

Asia-Pacific AgriFoodTech

Investment Report 2022

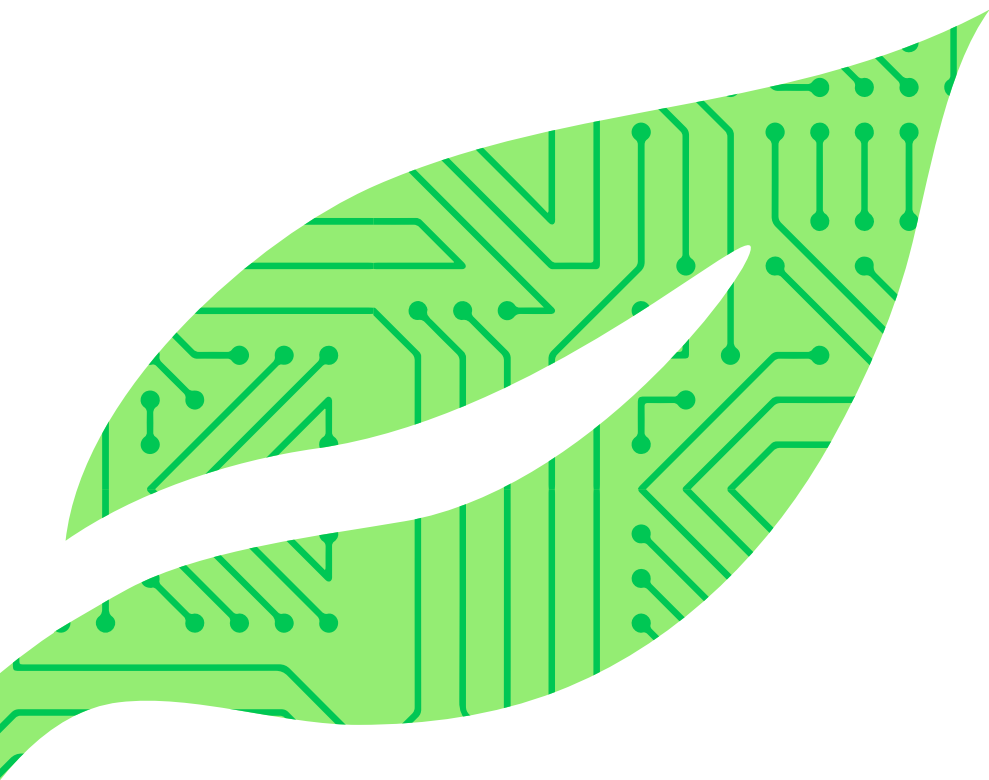


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Asia-Pacific agrifoodtech investing in 2022



Today Asia-Pacific generates roughly 30% of global agrifoodtech financing activity. But given estimates predict the region will account for 60% of global consumption by 2030, we need much more investment and industry development.

As a region that's home to some 450 million smallholder farmers contributing up to 80% of its food supply, it's important that technology development and investment is channeled to delivering solutions that cater to the needs of this user base.

The good news is that investment in the region's foodtech and agtech startups broke records in 2021, reaching \$15.2 billion, and if you exclude China data – where financing has pulled back significantly – it increased 15% during the first half of 2022 compared to H1-2021.

India has now overtaken China as the region's biggest funder for agrifoodtech, closing \$2.7 billion in H1-2022, and is set to break records for total funding in 2022. Meanwhile, China funding has declined significantly as investors pulled away from the eGrocery startups that inflated funding levels in 2021.

High profile agrifoodtech deals such as those outlined in this report have helped to promote the sector to a broader audience across the venture capital landscape. Increasing participation from more generalist tech investors in the region is encouraging to see, as well as the creation of

several corporate venture capital units within the industry in recent years.

Much has evolved since AgFunder first established a presence in Asia in 2019 with our Singapore-based investment team and the launch of GROW, Southeast Asia's first dedicated agrifoodtech accelerator. In 2022 we are doubling down on our commitment to the region through a dedicated Asia impact fund to invest in the most promising technologies advancing productivity, equitability and long-term resilience for Asia-Pacific's food system.

We hope this report catalyzes further engagement and collaboration across this exciting space. Thank you to our partners Thai Wah, Omnivore and AgriFutures Australia for their support and particular shout out to AgFunder's Ryan Lee for his hard work on this report.

**As always,
we love to hear from
you with your feedback.**

Louisa Burwood-Taylor,
John Friedman and the
AgFunder and GROW teams.



Key insights



Asia-Pacific agrifoodtech funding totaled \$5.3bn in H1-2022, a 47% year-on-year drop.

Asia-Pacific agrifoodtech bucks VC decline, ex-China: Asia-Pacific agrifoodtech startups outside of China raised \$3.9bn in H1-2022, a 15% year-on-year increase.

2021 was a record-breaking year: Asia-Pacific agrifoodtech startup funding reached \$15.2bn, a 67% jump from the \$9.1bn raised in 2020. Almost half went to China.

Even excluding China's mega-deals, the rest of Asia-Pacific broke records in 2021, raising \$8.1bn in 2021, more than double 2020's \$3.9bn total.

Chinese mega-deals precede mega failures: After yet another crazy year of mega deals to Chinese food delivery startups – the biggest a \$3bn raise for Xingsheng Youxuan – the high cash-burn, growth-at-any-costs model has finally cooled on the back of government regulations, significant downsizing and even eGrocery closures.

China farmtech on the rise: It wasn't all about eGrocery in China in 2021; the country closed some \$605 million in farmtech deals in 2021, a 60% year-on-year jump. Ag Biotech, supply chain tech and robotics are particular strengths.

Downstream investment dominates, even outside China: Investors outside of China still pumped over \$5 billion into downstream technologies, particularly those enabling food delivery like eGrocery, Restaurant Marketplaces, and Cloud Retail Infrastructure but also Retail and Restaurant Tech, which raised nearly \$1 billion in the rest of Asia-Pacific.

Farm tech is maturing as funding doubles: Farm tech funding in the region reached \$2.2 billion in 2021, double 2020 levels, driven by some large, later stage deals as well as a 17.5% uptick in the number of deals year-on-year.

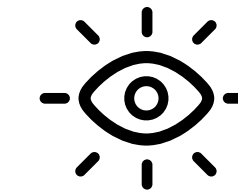
Indian agrifoodtech could break records in 2022: \$2.7bn of funding recorded in H1-2022.

Singapore and Indonesia followed China and India as best funded countries in 2021: Singapore startups raised \$1.1bn while Indonesia closed \$816 million. Indonesia looks set to beat its 2021 record in 2022 while funding for Singapore agrifoodtech is in decline.

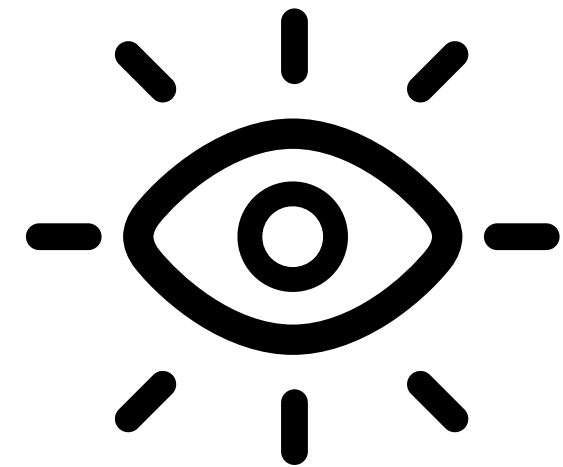
A maturing ecosystem: The number of deals increased at every stage between 2020 and 2021 with the most pronounced growth at the late stages, which increased 34% year-on-year.

Deals got bigger in 2021 but could drop in 2022: Median deal sizes increased across stages in 2021, hinting at inflated valuations, particularly at the early stages. The median decrease at late and growth stages in H1-2022 is indicative of the expected decline in funding for the year, particularly from China.

Australia's surprising downstream strength: Despite being a major global agriculture centre, Australia's top three deals were restaurant technologies and the country's leading plant-based meat company.



Key insights



BIGGEST CATEGORY

eGrocery

CLAIMED \$7.5B (48%)
of Asia-Pacific agrifoodtech
funding in 2021

BIGGEST MARKETS

**China, India,
Singapore +
Indonesia**

CLAIMED 87.5% (\$13.3B)
of regional funding in 2021

BIGGEST DEAL

\$3 billion

**SERIES D ROUND FOR
CHINA'S XINGSHENG YOUXUAN**

a community buying eGrocery platform that's
since reportedly scaled back operations

BIGGEST EX. CHINA DEAL

\$800 million

**LATE STAGE FOR
SWIGGY**

India's biggest restaurant
marketplace that raised a further
\$400M 3 MONTHS LATER

BIGGEST FARMTECH DEAL

\$182 million

SERIES C FOR XAG

a Chinese agricultural drones
service provider

Our partners



AgFunder is one of the world's most active foodtech and agtech VCs. We're rethinking venture capital for the 21st century. Our news site, AFN, is dedicated to publishing daily, original news about the burgeoning foodtech and agtech startup and venture capital industry.

Omnivore is a venture capital firm based in India and is the only impact investor in South Asia focused entirely on agriculture and food systems. Since 2011, Omnivore has backed over 45 agritech startups. Every day, Omnivore portfolio companies drive agricultural prosperity and transform food systems across India, making farming more profitable, resilient, and sustainable.

AgriFutures grow^{AG} is an online agrifood innovation marketplace to explore and connect with relevant expertise, research and investment opportunities in Australia.

AgriFutures evoke^{AG} is Asia Pacific's premier agrifood tech event being held on 21-22 February 2023 in Adelaide, Australia.

Thai Wah is the SEA Agri Food Ingredients company committed to creating innovation and sustainability from Farm to Shelf. The company strives to catalyze and create a novel Agri Food ecosystem platform with global partners to drive disruptive change in the coming decade.



Investment highlights

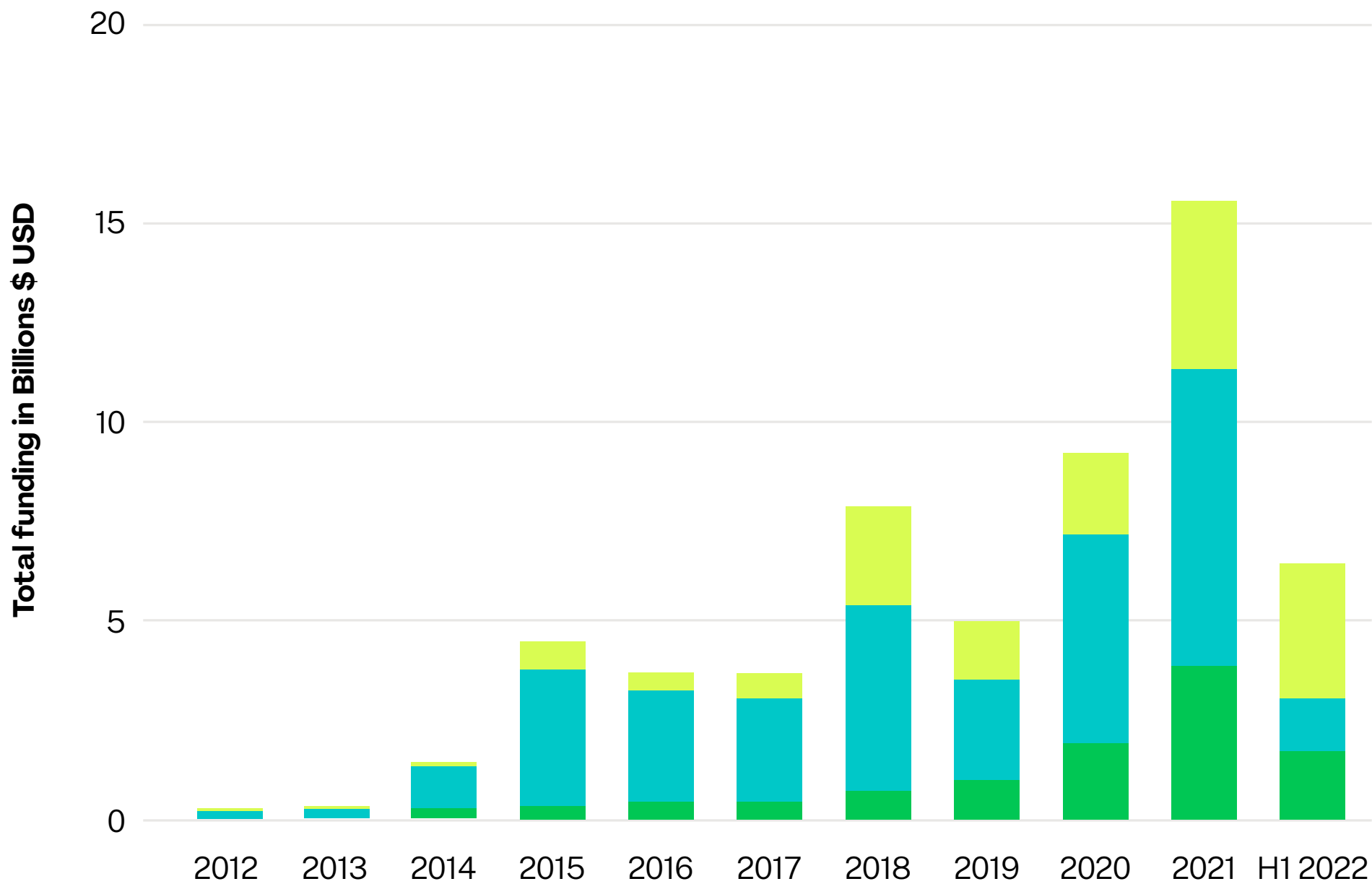
10 years of agrifoodtech in Asia-Pacific

