



EMERGING TECH RESEARCH

# Agtech Overview

Industry and taxonomy update with latest VC activity

**2022**

Published March 17, 2023



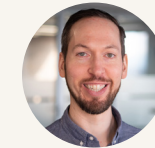


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## Institutional Research Group

### Analysis



**Alex Frederick** Senior Analyst, Emerging Technology  
alex.frederick@pitchbook.com  
pbinstitutionalresearch@pitchbook.com

### Data

**TJ Mei** Data Analyst

## Publishing

Report designed by **Jenna O'Malley, Joey Schaffer,** and **Julia Midkiff**

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# Agtech landscape

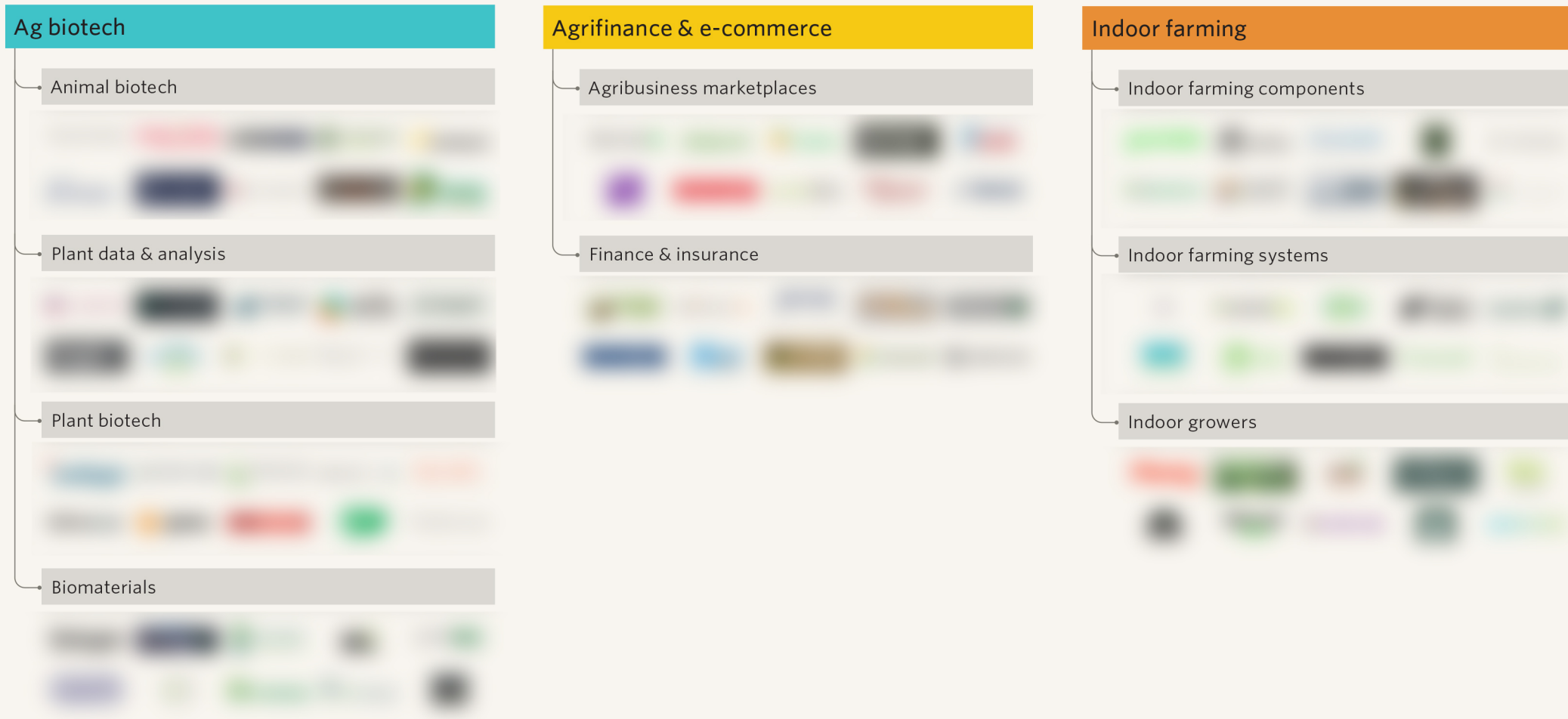
- 1** Ag biotech
- 2** Agrifinance & e-commerce
- 3** Indoor farming
- 4** Animal ag
- 5** Precision ag





# Agtech VC ecosystem market map

Market map is a representative overview of venture-backed or growth-stage providers in each segment. Companies listed have received venture capital or other notable private investments.





