

**OF THE AGRICULTURAL SECTOR** 













Brazilian Agricultural Research Corporation Embrapa, Innovation and Business Division Ministry of Agriculture and Livestock

SP Ventures

Homo Ludens Inovação e Conhecimento

# RADARAGTECH MAP OF THE BRAZILIAN STARTUPS OF THE AGRICULTURAL SECTOR



**Embrapa** Brasília, DF 2023

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# Presentation

The turn of the millennium brought about two structural transformations in the environment of institutions and organizations. The fundamental values contained in the acronym ESG (Environmental, Social and Governance) ceased to be mere flags of social movements and were incorporated into the world of public and private business, as predicted by John Elkington. Innovation, on the other hand, a fundamental requirement for competitiveness, requires a new environment to emerge and proliferate, which is not the one existing within institutions and large companies. The regulatory and compliance constraints to which they are subjected prevent new ideas from materializing into new disruptive products and services, as stated by Clayton Christensen<sup>1</sup>.

Startups emerged, then, as a result of these two transformations, by enabling innovative solutions, faster and at a lower cost, in line with the values required in environmental, social and governance terms. Therefore, interacting with them became fundamental for institutions and organizations to fulfill their missions, in order to meet the demands of society. This requires a change of mindset.

Embrapa has been interacting with startups, from the ideation stage to when they reach maturity. It has also been fostering the creation and development of innovation ecosystems. However, it was necessary to know and monitor the evolution of Brazilian startups, aiming at identifying opportunities to induce entrepreneurship and innovation, through the proposition of public policies and mobilization of the productive sector.

This Mapping of Startups in the Brazilian Agro Sector - Radar AgTech Brasil fulfills the role of understanding the innovation ecosystems of Brazilian agribusiness, by gaining strength, at the same time, as the broadest and most detailed mapping of agritechs regularly carried out in Brazil. In the four editions, it was possible to highlight the continuous growth in the number of startups. In 2019, it was surprising to see that Brazil had 1,125 agritechs. In 2020, there were already 1574. In 2022, 1703 were counted and, in this edition, even with all the startup crisis that occurs in the USA and Europe, in Brazil the number of agritechs continues to grow and reached 1953, in 2023.

In addition to the continuous quantitative growth, this edition highlights the evolution of the spatial range and thematic scope of Brazilian agritechs. The northern region of the country, for example, has grown in participation and shows great promise for the years to come. The commitment to the themes of bioeconomy and sustainability, in general, was also evident, and the feminine importance in the startup movement was verified.

Radar AgTech is the result of a successful public-private partnership, which brings together Embrapa, SP Ventures and Homo Ludens, with support from Sebrae and the Ministry of Agriculture and Livestock (MAPA). This partnership materializes the importance of adding skills to share useful information to the Government and companies, which can direct the strategic formulation of public and private policies.

In the following pages, it is possible to see the potential for open innovation in the agribusiness environment, by bringing together talented young entrepreneurs of all ages. They offer solutions that can be incorporated by family producers, by native peoples, by producers linked to the main production chains and by agribusiness. The solutions are available from before the farm to the consumer's table, covering the entire value chain of Brazilian agribusiness, with possibilities to be scaled throughout the tropical world. Certainly, this makes us proud as Brazilians!

President of Embrapa Silvia Maria Fonseca S. Massruhá

<sup>1</sup> Christensen, C. The Innovator's Dilemma - when new technologies cause great firms to fail. Boston, Ma.: Harvard Business School Press, 1997.

# Message from SP Ventures

The year of 2023 proved to be even more challenging than we anticipated. International and internal turmoil, such as the scarcity of resources, have created several obstacles for the entrepreneurship sector, leading companies to reinvent themselves. However, the Brazilian and Latin American entrepreneurial ecosystems remarkably continue to grow, demonstrating the region's level of maturity.

The climate change scenario is increasingly present in discussions and in everyday life, reinforcing the role of startups and technology in the development of solutions in the AgFood Tech segment. The world needs to grow more food in an increasingly hostile and uncertain environment, and Venture Capital investments are the best way to support entrepreneurs on this challenging journey.

With regard to Brazil, even with its political uncertainties, the country continues to attract the attention of investors in agribusiness. The country is one of the most relevant global food producers and its unique characteristics, such as biodiversity and climate, create an environment that leads to the development of local technologies, with clear barriers for international newcomers. In addition, the entrepreneurial spirit of the Brazilian people stands out, because, despite the great adversities, they seek solutions to the challenges, always with a vision of the future for the country.

Brazilian agribusiness has been the engine of the country's economy in recent decades, with Brazilian producers using local technology to produce more and in a more sustainable way. It is worth mentioning that, in the biological raw materials sector, Brazil is at the forefront of developing new solutions for producers. The products are biocompatible and can be used for pest control and increased productivity.

It is important to highlight that Radar Agtech maintains its function of mapping the Brazilian innovation ecosystem focused on agribusiness. This ecosystem is becoming increasingly mature, with access to capital at various stages of technological development, from bench resources for initial research to Venture Capital financing, involving angel investors, accelerators, hubs and managers. These resources are available to assist entrepreneurs who transform technology into solutions for Brazilian producers.

Radar Agtech Brasil 2023 continues to highlight startups that represent the future of agribusiness. Our goal is to support these heroes in their journeys towards a more productive, sustainable and innovative agribusiness.

SP Ventures is the largest AgFoodTech Venture Capital fund in Latin America, with a significant focus on Brazil. With more than 11 years of experience in the market and 40 successful investments, SP Ventures is committed to boosting the technology ecosystem for Brazilian agribusiness. Radar Agtech plays a key role in spreading the word about the various initiatives, and we are excited and proud to be part of this virtuous cycle and to share another overview of the ecosystem.