\$15.2 billion
total raised in APAC 2021

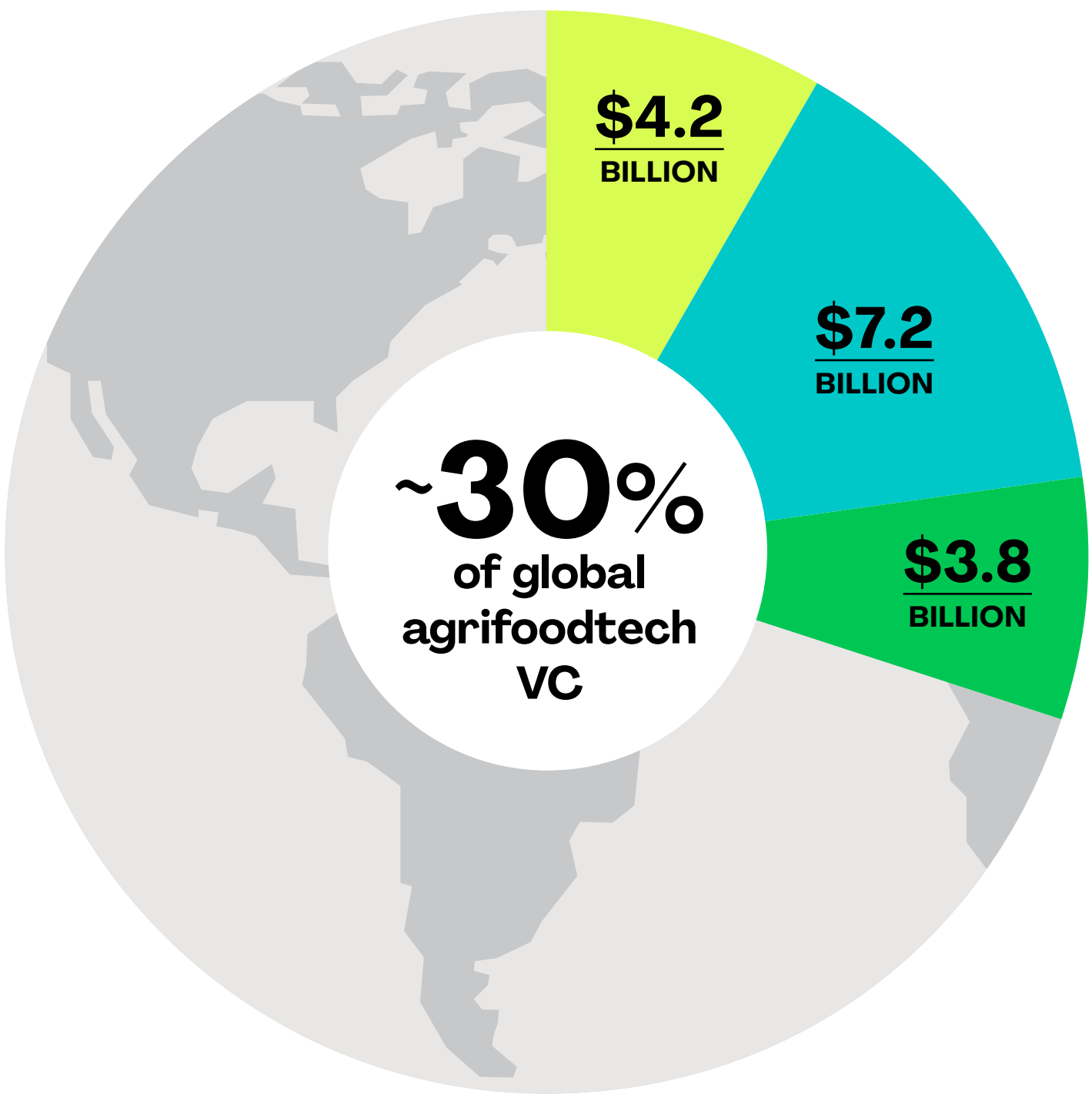
\$51.7 billion
raised globally 2021

\$55.8 billion
total raised in APAC
since 2012

Asia-Pacific agrifoodtech
investment by year



2021 agrifoodtech funding
in Asia-Pacific



● APAC (minus China / India) ● China ● India ● Global



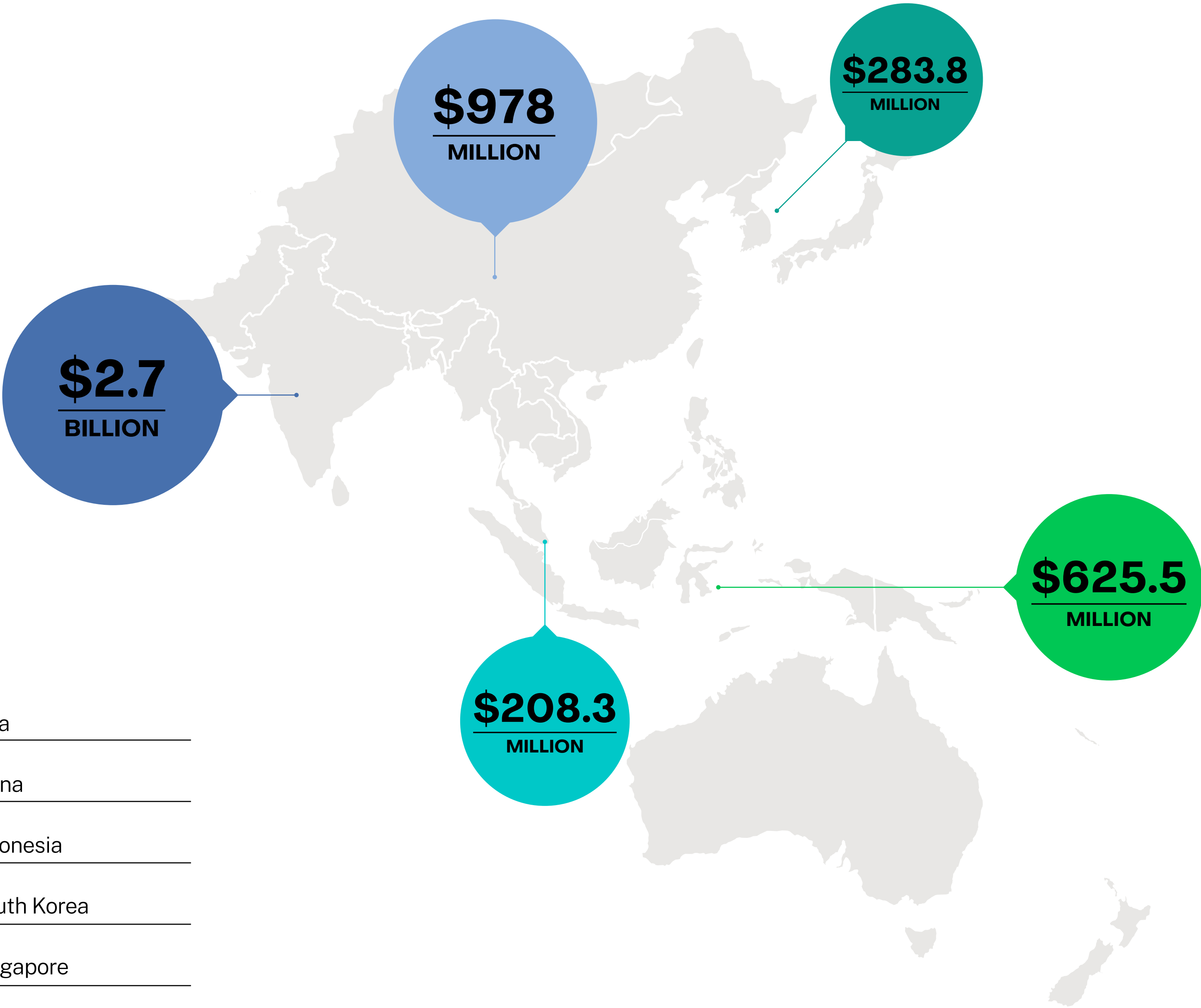
2022 spotlight

a glance into
the current year

\$5.3 billion
\$USD investment
H1 2022

\$4.3 billion
\$USD investment
H1 2022 APAC ex. China

363 deals
across the region
H1 2022



Investments by country

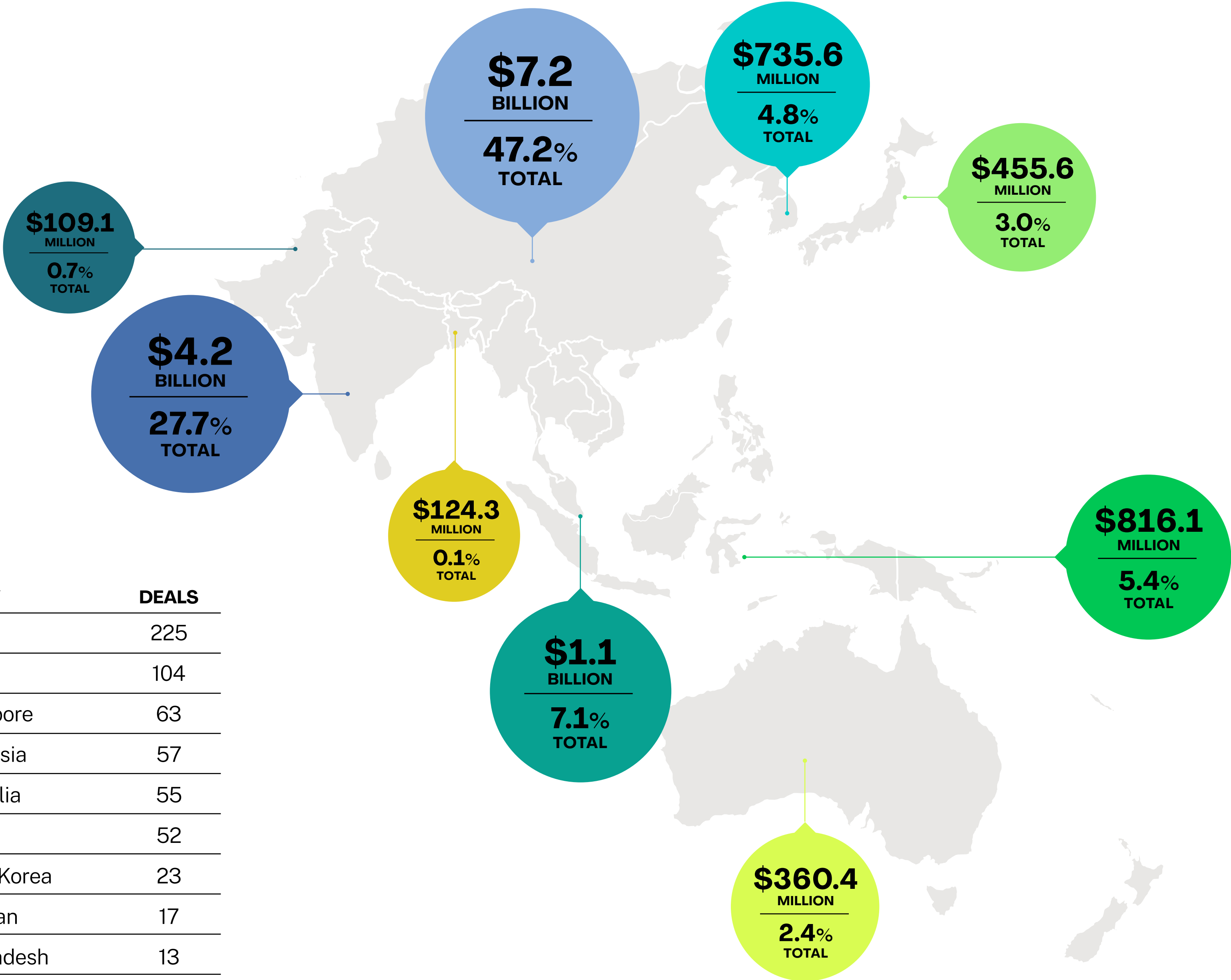
Investment totals
2021 (\$ USD)

678 deals
across the region

514 unique
companies

\$15.2 billion
\$USD investment

COUNTRY	DEALS
India	225
China	104
Singapore	63
Indonesia	57
Australia	55
Japan	52
South Korea	23
Pakistan	17
Bangladesh	13



Partner Thai Wah



Thai Wah is the SEA agri-food ingredients solutions company with 3 core businesses: The tapioca starch and starch-related ingredient solution, the food products, and the biodegradable products. We are committed to **creating innovation and sustainability from farm to shelf** by focusing on building strength across 4 core pillars: Farm, Factory, Family and Finished goods.

thaiwah.com



Why did you create Thai Wah Ventures?

Adverse climate change and a rising population have been mounting stress on the global food and agriculture systems. In the near future, there will be 40% LESS farmland and 20-30% LESS crop yield. Continuing to feed the global population of 9 billion has become a critical agenda for the global community. The Thai Wah Ventures team aspires to be a catalyst for deep innovation to help improve the entire value chain from farm to shelf to drive change and scalable innovative food systems.

Why is it important to the Thai Wah business and agrifood ecosystem in Asia?

Thai Wah believes innovation starts at 'Ground Zero' and that SEA's net zero journey is partly driven through agri-food system transformation by empowering 500 million smallholder farmers with sustainable practices and innovation. Developing SEA as a global center for ag and food tech with key transformational pathways in terms of human, technology and financial capital will amplify change.

What is the ventures' team thesis?

The B2B Agri Food CVC platform Thai Wah Ventures is the vehicle to scale decarbonization and the Green Economy in the SEA Agri Food systems. The team seek to invest in scalable solutions and new strategic partnerships across four pillars:

- Farm agri and climate tech
- B2B supply chain and analytics
- Bioplastics and waste-upcycling
- Novel ingredients and new processing technology



What types of agrifood technologies are you most excited about?

Deep tech with the potential to feed the people while decarbonizing the planet in the next decade:

- Crop and soil science including gene editing, IoT and analytics and models with intersection between farm and climate tech
- B2B digital supply chain enabling service to customers better, faster, cheaper
- Technology to transform waste to value
- Novel processing technology for starches, proteins, fibers including enzymatic modification and fermentation






Investments by category

















Investments by category

By funding (\$ USD)

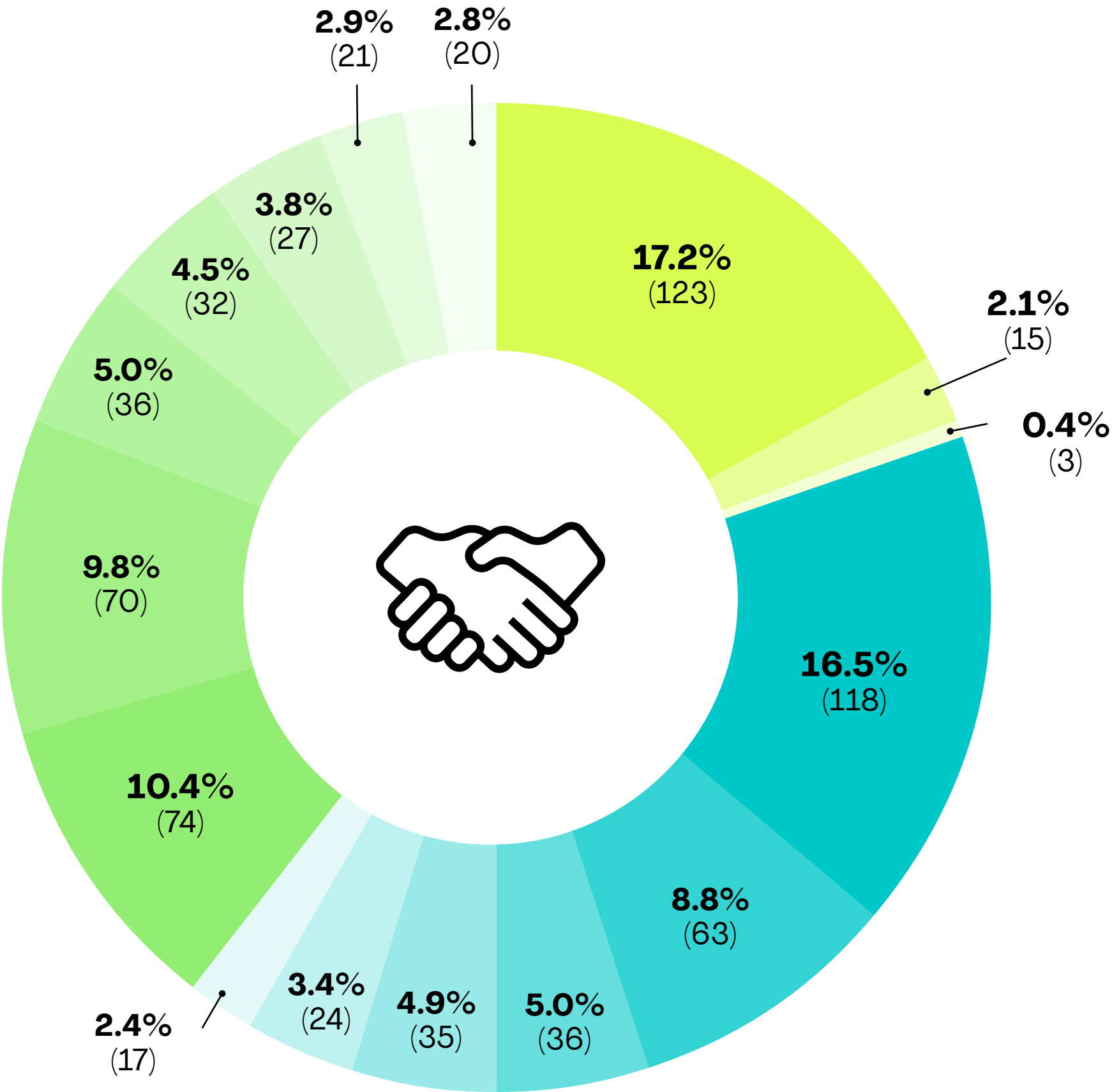
While dollar funding is heavily weighted towards downstream startups, skewed by some mega food delivery deals in China and India, the deal activity numbers are more balanced, highlighting the level of activity taking place in upstream innovation, which accounts for farm technologies as well as innovative food production including alternative protein. Technologies operating within the supply chain, between farmers and consumers, are gathering pace as startups look to reduce the inherent fragmentation and opacity apparent across the globe.

-  Upstream
-  Midstream
-  Downstream

Categories by funding 2021
(\$ USD)

Category	\$	USD
 Innovative Food	\$	356m
 Farm Management Software & Sensing	\$	285m
 Agribusiness Marketplaces	\$	628m
 Bioenergy/Biomaterials	\$	583m
 Farm Robotics, Mechanization + Equipment	\$	348m
 Novel Farming Systems	\$	91m
 Agbiotechnology	\$	240m
 Midstream Technologies	\$	1.4b
 Agrifood Fintech	\$	324m
 Miscellaneous	\$	3m
 eGrocery	\$	7.4b
 In-Store Retail Tech	\$	1.1b
 Online Restaurants/Mealkits	\$	201m
 Cloud Retail Infrastructure	\$	616m
 Restaurant Marketplaces	\$	1.7b
 Home and Cooking	\$	63m

Categories by deal count 2021



Investments by category

ex China (\$ USD)

574 deals
across the region

\$8.0 billion
\$USD investment

- Upstream
- Midstream
- Downstream

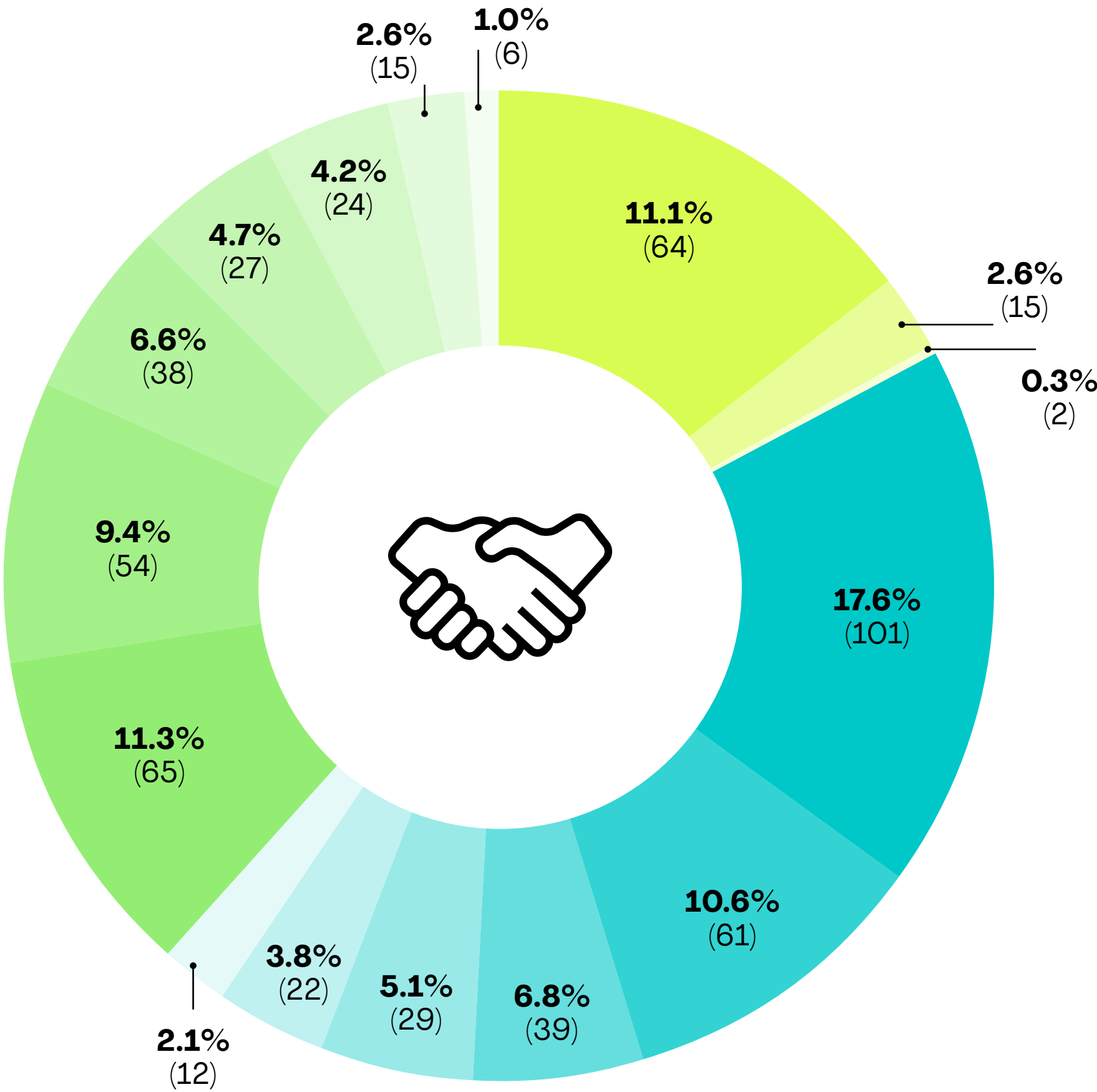
Categories by funding 2021

(\$ USD ex. China)

Category	\$	USD
Farm Management Software & Sensing	\$	257m
Innovative Food	\$	307m
Agribusiness Marketplaces	\$	596m
Bioenergy/Biomaterials	\$	467m
Novel Farming Systems	\$	75m
Farm Robotics, Mechanization + Equipment	\$	87m
Ag Biotechnology	\$	32m
Midstream Technologies	\$	973m
Agrifood FinTech	\$	170m
Miscellaneous	\$	3m
eGrocery	\$	1.9b
In-Store Retail Tech	\$	895m
Cloud Retail Infrastructure	\$	605m
Online Restaurants/Mealkits	\$	162m
Restaurant Marketplaces	\$	1.5b
Home Cooking	\$	27m

Categories by deal count 2021

(ex. China)



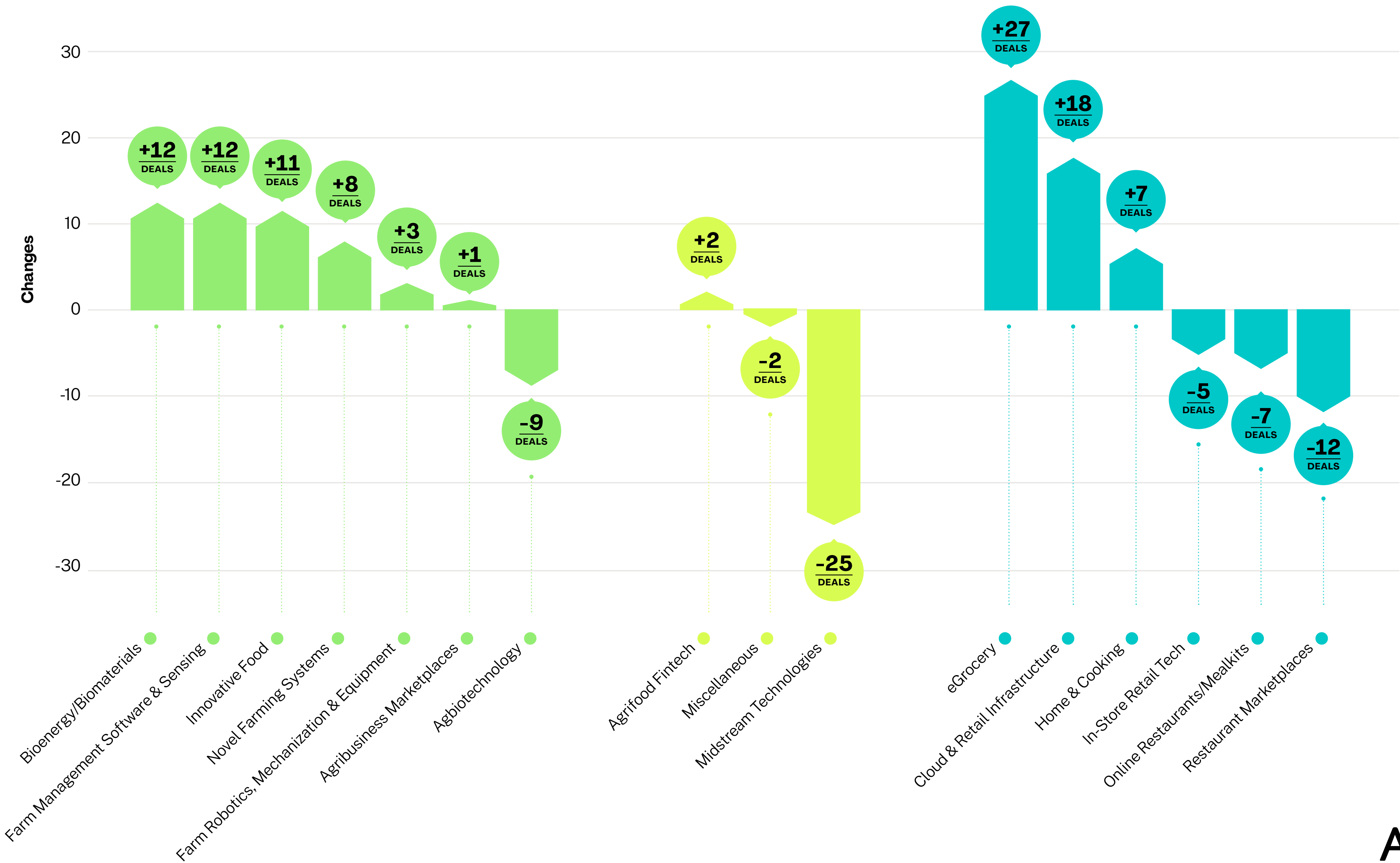
Changes in category investment

2020 vs 2021

Increasing deal activity in almost all upstream categories highlights the positive momentum for farm technologies and alternative proteins. Multiple rounds from dominant eGrocery players can, at least in part, explain the increase in deal activity in that category.

