are many others, including smaller companies that offer highly specialized services within the cloud.<sup>9</sup>

Further downstream are the AI models or algorithms. A basic AI model is a statistical program that uses data to detect specific patterns based on computational analysis of the underlying data. Generative AI, a form of AI that produces some type of new content—such as text, sounds, images, or video—in response to a prompt, relies on FMs.<sup>10</sup> The ability to create new content is achieved by training algorithms on vast troves of data, coupled with the use of so-called attention weights that teach the model to identify patterns and relationships between its existing knowledge and the prompts it receives from users.<sup>11</sup>

These FMs provide the base upon which subsequent and more refined applications are built. The inner workings of many prominent FMs, including the model that powers ChatGPT, which has been developed by OpenAI and Microsoft, are often restricted, with limited public access, even if use of the model’s tools is widely available to the public. Other AI models, including those developed by Google and Meta, for example, have created a somewhat more open ecosystem that allows the public some degree of access to help fine-tune the models. While the availability of relatively “open” models might help increase the growth potential for smaller companies in the industry, and helps to improve the quality of the models, it also increases the risk of malicious use and compliance failure.<sup>12</sup>

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<sup>7</sup> Shriftman, Jonathan, *A Beginners Guide to The Generative AI Infrastructure Stack*, July 10, 2023. Available at <https://shriftman.medium.com/the-building-blocks-of-generative-ai-a75350466a2f>

<sup>8</sup> <https://azure.microsoft.com/en-us/resources/cloud-computing-dictionary/what-is-the-cloud>

<sup>9</sup> *Supra* note 7.

<sup>10</sup> *What is AI?*, McKinsey Featured Insights, April 24, 2023. Available at <https://www.mckinsey.com/featured-insights/mckinsey-explainers/what-is-ai>

<sup>11</sup> *Supra* note 4.

<sup>12</sup> The Technologist | *AI Risks: Moving beyond an open vs. closed binary*, interview with Zoe Brammer, published December 20, 2023. Available at [https://www.linkedin.com/pulse/technologist-ai-risks-moving-beyond-open-fvie/?trk=public\\_post\\_main-feed-card\\_feed-article-content](https://www.linkedin.com/pulse/technologist-ai-risks-moving-beyond-open-fvie/?trk=public_post_main-feed-card_feed-article-content)



Beyond the infrastructure, storage, data, and models are the AI applications on top of the FMs, the deployment of the “finished” AI model to the end-user, and the post-introduction supervision of the model to make sure it works as intended.

In addition, it is worth considering the important role of people (or “talent”) in the AI stack. The need for people and know-how obviously exists throughout the stack, but it might be the greatest at the modeling and deployment stages. Building a really good and successful model is incredibly difficult, and there are only very few people who possess the requisite combination of knowledge and technical skills to do it.

The last 12-24 months have seen remarkable technological advances, significant investments, and a growing number of companies entering the market. With no end in sight, the only thing that is certain is that the market will continue to grow and evolve at a rapid pace.

## **2. Potential Barriers to Entry and other Competition-related Concerns**

As with any market, there are barriers to entry in the market for development of AI models – barriers that are more acute for FMs, including those that power many GenAI applications. The following contains a non-comprehensive list of some of the potential barriers to entry that companies might encounter when they decide to try to enter the market. It is helpful to look at barriers at each component in the AI stack as we have described it above. One caveat at the outset: None of the following should be taken as an endorsement of any of the potential theories of harm posited.

There are barriers to entry with respect to obtaining the necessary compute resources to analyze data and develop AI applications. There are few manufacturers of the high-quality chips necessary for AI systems, and creating a new chip fab requires not only the requisite know-how but also tens of billions of dollars in costs.

This means that anyone wishing to develop their own FM – rather than participate in the AI market by building apps on top of FMs, for example – will need funds sufficient to purchase chips that can be used to conduct computations or to purchase the use of compute through an infrastructure provider, such as a cloud service provider. Because of a fairly limited number of large cloud service providers, and due to the large capital investments necessary to become a serious player in that market, some commentators have expressed concern that barriers to entry may be too high.<sup>13</sup> At the same time, reliable cloud service providers can significantly lower the costs associated with becoming a new entrant in the FM market because they provide a much quicker and more cost-effective path to building the applications and services necessary to thrive.