*Felipe Guth & Francisco Jardim SP Ventures* 

# Message from Homo Ludens

With each edition, the Radar Agtech Brasil team, formed by the partnership between Embrapa, SP Ventures and Homo Ludens, seeks to improve the mapping of agtechs and the survey of the agtechs' profile. The goal remains the same: to provide knowledge to support entrepreneurs, public policy managers, investors, researchers and organizations interested in collaborating with startups to make decisions for their organizations.

In many public and private conversations, experts, decision-makers and practitioners related to the different actors emphasize the importance of attracting and retaining talent for the agtech ecosystem. In addition to the aspects of agtechs such as funding sources, business models and their perceptions about their impacts on the Sustainable Development Goals (SDGs), this edition also mapped the challenges for the business, trends and desired improvements in the agtech ecosystem. The survey also includes a section on talent management and diversity of agtechs. The results show common challenges with other startup ecosystems, but also some specifics that require different efforts from the players.

In the chapters of the report, the themes of Agtech's context, internationalization and female participation were maintained. In this edition, a new theme was included: the assessment of the maturity level of agtechs, through a self-declared diagnostic tool, proposed by Celeiro Agrohub (agro vertical of Tecnopuc – Scientific and Technological Park of PUCRS). In addition to contributing to a relevant theme, the chapter also symbolizes a step to increase Radar Agtech's performance through partnerships.

After four years of partnership between Embrapa, SP Ventures and Homo Ludens for Radar Agtech, with the DNA of the triple helix – an internationally recognized innovative public company in agribusiness, one of the main venture capital investors specialized in agribusiness in the world and a consultancy with experience in research in innovative industries – the agtech mapping project and the agtech profile survey is consolidated. We are studying the various possibilities of content formats, events, research, projects, platforms, etc., to increase the impact of Radar Agtech. We're open to partnerships – come co-create with us!

Luiz Ojima Sakuda Co-founder and member of Homo Ludens Innovation and Knowledge

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# Introduction

Since its inception, agriculture has undergone several phases of modernization. In Agriculture 1.0, the workforce came from families, using manual instruments and relying on animal traction. Agriculture 2.0 witnessed the green revolution, introducing innovations aimed at increasing productivity through genetic modification of seeds, new soil fertilization techniques, and the incorporation of agricultural products and machinery. In Agriculture 3.0, there was an intensification of agricultural mechanization with the advent of precision agriculture from the 1990s, resulting in significant productivity gains and optimization of the use of agricultural inputs (Massruhá, 2023).

Growing connectivity in rural areas has given rise to digital transformation, with the integration of data from field sensor systems, satellites and Unmanned Aerial Vehicles (UAVs), global positioning systems, equipment and smartphones. This integration, combined with new digital technologies such as artificial intelligence, cloud computing, blockchain, Internet of Things (IoT), augmented reality, machine learning and robotics, culminated in the phase called Agriculture 4.0.

Agriculture 4.0 can be characterized as more digitized agricultural production, based on advanced technology and connectivity in all links of the production chain (pre-production, production and post-production). Its purpose is to ensure food safety and sustainability. Digital technologies play a crucial role in managerial decision-making, value addition, optimization of the use of raw materials and natural resources, traceability and transparency of the production process, in addition to promoting increased profitability, efficiency and competitiveness in national and international markets.

Agriculture 4.0 is based on the observation, measurement and connection of machines, evolving into decision-based or digital agriculture, which covers machine learning platforms and data analysis from various agricultural implements, such as sensors, drones and robots. The intensive use of artificial intelligence and autonomous agricultural robots points to a new phase, Agriculture 5.0, as presented by Massruhá et al. (2023).

Digital agriculture implies the incorporation of digital technologies at all stages of the value chain, providing competitive advantages and socio-environmental benefits in the phases of Agriculture 4.0, 5.0 and in future waves of progress. This approach is based on digital content, involving the acquisition and processing of the large volume of data generated at all stages of the production chain, from pre-production to the post-production phase, through the adoption of precision agriculture. This covers communication, information and spatial analysis technologies that enable rural producers to plan, monitor and manage the operational and strategic activities of the production system, from the acquisition of inputs to the commercialization of production (BOLFE et al., 2020).

These smart farm models incorporate technological solutions that are often developed by startups specialized in agribusiness, commonly referred to as Agtechs, Agritechs or Agrotechs. These technology-based companies, focused on offering solutions for agribusiness, are commonly grouped under the term Agtech (BLANCO, 2019).

Innovation in the Agtech sector spans the entire food, fiber, and fuel supply chain, from genetic plant manipulation to app-based meal delivery services. These companies adjust genes

to increase yield, improve soil quality, and protect crops from pests. They develop biotechnology solutions to improve grafts or create bio-based pesticides (SORDI & JUNIOR, 2020).

They also design robots to function as eyes and hands for producers. Throughout this process, these companies collect a diverse range of data related to these activities (WALTZ, 2017). It is becoming increasingly clear that any revolution in agriculture will rely heavily on the findings of these Agtechs (MARVIN, 2018).

In this context, Radar Agtech Brasil 2023 was developed and updated. This document is organized as follows: after this introduction, three chapters provide the context of the research: (i) Overview of the agtech ecosystem, (ii) International scenario of agtechs and (iii) Representativeness and participation of women in the Brazilian agtech ecosystem. Next, the chapters related to the research: (iv) Method, (v) Agtech Mapping Analysis, (vi) Category Analysis. Subsequently, (vii)Detailed profile of the Agtechs, (viii) Assessment of the maturity level of AgTechs and FoodTechs in Brazil through a self-declared diagnostic tool and (ix) Financial resources and promotion mechanisms throughout the life cycle of an agtech.