- Upstream
- Midstream
- Downstream

Changes in deal count from 2020-2021



Farm tech spotlight

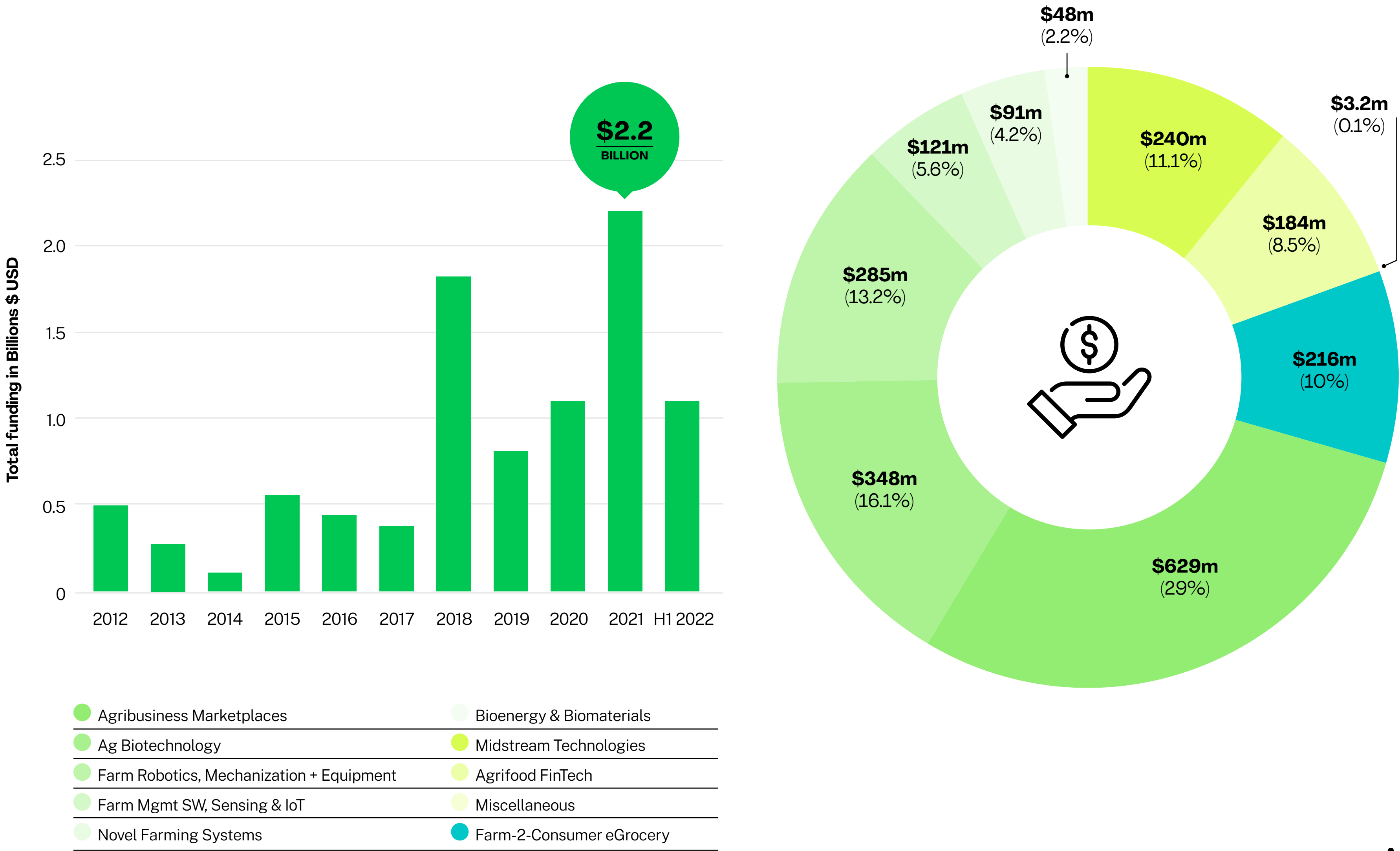
Investment totals (\$ USD)

Farmtech is a segment within agrifoodtech including all technologies used by farmers. The drivers for investment in farmtech differ substantially from the consumer end of foodtech, warranting separate analysis.

Farmtech funding doubled in 2021 driven by large deals and a 17.5% uptick in deal numbers year-on-year. With \$1.1 billion in H1-2022, it looks like startups maintained momentum this year.

- Upstream
- Midstream
- Downstream

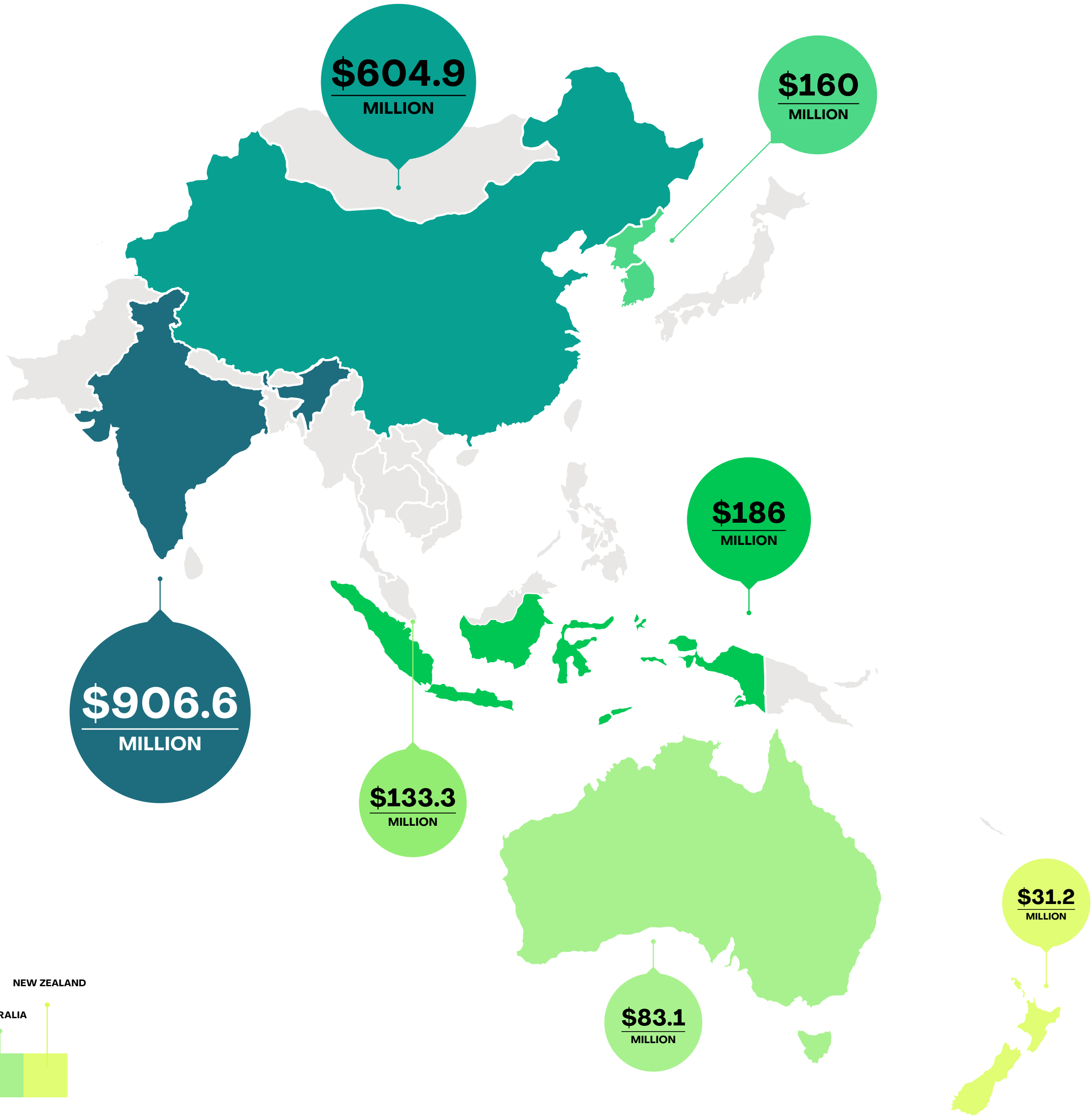
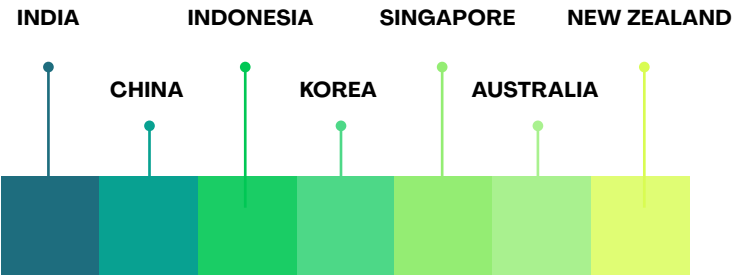
10 years of farm tech funding



Farm tech spotlight

Top countries (\$ USD)

India is by far the most advanced farmtech ecosystem in Asia-Pacific with startups operating in every farm tech category. China agrifoodtech is not all downstream; its farm tech ecosystem is gathering pace with deals mostly in the Ag Biotech category. Indonesia has a range of farm tech innovations with a particular focus on Agribusiness Marketplaces.



Startup spotlight

Ai Palette

MIDSTREAM TECHNOLOGIES



Ai Palette is a food trend-spotting platform. It uses predictive analytics, Natural Language Processing (NLP) and computer vision to capture trends in real-time from a diverse set of sources including blogs, social media, recipes, and menus.

How would you define the Asian consumer and their taste compared to other parts of the world?

Asian consumers' tastes are evolving rapidly and in some cases are even setting trends for other parts of the world. China is setting trends for collagen-based snacks and beverages while Japan is for nutricosmetics, for example.

They are also highly influenced by international cuisines and experiment with flavor combinations and pairings influenced by local ingredients. While Asians exhibit a willingness to try cuisines and dishes from various cultures, their underlying need for complex flavours with the use of various local as well as regional culinary

ingredients continues to drive innovation in the food and beverage industry. Bakery, confectionery, and even plant-based meat and dairy alternatives are often sought after and of great interest in localized formats and tastes. Pandan Chocolate Gula Melaka Cake, Coconut Flavored Soy Yogurt, Vegan Itlog na Maalat (the plant-based version of Filipino favorite salted egg), are some trending dishes that highlight Asian preferences for "Glocal" tastes.

What is the Asia-Pacific agri food tech ecosystem like to work in?

It's still early but is developing very fast now. When we started out in 2019, most people didn't know what foodtech was but things have changed completely in the last few years and it's great to see a bustling agrifood tech scene in Singapore. While the majority of new startups are in alternative protein, there are many other verticals as well. We see more interest from corporates to work with startups now, however the local & regional players are still not very accessible as they are set in their old ways of working.

There are a lot of investors for pre-seed and seed stage round, but it then gets difficult after Series A and before the later stages when there are more potential investors to raise from again.

Asia is a very big and diverse market with multiple languages and cultures, which means you have to adapt your messaging and sales style for each market.



aipalette.com

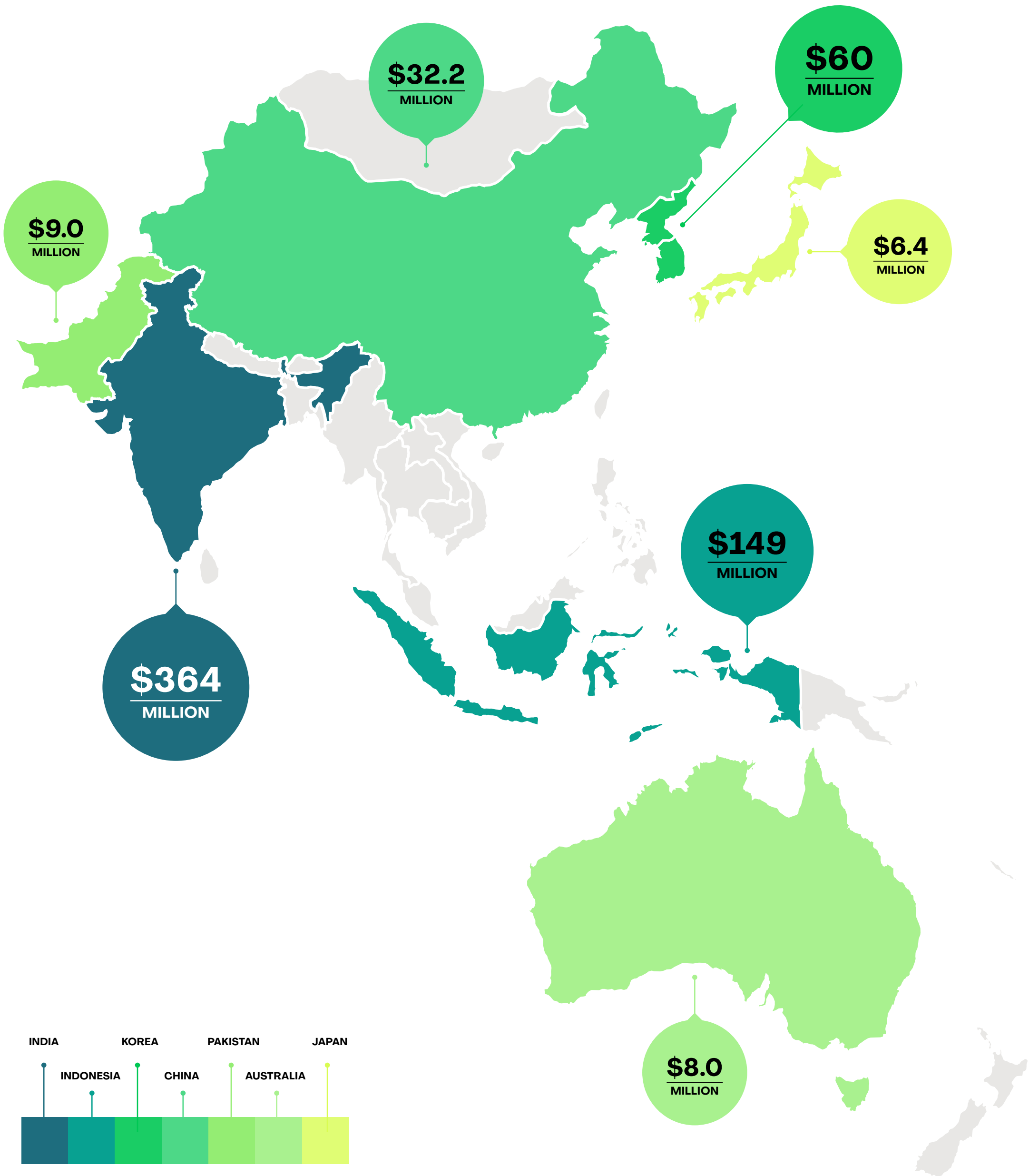


Agribusiness marketplaces

Top deals (\$ USD)



The geographic diversity of this category is indicative of the challenges presented by agricultural economies made up predominantly of smallholder farmers. With average farm sizes usually no bigger than 2 hectares (5 acres), farmers have struggled to get hold of high quality inputs — seeds, fertilisers, pesticides — and are usually at the behest of their local dealers.



Agribusiness marketplaces

Top deals (\$ USD)



Most of the startups on this page are aggregating farmers into local hubs, giving them more buying power to access better products, as well as direct markets to sell their produce for better prices. With 450 million smallholder farmers in the region, the potential for this category to have a positive impact and big investment return is indicated in the investor backing for these startups.



01



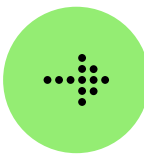
DeHaat

DeHaat®

AgriTech startup offering end-to-end agricultural services and products to farmers.

\$115m

SERIES D
ROUND



02



AgroStar

★ AgroStar

One of India's foremost AgTech start-ups, working on the mission of #HelpingFarmersWin.

\$70m

SERIES D
ROUND



03



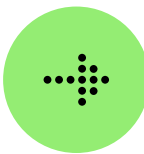
TaniHub

@ TaniHub

B2B platform connecting farmers with businesses that use or sell their products.

\$65.5m

SERIES B
ROUND



04



Tridge

✈ TRIDGE

Online trade platform that matches global food agriculture buyers and sellers.

\$60m

SERIES C
ROUND



05



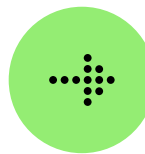
Captain Fresh

captain
fresh

Fish and seafood supply chain platform designed to deliver a fast harvest-to-retail service.

\$40m

SERIES B
ROUND



06



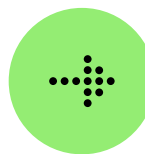
Aruna

aruna

An Indonesian integrated fishery platform.

\$35m

SERIES A
ROUND



07



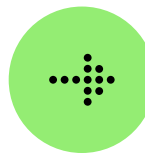
DeHaat

DeHaat®

AgriTech startup offering end-to-end agricultural services and products to farmers.

\$30m

SERIES D
ROUND



08



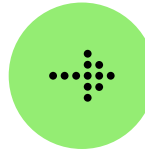
Jianan Nongmu

健安农牧
新农牧 新供应链

Logistics and distribution of agriculture and animal husbandry products.