# Agtech VC ecosystem market map

Market map is a representative overview of venture-backed or growth-stage providers in each segment. Companies listed have received venture capital or other notable private investments.

## Animal ag

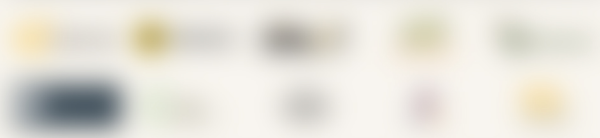
### Aquaculture



### Livestock & land animal technology



### Pollination tech



### Insect farming



## Precision ag

### Farm management software



### Robotics & smart field equipment



### Field IoT



### Drones & imagery analytics





# VC activity

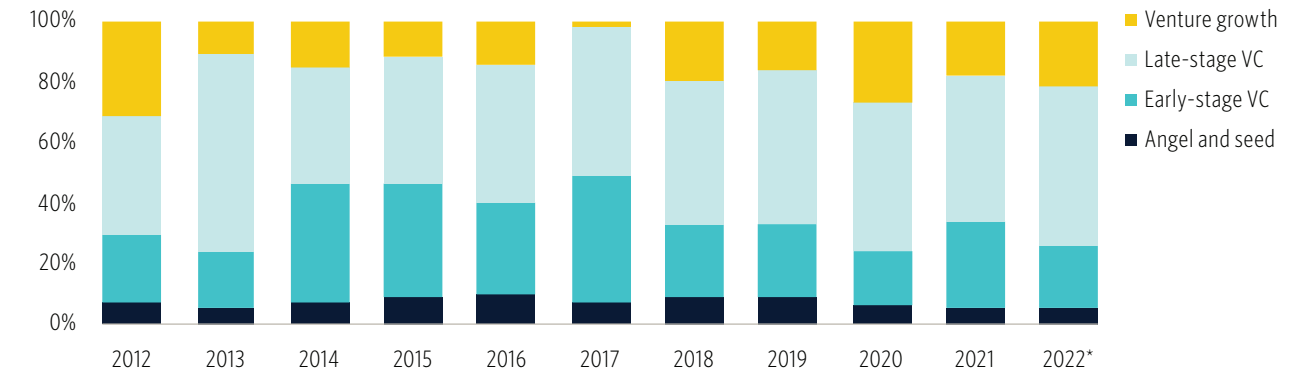
Despite the challenges posed by market volatility, rising interest rates in the US, conflicts abroad, and the continued ripple effects of the COVID-19 pandemic, agtech venture activity remained strong in 2022. Global agtech VC funding reached \$10.6 billion, down 13.2% from 2021, but the second strongest year on record. We logged 988 deals in 2022, falling 10.2% short of record activity in 2021. This surge in investment reflects the increasing interest in and recognition of the importance of agtech in addressing global challenges such as food security and sustainability.

The report found that the majority of agtech funding was directed toward late-stage and venture-growth-stage companies, with these deal types accounting for 74.2% of total funding. This indicates that investors are willing to make larger bets on more established companies with proven track records and market traction. Additionally, deal volume was concentrated at the late and growth VC stages in 2022. Historically, most deal activity by count has occurred at the angel and seed stages. However, late- and growth-stage VC companies received 42.4% of deals by count in 2022. This contrasts with the narrative that took hold in the second half of 2022 during which investors shied away from late-stage deals due to their proximity to public market volatility.

Ag biotech was the top recipient of funding by sector, accounting for 30.7% of total funding, followed by indoor farming at 22.1%. Ag biotech attracted 29.2% of deals by count, followed closely by precision ag at 27.9%. Increased food security, crop resilience, and sustainability were major drivers for investment in each of these sectors.

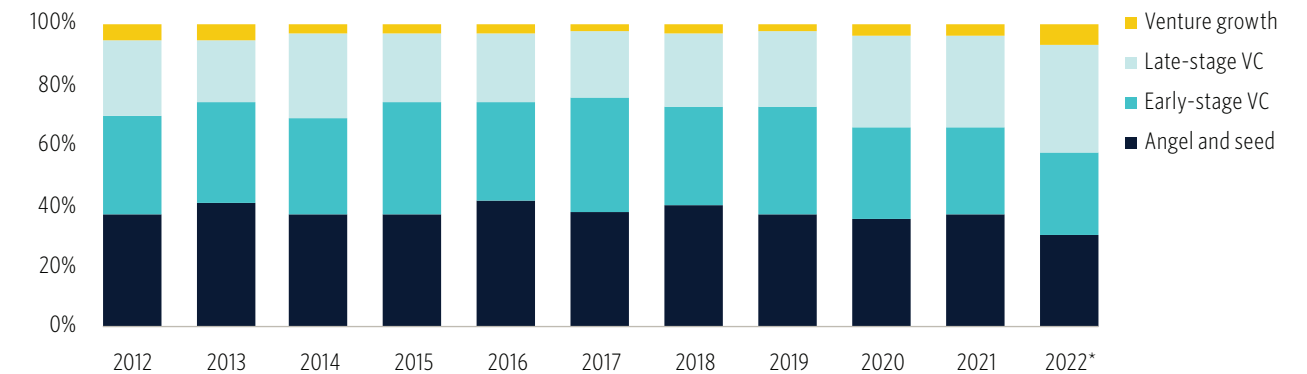
North America was the largest market for agtech investment, accounting for 47.4% of total funding by deal value. However, Asia also saw significant growth in agtech investment, with the share of total funding increasing from 13.1% in 2021 to 22.5% in 2022.