By detailing the characteristics of the different phases of the startups' trajectory, as well as the support and financing mechanisms available in each of them, Radar 2023 went into the specificities of agtechs and explored how these companies can take advantage of support throughout their development journey. A variety of opportunities stand out, as evidenced by the support instruments presented, which were outlined both in relation to the phases of the trajectory and the nature of the investments. The encouragement of entrepreneurship and the development of entrepreneurial skills are also incorporated into several of the instruments covered.

It is worth commenting on the various terms used to refer to agribusiness startups: Ag-Tech and AgriTech, acronyms of "agricultural technology", usually more related to the segments before and within the farm; FoodTech, acronym of "technology applied to food", usually more related to the segments after the farm; and AgriFoodTech, acronym that emphasizes the inclusion of the entire chain.

Radar Agtech Brasil 2023 maintains the standard of the 2020/2021 and 2022 edition, using only the term agtech, without capital letters, but with the same scope as AgriFoodTech: agribusiness startups present in all categories before, within and after the farm.

# CHAPTER 1

# **Overview of the Agtechs Ecosystem**

This chapter provides an overview of the agtech ecosystem, and is organized into five parts:

- 1) The Brazilian agricultural innovation ecosystem;
- 2) Innovation environments in the Brazilian agricultural ecosystem;
- 3) Regional innovation ecosystems with an agricultural vocation in Brazil;
- 4) Agribusiness startups in the legal Amazon and the role of InovaAmazônia;
- 5) References

# The Brazilian agricultural innovation ecosystem

Different terms such as business ecosystems and innovation ecosystems can be found in the literature. For Moore (1993), every business ecosystem develops in four different stages: birth, expansion, leadership/command and self-renewal – or, on the contrary, death. Nambisan and Baron (2013) suggested that the performance and survival of members are closely linked to those of the ecosystem. Rubens et al. (2011) use the term innovation ecosystems, referring to a vital aspect characterized by a continuous realignment of synergistic relationships that promote the harmonious growth of the system in agile response to internal changes and external forces. Iansiti and Euchner (2018) state that some organisms need agility to survive in an innovation ecosystem.

The behavior of an agricultural innovation ecosystem must be studied in a dynamic structure that allows analysis of the multidirectional interaction between actors (Esposti, 2002). When such actors are able to respond quickly, there is a competitive advantage (Cohen and Levinthal, 1990; Rosenberg, 1990). The term "agility" has been discussed around the world as a way to gain competitiveness and improve the innovation capabilities of the environments for which they are intended (Sull, 2009). Conforto (2013) listed three main reasons for adopting agile methods in search of agility: reducing time-to-market; improving change management and project priorities; and increasing productivity. In the public sector sphere (OECD, 2015), strategic agility is addressed as a factor of adaptation in the face of challenges and opportunities in the socioeconomic scenario. In this sense, Figure 1 illustrates the levels of agility development in innovation ecosystems.



**Figure 1.** Levels of agility development in innovation ecosystems. **Source:** Agile Innovation Ecosystem in the Brazilian Agricultural Sector – IPEA, 2021.

Figure 1 represents very well the various interactions existing in innovation ecosystems, considering from the participation of individuals, through teams, research and development projects, programs and portfolios, and science and technology organizations. If, on the one hand, it demonstrates the great complexity present in the explicit context, it is also fundamental to understand the impact gained from actions carried out in association with ecosystems, which is quite clear from Figure 2.





The figure above shows how the gain in impact involves increasing the complexity in the interaction between the different players that make up the ecosystem. Understanding that many of the alliances and networks take place in innovation environments, mainly hubs, incubators, accelerators, smartfarm and smartlab, and technology parks, the following section is dedicated to these important drivers of the Brazilian agricultural innovation ecosystem.

Innovation environments in the Brazilian agricultural ecosystem

Before introducing the innovation environments that exist in Brazil, divided by state and by type (hubs, incubators, accelerators, smartfarm and smartlab, and technology parks), it is essential to equalize the understanding of what each of these terms means.

The National Program to Support Innovative Environments (PNI) of MCTIC defines it as

[...] enterprise generation mechanisms organizations, programs or initiatives to generate innovative ventures and support the development of nascent technologybased companies, which are based on technological differentials or seek the solution of social and environmental problems or challenges, through support to transform ideas into successful ventures. (BRASIL, 2019, p. - our translation)

In this scope, they comprise (BRASIL, 2019; ANPROTEC, 2019; ANPROTEC, 2023):

Business incubator: "Organization or structure that aims to stimulate or provide logistical, managerial and technological support to innovative and knowledge-intensive entrepreneurship, with the objective of facilitating the creation and development of companies that have as a differential the performance of activities aimed at innovation" (Source, year, page - our translation).

**Business accelerators:** 

Mechanisms to support ventures or nascent companies, which already have a consolidated business model and with the potential for rapid growth. They have connections with entrepreneurs, investors, researchers, entrepreneurs, business mentors and investment funds and offer benefits that may include mentoring, evaluation, training, credit or investment through funds or venture capital (Source, year, page - our translation). (entrepreneurial capital or venture capital).

Other mechanisms mentioned by Anprotec are: open spaces for cooperative work or coworking, open laboratories for prototyping products and processes (makerspaces) and spaces for generating projects.

Anprotec conceptualizes Innovation Ecosystems as "spaces that aggregate infrastructure and institutional and cultural arrangements and attract entrepreneurs and financial resources. They are places that enhance the development of the knowledge society "(Source, year, page - our translation).

We will highlight from this scope the Technology Parks, defined as

Organization or structure that aims to stimulate or provide logistical, managerial and technological support to innovative and knowledge-intensive entrepreneurship, with the objective of facilitating the creation and development of companies that have as a differential the performance of activities aimed at innovation (Source, year, page - our translation).