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<sup>13</sup> Hoppner, Thomas and Streatfield, Luke, *ChatGPT, Bard & Co.: An Introduction to AI for Competition and Regulatory Lawyers* (February 23, 2023). 9 Hausfeld Competition Bulletin (1/2023), Article 1, Available at <https://www.hausfeld.com/en-us/what-we-think/competition-bulletin/chatgpt-bard-co-an-introduction-to-ai-for-competition-and-regulatory-lawyers/>

An additional barrier is access to data. Along with computational power, access to robust datasets is the lifeblood of FMs.<sup>14</sup> Put differently, without massive volumes of data, there are no FMs. And all the data in the world, irrespective of quality, would in most cases be of limited utility if the data holder did not have access to the extraordinary computational capacity necessary to process it. For example, some analysts estimate that the process of training and refining a model like OpenAI’s Chat GPT-3 easily costs more than \$4 million, while training more advanced models could carry a price tag of more than “the high-single-digit millions.”<sup>15</sup>

Access to quality data—and gobs of it—is a prerequisite for companies aiming to develop and train high-performing FMs. Any firm that, given its existing product and service offerings, has a direct and plentiful pipeline to this type of data, therefore, the argument goes, has a competitive advantage. But this is an area where government action can help. Some of the most important data is held by public organizations, and devising methods to make these data available for engineers to use to develop societally beneficial uses of generative AI is a way to lower the barrier to entry quite significantly. In addition, the government can help smaller participants make use of publicly available data that often will be too costly (due to the need for storage and compute) for individual, smaller firms to pursue on their own.

The people or “talent” part of the AI stack is also a barrier to entry. Even companies with the requisite computational capabilities and ability to tap bountiful sources of data will not get very far without employees who possess the skills and know-how to build and train marketable FMs.

While people with these skills often can choose from a range of potential employers, many will gravitate toward the companies that can offer the most resources, the best likelihood of success, and the highest pay. That said, to the extent that this is deemed a problem, it is unclear how or why competition law would be particularly well-suited to provide an appropriate remedy. Indeed, changes to labor laws or immigrations laws would more appropriately address the needs that younger companies have.

### **3. FMs and Competition – Dynamic Nature of the Industry**

As mentioned in section 1, *supra*, the AI Stack is comprised of a number of interdependent elements or layers. While each of these play an important role in the ability of companies to, ultimately, deploy an AI model to the end user, the computational resources provided by cloud service providers forms the backbone of the entire process. Because of this, the following will be focused on competition in the cloud segment of the broader IT industry.

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<sup>14</sup> *Id.*

<sup>15</sup> Vanian, Jonathan and Lewsing, Kif, *ChatGPT and generative AI are booming, but the costs can be extraordinary*, CNBC, March 13, 2023 (updated April 17, 2023). Available at <https://www.cnbc.com/2023/03/13/chatgpt-and-generative-ai-are-booming-but-at-a-very-expensive-price.html>

### 3.1. Brief Overview of the Cloud Industry

According to the National Institute of Standards and Technology (“NIST”), which is an agency under the United States Department of Commerce, “[c]loud computing is a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computer resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction.”<sup>16</sup>

Moreover, cloud computing cannot be viewed in isolation. Rather, it is only one segment in the broader market for IT services.<sup>17</sup> Prior to cloud computing becoming a thing, less than two decades ago, one hundred percent of a company’s IT storage and compute resources were located and managed on-site. And while the cloud segment represents an increasing share of those services, the vast majority of those business needs are still predominantly met through what is known as “on-premises” or “traditional” IT. To put a finer point on it, cloud services, according to some estimates, made up no more than 15 percent of global IT spend in 2021.<sup>18</sup>

Cloud offerings broadly fall into three groups: Infrastructure as a Service (IaaS), Platform as a Service (PaaS), and Software as a Service (SaaS).<sup>19</sup> IaaS provides access to server, storage, network capabilities, while ensuring security and maintenance for the infrastructure itself, as well as the environment in which it operates.<sup>20</sup>

PaaS provides the tools and software that developers need to build applications. This includes database management, operating systems, and development-specific tools.<sup>21</sup> SaaS, on the other hand, is the most ubiquitous version of the cloud. It includes app software in addition to the underlying infrastructure and operating system, and it is often purchased on a per-user basis. Microsoft’s Office 365 is an example of SaaS.<sup>22</sup> Spending on SaaS has traditionally been higher than the other two, but recently PaaS spending has contributed more to the overall growth in the cloud computing segment.<sup>23</sup>

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<sup>16</sup> National Institute of Standards and Technology, U.S. Department of Commerce, Special Publication 800-145, *The NIST Definition of Cloud Computing*, September 2011, at 2. Available at <https://nvlpubs.nist.gov/nistpubs/Legacy/SP/nistspecialpublication800-145.pdf>

<sup>17</sup> Song, Minjar, Brattle, *Trends and Developments in Cloud Computing and On-Premise IT Solutions*, December 2021, at 5-6. Available at <https://alliance4digitalinnovation.org/wp-content/uploads/2023/06/Brattle-Cloud-Computing-Whitepaper-Dec-2021-2.pdf>

<sup>18</sup> Gartner, *IT Key Metrics Data 2022: Industry Measures – Executive Summary*, December 16, 2021. Available at <https://www.gartner.com/en/documents/4009145>

<sup>19</sup> *Supra* note 17.

