

# Can America Build Things? Tracking U.S. Progress in Robotics and Drone Manufacturing

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## Key Takeaways

- While China still dominates drones, industrial robots and humanoid robot shipments, accelerating U.S. investment, reshoring incentives and policy support are beginning to build the manufacturing foundation needed to compete in Physical AI.
- American leaders such as Figure AI and Tesla are pursuing aggressive vertical integration across actuators, sensors, batteries and electronics, betting that controlling critical components will be the key to capturing long-term value as humanoid robotics scales.
- For investors, the opportunity lies in identifying companies positioned to benefit from rising defense drone spending, automation demand and domestic manufacturing expansion, themes targeted by the [WisdomTree Physical AI, Humanoids, and Drones Fund \(WDRN\)](#).

President Trump's recent visit to China, set against the backdrop of WisdomTree's launch of its Physical AI strategy, invites a sharper question:

*When it comes to the hardware of the next industrial era, specifically robots, drones, and the components that animate them, is the United States actually building anything?*

China produces an estimated 70–80% of the world's commercial drones and accounted for 79% of approved drone patents globally in 2024, with Da-Jiang Innovations (DJI) alone holding roughly 70% of the global drone market. On the industrial robotics side, China installed 295,000 industrial robots in 2024, the highest annual total ever recorded for a single country and approximately nine times the U.S. figure of 34,200, and now operates more than 2 million robots, the largest operational stock of any nation on earth. Chinese manufacturers also crossed a notable threshold in 2024, selling more units domestically than all foreign suppliers combined, with their domestic market share rising to 57%, up from roughly 28% a decade ago.<sup>1</sup>

But the more interesting analytical question is not where things stand today, but whether the trajectory is changing. On that measure, there is more genuine progress than the pessimistic narrative allows, alongside structural gaps that are just as real.

The framing that matters for investors is whether American companies are developing the vertical integration, manufacturing infrastructure, and supply chain sovereignty to capture durable economic value in physical AI.

### **Humanoid Robots: Design Leadership, Volume Gap**

The United States is arguably the global leader in designing humanoid robots, even if it trails China in shipping them.

#### *Figure AI*

The most striking domestic development is Figure AI's BotQ manufacturing facility, designed to produce up to 12,000 humanoid robots per year, with a stated goal of 100,000 units over four years. Figure chose to vertically integrate across actuators, motors, sensors, battery packs, and electronics, all developed in-house, because, as the company noted at launch, no established supply chain with tiered manufacturers existed for the industry. BotQ is already demonstrating a meaningful production ramp, rising from a few units per month in late 2025 to one robot every 90 minutes as of spring 2026. Its September 2025 Series C round exceeded \$1 billion at a \$39 billion post-money valuation, led by Parkway Venture Capital with participation from Brookfield Asset Management, NVIDIA, Intel Capital, Qualcomm Ventures, Salesforce, and others, a roster that reflects both financial and strategic conviction in the physical AI thesis.<sup>2</sup>

#### *Tesla Optimus*

Tesla's Optimus program is the other anchor of the domestic humanoid story, and it comes with the most dramatic corporate commitment in the sector. On its Q4 2025 earnings call, Tesla announced it would discontinue production of both the Model S and Model X, ending a combined 25-year model run, to convert those Fremont lines entirely to Optimus manufacturing, with a first-generation line targeting eventual capacity of one million robots per year and a second facility planned at Gigafactory Texas targeting ten million. The commitment is real and the capital is serious.