Other concepts in the scope of innovation ecosystems are: smart cities; innovation districts; technological pole; and innovation promoter arrangement.

In this chapter, the concepts of Hubs, Smartfarm and smartlab were used. Hubs are based on the philosophy of open innovation, that is, they seek, through collaboration, to generate opportunities for successful partnerships for the development of innovative solutions (SEBRAE, 2023).

An innovation hub can provide some positive impacts (RODRIGUES, 2018), such as:

- support the structuring of startups, their connection with customers and investors, in order to increase the success rate of innovative ventures;
- promote the generation of qualified jobs;
- encourage the creation and exploitation of new technologies and business models; and
- foster inclusive entrepreneurial environments.

*Smartfarm* and *smartlab*: these are spaces for the development and validation of collaborative innovations, with *smartfarms* referring to farms, or areas of experimentation in the field, and smartlabs to laboratories.

Considering the aforementioned definitions, it is possible to understand that innovation environments have complementary functions. Thus, the maturity and strength of an innovation ecosystem is directly related to the presence of different innovation environments, creating the necessary conditions for the development of new ventures.

# North

Hubs

- Fórum Empresarial de Inovação e Desenvolvimento do Acre Rio Branco/AC
- PCT Guamá Belém/PA
- Hub.Ro Porto Velho/RO
- Softex Amazônia Manaus/AM

# Incubators

- FPF Tech Manaus/AM
- PCT Guamá Belém/PA
- Xingu Incubator Altamira/PA

# Accelerators

- PCT Guamá Belém/PA
- Smart lab and smart farm
- PCT Guamá Belém/PA

# Technological Parks

- PCT Guamá Belém/PA
- Tocantins Technology Park Palmas/TO

# Northeast

#### Hubs

- Ninna Hub Fortaleza/CE
- Conquista Hub Vitória da Conquista/BA
- Hub Salvador Salvador/BA
- CriarCE Fortaleza/CE
- ICC BIOLABS Fortaleza/CE

# Incubators

- IAGRAM Mossoró/RN
- Nutec Fortaleza/CE
- Quitanda Tecnológica Barreiras/BA
- Institute of Technology and Research Aracaju/SE
- ParqTcPB Campina Grande/PB

# Accelerators

- Cyklo Agritech Luís Eduardo Magalhães/BA
- CENTEC Fortaleza/CE

# Smart lab and smart farm

• Living lab MS – Campo Grande/AL

# **Technological Parks**

- Technology Park of Paraíba Campina Grande/PB
- Institute of Technology and Research Aracaju/SE
- Sergipetec São Cristóvão/SE
- PCTSB Ilhéus/BA
- Porto Digital Recife/PE
- Bahia Technology Park Salvador/BA
- Technological Park of the University of Fortaleza Fortaleza/CE
- SINERGIAScience and Technology Park of the IFPB João Pessoa/PB
- Technology Park for Electronics and Associated Technologies Recife/PE
- Semiarid Science and Technology Park Mossoró/RN
- Digital Metropolis Technology Park Natal/RN

# Center-west

# Hubs

• Agrihub – Cuiabá/MT

- Campo Lab Goiânia/GO
- Conexa Goiânia/GO
- Inovacoop Goiânia/GO
- Tereré Hub Dourados/MS
- Gyntec Goiânia/GO
- Inovativa -Brasília/DF

#### Incubators

• Ativa incubadora – Cuiabá/MT

#### Accelerators

- Living Lab Campo Grande/MS
- Cotidiano Brasília/DF
- Orchestra Innovation Center Rio Verde/GO

# Smart lab and smart farm

- Agrihub Cuiabá/MT
- Living Lab Campo Grande/MS
- Smart Lab Embrapa Agroenergia Brasília/DF

# Technological Parks

- Ulbratech Itumbiara Technological Park Itumbiara/GO
- UnB Science and Technology Park Brasília/DF
- Brasília Technological Park (BioTIC) Brasília/DF
- Jataí Technological Park Jataí/GO
- Samambaia Technological Park UFG Goiânia/GO
- Technological Park of Mato Grosso Várzea Grande/MT

# Southeast

# Hubs

- #food São Paulo/SP
- AgTech Garage Piracicaba/SP
- AgVenture Hub São Paulo/SP
- All4Food Pirassununga/SP
- Avance Hub Piracicaba/SP
- Bio Energy Hub Sertãozinho/SP
- Cubo Itaú São Paulo/SP
- Food Tech Hub Campinas/SP
- Hitt Taubaté/SP
- Hub Piracicaba Piracicaba/SP

- Instituto Inova São Carlos/SP
- ParqTec São Carlos/SP
- São Paulo Inland Innovation Pole Campinas/SP
- PqTec São José dos Campos/SP
- Pulse Piracicaba/SP
- Startup Connection São Paulo/SP
- Telescope Paranapanema/SP
- Venture Hub Campinas/SP
- Redetec Rio de Janeiro/RJ
- Innovation Agency Polo do Leite Juiz de Fora/MG
- AgFood Ventures Varginha/MG
- Biotech Town Nova Lima/MG (SIM)
- Celeiro Fazu Uberaba/MG
- NovoAgro Belo Horizonte/MG
- Silo Hub Juiz de Fora/MG
- CONQ Bauru/SP
- Inovabra Bela Vista/SP
- BH Tec Belo Horizonte/MG
- Fashion Hub Belo Horizonte/MG
- FIEMG Lab Belo Horizonte/MG
- Verde Belo Horizonte/MG
- Mining hub Belo Horizonte/MG
- Hub Social Belo Horizonte/MG
- Orbi Conecta Belo Horizonte/MG
- P7Criativo Belo Horizonte/MG
- Tech hub Bom Despacho/MG
- Health Hub Rio de Janeiro/RJ
- Finance Hub Rio de Janeiro/RJ
- Energy Hub Rio de Janeiro/RJ
- Dealer hub Santo Amaro/SP
- O novo LAB São Carlos/SP
- BrazilLAB São José dos Campos/SP
- Nexus São José dos Campos/SP
- Smart mobility hub São Paulo/SP
- Brawork São Paulo/SP
- Hun icon São Paulo/SP
- Learning Village São Paulo/SP
- Oasis Lab São Paulo/SP
- ESG Cube São Paulo/SP
- Cubo Maritime& Port São Paulo/SP
- Black Money Movement São Paulo/SP
- State São Paulo/SP
- Mwayra São Paulo/SP
- Arco.cc São Paulo/SP
- Arena Hub São Paulo/SP
- cubo agro São Paulo/SP

