



## AgTech in Pennsylvania: From Opportunity to Action

Pennsylvania has a heritage rooted in agriculture that is inextricably woven into our economy and communities. Agriculture contributes \$27.5 billion in gross state product each year and is marked by diversity, innovation, and regional accessibility.<sup>1</sup> Yet farms and farmland are steadily declining, with small and mid-sized operations most affected, while labor challenges continue to mount.<sup>2,3</sup> These realities raise critical questions about how Pennsylvania can alter this trajectory and sustain its agricultural competitiveness and profitability, core to its identity, in the decades ahead.

A promising path forward lies in agtech: robotics, artificial intelligence (AI), and digital systems tailored to the commonwealth's unique agricultural scale and value chain. By integrating Pennsylvania's strong agricultural foundation with its leadership in AI, robotics, and digital systems, the state can become a proving ground for technologies that enhance efficiency, profitability, and environmental outcomes for farmers and communities alike.

The U.S. agtech market is projected to more than double from \$5.57 billion in 2024 to \$12.48 billion by 2034.<sup>4</sup> Pennsylvania producers are already part of this shift, from dairies using automated milking systems, fruit farms are flying drones to monitor tree needs. Although most investment currently flows to California, the Midwest, and New York.<sup>5</sup> Closing this gap, even modestly, could translate into hundreds of millions of dollars in new capital, commercialization opportunities for research institutions, and economic growth across rural and urban communities.

---

<sup>1</sup> Team Pennsylvania, *Pennsylvania Agriculture Economic Analysis 2025*. This figure represents Pennsylvania agriculture's Gross State Product in 2022.

<sup>2</sup> Team Pennsylvania, *Pennsylvania Agriculture Economic Analysis 2025*. Over the same period, the U.S. agriculture sector grew 37% in output and 5% in jobs.

<sup>3</sup> Team Pennsylvania, *Pennsylvania Agriculture Economic Analysis 2025*. From 2012–2022, the number of farms in Pennsylvania declined 17%, and statewide farmland declined 8%.

<sup>4</sup> EMR (Emerging Market Reports), [United States Agtech Market Size & Industry Analysis 2034](#).

<sup>5</sup> AgFunder, *Global AgriFoodTech Investment Report 2025*. U.S. agtech investment is highly concentrated in a few states, particularly those with established venture ecosystems like California, and others that have attracted large "mega deals," such as New York and Kentucky.

## Pennsylvania's Competitive Position

Pennsylvania has distinct advantages that make it a compelling place to advance agtech development and adoption opportunities:

- **Agricultural diversity:** Pennsylvania's agriculture is both dense and diverse. Some industries, like dairy and poultry, are found across the state, while others have regional concentrations, like mushrooms in Chester, orchards in Adams, and vineyards in Erie. Many farms have multiple operations on a single site, reflecting the mixed-production systems seen across the Northeast and around the world. This variety provides a rich network of natural testbeds for new tools, allowing tailored solutions proven here to be spread widely.
- **World-class robotics and AI research and technology:** Universities such as Carnegie Mellon, Penn State, Pitt, Penn, and Lehigh are global leaders in robotics, AI, and advanced manufacturing. Their expertise in automation, logistics, and data science can be translated directly into agricultural settings.
- **Innovation infrastructure:** Assets like the National Robotics Engineering Center, the Robotics Factory, the ARM Institute, Pittsburgh Supercomputing Center, and a strong precision manufacturing base create a supportive environment for collaboration among entrepreneurs, researchers, and farmers.

## The Challenge and the Opportunity

Despite Pennsylvania's strengths, farmers face barriers that slow adoption of agtech. Upfront costs, uncertain return on investment, and limited technical support make producers cautious. Many tools are designed for other regions and often are mismatched with Pennsylvania's smaller-scale or specialty production systems. Meanwhile, the nation's largest agricultural states not only shape national policies and systems, but are also moving quickly, attracting vast agtech investment and talent due to their scale and demand density, and further widening the competitiveness gap.

Tackling these challenges head-on unlocks a powerful opportunity. Pennsylvania can become the place where agtech succeeds under diverse real-world conditions; if solutions work here, they can work nearly anywhere. With targeted coordination and investment, agtech can become an economic multiplier across multiple layers of the commonwealth's economy:

- **On the farm:** Boosting productivity and sustainability by equipping farmers with practical tools, training, and trusted support.
- **Across the value chain:** Strengthening food processing, logistics, and manufacturing by embedding digital systems that improve efficiency and reliability.
- **Through research spillovers:** Translating robotics and AI breakthroughs into market-ready solutions that support entrepreneurs, startups, and farmers alike.

- **In communities:** Creating new pathways for rural revitalization through broadband expansion, talent pipelines, and entrepreneurship.
- **For the environment:** Advancing soil health, nutrient management, and climate resilience with data-driven approaches that improve profitability and stewardship.

The decisions we make in the next 12 to 18 months will determine whether Pennsylvania leads the agtech future or falls further behind.

## Team Pennsylvania's Role: Building Together

Building on our role as a trusted convener across government, industry, academia, and labor, Team Pennsylvania is taking a leadership role in turning ideas into action and advancing opportunities in this space. Guided by our Strategic Impact Initiative framework, we are pursuing a three-step process that will carry momentum into 2026:

1. **Exploration and Discovery:** Conduct a statewide scan to surface the most promising ideas, while capturing lessons and best practices from national and global models.
2. **Stakeholder Alignment:** Bring together a core group of partners to validate and align on a high-impact project that addresses the most urgent challenges.
3. **Pilot and Investment:** Secure funding and launch pilots, ranging from equipment libraries and on-farm testing networks to financing mechanisms and digital infrastructure projects, that demonstrate clear returns and attract further capital and collaboration.

## Shaping What's Next: Join the Conversation

This primer is intended to make the case for state-level action, spark dialogue, and invite collaboration. As Team Pennsylvania explores opportunities for agtech, we're opening the door to stakeholders to help us shape projects that strengthen our agricultural sector and create positive ripple effects across the broader economy.

We invite leaders with a stake in the future of agriculture—from farmers and researchers to startups, investors, and policymakers—to join this critical conversation and help chart a path forward. To take part in shaping the conversation, join our [Advanced Agriculture Collaborative](#) and learn more by reaching out to [agriculture@teampa.com](mailto:agriculture@teampa.com) to speak with a member of our team.