<sup>20</sup> Boisvert, Michelle *et al.*, *Definition: Infrastructure as a Service (IaaS)*, Available at <https://www.techtarget.com/searchcloudcomputing/definition/Infrastructure-as-a-Service-IaaS>

<sup>21</sup> Ranger, Steve, *What is cloud computing? Everything you need to know about the cloud explained*, ZDNET, February 25, 2022. Available at <https://www.zdnet.com/article/best-vpn/>

<sup>22</sup> *Id.*

<sup>23</sup> *Supra* note 17 at 16

### 3.2. Benefits of the Cloud

Increasing parts of the economy rely on cloud computing for a range of services. A survey of 750 CEOs conducted in 2020 by the Harvard Business Review, for example, showed that “20% to 30% of work is being done through the cloud, and that companies ... planned to accelerate that to ... 80% over an eight to 10-year process.”<sup>24</sup>

Although maintaining workloads on premises may have advantages for some companies, including those with very low latency needs, the benefits of moving to the cloud are, for many, substantial. Among these are the ability of employees to access data and applications anywhere they can log onto the internet, reduction of risks associated with the adoption of new software, as well as the replication of data in multiple data centers, which aids recovery and minimizes customer disruption in the event of an outage somewhere.<sup>25</sup>

Importantly, the cloud has also helped to democratize access to technology more broadly. At scale, the cloud affords more customers better opportunities to buy and use increasingly sophisticated IT offerings, and, if they so desire, to contribute to the further development and refinement of those products and services.<sup>26</sup> Nowhere is this more true than for open-source software, where the copyright holder grants users the right to use, modify, and distribute the software and its code to anyone and for any purpose.<sup>27</sup> Another area where this trend is plainly obvious is in AI. Today, even small companies often have to find ways to quickly manage and process vast volumes of data. AI can help these firms automate routine processes, analyze data, provide additional security, and aid in the development of new product and service offerings.<sup>28</sup>

Another significant benefit that the cloud offers is its scalability and elasticity of supply and demand. This level of flexibility is of particular import for small- and medium-sized companies. According to a study by the Small Business & Entrepreneurship Council, an organization focused on advancing the interests of entrepreneurs and small businesses, nine in ten small businesses use cloud computing services; eight in ten believe that they have enough cloud providers to choose from; and the vast majority of these businesses say that they are very satisfied with the value for money that they get from their provider.<sup>29</sup>

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<sup>24</sup> Ghosh, Bhaskar and Karthik, Narain, *What CEOs Need to Know About the Cloud in 2021*, Harvard Business Review, March 10, 2021. Available at <https://hbr.org/2021/03/what-ceos-need-to-know-about-the-cloud-in-2021>

<sup>25</sup> *Supra* note 17 at 40-41.

<sup>26</sup> [https://en.wikipedia.org/wiki/Democratization\\_of\\_technology](https://en.wikipedia.org/wiki/Democratization_of_technology)

<sup>27</sup> [https://en.wikipedia.org/wiki/Open-source\\_software](https://en.wikipedia.org/wiki/Open-source_software)

<sup>28</sup> Gewirtz, David, *The future of cloud computing, from hybrid to edge to AI-powered*, ZDNET, March 20, 2023.

Available at <https://www.zdnet.com/article/the-future-of-cloud-computing-from-hybrid-to-edge-to-ai-powered/>

<sup>29</sup> Small Business & Entrepreneurship Council (U.S.), *Survey: Small Businesses Embrace Immersive Technologies, Feel Secure in the Cloud....*, June 6, 2023. Available at <https://sbecouncil.org/2023/06/06/new-survey-small-businesses-embrace-immersive-technologies-feel-secure-in-the-cloud-many-harmed-by-termination-of-immediate-rd-expensing/>

What makes the cloud truly unique is its flexible pricing model, and how it allows customers to mix and match the cloud solutions that meet their specific needs and price point.<sup>30</sup> This also means that it is in the interest of cloud providers not to create artificial barriers to switching, but rather to make switching as easy as possible. And switching is commonplace. According to one survey, 81 percent of public cloud users use two or more service providers.<sup>31</sup>

The cloud's on-demand/pay-as-you-go business model affords customers the flexibility to consume what they need, when they need it, with no upfront investment or prepayment. At the same time, the service provider is responsible for making sure that there is enough network capacity, just as they assume the risk of under- or over-provisioning.<sup>32</sup>

### 3.3. The Dynamic Nature of the Cloud Industry

As mentioned, cloud computing is a fairly recent addition to the overall IT industry and cannot be viewed in isolation. And one thing that can be said with certainty is that both the cloud and the broader IT industry are characterized by a high level of competition.