- Volume São Paulo/SP
- Base27 Vitória/ES

Incubators

- Cedin São Carlos/SP
- Cietec São Paulo/SP
- Esalqtec Piracicaba/SP
- Hub Piracicaba Piracicaba/SP
- Inova.jab Jaboticabal/SP
- Instituto Inova São Carlos/SP
- ParqTec São Carlos/SP
- PqTec São José dos Campos/SP
- Water Valley Incubator (São Paulo Inland Innovation Hub) Amparo/SP
- CenTev/UFV Viçosa/MG
- IEBT Viçosa/MG
- INBATEC Lavras/MG
- Coppe/UFRJ Business Incubator Rio de Janeiro/RJ
- Startup Rio Rio de Janeiro/RJ

# Accelerators

- Ace São Paulo/SP
- Baita Aceleradora Campinas/SP
- Bluefields São Paulo/SP
- Climate Ventures São Paulo/SP
- Hub Piracicaba Piracicaba/SP
- Startup Farm São Paulo/SP
- Syndreams Santa Bárbara d'Oeste/SP
- VentureHub Campinas /SP
- Innovation Agency Polo do Leite Juiz de Fora/MG
- AgVenture Varginha/MG

# Smart lab and smart farm

• AgNest – Jaguariúna/SP

# Technological Parks

- Agropolo Vale São José dos Campos/SP
- Instituto Inova São Carlos/SP
- ParqTec São Carlos/SP
- Botucatu Technological Park Botucatu/SP
- Piracicaba Technological Park Piracicaba/SP
- Pólis de Tecnologia Campinas/SP
- PqTec São José dos Campos/SP

- Supera Parque Ribeirão Preto/SP
- Techno Park Campinas Campinas/SP
- TecnoPARQ Viçosa/MG
- Technological Park of UFRJ Rio de Janeiro/RJ
- Technological Park of Vitória Vitória/ES
- Technological Park of Belo Horizonte Belo Horizonte/MG
- Itajubá Science and Technology Park Itajubá/MG
- Lavras Science and Technology Park Lavras/MG
- Technological Park of Univ. Federal Uberlândia Uberlândia/MG
- Technological Park of Betim Betim/MG
- Technological Park of Juiz de Fora and Region Juiz de Fora/MG
- Technological Park of Montes Claros Montes Claros/MG
- Technological Park of Santa Rita do Sapucaí Santa Rita da Sapucaí/MG
- Technological Park of Uberaba Uberaba/MG
- Technological Park of Viçosa Viçosa/MG
- Biotechnology Center of Rio de Janeiro Rio de Janeiro/RJ
- Inmetro Technological Park Duque de Caxias/RJ
- Technological Park of the Mountain Region Petrópolis/RJ
- Technological Park of São José dos Campos São José dos Campos/SP
- Bioenergy Technological Park of Piracicaba Piracicaba/SP
- Cia de Desenvolvimento. do Polo de Alta Tecnologia Campinas Campinas/SP
- CTI Technological Park Campinas/SP
- Fundação Parque Tecnológico de Santos Santos/SP
- Science and Technology Park of UNICAMP Campinas/SP
- Parque Eco Tecnológico Damha São Carlos São Carlos/SP
- Science Park São Carlos/SP
- Technological Park of Limeira Limeira/SP
- Technological Park of UNIVAP São José dos Campos/SP
- Technological Park of Santo André Santo André/SP
- Technological Park of São José do Rio Preto São José do Rio Preto/SP
- Technological Park of Sorocaba Sorocaba/SP

# South

# Hubs

- ACATE Florianópolis/SC
- Cocriagro Londrina/PR
- Espaço Impulso Cascavel/PR
- APASSUL Passo Fundo/RS
- TecnoPUC/Celeiro Agrohub Porto Alegre/RS
- HIPE Curitiba/PR
- CO.nectar Porto Alegre/RS
- Tijolo Porto Alegre/RS
- •

#### Incubators

- ACATE Florianópolis/SC
- Pollen Parque Chapecó/SC
- Technological Innovation Incubator of UTFPR Medianeira/PR
- IUT Pato Branco/PR
- Conectar Incubadora de Base Tecnológica Pelotas/RS
- IECBiot Porto Alegre/RS
- Innovatio Rio Grande/RS
- Itaca Porto Alegre/RS
- TecnoPUC/Celeiro Agrohub Porto Alegre/RS

# Accelerators

- Cilla Tech Park Guarapuava/PR
- Pollen Parque Chapecó/SC
- Hotmilk Curitiba/PR
- Ventiur São Leopoldo/RS
- Wow Porto Alegre/RS