So is the execution gap, as Musk admitted in January 2026 that zero Optimus robots were doing useful work in Tesla's factories, a significant miss from his 2025 production targets. Gen 3 reveal has been pushed to mid-summer 2026, with volume production to follow. Tesla's strategic logic, designing custom actuators in-house, remains sound and could deliver meaningful cost advantages at scale. But Optimus is, for now, a large and credible bet on a future that hasn't yet arrived.<sup>3</sup>

#### *China vs. U.S. on the Humanoid Question*

The honest comparison with China requires acknowledging the volume gap. According to research firm Omdia, Chinese vendors accounted for nearly 90 percent of the roughly 13,000 humanoid robots shipped globally in 2025, a market that quintupled from 2024. The top shipper was AgiBot, with approximately 5,200 units, followed by Unitree, which confirmed it exceeded 5,500 units for the year on its own count. BYD has committed to deploying 20,000 humanoids in 2026 from a base of 1,500 in 2025; UBTECH is separately targeting 10,000 Walker units annually. TrendForce characterizes the U.S. and China as racing to scale end-to-end humanoid products, while Japan focuses on component quality, precision actuators, reduction

gears, and control systems, as its competitive moat. TrendForce frames the U.S. advantage as a more advanced AI ecosystem; China's as supply chain density and cost. The three non-Chinese companies that made Omdia's top-selling humanoid chart for 2025 were all American: Figure AI, Agility Robotics, and Tesla.<sup>4</sup>

### **Drones: Reshoring Underway, Full Domestic Stack Still Years Away**

The drone story is one of policy-driven urgency colliding with supply chain reality. The starting point is uncomfortable:

*The U.S. commercial drone market has been roughly 90 percent dependent on Chinese-made hardware, and even many nominally 'Made in America' platforms have relied on Chinese motors, batteries, ESCs, and sensors.*<sup>5</sup>

On December 22, 2025, the FCC added DJI, Autel, and, in a move broader than the industry anticipated, all foreign-produced drone hardware and critical components to its Covered List, blocking new equipment authorizations required for importation and sale in the U.S. Previously approved models remain legal to operate and sell, but no new product launches can reach the American market.<sup>6</sup>

A Pilot Institute survey of 8,000 certified commercial drone pilots found that 43 percent believe the action will have an extremely negative or potentially business-ending impact on their operations, a measure of how far domestic alternatives remain from filling the gap.<sup>7</sup>

The government response has been forceful.<sup>8</sup>

- The Pentagon's Drone Dominance Program outlines a path to \$1 billion in orders covering approximately 340,000 drones over four phases in the next two years.
- Pentagon drone spending is projected at \$9.4 billion in fiscal year 2026, part of a larger \$13.4 billion investment in autonomous systems.
- Secretary Hegseth's July 2025 memorandum on 'Unleashing U.S. Military Drone Dominance' directed the department to approve hundreds of American products for purchase, with an explicit goal of driving a technological leapfrog through domestic manufacturing.
- Total drone investment in 2025 reached \$3.86 billion, a new record, with 77 percent going to dual-use companies serving both commercial and defense markets.

Manufacturing infrastructure is beginning to take shape.<sup>9</sup>

- PDW, based in Huntsville, Alabama, inaugurated its Drone Factory 01 in August 2025, a 90,000-square-foot facility for full-scale production of its C100 multi-mission unmanned aircraft.
- Skydio has committed \$3.5 billion to domestic manufacturing.
- Unusual Machines (UMAC) has positioned itself as one of the few domestic suppliers of low-cost, flight-critical drone components, with an estimated \$170 million addressable market from the Drone Dominance program alone.

- Auterion's software and autopilot ecosystem powers a significant share of professional drones globally.

The XPONENTIAL 2026 conference, held recently, heard a clear message from government and industry leaders: the phase of prototype development is over; the focus is now on building a repeatable industrial system capable of producing at scale.

### **Industrial Robots: The Most Structurally Challenged Category**

Industrial robots are where the U.S. faces the starkest reckoning. The IFR's World Robotics 2025 report shows U.S. installations down 9 percent in 2024 to 34,200 units, against China's 295,000, with over 2 million now in operational use. In robot density, the U.S. ranks ninth globally at 285 robots per 10,000 manufacturing workers, behind South Korea (1,012), China (470), and Japan (397). The U.S. imports most of its industrial robots from Japan and Europe, with very few domestic manufacturers.