\$30m

SERIES B
ROUND



Startup spotlight

Mayani

AGRIBUSINESS MARKETPLACE



Smallholder farmers are among the Philippines' poorest of the poor. This is largely attributed to farmers dealing with about six to seven layers of middlemen between them and the consumer. This dismal reality has been exacerbated by the Covid-19 lockdown with about 40% of all rural harvest going unsold.

Mayani took this challenge head-on by building an ag e-commerce platform that bridges aggregated market demand with a highly fragmented smallholder agri-supply chain. By directly connecting farmers with consumers, whether retail or commercial, it translates into better income opportunities for farmers through a broad and predictable market. It also optimizes the agri-supply chain by making crop production and harvesting more demand data-driven, thereby lowering transaction costs and lessening instances of gluts and post-harvest oversupply. This ultimately facilitates a more resilient value chain that can better withstand external shocks in the future.

Mayani's impact

Mayani averages a 50% attributable rise in farmers' incomes, and at least 30% food loss reduction between farmers and consumers. It even has an 'imperfect crops' category meant to aggregate demand for cosmetically imperfect produce that usually gets rejected by Mayani's B2B clients like Shell, Walter Mart, and Healthy Options, but would nonetheless still find a market among consumers.

Growing pains and support

Being the fastest-growing, farm-to-table platform now in the Philippines, Mayani has had to quadruple its manpower size, expand its fleet of motorcycles and trucks for farm logistics, and make some key hires, particularly on the software engineering and data science side. And these moves necessitate capital beyond our organic war chest.

This is where Mayani is really grateful to its early believers like the Asian Development Bank, which awarded the company a seed grant for winning the 2020 ADB Hard Hit Economic Sectors Challenge. Paired with ADB's technical support and guidance, the grant also enabled Mayani to jumpstart some tech talent hires and beef up the platform. Thereafter, Mayani was able to secure impact investors like the Jimenez family and AgFunder, being their first investment in the Philippines.



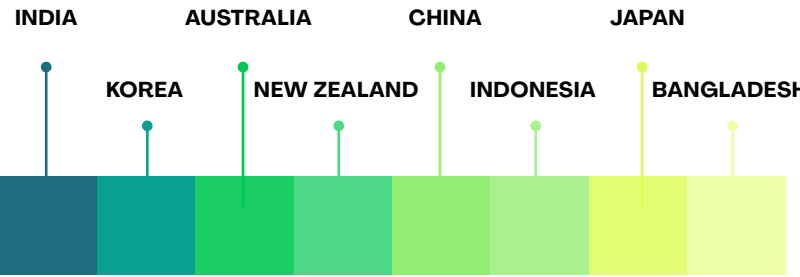
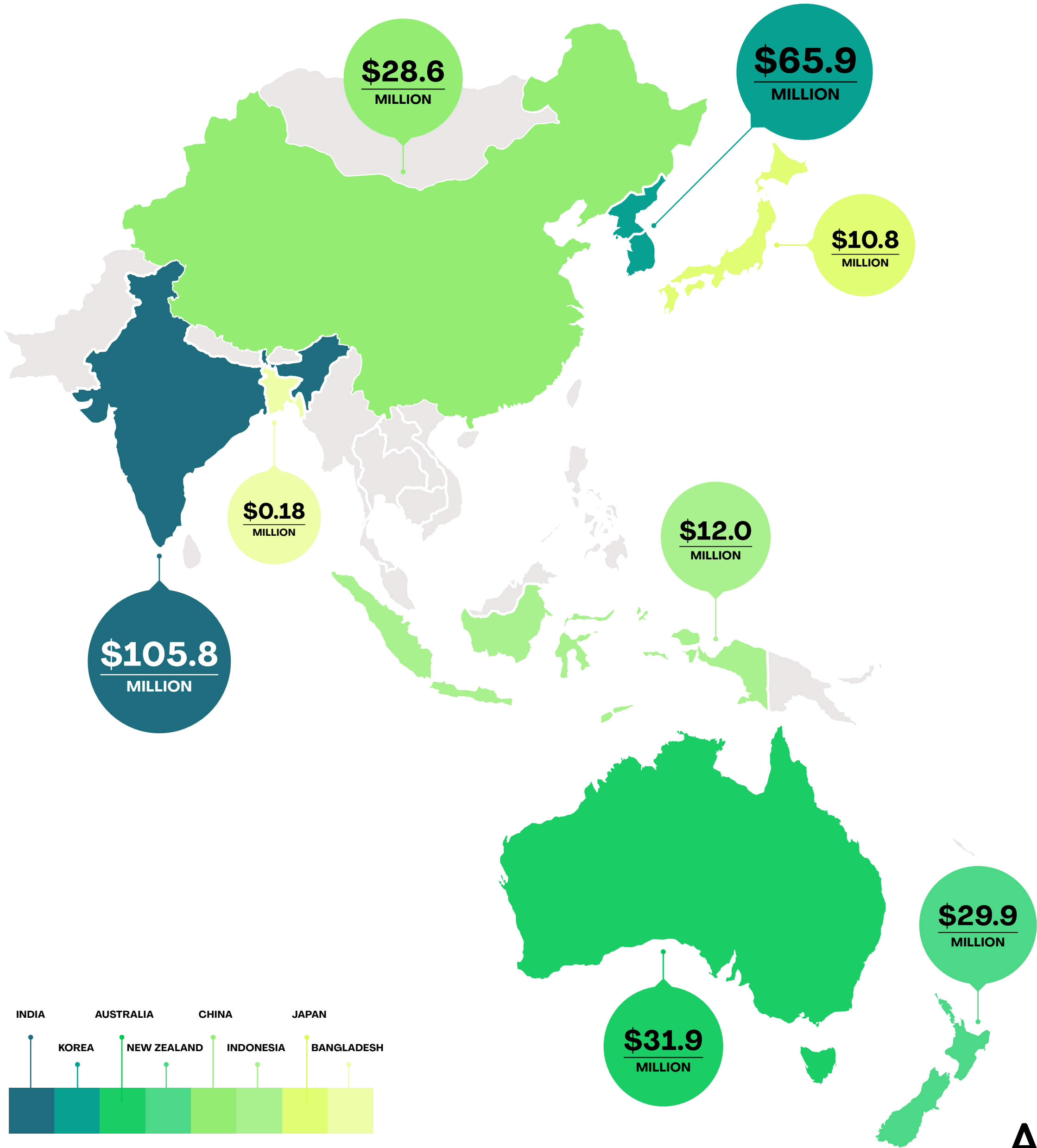
Farm management software



Top deals (\$ USD)



India is the clear leader for farm management software, sensing & IoT category, with startups dating back to the beginning of agtech globally. The country closed the most deals (25) in this category in 2021 but they weren't the largest. Australia was the second most active, closing 11 deals with particular strength, unsurprisingly, in livestock farm management.



Farm management software

Top deals (\$ USD)



GreenLabs was one of just two Korean farm management software startups to raise funding in 2021 but it raised the category's largest. This is a bit misleading as the business does more than farm management and has started branching out down the supply chain into B2B distribution.



01



GreenLabs



Data-Agritech company.

\$29.5m

**SERIES B
ROUND**



02



AgriWebb



Farm and livestock app helping livestock producers with record keeping, compliance, and productivity.

\$23.1m

**SERIES B
ROUND**



03



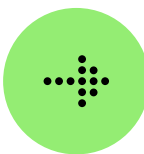
Halter



Redefining cattle herd management.

\$23m

**SERIES B
ROUND**



04



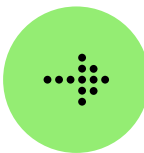
AgNext



Intersection of hardware, software and analytics for quality estimation in agriculture and food.

\$21m

**SERIES A
ROUND**



05



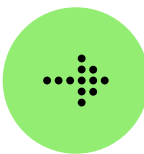
Cropin



AI and data-led agri-tech organization providing SaaS solutions to agribusinesses globally.

\$20m

**SERIES C
ROUND**



06



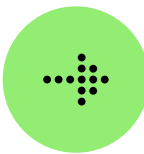
GreenLabs



Data-Agritech company.

\$18.4m

**SERIES B
ROUND**



07



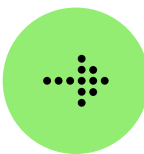
Feiwei Information



Real property information management solution provider for farmers.

\$15.6m

**SERIES B
ROUND**



08



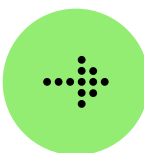
Absolute Foods



An OS that provides actionable insights based on inputs from the likes of sensors.

\$12.6m

**SERIES A
ROUND**



Startup spotlight

Tepbac

FARM MANAGEMENT SOFTWARE SENSING & IOT



Vietnam is one of the world's biggest producers of farmed shrimp, in the world's highest producing region. But even with stellar export figures that hit close to \$4 billion last year, Vietnamese farmers grapple with growing environmental and sustainability challenges.

Vietnam-based Tepbac leverages an IoT system to create solutions to optimize produce from aquaculture, particularly shrimp farming.

Founded in 2012 by Tran Duy Phong, Tepbac offers 'Farmext', a remote aquaculture farm management and inventory platform which tracks costs and digital farm logs. Its other solution is a remote water cleaning and monitoring device which keeps track of water conditions such as pH, oxygen, temperature and salinity.

Users can remotely control and keep track of their ponds, helping them save on electricity and labor costs as well as improve farmer safety.

A combination of the two devices improve operational efficiencies so much so, that one of Tepbac's users optimized a feeding program for fish, eliminating water pollution caused by overfeeding, according to the startup.

Further, Tepbac offers a news platform where fish farmers and other players in aquaculture can view content pertaining to the seafood industry and best practices in the industry.

The farmers also get to purchase a variety of fish food and farming equipment from Tepbac's own online aquaculture marketplace.

Even though the startup says IoT development is challenging, Tepbac has numerous awards under its belt with the latest being the Winner of the Tech Planter Vietnam 2021, a deep tech acceleration program.

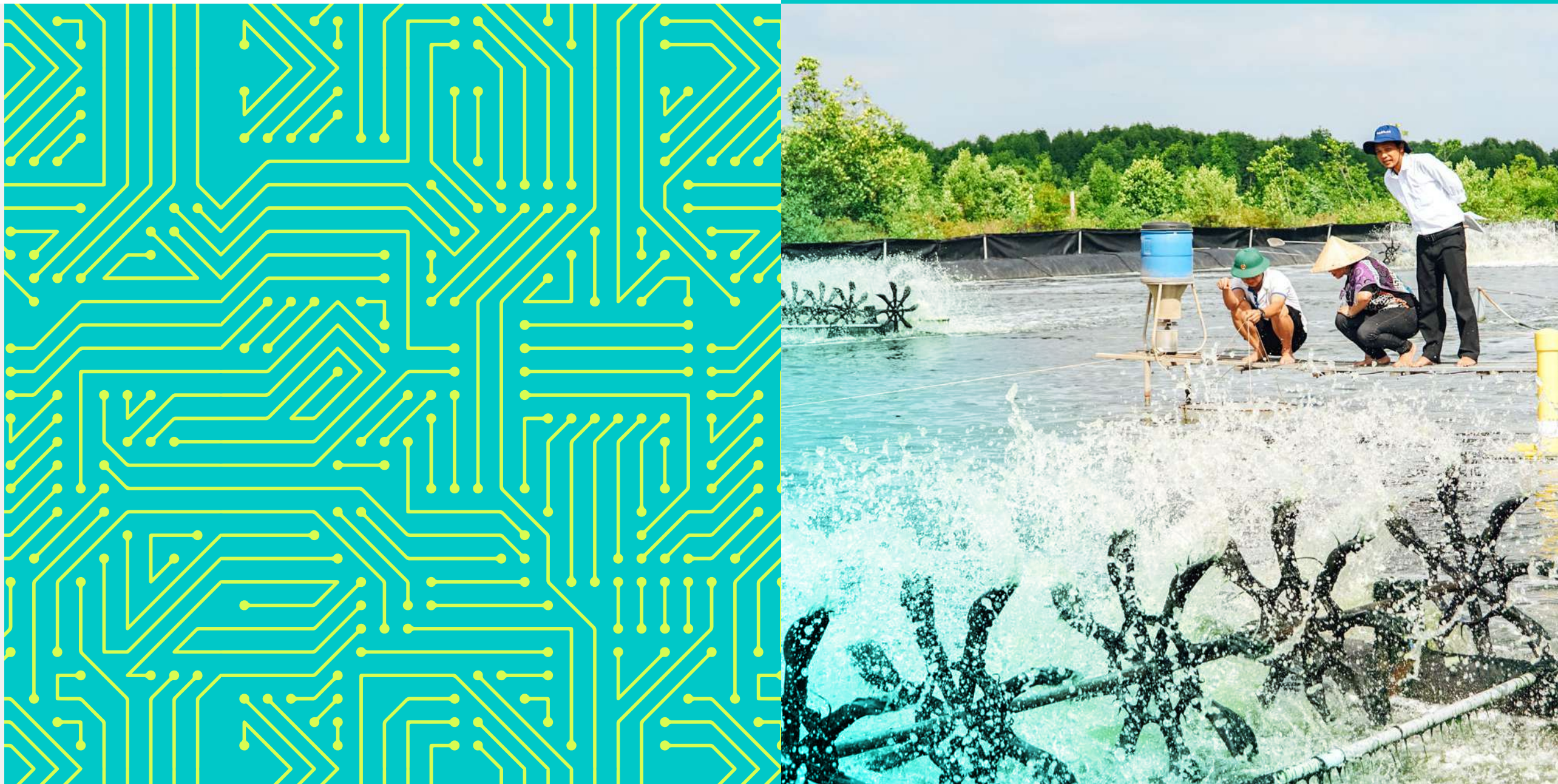
Tepbac is also among the 2022 cohort of startups selected for the AgFunder-backed GROW Impact Accelerator.

So far, Tepbac has reportedly served 1500 farms, with its clientele ranging from small and large scale farmers, to shrimp processing plants and the government.

It hopes to increase incomes for aquaculture farmers in sustainable and environment-friendly ways.

Tepbac

tepbac.vn

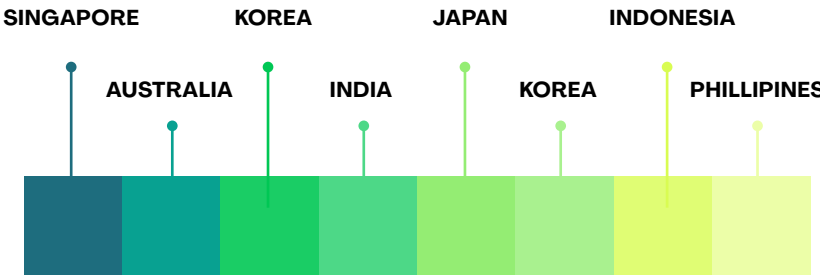
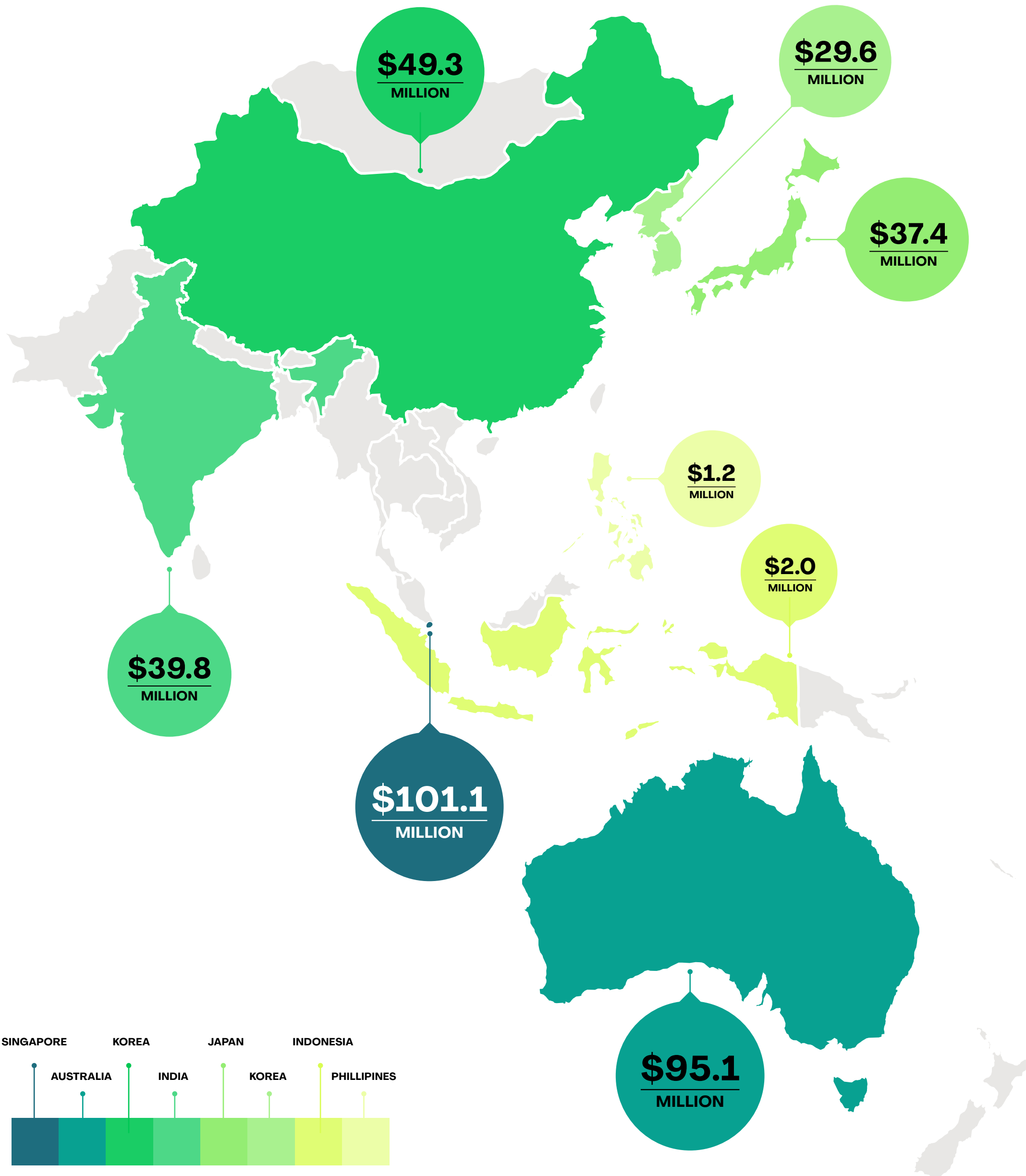


Innovative foods

Top deals (\$ USD)



Noticeably absent from several categories' top deals, Singapore is the regional leader for alternative protein, which is the core segment within our Innovative Food category. The government's own investment in the category via its state funds as well as its trailblazing regulations are no doubt a key reason for this lead. China closed the biggest number of deals in the category (16) mostly at seed stage, followed by Singapore (15) and India (14).



Innovative foods

Top deals (\$ USD)



Taking three of the top deals, including a record-breaking seed stage transaction, Singapore Innovative Food startups are set to beat 2021's total in 2022 in the wake of a \$100m mega Series A from **Next Gen Foods** in February. Australia's alt protein sector, which was arguably slow to start, has a leading growth stage company in **V2Food** and some well funded early stage companies coming through. Just three Korean startups closed funding during the year.



01

 **v2food** 

Plant-based meat company that produces legume-based meat alternatives.

\$52.9m	SERIES B ROUND	
----------------	-----------------------	---

02

 **TurtleTree Labs** 

Creating real milk in its full composition, functionality and taste using cell-based tech.

\$30m	SERIES A ROUND	
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03

 **Growthwell Group** 

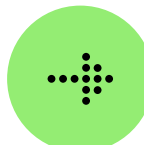
Vegetarian food solutions company.