AWS was one of the pioneers in the cloud industry<sup>33</sup>, followed by Google<sup>34</sup> and Microsoft<sup>35</sup>. But these providers are only three among a growing number of companies, both large and small, that are competing to increase their share of this dynamic market. Other companies that provide IT services through the cloud include mainstays of the industry, such as IBM, Dell, and Oracle.

Among the top 10 global IT companies by revenue, for example, all offer at least some cloud services, and total cloud computing revenues account for, on average, 38 percent of their total revenues.<sup>36</sup> In 2020, the two biggest cloud service providers were Microsoft and AWS with revenues of \$51.6 billion and \$45.4 billion, respectively. But they were closely followed by Dell with revenues of \$44.9 billion. Google had revenues of \$13.1 billion.<sup>37</sup>

But those numbers do not tell the whole story. Between 2019 and 2020, AWS had revenue growth of 28.7 percent. That figure, however, was dwarfed by growth rates of in the range of 50-60 percent by other large cloud infrastructure providers like Microsoft (Azure), Google, and the Chinese company,

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<sup>30</sup> Bipartisan Policy Center, *Cloud Platforms – Interoperability and Portability*, January 2023, at 14. Available at [https://bipartisanpolicy.org/download/?file=/wp-content/uploads/2023/01/BPC\\_Cloud-Platforms\\_RV2.pdf](https://bipartisanpolicy.org/download/?file=/wp-content/uploads/2023/01/BPC_Cloud-Platforms_RV2.pdf)

<sup>31</sup> Kleyman, Bill, *Just How Hard is it to Move from One Cloud Provider to Another?*, October 28, 2019. Available at <https://www.informationweek.com/it-infrastructure/just-how-hard-is-it-to-move-from-one-cloud-provider-to-another-#close-modal>

<sup>32</sup> Rogers, Owens, Dr., *Flexibility drives cloud lock-in risk*, Uptime Institute, March 1, 2022. Available at <https://journal.uptimeinstitute.com/flexibility-drives-cloud-lock-in-risk/>

<sup>33</sup> [https://en.wikipedia.org/wiki/Amazon\\_Web\\_Services](https://en.wikipedia.org/wiki/Amazon_Web_Services)

<sup>34</sup> <https://acloudguru.com/blog/engineering/history-google-cloud-platform>

<sup>35</sup> [https://en.wikipedia.org/wiki/Microsoft\\_Azure](https://en.wikipedia.org/wiki/Microsoft_Azure)

<sup>36</sup> *Supra* note 17 at 21.

<sup>37</sup> *Id.* at 23.





Alibaba.<sup>38</sup> And based on more recent figures, AWS's share of cloud infrastructure spending actually fell from 45 percent in 2019 to 39 percent in 2021.<sup>39</sup>

As more and more companies adopt cloud solutions, cloud service providers—incumbents, traditional on-premises providers, and new market entrants—compete fiercely, including by offering lower prices, new and more innovative products, as well as expanded storage options. And it is clearly working. According to a staff report from the Judiciary Committee in the United States House of Representatives, prices for IaaS services generally decreased from 2013-2018.<sup>40</sup>

Finally, there are more than 1,600 cloud infrastructure startups. Nine of them are unicorns, which means that they have valuations in excess of \$1 billion.<sup>41</sup> Does this mean that they are destined to become market leaders in their respective segments, or even that all of them will survive long-term? Of course not. Competing on the merits means that all market participants should be given an equal chance to succeed, not that everyone ultimately will.

In light of the above, it is hard to conclude anything other than that this is an industry that is thriving, dynamic, and highly competitive.

#### **4. An Aggressive Approach Would be Unwarranted and Counterproductive**

As discussed, FMs are a relatively new market segment within the broader IT industry. Even more importantly, it is characterized by rapid innovation and fierce competition. Large-scale cloud service providers compete against each other and traditional IT service providers, some of whom have seen explosive growth rates in their cloud businesses in recent years; one company alone increased its revenue in cloud by close to 200 percent between 2019 and 2020.<sup>42</sup> These factors alone militate heavily against a rush to change existing law or the focus and intensity of the DOJ's enforcement practices.