Smart lab and smart farm

- Biopark Toledo/PR
- Cocriagro Smart Farm Londrina /PR

Technological Parks

- Cilla Tech Park Guarapuava/PR
- Biopark Toledo/PR
- UTFPR Science and Technology Park Medianeira/PR
- Technological Park of Itaipu Foz do Iguaçu/PR
- SRP Valley Londrina/PR
- Orion Parque Tecnológico da Serra Catarinense Lages/SC
- Pollen Parque Chapecó/SC
- Feevale Techpark Porto Alegre/RS
- Parque Científico Tecnológico da Campanha Bagé/RS
- PPT Pelotas/RS
- TecnoPUC/Celeiro Agrohub Porto Alegre/RS
- Francisco Sciarra Technological Park Londrina/PR
- Ágora Tech Park Joinville/SC
- Maringá Tech Technological Park Maringá/PR
- Hotmilk Innovation Ecosystem PUCPR Curitiba/PR
- Biosciences Science and Technology Park Toledo/PR
- Parque Tecnológico da Saúde Curitiba/PR
- Technological Park of Pato Branco Pato Branco/PR
- Scientific and Technological Development Foundation Cascavel/RS

- Oceantec Science and Technology Park Rio Grande/RS
- Parque Canoas de Inovação Canoas/RS
- Pampa Science and Technology Park Alegrete/RS
- Regional Science and Technology Park Santa Cruz do Sul/RS
- Tecnovates Science and Technology Park Lajeado/RS
- Scientific and Technological Park UPF Planalto Médio Passo Fundo/RS
- Science, Technology and Innovation Park TecnoUCS Caxias do Sul/RS
- UFSM Innovation, Science and Technology Park Santa Maria/RS
- Technological Park of São Leopoldo São Leopoldo/RS
- Santa Maria Tecnoparque Santa Maria/RS
- Ulbratech Technological Park Canoas/RS
- Zenit UFRGS Science and Technology Park Porto Alegre/RS
- TECNOSUL Science and Technology Park Pelotas/RS
- Prado Technological Park Gravataí/RS
- Iparque Science and Technology Park Criciúma/RS
- Joinville Technological Innovation Park Joinville/SC
- Sapiens Parque Florianópolis/SC

# **Vocation in Brazil**

Going back to the different concepts introduced at the beginning of this chapter on ecosystems (Moore, 1993; Nambisan and Baron, 2013; Rubens et al., 2011; Iansiti and Euchner, 2018; Esposti, 2002), they all have in common that ecosystems are characterized by the synergistic interaction between different players in a given context or setting. In this sense, geographically, ecosystems can be considered at different scales, ranging from cities, or even smaller scales, reaching countries, geographic regions and the globe itself.

In its 2023 report, understanding innovation ecosystems at the country scale, Startup Blink's study presents the United States of America as the highest-scoring innovation ecosystem, followed by the United Kingdom, Israel, Canada, Sweden, Singapore, Germany, France, Australia and the Netherlands, with Brazil occupying the 27th position. In the same study, considering ecosystems on the scale of specific cities or regions of countries, coming first is San Francisco, followed by New York, London, Los Angeles, Boston, Beijing, Shanghai, Bangalore, Paris and Tel-Aviv, with São Paulo in 17th place. Still on the scale of specific cities or regions of countries, but shedding light on the performance of Latin America and the Caribbean, of the 20 best-placed ecosystems, 6 are in Brazil, namely: São Paulo, Curitiba, Rio de Janeiro, Belo Horizonte, Porto Alegre and Florianópolis.

The 2022 report developed by Startup Genome, with a specific focus on the agricultural and food sectors, also makes an analysis considering ecosystems at the scale of specific cities or regions of countries. In the referred study, the best evaluated ecosystem is that of Silicon Valley, followed by New York, London, Tel-Aviv, Denver, Los Angeles, Boston, Beijing, Vancouver and Research Triangle (North Carolina), in which São Paulo ranks in the 18th position.

Both studies (Startup Blink, 2023; Startup Genome, 2022) use dozens of criteria to assess the maturity, strength and concrete results generated by innovation ecosystems, in their different scales and in the various settings analyzed. Certainly, studies focusing on ecosystems are held precisely because they understand the importance of synergy between actors and also observe how local and sectoral policies have been carried out to strengthen, create and attract new players to specific ecosystems.

It is quite clear that, in the case of agriculture and the food sector, several new regional ecosystems have been created in Brazil. Below there is the list of ecosystems that have been identified and that have some kind of relationship with the focus on agtechs and foodtechs.

# North

Açaí Valley – Pará Buriti Valley – Roraima Aquiri Valley – Acre Tucuju Valley – Amapá Jaraqui Valley – Amazonas Chambary Valley – Tocantins Tambaqui Valley – Tocantins Tambaqui Valley – Rondônia Xingu Valley – Altamira Ji-paraná Community – Jiparaná Jalapão Valley – Palmas Chambari Valley – Araguaína-TO 153 Valley – Gurupi

# Northeast

- Rapadura Valley Fortaleza/CE
- Caju Valley Sergipe
- Soluíses Maranhão
- All Saints Bay Bahia
- Jerimum Valley Rio Grande do Norte
- Sururu Valley Alagoas
- Rapadura Valley Ceará
- Manguezal Pernambuco
- Caatinga Valley Paraíba
- Cajuína Valley Piauí
- Santana Valley Feira de Santana
- Comunidade Sobral Sobral
- Comunidade João Pessoa João Pessoa
- Carranca Valley Petrolina
- Comunidade Caruaru Caruaru
- Potiguaras Valley Currais Novos and Caicó
- Salt Valley Mossoró
- Startup RN Natal

# Center-west

- Goiás pela Inovação Goiânia/GO
- StartupGO Goiás

- Digoreste Startups Mato Grosso
- StartupMS Mato Grosso do Sul
- North hub Sinop and North of the state
- Comunidade Jataí Jataí
- Comunidade Brasília Brasília
- StartupMS Campo Grande