\$22m	SERIES A ROUND	
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04

 **Next Gen Foods** 

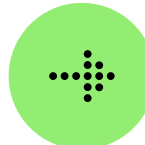
Food-tech startup that offers plant-based meat products.

\$20m	SEED ROUND	
--------------	-------------------	---


05

 **ZikooIn Company** 

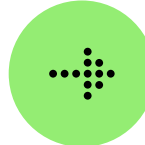
Alternative meat -Unlimeat made out of grains including oats.

\$16.8m	SERIES B ROUND	
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06

 **DAIZ** 

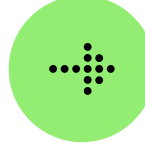
DAIZ produces and sells plant-based meat from germinated soybeans.

\$16.7m	SERIES B ROUND	
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07

 **All G Foods** 

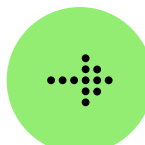
Leading in technological innovations to create next generation dairy and meat.

\$15.5m	SEED ROUND	
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08

 **Refine Biology** 

Research, development, and manufacturing of natural food ingredients through biotechnology.

\$15.7m	SERIES A ROUND	
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Startup spotlight

Green Rebel Foods

NOVEL FOODS



Green Rebel is the Southeast Asian archipelago’s top-selling plant-based protein brand, using local ingredients to create clean-label meat and dairy alternatives with distinct Asian flavors.

Founded in 2020 by the business and life partner duo –Max Mandias and Helga Angelina Tjahjadi, founders of Burgreens, Indonesia’s largest vegan restaurant chain –Green Rebel was launched into a startup ecosystem with lots of investment and support available. With backers including AgFunder, Teja Ventures and Unovis, the Indonesian startup says it has been able to fundraise relatively quickly.

Getting customers can also be very fast, between one and three months, but they employ a mixture of outbound sales and inbound responses to prospective clients. The core challenge to getting new customers?

“Market education to ensure the sell-out enables our partners to justify keeping meat and dairy alternatives on the menu and shelves. As a brand owner, we cannot focus only on selling our products to clients, but rather we work collaboratively with them on the marketing and messaging to make sure their plant-based menu and our products are a success. The same menu promoted differently could bring very different results,” says Tjahjadi.

This education is key to scaling the consumption of alternative meat and dairy products, she argues, which has been slower than expected, particularly considering the tight timeline to meet global carbon emissions goals in 2030.

Further product innovation to keep costs down is also key: “Plant-based meat alternatives still have a lot of homework to do to achieve price parity with their animal counterparts. It’s not impossible, but requires a lot of hardwork and process innovation. The fluctuating prices in supply chain and logistics operations can be tricky to manage as well, especially for a brand doing cross-border operations, which Green Rebel plans to do more of. While still growing aggressively in its domestic market of Indonesia, Green Rebel is focusing on expanding elsewhere in Southeast Asia, and over the next five years, plans to launch in Australia and the US.

**GREEN
REBEL**

greenrebelfoods.com

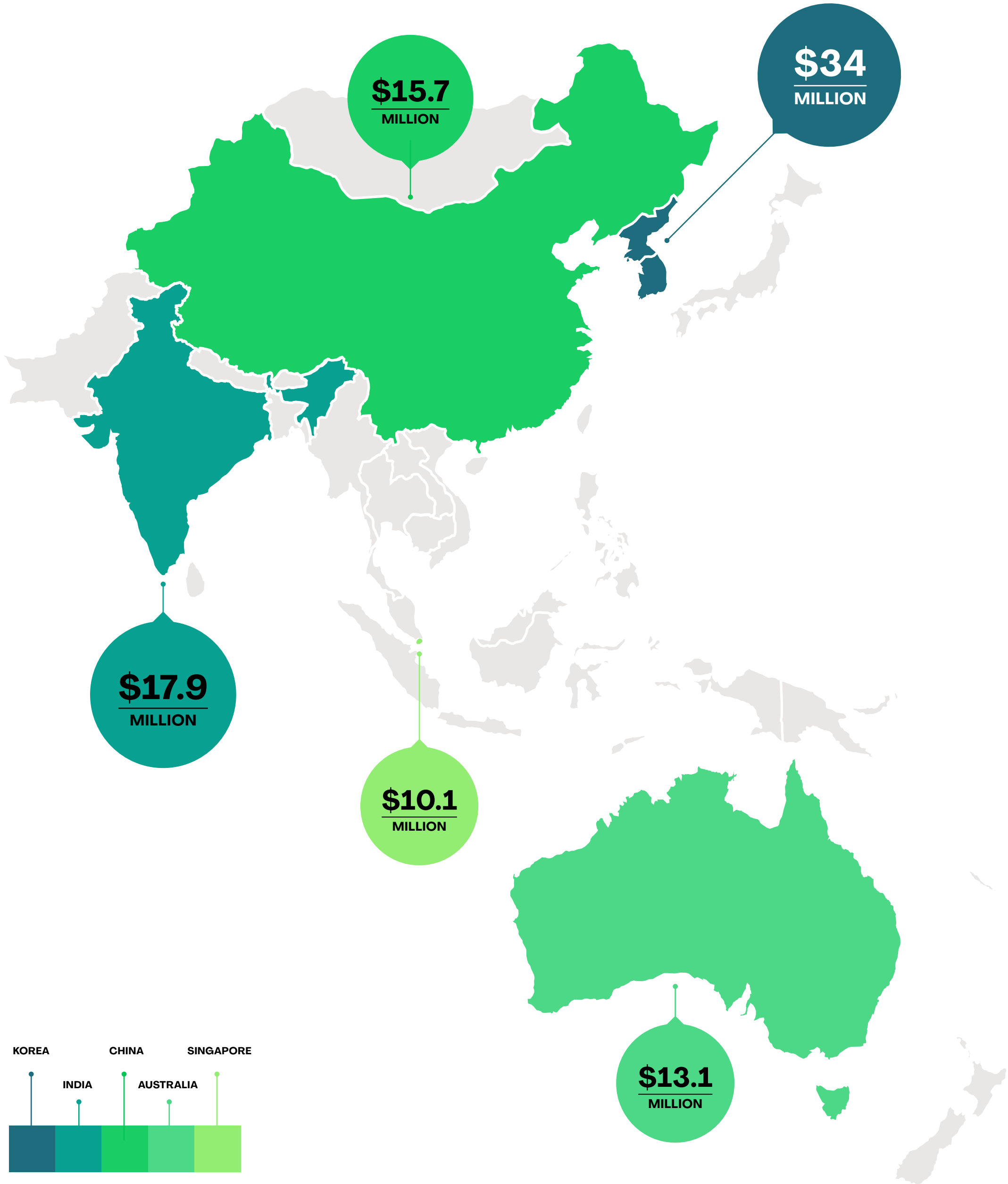
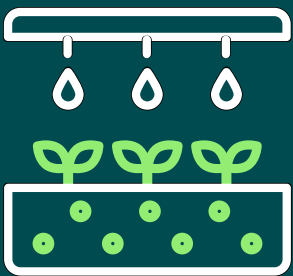


Novel farming systems

Top deals (\$ USD)



Food security and lacking farmland are often touted as drivers for investing in Novel Farming Systems, which includes indoor agriculture, insect farming and aquaculture. Somewhat surprisingly, India closed most deals in the category in 2021 with its startups deploying a mix of formats. Just one Korean company raised funding during the year.

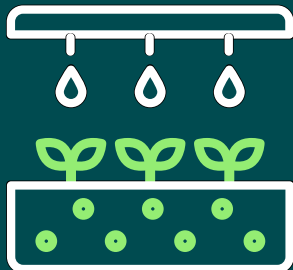


Novel farming systems

Top deals (\$ USD)



Two strategics invested in N.Thing's round: energy company E1 and KT&G – South Korea's largest tobacco company. Despite its long history in urban farming, just three Singaporean startups raised funding in 2021.



01



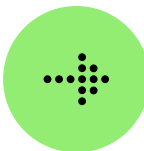
N.THING

N.THING

N.THING is Seoul-based vertical farming company.

\$26m

**SERIES B
ROUND**



02



XiaoZao Tech



Xiaozao Tech

A farming processor dedicated to the R&D, vcultivation, and production of microalgae EPA.

\$16m

**SERIES B
ROUND**



03



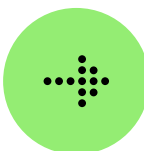
N.THING

N.THING

N.THING is Seoul-based vertical farming company.

\$13m

**SERIES B
ROUND**



04



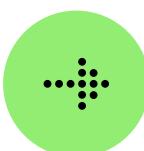
Provectus Algae



Biotech startup specializing in the optimization of Algae to produce high-value compounds.

\$8.1m

**SEED
ROUND**



05



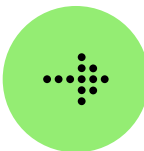
Aqgromalin



Tech-driven farm diversification platform for animal husbandry and aquaculture.

\$5.9m

**SERIES A
ROUND**



06



Nutrition Tech



Manufactures protein, oil and organic fertilizer from Black Soldier Fly larvae.

\$5m

**SERIES A
ROUND**



07



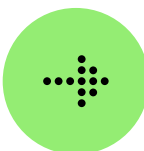
Bardee



Agtech that break down food waste, converting it into fertiliser and proteins for pet foods and chicken feed.

\$5m

**SEED
ROUND**



08



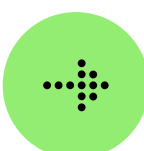
Vertical Oceans



Producing the worlds best tasting, most sustainable shrimp in advanced technology aqua towers.

\$3.5m

**SEED
ROUND**



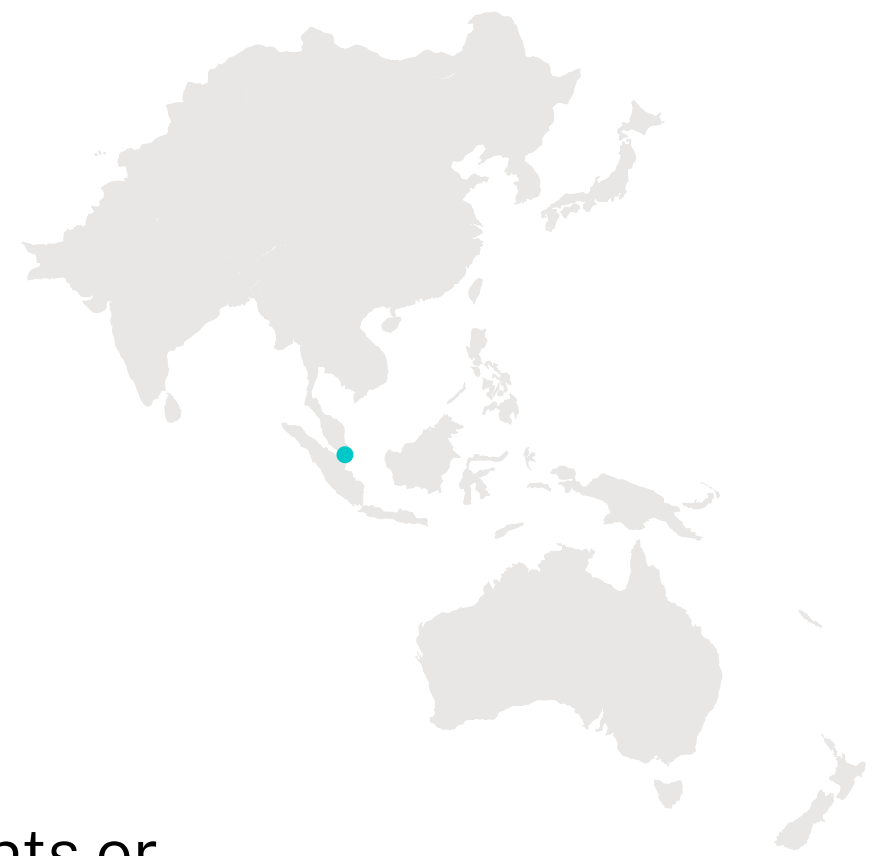
Startup spotlight

Singrow

NOVEL FARMING SYSTEMS



Ageing Farmers. Crop losses from weather events or pest damage. Food waste along the food supply chain. Lacking standards. Uninspiring brands. These are the main challenges Singrow wants to tackle with its vertical farming-focused ag technologies.



What's Asia-Pacific agrifoodtech like today?

There are definitely more investors looking into the agrifoodtech space in the past two years. Asia investors tend to invest downstream, closer to the consumers, with shorter return-on-investment periods. As a solution provider and seeds company, however, Singrow also received a lot of interest from Pan-Asia Investors; we had investors from the Philippines and Japan in our recent round. And there are lots of opportunities in the market; most of our current business leads have been inbound. The end consumer in Asia is more price sensitive so a solution that can really bring down the cost, while adding extra value to the ecosystem, will be preferred in Asia.

What's Singrow's five-year plan?

Singrow recently launched a new core business model: Farming as a Service (FaaS). We are now actively applying this into different downstream practices, including enabling more farms through franchise and contract farming, empowering retailers by establishing our own e-commerce channels with the new Singapore premium fresh produce standard, as well as enlarging our business by working closely with forward-thinking partners like SMRT group (Singapore) and RSP Architects (Singapore, China), to make vertical farming a new retail and landscaping enabler.

We have already expanded into Singapore, Indonesia and China and have plans for Thailand, Philippines and Hong Kong in the next 12 months. In the next 2-3 years we aim to cover more tier 1 and 2 cities in South East Asia, major cities in the Middle East, and more regions in China.

Meanwhile in R&D, we are working on new crops and plan to launch our next flagship crop saffron in the next 12 months.

If you could start again, what would you do differently?

Start with a more diversified team instead of a group of pure researchers.



singrow.net



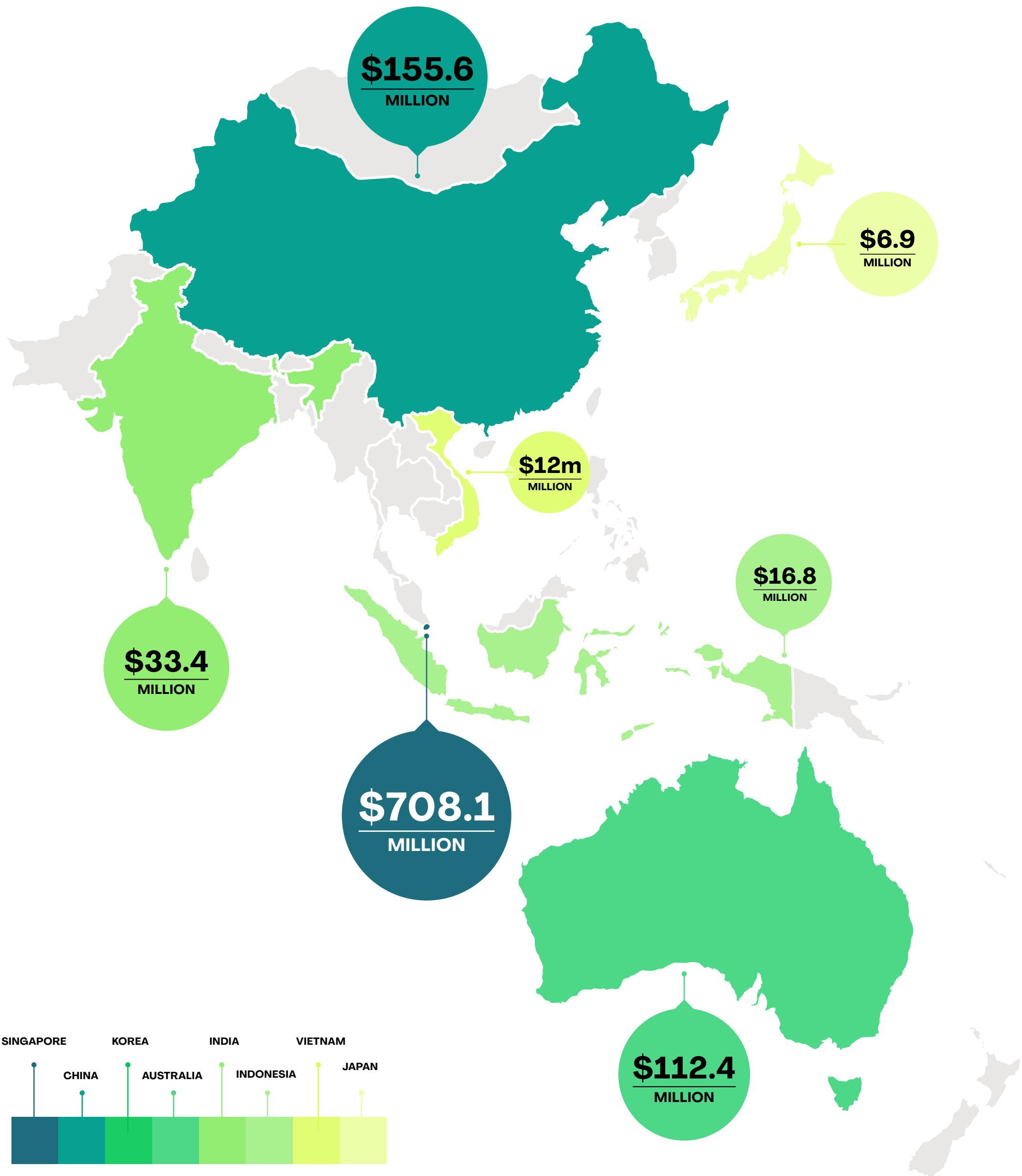
In-store retail & restaurant tech



Top deals (\$ USD)



It's been a bumpy ride for this category, particularly on the restaurant side where investment dipped during the pandemic, and while the numbers were up in 2021, it was mostly due to a mega late stage deal for Singapore's **Trax**, the store shelf image recognition tech that raised a \$640m round.



In-store retail & restaurant tech

Top deals (\$ USD)



As well as being home to the biggest round of the year in this category, Singaporean startups also closed the most deals during the year, followed by India and Japan. A bevy of seed stage deals not shown in this chart indicates a potential resurgence as startups look to create digital operating systems for restaurants.



01



Trax



The world leader in computer vision solutions for retail.

\$640m

LATE
ROUND



02



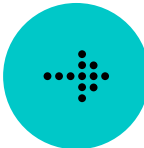
PuduTech



Uses artificial intelligence to build autonomous delivery robots for home care, food service, and catering.

\$78m

SERIES C
ROUND



03



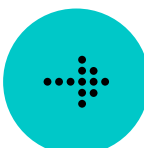
Mr Yum



Mobile ordering platform that provides a visual menu and tool for table-ordering, pickup, and delivery.

\$63.6m

SERIES A
ROUND



04



EatClub



An app that shows its users restaurants nearby with spare tables, offering last minute deals.

\$40m

VENTURE



05



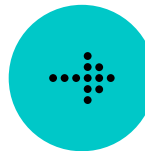
LoveLocal (formerly Paani)



Digitising and organising local retailers to deliver the neighbourhood shopping experience of the future.

\$19.1m

SERIES B
ROUND



06



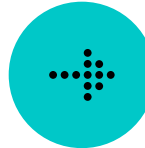
Chope



A restaurant reservation application to simplify table booking services.

\$15m

LATE
ROUND



07



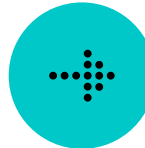
Loship



Vietnam's fast-growing one-hour-delivery e-commerce startup.

\$12m

SERIES C
ROUND



08



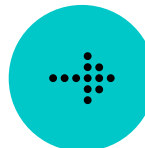
Tinvio



B2B transactions platform to manage orders, invoices, and payments with suppliers via a chat-led interface.