The structural case for change is real: more than one million open U.S. manufacturing jobs, reshoring pressure, and estimates from PwC, one of the world's largest consulting and professional services firms, that annual tariff exposure could rise from \$23 billion to \$127 billion annually all create automation demand that didn't previously exist at this scale. Teradyne Robotics, through Universal Robots and Mobile Industrial Robots, is a genuine domestic bright spot in collaborative and mobile robotics. But these are exceptions. The U.S. remains primarily a buyer, not a builder, of industrial robots, and closing that gap will take a decade of sustained investment.<sup>10</sup>

### **Robot Components: Vertical Integration as the American Strategy**

Components, meaning actuators, batteries, sensors, reducers, may be the most strategically important dimension of this landscape. Actuators alone account for nearly half the bill of materials cost for a humanoid robot, with high-torque units costing \$500 to \$2,000 each at low volumes. DIGITIMES Research projects actuator costs will fall 50 to 70 percent after 2029, meaning whoever builds manufacturing capacity now captures that margin later.<sup>11</sup>

The baseline is sobering:<sup>12</sup>

*Approximately 90 percent of key robotics components are sourced from China.*

The American response has been vertical integration, and Figure AI and Tesla both built actuators, batteries, and sensors entirely in-house. Aptronik, which raised \$520 million in February 2026 backed by Google and Mercedes-Benz, is following the same logic.<sup>13</sup> For drones, China's 2025 rare earth export restrictions have accelerated domestic sourcing efforts, but the geological timeline for bringing new mines into production cannot be shortened by urgency alone.

### **Considering an Investment Framework**

The U.S. is making genuine progress in humanoid robots and defense drones; less convincingly in industrial robots and component manufacturing, where structural gaps will take a decade to close. None of that should surprise, as manufacturing depth is not lost or recovered overnight. What has changed is the policy environment, the capital allocation, and the sense of urgency.

The demand signals now in place are not marginal adjustments. Defense drone spending of \$9.4 billion in a single fiscal year, National Defense Authorization Act (NDAA) supply chain restrictions supply chain restrictions, reshoring-driven automation demand, and \$3.86 billion in drone investment in 2025 alone are structural forces. The manufacturing discipline required to go from prototype to volume production is being acquired in real time, under pressure, which is historically how the United States has done it best.

The [WisdomTree Physical AI, Humanoids, and Drones Fund \(WDRN\)](#) is ultimately a strategy that is helping investors consider this important theme early as the U.S. is shifting policy priorities and realizing its importance. As of May 15, 2026, there was no exposure to publicly listed robotics companies operating in China.<sup>14</sup>

1 Sources: Conrad, E. (2025, June 19). *China produces 70–80% of commercial drones and accounted for 79% of approved drone patents globally in 2024* [Macro roundup]. EdwardConrad.com; International Federation of Robotics. (2025, September 25). *Global robot demand in factories doubles over 10 years: World Robotics 2025 report*; Marley, P. (2025, August 19). Does China dominate global drone markets? *Wisconsin Watch*.

2 Sources: Figure AI. (2025, March). *BotQ: A high-volume manufacturing facility for humanoid robots*; Figure AI. (2025, September 16). *Figure exceeds \$1B in Series C funding at \$39B post-money valuation* [Press release]; Figure AI. (2025, October). *Introducing Figure 03*; Adcock, B. (2026, April). BotQ production update [Post]. *Threads*. (As reported in: Tech Market Briefs. (2026, April). *Figure AI IPO 2026: \$39B valuation, risks & bull case*

3 Sources: Musk, E. (2026, January 29). *Tesla Q4 2025 earnings call* [Earnings call transcript]. As reported in: Euronews. (2026, January 29). *Tesla changes lanes: Model S and X discontinued for humanoid Optimus robot and AI*; Tesla, Inc. (2026). *Form 8-K, Q1 2026 shareholder update* [SEC filing]. U.S. Securities and Exchange Commission; Koltun, F. (2026, April 22). *Tesla pushes Optimus V3 reveal later this year — again*. *Electrek*.