#### Southeast

- Corredor de Inovação Paulista SP
- PITEC Rio de Janeiro/RJ
- ZeroOnze Startups São Paulo
- ErreJota Rio de Janeiro
- Itabira Valley Espírito Santo
- Uberhub Minas Gerais
- AgTech Valley Piracicaba/SP
- Ecossistema Capixaba Vitória/ES
- San Pedro Valley Belo Horizonte/ MG
- Zebu Valley Uberaba/MG
- Vale da Eletrônica Santa Rita do Sapucaí/MG
- Vale do Conhecimento Itabira/MG
- Santa Helena Valley Sete Lagoas/MG
- Zero40 Juiz de Fora/MG
- Libertas Valley Itaúna/MG
- Cariocas Rio de Janeiro/RJ
- Rio Sul Valley Resende/RJ
- Comunidade de Campos Campos de Goytacazes/RJ
- Arariboia Valley Niterói/RJ
- Parahyba Valley São José dos Campos/SP
- Campinas Startups Campinas/SP
- Alto Tietê Valley Mogi das Cruzes/SP
- Comunidade Sorocaba Sorocaba/SP
- Comunidade Ribeirão Preto Ribeirão Preto /SP
- ABC Valley ABC Paulista/SP
- Bruto Valley Barretos/SP
- SancaHub São Carlos/SP
- Sandwich Valley Baurú/SP

# South

- Agrovalley Londrina/PR
- Iguassu Valley Paraná
- Comunidade RS Rio Grande do Sul
- StartupSC Santa Catarina
- Vale do Pinhão Curitiba
- Red Foot Maringá Maringá

- Red Foot Community Londrina Paraná
- Campos Valley Ponta Grossa
- Comunidade Foz do Iguaçu Foz do Iguaçu
- Sudo Valley Pato Branco
- Joinville Startups Joinville
- Blumenau Startups Blumenau
- Desbravalley Chapecó
- Comunidade de Criciúma Criciúma
- Costa Valley Balneário Camboriú

# Agribusiness Startups in the Legal Amazon and the role of Inova Amazônia

The Legal Amazon region, which encompasses nine Brazilian states, is globally recognized for its natural wealth and biodiversity. However, the Amazon also plays a key role in Brazil's economy, especially in the agribusiness sector. In recent years, we have observed an interesting phenomenon in this region: the emergence of startups that seek to combine technology with agribusiness, contributing to sustainable development and the preservation of the environment.

In addition to being crucial for the preservation of the Amazon Forest, agribusiness startups in the Legal Amazon have contributed significantly to the region's economic development. These companies generate direct and indirect jobs in areas often lacking job opportunities. As they grow, they provide training for local labor, fostering social inclusion and reducing economic inequalities.

They have stood out for their innovative approach in using cutting-edge technologies to optimize agricultural production. Using advanced monitoring systems, such as drones and satellites, these companies can track crop growth, identify management problems, and predict crops with greater accuracy, resulting in significant gains in production efficiency, reduced waste, and increased profitability for local farmers (Silva et al., 2021).

One of the competitive advantages of agtechs in this region is their ability to connect local producers to global markets. Through the digitization of marketing processes and the use of online platforms, these companies facilitate access to international buyers seeking sustainable and traceable products. This expansion of markets contributes with increasing exports and diversifying the regional economy (Barbosa et al., 2020).

Another important point to consider is the role of governmental and non-governmental institutions in promoting the development of these startups. Studies point to the importance of public policies that encourage innovation in agribusiness, as well as partnerships with organizations dedicated to environmental conservation (Sousa et al., 2019).

For example, to sustain their growth, startups have sought investment from both local and international sources. These investments have allowed these companies to expand their operations, develop new technologies and reach a greater number of farmers. In addition, they have attracted the attention of investment funds focused on social and environmental impact, which recognize the potential of these startups to address urgent challenges, such as deforestation and climate change (Freitas et al., 2021).

Agribusiness startups in the Legal Amazon not only represent a promising strand

of the regional economy through the digitization of marketing processes and the use of online platforms, but also facilitate access to international buyers seeking sustainable and traceable products. This expansion of markets contributes to the increase in exports and to the diversification of the regional economy (Barbosa et al., 2020), but also plays a fundamental role in the search for sustainable economic development. Their commitment to technology, sustainability and social inclusion positions these companies as crucial change agents for the region. As they continue to grow and innovate, these startups have the potential to positively transform the economic landscape of the Legal Amazon and contribute to the preservation of one of the most important ecosystems on the planet.

It is important to highlight that, although the Legal Amazon is a region rich in natural resources, the emergence of agribusiness startups was, until recently, a relatively scarce phenomenon. However, over the years, we have witnessed a significant increase in the number of such companies in the region.

This growth can be attributed to several factors. First, agribusiness startups have benefited from technological advances that enable the implementation of innovative solutions in previously underdeveloped areas. In addition, global concerns about sustainability and environmental conservation have driven the development of more responsible agricultural technologies and practices in the Legal Amazon. This favorable context has attracted entrepreneurs and investors searching for opportunities that combine profit with commitment to the environment and the local community (Embrapa, 2022).

It is essential to recognize that the growth of agribusiness startups in the Legal Amazon is not only due to individual entrepreneurship, but is also driven by development programs and support initiatives that have played a crucial role in this process. The National Bank for Economic and Social Development (BNDES) is a notable example of an institution playing a vital role in the startup ecosystem in the region. BNDES offers lines of credit and financing for projects aimed at the sustainable development of agribusiness in the Legal Amazon. These financial resources have allowed startups to invest in research, technology and expansion of their operations (BNDES, 2022).

The Financier of Studies and Projects (FINEP) is another important institution that has contributed to the growth of startups in the region. FINEP offers financial incentives for technological innovation projects, supporting the development of innovative solutions in agribusiness in the Legal Amazon (FINEP, 2022).