\$12m

SERIES A
ROUND



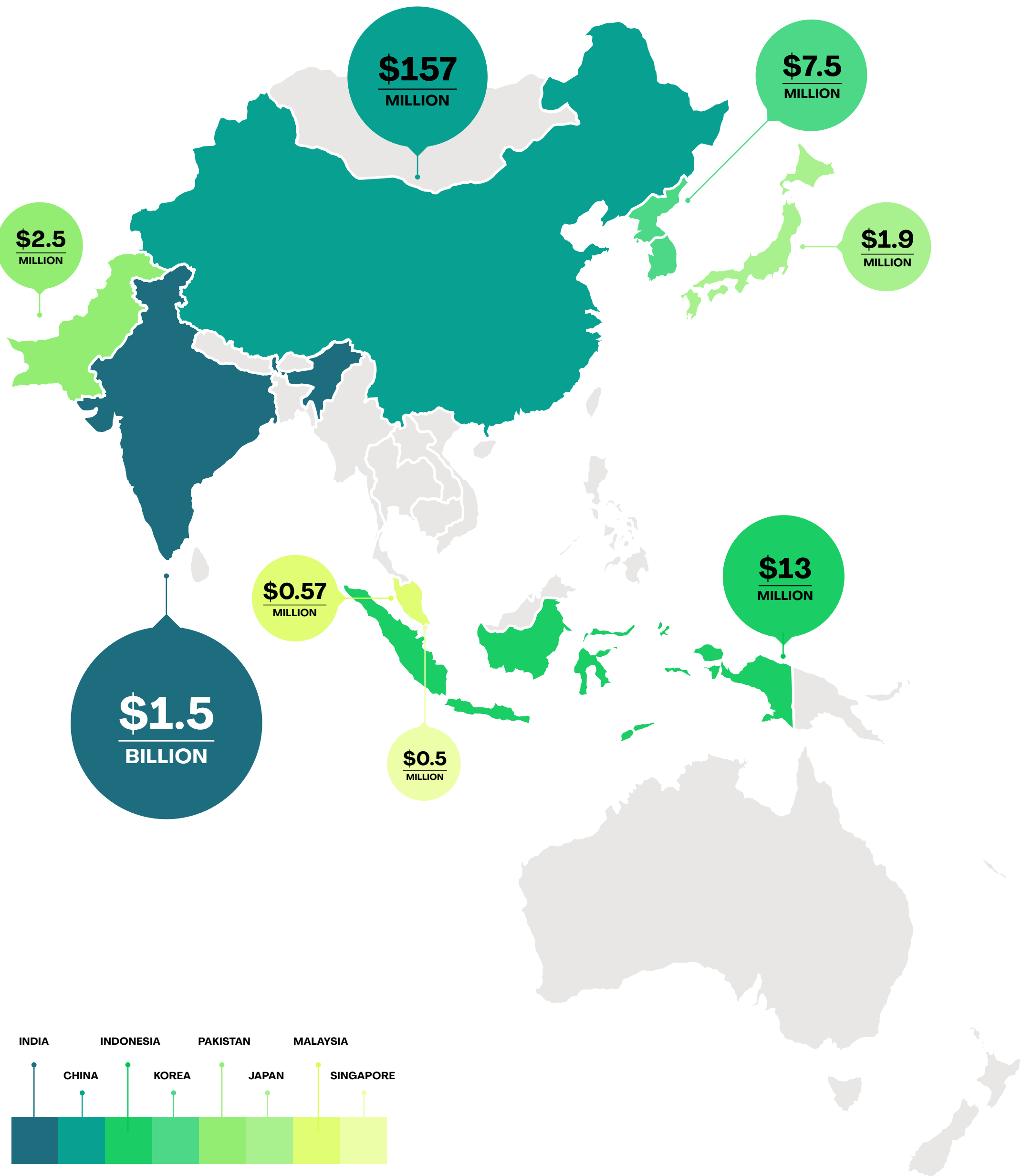
Restaurant marketplaces



Top deals (\$ USD)



A lot of people in the agrifoodtech industry globally are fatigued with this category as its investment totals have drowned out other innovative sectors and potentially stolen funding from arguably more impactful technology only to result in major failures.



Restaurant marketplaces

Top deals (\$ USD)



The Asian market has had its fair share of food delivery failures — we’re looking at you Foodpanda — but the biggest players have held their ground, with India’s **Swiggy** contributing to the vast majority of the country’s total funding in 2021.



01

**Swiggy**

Food delivery platform that brings food from neighborhood restaurants directly to customers’ doors.

\$800m	LATE ROUND	
---------------	-------------------	---



02

**Swiggy**

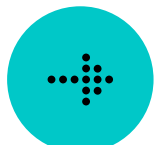
Food delivery platform that brings food from neighborhood restaurants directly to customers’ doors.

\$450m	LATE ROUND	
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03

**Zomato**

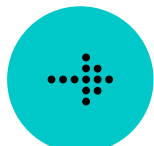
Online food ordering platform that delivers meals from restaurants

\$250m	VENTURE	
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04

**Meican**

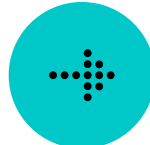
Providing mobile ordering of foods, detailed take-out menus, and more.

\$100m	LATE ROUND	
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05

**Meican**

Providing mobile ordering of foods, detailed take-out menus, and more.

\$57m	LATE ROUND	
--------------	-------------------	---



06

**Hangry**

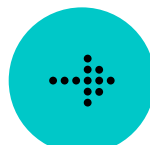
Multi-brand virtual restaurant company that focuses on food delivery in Jakarta.

\$13m	SERIES A ROUND	
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07

**Snack 24**

Snack24 provides office snack management services.

\$7.6m	SERIES B ROUND	
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08

**Munchies**

Karachi-based snack delivery service company.

\$2.5m	SEED ROUND	
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Investments by stage

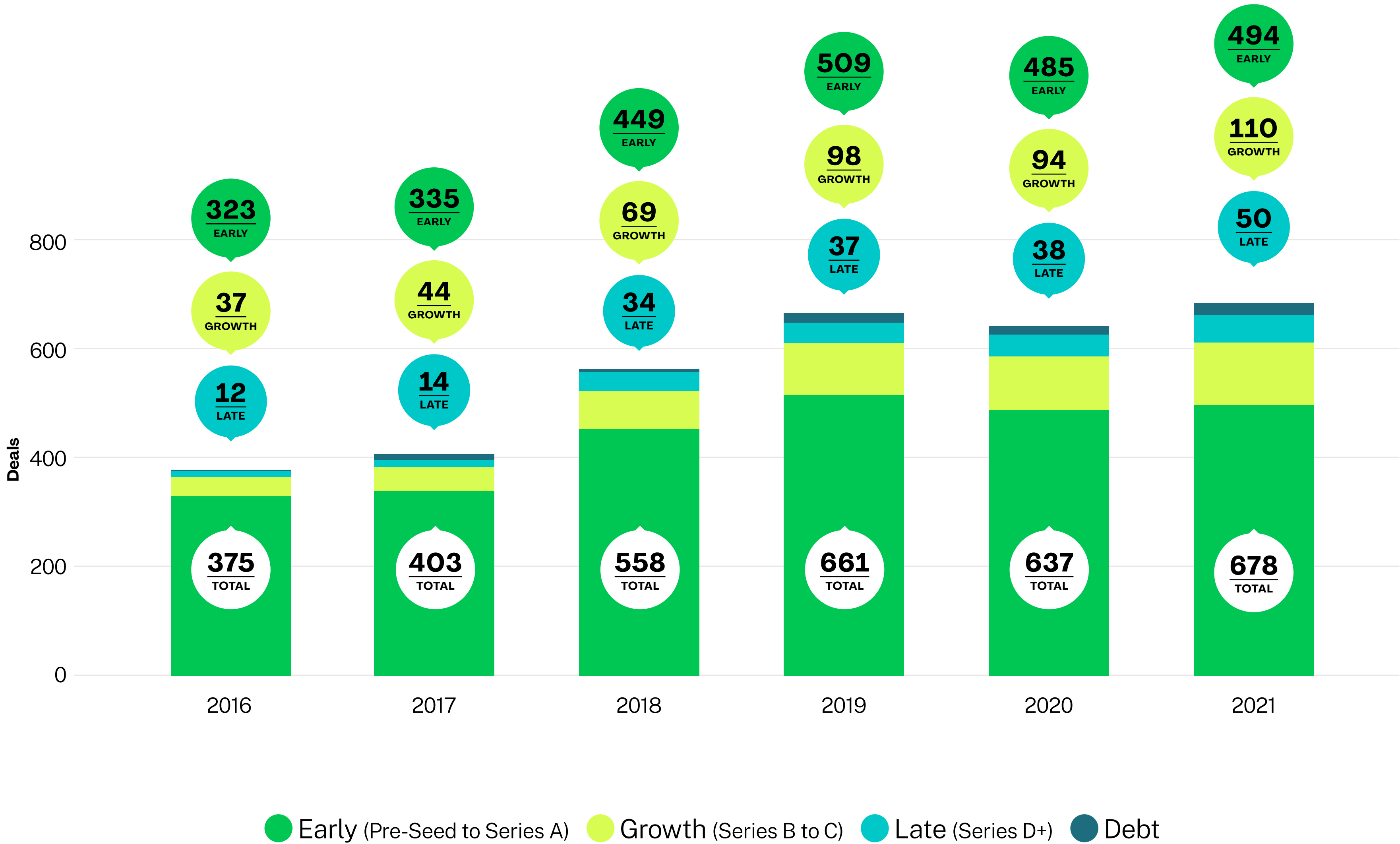
Investments by stage

The number of deals increased at every stage between 2020 and 2021 with the most pronounced growth at the late stages, which increased 34% year-over-year.

Growth stage deals also increased significantly in number (22%) whereas early stage activity was more muted with just 6% Year-on-year increase in deals closed.

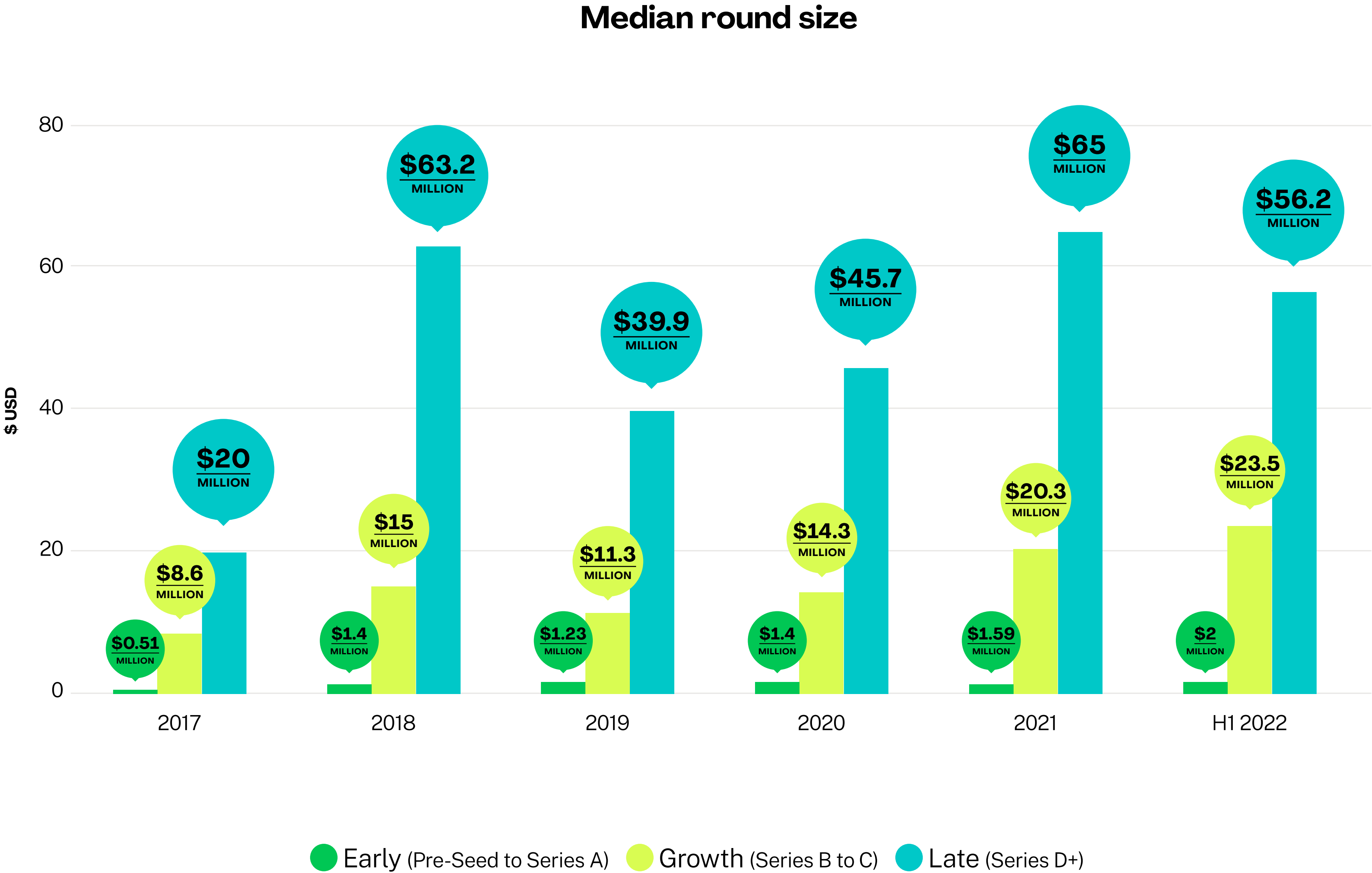
Will we see fewer deals close in 2022 on the back of this?

Number of deals by maturity



Investments by stage




As the number of late stage deals increased, so did their median size, contributing to the bump in total funding in 2021. While there were fewer early stage deals, the increase in the size of deals hints at potentially inflated valuations. The median decrease in H1 2022 is indicative of an expected decline in funding for the year, particularly from China.





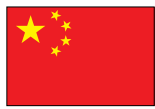







Investments by stage

Top deals 2021 (\$ USD)











Unsurprisingly China tops the leagues at every stage except seed where Singaporean alt protein maker **Next Gen Foods** broke records. But it's exciting to see so much funding for Bangladeshi startup **ShopUp** that's digitizing small, local retailers, a trend we saw play out across **Africa** too. Thailand also appeared with **GudangAda**, and a few large early stage deals from Australia hints at positive momentum in that market both upstream and downstream.

-  Upstream
-  Midstream
-  Downstream

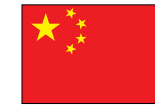



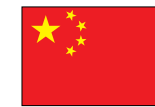





Seed

COUNTRY	RAISED	COMPANIES FUNDED	STREAM
	\$20m	Next Gen Foods	
	\$18.6m	Ruiyun Cold Chain	
	\$16m	All G Foods	
	\$15m	Ruiyun Cold Chain	
	\$12.9m	VOLY	











Series A

COUNTRY	RAISED	COMPANIES FUNDED	STREAM
	\$120m	Mojia Bioscience	
	\$92.6m	Xianshenghuo	
	\$63.6m	Mr Yum	
	\$61.2m	Qianhai Yueshi Information Technology	
	\$60m	Zepto	

Series B

COUNTRY	RAISED	COMPANIES FUNDED	STREAM
	\$123.8m	Wangjiahuan	
	\$109m	ShopUp	
	\$100m	T11 Food Market	
	\$100m	GudangAda	
	\$95m	RWDC Industries	




Series C

COUNTRY	RAISED	COMPANIES FUNDED	STREAM
	\$200m	Pupumall	
	\$182m	XAG	
	\$100m	Zepto	
	\$96m	Kopi Kenangan	
	\$84.9m	Jumbotail	










Investments by stage

Top deals 2021 (\$ USD)











Startups bringing food to the homes of the world’s two most populous countries — China and India — reeled in cash over multiple rounds during the year, attracting a mix of investors from sovereign wealth funds, state-controlled entities, technology giants and large US-based private equity and banking players with just a few major venture capital firms — like Tiger Global and Sequoia re-upping in these massive deals. Trax is a leader in computer vision for retail.

-  Upstream
-  Midstream
-  Downstream

Series D

COUNTRY	RAISED	COMPANIES FUNDED	STREAM
	\$3.0b	Xingsheng Youxuan	
	\$750m	Nice Tuan	
	\$700m	Dingdong Maicai	
	\$330m	Dingdong Maicai	
	\$145m	Ninjacart	

Late Stage

COUNTRY	RAISED	COMPANIES FUNDED	STREAM
	\$800m	Swiggy	
	\$640m	Trax	
	\$450m	Swiggy	
	\$300m	Xingsheng Youxuan	
	\$250m	Zomato	



Investments by country

India spotlight

Top deals (\$ USD)



While the top deals are all downstream startups, India has a bustling farmtech ecosystem and was one of the first agtech centres globally. In 2021, India's biggest farmtech deals included **Ninjacart**, the major supply chain tech for the fresh produce industry which raised \$145m, followed by **DeHaat**, the agribusiness marketplace that aggregates smallholder farmers and enables them to buy higher quality inputs and access markets. DeHaat, which is an AgFunder and Omnivore portfolio company, raised \$115m Series D.