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5 Source: McNabb, M. (2026, January 5). *Made in America? The key challenges facing US drone manufacturing*. *DroneLife*.

6 Source: Federal Communications Commission. (2025, December 22). *FCC updates Covered List to add certain UAS and UAS components* [Public notice].

7 Source: McNabb, M. (2025, December 27). *FCC adds foreign-made drones and components to Covered List: What it means for operators and manufacturers*. *DroneLife*.

8 Sources: Panella, C. (2025, December 5). Billions of dollars are at stake in the race to develop defense drones. *Business Insider*. As reported in: Street Wise Reports. (2026, January 8). Drone manufacturer finds US\$170M market breakthrough in defense sector; Street Wise Reports. (2025, December 23). Technology co. finds high-value position in America's \$163.6B global drone sector; McNabb, M. (2026, May 13). Drone Dominance: The Defense Department's push to build a scalable U.S. drone supply chain. *DroneLife*.

9 Sources: PDW factory, Skydio commitment, UMAC market position, investment totals:

Street Wise Reports. (2025, December 23). Drone manufacturer secures \$3.75M purchase order breakthrough in US defense market; Bohlig, A. (2026, January 8). *Unusual Machines 2026 top pick* [Analyst report]. Needham & Company. As reported in: Street Wise Reports. (2026, January 8). Drone manufacturer finds US\$170M market breakthrough in defense sector; The Drone Girl. (2026, May 12). Experts predict civil drone industry could double in the next decade.

10 Sources: International Federation of Robotics. (2025, September 25). *Global robot demand in factories doubles over 10 years: World Robotics 2025 report*, PwC. (2025). *Robotics in manufacturing*.

11 Source: DIGITIMES Research. (2025, August). *Humanoid robotics 2025: Market trends, critical components & strategic shifts*. DIGITIMES.

12 Source: RoboticsTomorrow. (2026, January 28). Predictions for 2026: What's next for robotics.

13 Source: Future Markets Inc. (2026, March). *Humanoid robots market report 2026–2036*.

14 Source: WDRN fund page, with holdings data as of May 15, 2026. **Holdings subject to change.**

## Important Risks Related to this Article

For current holdings of WDRN, please click [here](#). **Holdings are subject to risk and change.**

There are risks associated with investing, including possible loss of principal. Companies engaged in Physical AI Activities are subject to unique regulatory, operational and technological risks, such as intense competition and potentially rapid product obsolescence. The regulation of such companies in the United States and other countries is diverse and rapidly evolving, which may inhibit or delay adoption. These companies are also heavily dependent on intellectual property rights and may be adversely affected by loss or impairment of those rights. Companies engaged in Physical AI Activities typically invest significant amounts of spending on research and development, and there is no guarantee that the products or services produced by these companies will be successful. Humanoid robotics companies are sensitive to trends in industrial production, capital-expenditure cycles, supply-chain conditions, and adoption rates of automation technologies across varied sectors including business and industrial end-users.

Humanoid robotics companies may have long and capital-intensive development timelines, highly uncertain paths to profitability and large-scale deployment, and limited product lines, markets, financial resources or personnel. Drone companies may be dependent on the U.S. Government and its agencies for a significant portion of their revenues, and the commercial and military adoption of drone technologies remains subject to extensive and evolving governmental oversight, including aviation safety standards, airworthiness certification requirements, export controls, and national security reviews. A fund that has a portfolio that is concentrated in the securities of issuers in a particular industry or group of related industries, may be adversely affected by the performance of those securities, and more susceptible to adverse economic, market, political, or regulatory occurrences affecting that industry or group of related industries.

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The Fund invests in the securities included in, or representative of, its Index regardless of their investment merit and the Fund does not attempt to outperform its Index. The composition of the Index is governed by an Index Committee and the Index may not perform as intended. Please read the Fund's prospectus for specific details regarding the Fund's risk profile.