

U.S House of Representatives

Committee on Education and Workforce

"Building an AI-Ready America: How AI Is Creating Opportunities Across America's Workforce."



Testimony of Ajikumar "Aji" Parayil

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Good morning, Chairman Allen and members of the Committee on Education and Workforce,

My name is Aji Parayil, Founder and Chief Executive Officer of Manus, a next-generation industrial biotechnology company focused on the advanced biomanufacturing of complex natural products used in food ingredients, agricultural chemicals, and essential medicines. Thank you, Mr. Chairman, for holding this hearing in Augusta, Georgia. As a proud naturalized U.S. citizen, I chose to raise my family here and build one of America's largest biomanufacturing facilities here in Augusta.

I was raised in a farming family in India, where agriculture centered on spices, medicinal plants, and other crops valued for the natural compounds they contribute to everyday life. My early experience working in agricultural fields, later studying organic chemistry, fostered a lasting interest in understanding how they are formed and how they might be produced more efficiently and economically. That experience led me to a fundamental question, could biology provide a better approach? Pursuing that question ultimately brought me to the United States.

I am grateful for the opportunity America gave me to come here and advance a frontier bioengineering technology at MIT with the support from a \$2 million National Institutes of Health grant. That work led to a

powerful cell engineering and biomanufacturing platform technology for producing complex chemicals that are difficult to grow agriculturally or synthesize chemically. This became the foundation of Manus' technology platform, attracting hundreds of millions of dollars in investment, supporting factories in rural America, and creating jobs here at home.

I founded Manus in 2011 with my colleagues from MIT. Over the past fifteen years, we have developed and commercialized a biomanufacturing platform that helps address critical U.S. supply chain vulnerabilities in food, medicines, and materials. By using domestic inputs such as U.S. grown corn sugar, Manus can replace foreign-sourced products from sweeteners to pharmaceutical starting materials and intermediates.

Manus acquired the Augusta BioFacility in 2018 as part of our acquisition of the NutraSweet Co. The former NutraSweet facility for aspartame production [had shuttered in 2014](#) due to competition from foreign manufacturers in China. Manus repurposed this facility for the production of bioalternatives at a fraction of the cost of building a brand-new facility, rehired many of the original operators, and trained and expanded the team, bringing more than 150 skilled jobs back to rural Georgia and integrating them into the economy of the future. We have

deliberately built out domestic manufacturing, having invested more than \$100 million in Augusta, Georgia through 2025 and with an anticipated total investment of approximately \$135 million by the end of 2026.

Manus has commercialized multiple products out of our Augusta BioFacility. In addition to multiple flavors and our stevia sweetener, we recently announced the launch of Monk Fruit Sweetener, the first monk fruit product that is completely decoupled from China and manufactured right here in the United States - at commercial scale through industrial biomanufacturing. In doing so, we are demonstrating the power of American investment into next generation technology in enabling a paradigm shift in the manufacturing of natural sweeteners and paving a path for regaining American dominance in this sector. Aligning with the Make America Healthy Again movement, Manus' sweeteners provide a natural solution for tackling sugar reduction and making healthier foods more affordable and accessible.

Additionally, Manus is partnering with the Department of Health and Human Services on reshoring U.S. pharmaceutical production by leveraging biomanufacturing and continuous flow chemistry to reduce dependency on unstable and foreign supply chains like China and India, especially for critical medicines derived from fragile natural sources.

Manus offers a scalable solution by leveraging U.S. innovation and domestic biomanufacturing to transform domestic feedstocks, like US-grown corn, into KSMs and APIs, eliminating upstream chokepoints that stockpiling alone cannot fix.

Today's hearing is about ensuring that the next generation of manufacturing is designed, built, and scaled in America and how Artificial Intelligence (AI) can be leveraged to create opportunities in the American workforce.

AI is rapidly becoming one of the defining technologies of the 21st century. While much of the public conversation has focused on generative AI, some of the most significant opportunities lie in how AI is transforming the way we design, build, and manufacture products here at home. As global competition intensifies, the United States has an opportunity to lead not only in developing AI technologies, but also in deploying them to strengthen our industrial base, create high-quality manufacturing jobs and drive long-term economic growth. This type of innovation has implications far beyond a single company or industry. AI is giving manufacturers like Manus new tools to optimize production, improve quality, reduce waste, strengthen supply chains, and bring new products to market faster. These advancements

also create opportunities for American workers, from software engineers and data scientists to skilled technicians, operators, and advanced manufacturing professionals, supporting a stronger and more competitive domestic economy. Ultimately, it improves the productivity of our workforce significantly and puts us in a competitive position in global markets.

At Manus, AI is changing what manufacturing work looks like. Our scientists use AI models, trained in decades of our experimental data, to design better enzymes and cell factories used for our manufacturing process. Our engineers and operators use AI to review large datasets, improve fermentation and downstream processes, predict equipment issues, and solve manufacturing problems faster. AI is not replacing skilled workers; it is helping them do their jobs better and improving productivity. This mix of advanced manufacturing, biotechnology, and AI is the kind of workplace that can attract the next generation of American manufacturing talent.

The economy of the future must incorporate AI to ensure American manufacturing can compete on the global market. While countries like China often compete on lower labor costs and larger workforces, American manufacturers must compete on productivity, innovation, and technology. AI enables a smaller, highly skilled workforce to accomplish

more by accelerating research and development, optimizing manufacturing processes in real time, reducing downtime through predictive maintenance, and improving consistency and quality across production. These capabilities allow U.S. manufacturers to produce more with the workforce we have, while creating higher-value, higher-skilled jobs.

As Congress considers the future of AI policy, we have an opportunity to shape the economy of the future by strengthening American manufacturing and our industrial base. My company is preparing for the next generation of the manufacturing workforce – one where employees work alongside AI to make better decisions, operate safer facilities, and continuously improve manufacturing processes.

AI is critical when it comes to competing with China's manufacturing workforce. The brutal reality is that the U.S. cannot - and should not - try to compete by matching workforce size. We need to empower our workers with the best technology available and combine AI with data and innovation to build a manufacturing sector that is more productive, more resilient, and globally competitive.

Thank you for inviting me to testify, and I look forward to answering your questions.