01



Swiggy
\$800 million
RESTAURANT MARKETPLACES



02



Swiggy
\$450 million
RESTAURANT MARKETPLACES



03



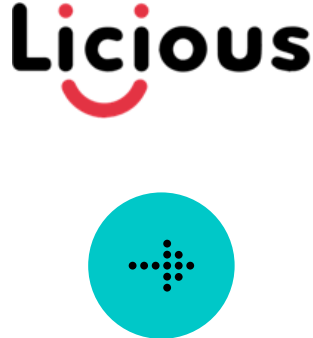
Zomato
\$250 million
RESTAURANT MARKETPLACES



04



Licious
\$192 million
EGROCERY



05



Rebel Foods
\$175 million
CLOUD RETAIL INFRASTRUCTURE



India spotlight

Investment totals
(\$ USD)

225 deals
across the region
\$4.2 billion
\$USD investment

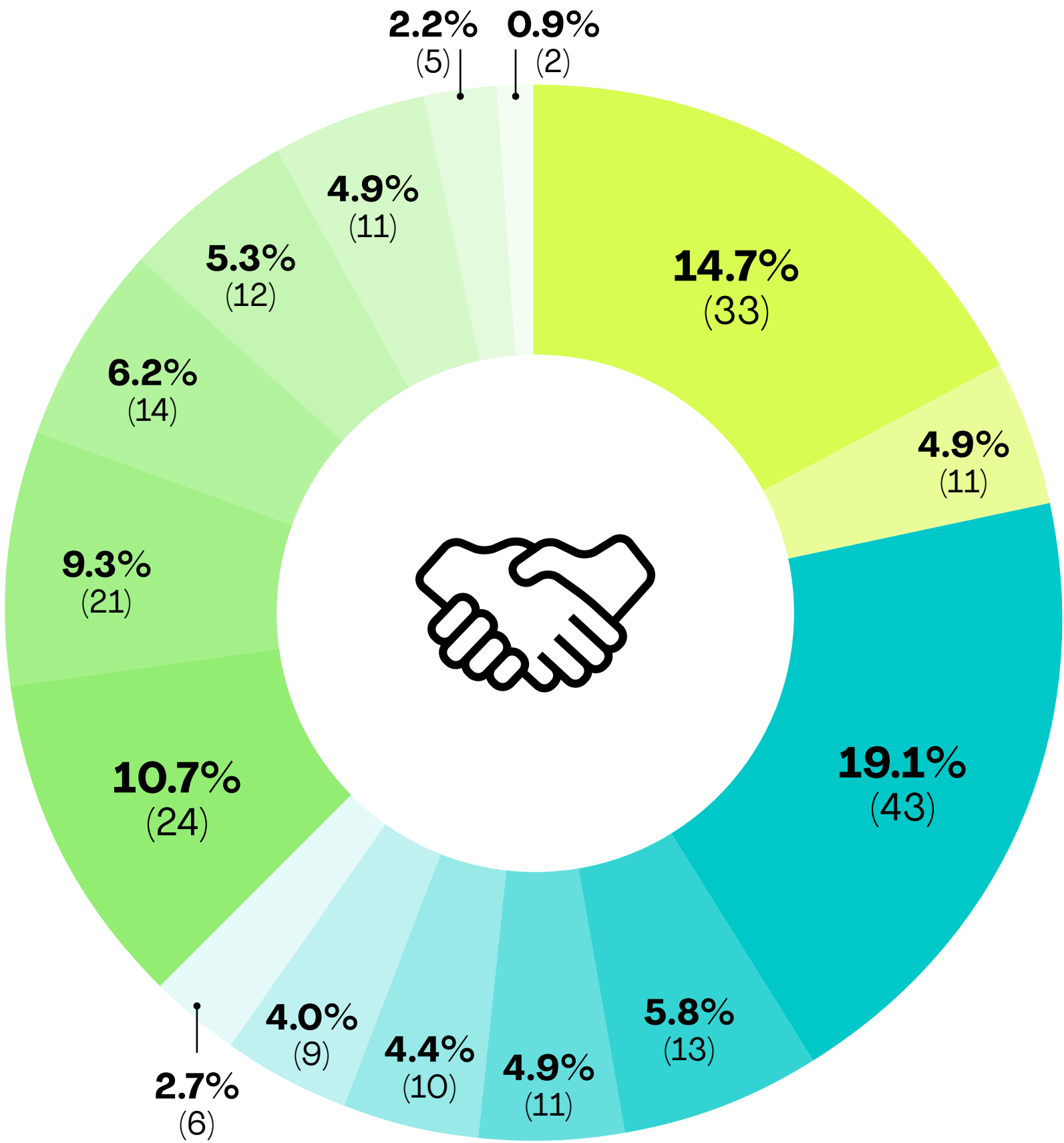
- Upstream
- Midstream
- Downstream



Investment by category 2021
(\$ USD)

Category	\$	USD
Farm Management Software & Sensing	\$	106m
Agribusiness Marketplaces	\$	364m
Innovative Food	\$	40m
Novel Farming Systems	\$	18m
Bioenergy/Biomaterials	\$	48m
Farm Robotics, Mechanization + Equipment	\$	9m
Agbiotechnology	\$	1m
Midstream Technologies	\$	487m
Agrifood Fintech	\$	160m
eGrocery	\$	1b
In-Store Retail Tech	\$	33m
Cloud Retail Infrastructure	\$	334m
Restaurant Marketplaces	\$	1.5b
Online Restaurants/Mealkits	\$	46m
Home and Cooking	\$	21m

Investment by deal count 2021



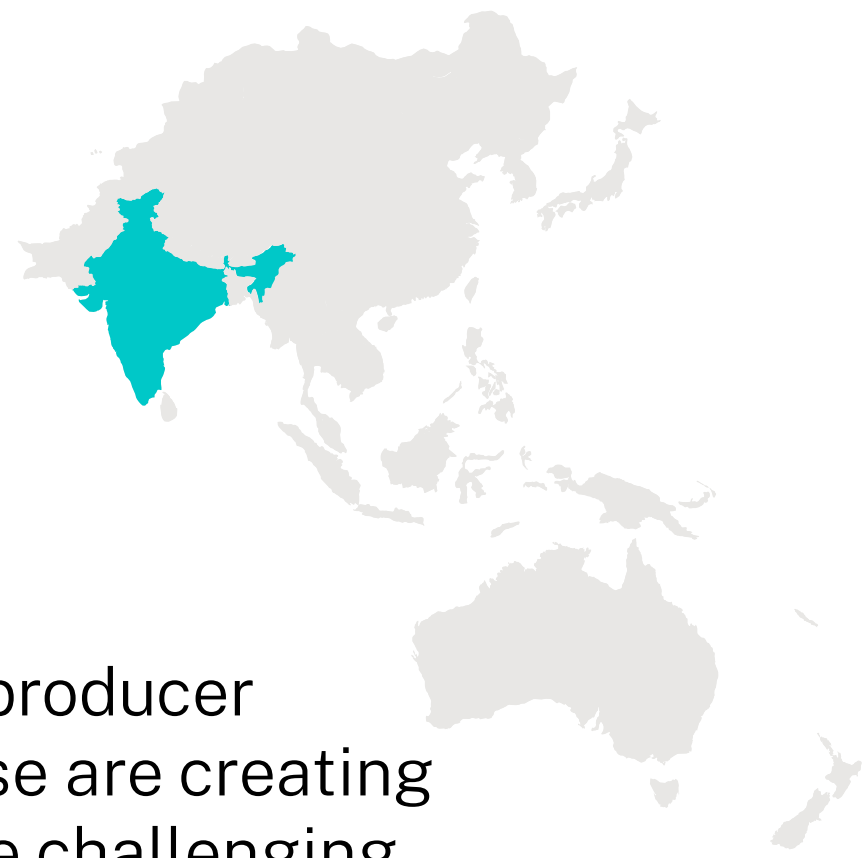
Startup spotlight

Aquaconnect

NOVEL FARMING SYSTEMS

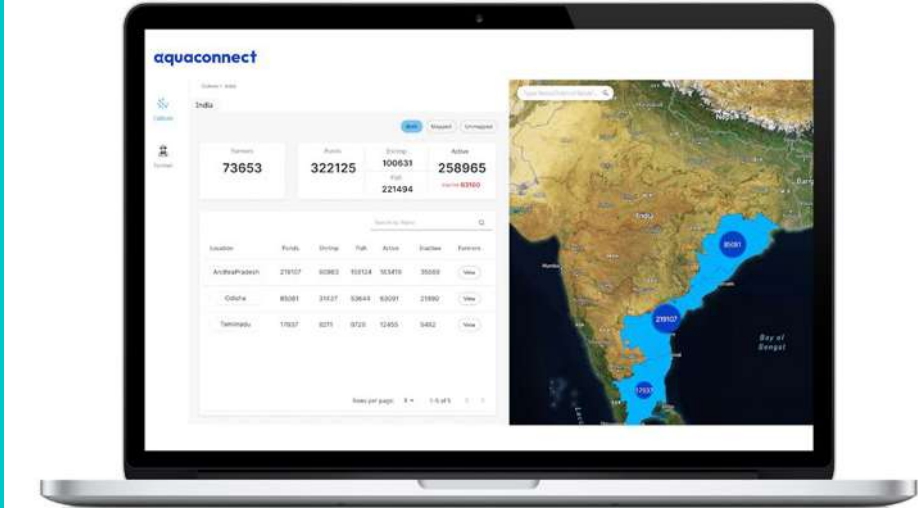


Asia-Pacific is the world's largest aquaculture producer but inefficiencies in production and resource use are creating long-term concerns. At the same time, given the challenging environment and smallholder nature of much of the industry, technology development and adoption is hard. Founded in India in 2017, Aquaconnect is meeting these challenges with its pond-to-plate platform using remote sensing, data analytics and AI.



What is the Asia-Pacific agrifood tech ecosystem like to work in?

In the last five years, we have witnessed significant developments for agrifoodtech in the Asia-Pacific region. An increasing number of startups are pioneering advanced technologies to drive transformation across the value chain from post-harvest market linkages to formal credit access, cold storage, and consumer markets. Furthermore, Asia is a hotbed for founders to raise investments due to future forward business models. Startups have been able to access capital, growth advisory and inter-portfolio networking that helps in solving business obstacles and forging potential synergies to accelerate business goals.



What's Aquaconnect's goal for the next five years?

Our business model focuses on strengthening scalable solutions using deep-tech intervention to cater to aquaculture stakeholders' needs across the production and post-harvest value chain. In the coming years, we shall widen our business operations to cover major production markets in South East Asia. We are also growing our post-harvest services capabilities to fulfil demand in major markets like the US, Japan, and China by enabling sustainable shrimp sourcing from India. With our growth trajectory and newer market expansions, we aim to generate \$500 million in revenue in the next five years.



 aquaconnect.blue

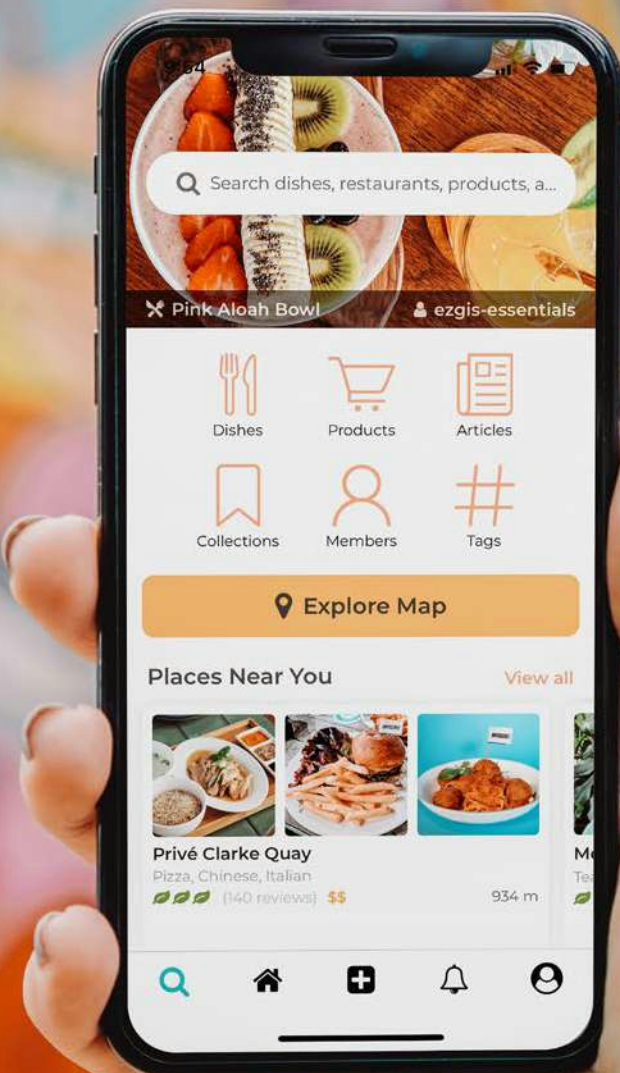


Australia spotlight

Top deals (\$ USD)



Despite being a major global agriculture centre, Australia’s top three deals were restaurant technologies and the country’s leading plant-based meat company. While not directly interfacing with consumers, **Konvoy Kegs** is another efficiency play but for beer producers. The only farmtech deal in the top five hints at Australia’s strength in carbon tech; **Loam Bio** is a microbial seed coating producer that aims to help crops sequester and store carbon in the soil.



AgriFutures[®]
grow^{AG}

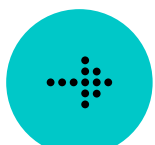
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evoke^{AG}

01



Mr Yum
\$63.6 million

IN-STORE RETAIL TECH



02



v2food
\$52.9 million

INNOVATIVE FOOD

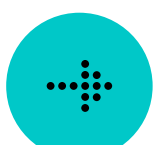


03



EatClub
\$40 million

IN-STORE RETAIL TECH

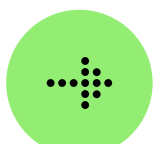


04



Loam Bio
\$30.1 million

AG BIOTECHNOLOGY

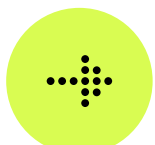


05



Konvoy Kegs
\$30 million

MIDSTREAM TECHNOLOGIES






Australia spotlight















Investment totals
(\$ USD)

55 deals
across the region

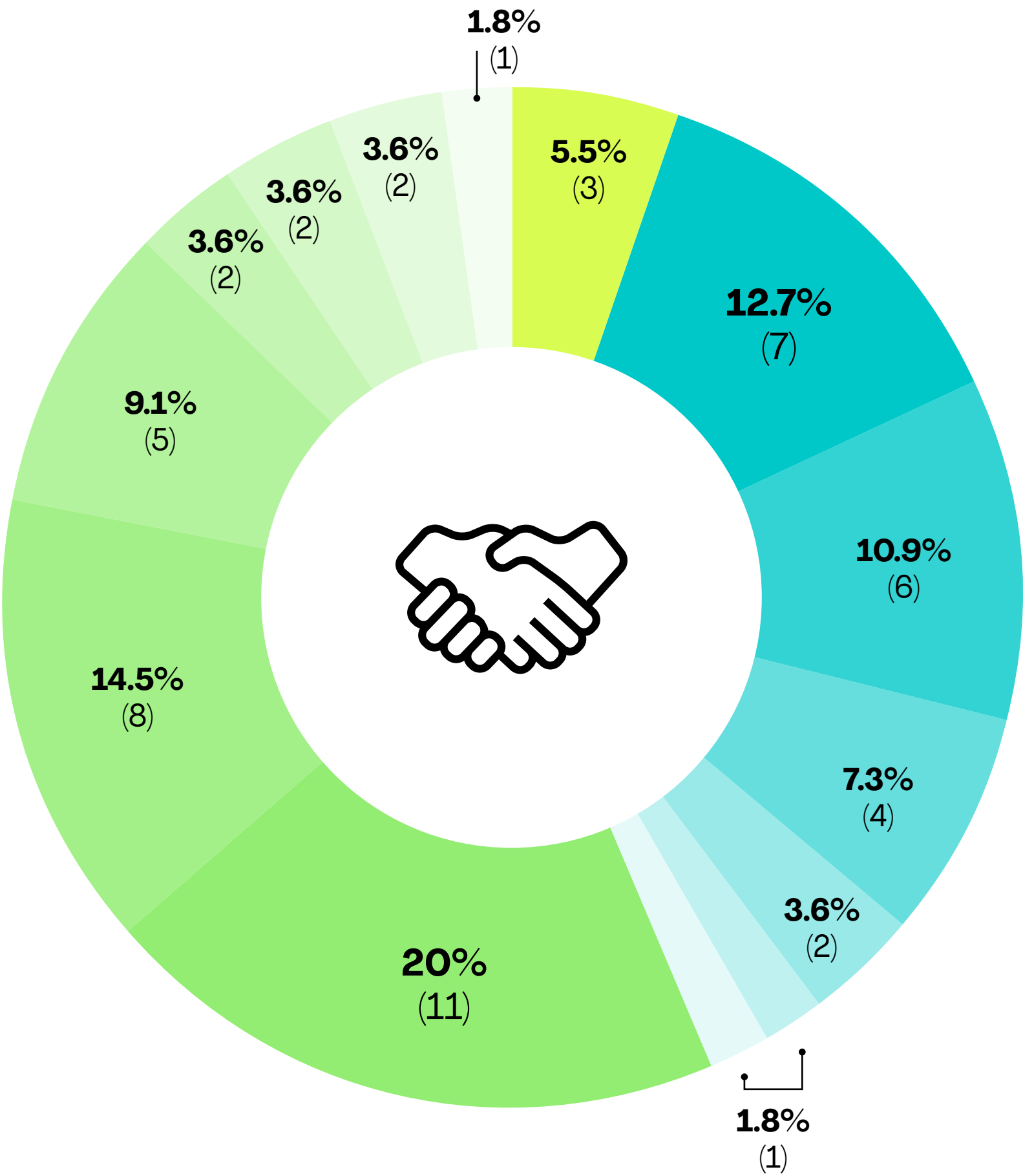
\$360.4 million
\$USD investment

-  Upstream
-  Midstream
-  Downstream

Investment by category 2021
(\$ USD)

Category	\$	USD
 Farm Management Software & Sensing	\$	32m
 Innovative Food	\$	95m
 Bioenergy/Biomaterials	\$	9m
 Agribusiness Marketplaces	\$	8m
 Novel Farming Systems	\$	13m
 Ag Biotechnology	\$	30m
 Farm Robotics, Mechanization + Equipment	\$	0m
 Midstream Technologies	\$	33m
 eGrocery	\$	26m
 In-Store Retail Tech	\$	112m
 Online Restaurants/Mealkits	\$	0.5m
 Restaurant Marketplaces	\$	0m
 Cloud Retail Infrastructure	\$	1m
 Home Cooking	\$	0.1m

Investment by deal count 2021



Startup spotlight

Lyro

MIDSTREAM TECHNOLOGIES



The food supply chain has a massive labour shortage that was exacerbated by the Covid-19 pandemic. Coupled with inflation that's driving up material costs, labor shortages are causing an overall increase in the cost of food packaging.

Lyro Robotics is easing the pressures involved in the fresh produce supply chain. The Australia-based startup produces robotic solutions that pack and sort fresh produce. These pressures, according to Lyro revolve around labor shortage in the food packaging industry coupled with massive food wastage in the food value chain between producers and consumers.

With robotics, Lyro makes food picking and packaging much faster, more efficient and is optimized for shipping.

The startup ,founded in 2019 by Juxi Leitner and Nicole Robinson, claims their software 'Lyro Machine Intelligence' can not only be used to sort produce, but for packaging

food in meal boxes and fulfilling grocery orders. Further, Lyro offers a 'robot as a service' model for businesses in the food packaging industry. With the service, users only pay for how much has been packed by the robots.

Additionally, the startup claims its robots can be fitted in existing packaging lines in various industries including agriculture, manufacturing and even recycling.

"We want to use robots for good; to create a positive impact, to better food security through the supply chain. Impact to us would mean having our robots out there helping farmers, warehouse managers, food companies, and packing lines, to get their food products picked, packed, and into the supply chain," said Robinson.