## Share of agtech VC deal value by stage



Source: PitchBook | Geography: Global | \*As of December 31, 2022

## Share of agtech VC deal count by stage



Source: PitchBook | Geography: Global | \*As of December 31, 2022



# Indoor farming

## Overview

Indoor farming, also referred to as controlled environment agriculture (CEA), is a method of growing agricultural products such as produce, medicinals, and fungi indoors, using advanced technologies to regulate environmental factors. Vertical farming, hydroponics, and aeroponics are some of the techniques employed to maximize volumetric space and resource efficiency. Through control of environmental factors such as light, nutrients, and humidity, indoor farming manipulates plant biology to optimize desirable plant traits, resulting in, for instance, crunchier and greener lettuce. The technique also maximizes yields and reduces inputs beyond what would be possible outdoors. The indoor farming ecosystem encompasses software, hardware, infrastructure, and operators that are focused on commercial and consumer indoor agriculture.

### Indoor ag provides a host of benefits, including:

- Creating a local produce supply to reduce reliance on imports.
- Increased control over growing conditions and inputs.
- Increased sustainability through reduced or eliminated reliance on water, fertilizer, herbicides, pesticides, and energy.
- Shorter growing cycles.

An ideal environment to implement robotics and automation, reducing labor requirements and human error.

Although many companies are developing pure-play technologies or services, the most well-funded startups develop much of the technology in-house, shielding it from public view as a trade secret and competitive advantage. We expect this trend to become less frequent as vertical farming technologies become ubiquitous.

### Segments include:

**Indoor farming components:** Precision technologies designed to optimize the growing environment, such as lighting systems, monitoring sensors, irrigation, and environmental controls, as well as the software to manage grow operations.

**Indoor farming systems:** Complete growing environments spanning small consumer table-top solutions to massive commercial facilities. Most solutions are turnkey, allowing customers to step in and begin operations.

**Indoor growers:** Operators of indoor farming facilities. Many growers build out proprietary components and systems to reduce costs and increase yields.

# About PitchBook Emerging Tech Research

## Independent, objective and timely market intel

As the private markets continue to grow in complexity and competition, it's essential for investors to understand the industries, sectors and companies driving the asset class.

Our Emerging Tech Research provides detailed analysis of nascent tech sectors so you can better navigate the changing markets you operate in—and pursue new opportunities with confidence.

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## PitchBook Data, Inc.

**John Gabbert** Founder, CEO

**Nizar Tarhuni** Vice President, Institutional Research and Editorial

**Paul Condra** Head of Emerging Technology Research

## Additional research

**Eric Bellomo**  
eric.bellomo@pitchbook.com  
Gaming  
E-Commerce

**Brendan Burke**  
brendan.burke@pitchbook.com  
Internet of Things  
Information Security  
Artificial Intelligence & Machine Learning

**Aaron DeGagne**  
aaron.degagne@pitchbook.com  
Medtech  
Digital Health

**Alex Frederick**  
alex.frederick@pitchbook.com  
Agtech  
Foodtech

**Jonathan Geurkink**  
jonathan.geurkink@pitchbook.com  
Supply Chain Tech  
Mobility Tech

**Derek Hernandez**  
derek.hernandez@pitchbook.com  
SaaS

**Ali Javaheri**  
ali.javaheri@pitchbook.com  
Emerging Spaces

**Robert Le**  
robert.le@pitchbook.com  
Web3/DeFi  
Insurtech  
Crypto

**John MacDonagh**  
john.macdonagh@pitchbook.com  
Carbon & Emissions Tech  
Clean Energy Tech

**Rebecca Springer**  
rebecca.springer@pitchbook.com  
Healthcare Services  
Healthcare IT

**Rudy Yang**  
rudy.yang@pitchbook.com  
Fintech

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