There is also the question of whether targeting regulation or enforcement at a few actors in one industry would be an effective use of resources. The available research urges caution. In a paper on the consequences of competition action against large online platforms, the authors concluded that while interventions might achieve some results, they do not necessarily improve competition or benefit

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<sup>38</sup> *Id.* at 24

<sup>39</sup> Gartner, *Worldwide IaaS Public Cloud Services Market Grew 41.4% in 2021*, June 2, 2022. Available at <https://www.gartner.com/en/newsroom/press-releases/2022-06-02-gartner-says-worldwide-iaas-public-cloud-services-market-grew-41-percent-in-2021>

<sup>40</sup> Majority Staff Report and Recommendations of the United States House of Representatives, Committee on the Judiciary, Subcommittee on Antitrust, Commercial and Administrative Law, *Investigation of Competition in Digital Markets*, 2020, at 116. Available at [https://democrats-judiciary.house.gov/uploadedfiles/competition\\_in\\_digital\\_markets.pdf](https://democrats-judiciary.house.gov/uploadedfiles/competition_in_digital_markets.pdf)

<sup>41</sup> Tracxn, *Emerging Startups 2023: Top Cloud Infrastructure Startups*. Available at <https://aviatrix.com/blog/emerging-startups-2023-top-cloud-infrastructure-startups/>

<sup>42</sup> *Supra* note 17 at 24, n. 69.

consumers.<sup>43</sup> Instead, what they found was that one of the potential downsides of heavy-handed interventions was that it might merely tip the scales in favor of other large, albeit slightly smaller, companies that focus more on efficiency than innovation. In other words, merely hobbling large industry players will not, by itself, create a more competitive or innovative market.<sup>44</sup> The risk of negative and unintended consequences from aggressive enforcement, in other words, could be quite substantial.

Based on his comments at the workshop, Assistant Attorney General Kanter also appeared to agree that existing antitrust laws, in fact, are sufficiently malleable to be able to deal with new and potential issues in the AI context. To wit: “[T]he antitrust laws adapt to changing market realities. The principles of competition enforcement apply, whether an innovation is powered by steam, by transistors, or by reorganizing human thought through machine learning.” And along those same lines, the general counsel of the French startup, Mistral, in her comments expressed the concern that if governments are too quick to regulate or ramp up enforcement it could have a range of unintended consequences. For example, in forbidding startups to partner with hyper-scalers for compute and distribution, enforcers could make it close to impossible for these startup companies to grow or even exist.

We commend the Antitrust Division for inviting these comments, co-hosting the workshop, and for its efforts to better understand this new and important area of business and the law.

While this is a nascent and largely unsettled market, all available evidence points to it being fast-changing and competitive. There are a range of plausible scenarios for where the industry might go next. One possibility is that incumbent companies will be put in a position to entrench their market power, but it is just as plausible that market conditions will evolve in a way that creates circumstances that favor new companies and different business models. At the moment, no one knows for certain which models will ultimately be the most successful.

But what we do know is that many different models, big and small, proprietary and more open source, are likely to succeed. No one FM will meet every customer need, and bigger may not necessarily be better. Model developers include well-known companies, such as Microsoft, Meta, and Google. But competition is also being led by dozens of innovative start-ups developing proprietary and open-source models, including OpenAI, Anthropic, Hugging Face, and Cohere, and many others.

Because of this profound uncertainty, we believe that the public interest will be best served by the Antitrust Division and other enforcers taking a thoughtful, measured, proportional, and evidence-based approach. Competition policy across the globe should promote competition, not hinder it. The White House Executive Order on AI, for example, correctly points out that AI’s challenges and opportunities are global, and that this is a matter of national and economic security. The role of U.S. antitrust agencies is to support the White House’s goal to advance leadership by the U.S. and its allies in AI, not interfere with it.

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<sup>43</sup> Katila, Riitta and Thatchenkery, Sruthi, *The Surprising Consequences of Antitrust Action Against Big Tech*, Harvard Business Review, February 24, 2023. Available at <https://hbr.org/2023/02/the-surprising-consequences-of-antitrust-actions-against-big-tech>

<sup>44</sup> *Id.*



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SIIA thanks the Antitrust Division for considering our views. We look forward to continuing our engagement with the Division on this important issue, and we would welcome the opportunity to answer any additional questions that you may have.

Respectfully submitted,

Morten C. Skroejer  
Senior Director, Technology Competition Policy