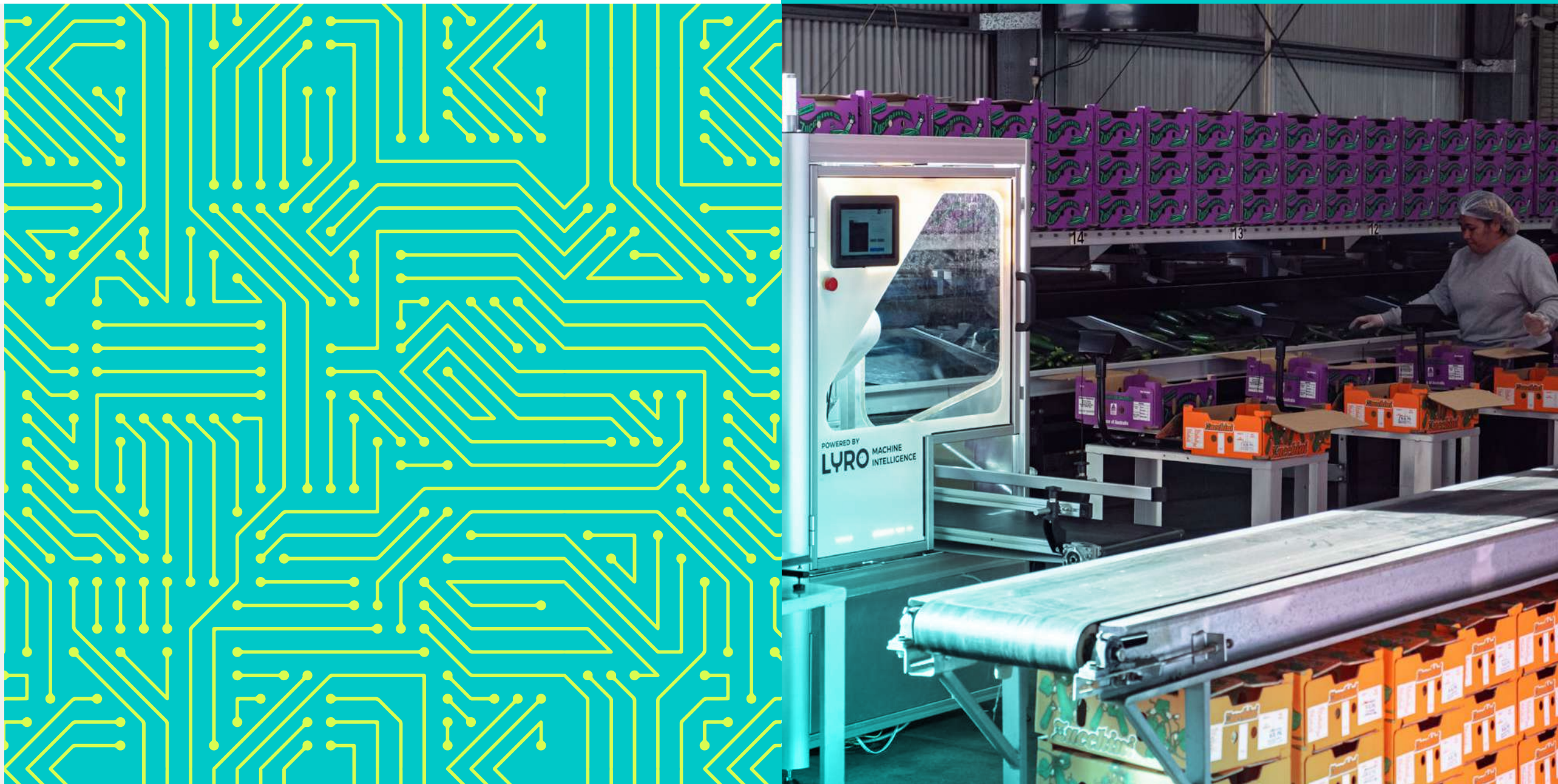
"In doing so, impact would mean helping to get fresh produce through the supply chain faster to enable more people to enjoy fresh and high-quality food products."

Earlier this year, the robotics startup secured \$1.5 million in a pre-Series A round from Boab AI, an early-stage venture capital fund and AI accelerator managed by Artesian Capital Management. AgFunder and Japan's machinery and design company, Toyo Kanetsu also participated in the round.

With the financing, Lyro was set to provide its agri-focused clients with around 20 autonomous robotic packers.

LYRO

lyro.io



China spotlight

Top deals (\$ USD)



Funding for eGrocery in China exploded in 2021 as startups, typically offering the community buying model, helped Chinese consumers get access to fresh food at reasonable prices during the country's many lockdowns. The high cash-burn, growth-at-any-costs model looks less rosy today; government clampdowns on pricing fraud and product dumping have contributed to a slowdown that's seen several companies close or pare back their businesses substantially, including all of those listed. Nice Tuan is reportedly closed after first announcing layoffs in August 2021, just 5 months after this major Alibaba-backed round.



01



Xingsheng Youxuan

兴盛优选

\$3 billion

EGROCERY



02



Nice Tuan

十荟团
NICE TUAN

\$750 million

EGROCERY



03



Dingdong Maicai

叮咚买菜

\$700 million

EGROCERY



04

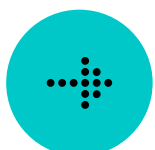


Dingdong Maicai

叮咚买菜

\$330 million

EGROCERY



05

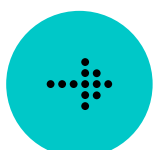


Xingsheng Youxuan

兴盛优选

\$300 million

EGROCERY






China spotlight

Investment totals
(\$ USD)

















104 deals
across the region

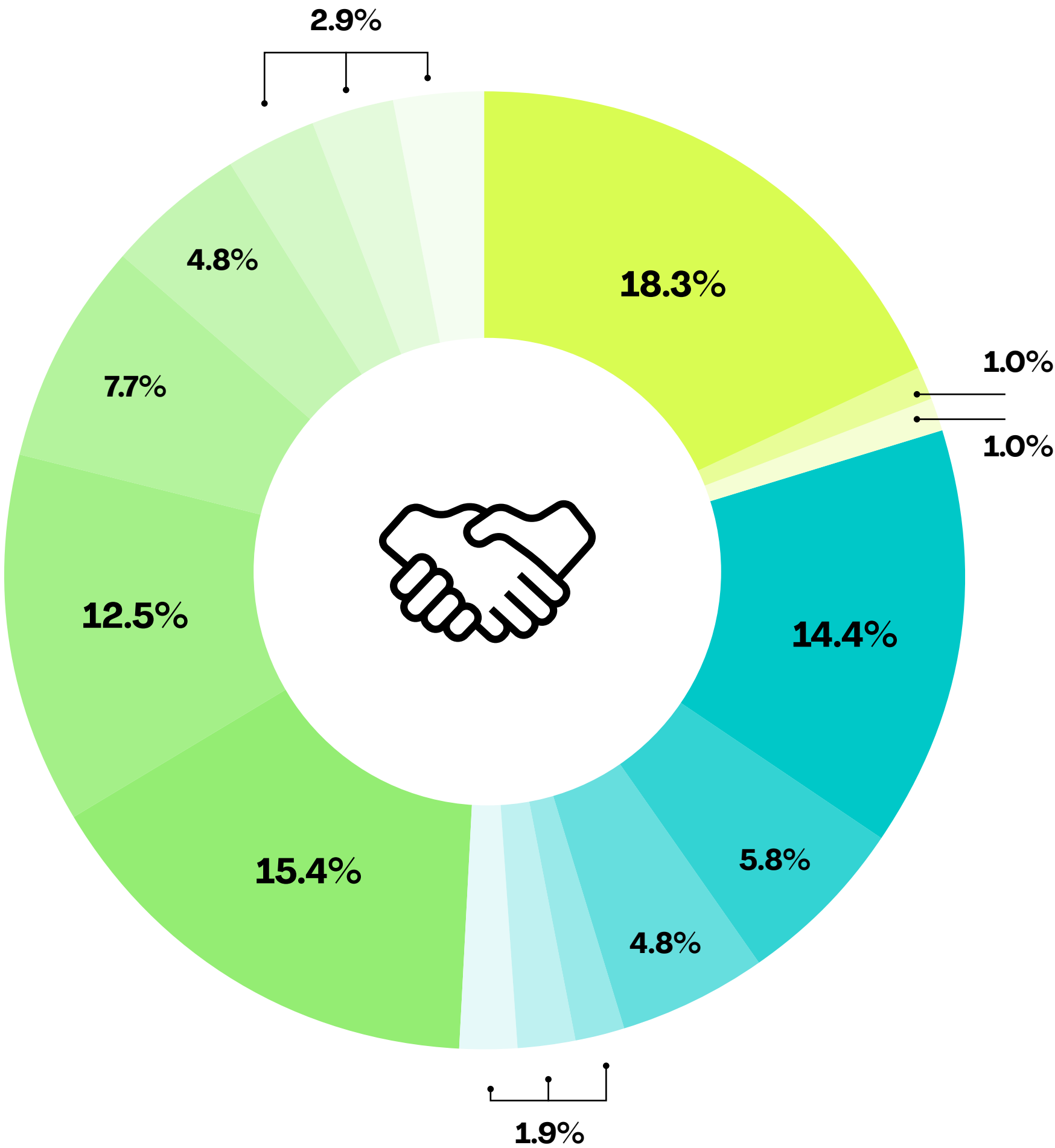
\$7.2 billion
\$USD investment

-  Upstream
-  Midstream
-  Downstream



Investment by category 2021
(Number of deals)

Category	Deals
 Innovative Food	16
 Ag Biotechnology	13
 Farm Management Software & Sensing	8
 Farm Robotics, Mechanization + Equipment	5
 Agribusiness Marketplaces	3
 Novel Farming Systems	3
 Bioenergy/Biomaterials	3
 Midstream Technologies	19
 Agrifood FinTech	1
 Miscellaneous	1
 eGrocery	15
 Online Restaurants/Mealkits	6
 Home Cooking	5
 Restaurant Marketplaces	2
 Cloud Retail Infrastructure	2
 In-Store Retail Tech	2



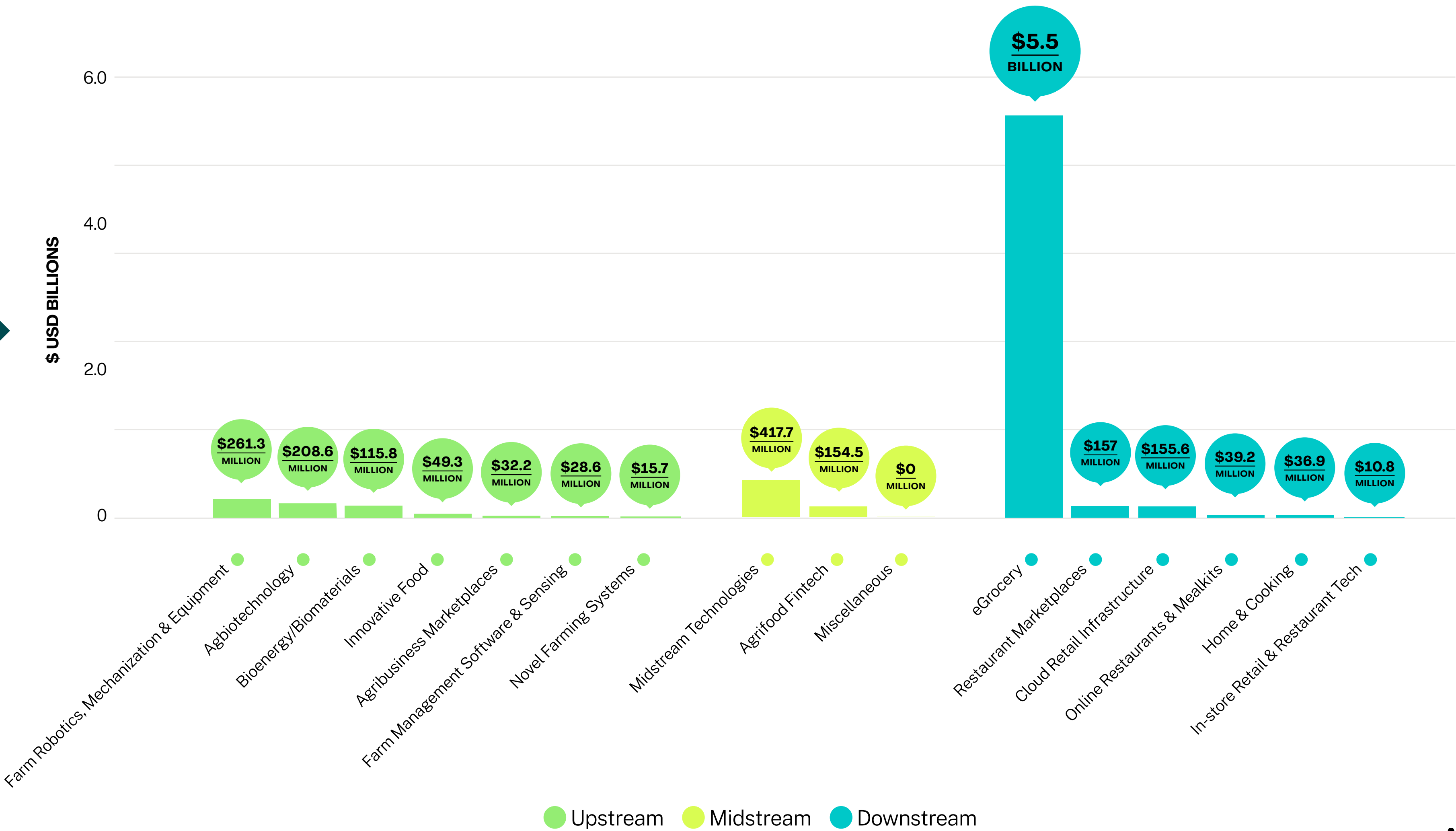
China spotlight

Funding (\$ USD)

While eGrocery clearly dominates China’s agrifoodtech landscape, China was the second most active country for farmtech investment after India, with a particular focus on Ag Biotech, where companies like **Mojia Bioscience** and **MoonBiotech** raised funding for their synthetic biology and microbial approaches to reducing chemical usage. Midstream Technologies were also numerous with entrepreneurs looking to improve the country’s cold chain and fresh produce sourcing infrastructure, as well as food safety. Robotics are a Chinese strength, showcased by large deals from agricultural drone providers XAG and EAVision. China’s innovative food category, which includes alternative protein, is still surprisingly small, albeit dominated by seed stage deals hinting at momentum.



Investment by funding 2021



Top investors by deal count

RANK	INVESTOR	NO. DEALS	COMPANIES FUNDED
01	Omnivore	18	DeHaat, ReshaMandi, AgNext Technologies, Stellapps, Animall
02	AgFunder	11	DeHaat, Fable Food, Green Butcher, Mayani, Ai Palette
03	Y Combinator	11	Zepto, Super, Nino Foods, KiranaKart, Titipku
04	Tiger Global Management	11	Dingdong Maicai, Zomato, DealShare, blinkit, ShopUp
05	AC Ventures	10	Ula, Aruna, LoveLocal (formerly m.Paani), Eden Farm Indonesia, Segari
06	Global Founders Capital	9	Zepto, Eden Farm Indonesia, VOLY, Tinvio, Krave Mart
07	East Ventures	8	Aruna, TreeDots, KitaBeli, FoodMarketHub, Warung Pintar
08	Sequoia Capital India	8	Rebel Foods, DeHaat, ShopUp, GudangAda, Ula
09	SOSV	8	Vertical Oceans, Supplynote, Coffee Exchange, Bistrochat, 24seven.pk
10	Temasek Holdings	7	Xingsheng Youxuan, Licious, DeHaat, RWDC Industries, EAVISION




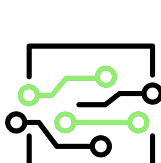
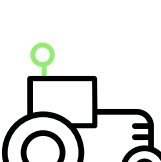
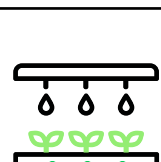
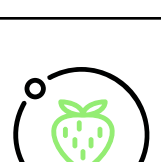




Appendix

Agrifoodtech

category definitions

	Ag Biotechnology On-farm inputs for crop & animal ag including genetics, microbiome, breeding, animal health
	Agribusiness Marketplaces Commodities trading platforms, online input procurement, equipment leasing
	Bioenergy & Biomaterials Non-food extraction & processing, feedstock technology, cannabis pharmaceuticals
	Farm Management Software, Sensing & IoT Ag data capturing devices, decision support software, big data analytics
	Farm Robotics, Mechanization & Equipment On-farm machinery, automation, drone manufacturers, grow equipment
	Novel Farming Systems Indoor farms, aquaculture, insect & algae production
	Innovative Food Cultured meat, novel ingredients, plant-based proteins

- Upstream
- Midstream/Both
- Downstream

	Midstream Technologies Food safety & traceability tech, logistics & transport, processing tech
	Agrifood Fintech Tech-enabled financial services for the agrifood value chain
	Miscellaneous All other agrifood-related tech
	In-Store Retail & Restaurant Tech Shelf-stacking robots, 3D food printers, POS systems, food waste monitoring IoT
	Restaurant Marketplaces Online tech platforms delivering food from a wide range of vendors
	eGrocery Online stores + marketplaces for sale and delivery of processed and unprocessed ag products to consumer
	Home & Cooking Tech Smart kitchen appliances, nutrition technologies, food testing devices
	Online Restaurants & Mealkits Startups offering culinary meals and sending pre-portioned ingredients to cook at home
	Cloud Retail Infrastructure On-demand enabling tech, ghost kitchens, last-mile delivery robots & services



Sources & methodology



Data Sources & Curation

Utilizing new advanced machine-learning algorithms and artificial intelligence to help identify and categorize agrifoodtech startups, our knowledge base has grown to more than 30,000 companies, with new startups and historical data being added each day.

The raw data for our reports comes from Crunchbase, which gathers publicly-available information such as press releases and US Securities and Exchange Commission filings, as well as crowdsourcing directly from the industry. AgFunder contributes data from its own collection methods, including private communications with investors and companies. We also collect data from partners across the globe to ensure we have the most comprehensive, accurate and curated dataset and knowledge base of agrifoodtech companies and investments.

The raw data is painstakingly curated by the AgFunder team, along with their data partners, to ensure they are relevant, accurate, up-to-date, and categorized according to AgFunder’s proprietary tagging system.

We update and improve our dataset continuously throughout the year, meaning total figures from previous years’ reports will shift as our dataset becomes more complete.

In 2022, we tightened our definitions of what constitutes an agrifoodtech venture to ensure that the emphasis on food and agriculture is core to the business.

That’s had a recalibrating effect on this year’s investment figures as well as some past data. Examples include logistics, drones, cloud and any other tech services that may have started in agrifood but have since added other sectors or pivoted away from agrifood. We’ve maintained historical rounds that were raised on an agrifood focus, where we could.

While we are happy to share our findings, we reserve all rights with respect to AgFunder research and this report and we require it to be fully and accurately cited when any of the data, charts, or commentary are used.

Undisclosed Financings

Of the 679 financings in this report’s curated dataset, 175 were undisclosed and could not be determined through research or direct sources. We exclude undisclosed financings when computing averages and median values. In some cases, we’re able to confidentially obtain financing figures directly from investors on the condition they’re only included in aggregate.

DATA POWERED BY



Multiple Financings

In some cases, Crunchbase displays multiple financings for the same company in the same year. This can be because a company closes subsequent rounds in the same year, but it can also be the result of several closes of the same round. We keep them separate unless they are announced as one single round.

Categorization

AgFunder’s categorization system is designed to capture broad themes across the complex agrifoodtech value chain. The agrifood sector has a wide supply chain spanning inputs and industrials, farming, logistics, wholesale distribution, processing, retail distribution, and the consumer. In many cases, technologies such as marketplaces connect different links in the supply chain and so in this report we’ve chosen to focus on high-level themes. To assist with the categorization and to avoid subjectivity, AgFunder first employs over 150 machine learning and artificial intelligence models to suggest category placement and to help tag the company according to the technology and its place in the supply chain. Finally, the AgFunder team manually reviews the suggestions for each company, often with significant research and debate among our team.

Starting with our 2022 Asia-Pacific Agrifoodtech Investment Report, we added a new category — Agrifood Fintech — in light of Asia-Pacific’s unique investment trends. The category encompasses startups whose primary objective is advancing financial inclusion for farmers, retailers and other agrifood businesses. This category will be applied to global data going forward.

We’ve also taken a stricter stance on cannabis and CBD-related startups; there needs to be clear proprietary technology involved. We will not include pure consumer packaged goods or pure production, as we wouldn’t include pure production in any other crop. If we believe the growing facilities are particularly high tech or utilize proprietary technology, we will still include it in our Novel Farming Systems category. The same goes for processed products; if the extraction technique is particularly innovative, we’ll include it as a Biomaterials or Midstream Tech startup. Large vertically-integrated cannabis companies are also excluded.

Special Acknowledgement

Tim Li and the rest of the Crunchbase team for their support and assistance, and to the teams of Bits x Bites and Omnivore for supplying local data and working closely with us on ensuring the accuracy of our research.



Image credits



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Page 4 Singrow



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Page 11 Thai Wah



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Page 22 growAG



Page 24 TepBac



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Page 27 Green Rebel



Page 28 Seedling



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