The Brazilian Agricultural Research Corporation (EMBRAPA) plays a key role in providing research and technical knowledge to startups in the agricultural sector. Through partnerships and technology transfer programs, EMBRAPA assists in adapting technologies to the unique conditions of the Amazon region, thus benefiting agribusiness startups (EMBRAPA, 2022).

The Brazilian Micro and Small Business Support Service (SEBRAE) also offers essential support for startups, providing consulting, training and business guidance. SEBRAE assists in the training and growth of entrepreneurs in the Legal Amazon, thus strengthening the startup ecosystem in the region (SEBRAE, 2022).

In summary, development programs play an essential role in sustaining the growth of agribusiness startups in the Legal Amazon. Institutions such as BNDES, FINEP, EMBRAPII, EMBRAPA and SEBRAE have contributed significantly to strengthening the entrepreneurial ecosystem in the region, enabling these startups to thrive and bring innovation to the local agricultural sector.

The positive impact of SEBRAE 's Inova Amazônia Program stands out in the scenario

of the growth of agribusiness startups in the Legal Amazon. In 2022, this program enabled a significant increase in the identification of startups in the region, boosting the innovation ecosystem in the Amazon.

Thus, Radar Agtech Brasil 2022 mapped 36 agribusiness startups operating in the Legal Amazon. However, with support from SEBRAE's Inova Amazônia Program, this number jumped significantly to more than 100 startups in 2023. This exponential increase shows the power of development programs when directed to regions with great potential, such as the Legal Amazon.

The Inova Amazônia Program has played an essential role in providing financial support, training, mentoring and infrastructure for entrepreneurs in the region, generating a positive impact. In addition, the program promotes connection between startups, investors and research institutions, creating an environment that leads to growth and innovation in Amazonian agribusiness.

Launched on 07/20/2021, the Inova Amazônia Public Notices were the first actions of the Inova Biomes Strategy and focused, obviously, on the Amazon Biome. This choice was due to the fact that the Amazon is the largest Brazilian biome and has enormous potential in biodiversity, in addition to the appeal and all the national and international visibility of the region. Four notices were issued, the first exclusively for the state of Pará, as a pilot, and the other three for the states of Acre, Amazonas, Amapá, Maranhão, Rondônia, Roraima and Tocantins.

With the implementation of the project in the eight states mentioned, 400 business ideas were pre-accelerated, of which about 230 small businesses were generated that started the acceleration process, with training, mentoring and participation in connection events with the market and investors.

Some important aspects were observed in this business group, such as: 97% of the participating entrepreneurs declared themselves black or brown; 76% of the businesses have women occupying management positions and 73% of the companies buying inputs from local communities. The data reinforce the diversity of entrepreneurs in the Amazon, the increase in female participation and empowerment in business in this region of the country, as well as the contribution of these innovative companies to the development of local communities that are part of the Bioeconomy chain.

In this first edition of Inova Amazônia, important business and innovation results were also achieved. Among the participants:

- 1) 17% filed a patent;
- 2) 22% received investment;
- 3) 31% started the internationalization process;
- 4) 56% expanded the team;
- 5) 62% increased revenues;
- 6) 90% have developed new products.

These results, combined with the current political situation in the country, have strengthened this strategy in Bioeconomy, innovation and sustainability, culminating in the reissue of Inova Amazônia in 2023 and the expansion of the initiative to other biomes.

# CHAPTER 2 I

# **Agtechs International Scenario**

# **Overview of Investments in Agtechs – Local and Latin America**

In the macro ecosystem of startups and investment in these companies, after a moment of high liquidity in global markets due to economic incentive actions at the beginning of the pandemic, an increase in startup valuation prices was triggered during the Covid-19 pandemic. However, in the middle of 2022, when the market was adapting to the post-crisis world, a moment of correction/adjustments in startup valuations began, a movement that continues throughout 2023. This new scenario made it more difficult for startups to raise funds and companies had to revise their short-term strategic plans to adapt to reality.

Some companies cut costs and migrated to financial equilibrium; others, unfortunately, moved towards closure and a third group followed the path of consolidating companies and talent through integrations and strategic hires (*"aqui-hires"*) by market leaders in various categories. The plant-based food sector, which has experienced a frenzy in recent years, will be particularly affected by smaller funding rounds and significant adjustments in company values, and a consolidation is especially expected among digital agriculture tools – as has happened in recent years.

The improvement in the macroeconomic scenario, with controlled inflation, falling interest rates and more positive prospects for Gross Domestic Product (GDP) growth, tends to boost private equity and venture capital investments in the coming years in the country, according to Infomoney. "The economy is cyclical, and we will see good times. There is a virtuous cycle coming in the next two years, "said Chu Kong, a partner at XP and manager of XP Asset's private equity funds.

The second quarter of 2023 was a turning point for private equity and venture capital investments in Brazil, after a bearish first quarter, according to a report by the Brazilian Association of Private Equity and Venture Capital (ABVCAP) and TTR Data. Investments in private equity, venture capital and corporate venture capital reached R\$6.47 billion from April to June, an increase of 23.2% compared to the first quarter of this year. Corporate venture capital, an investment made by companies in startups that have synergy with their businesses, registered the highest increase in the number of rounds and amount invested. The number of rounds increased 127% in the 2nd quarter compared to the 1st quarter, from 11 to 25, while the amount contributed increased 209% in this interval, from R\$220 million to R\$680 million.

According to AgFunder's agtech and foodtech market analysis report in partnership with SP Ventures, the 2023 Latam Report, while food delivery-focused startups continue to attract the most capital, two key agricultural technology categories – Ag Marketplaces & Fintech and Farm Management Software & Sensing – attracted the most capital, following a global historical trend (Figure 3).

Categoria por financiamento	USD Milhões
e-Grocery (Compra de Mercado Online)	404
Cloud Retail Infraestrutucture (Infraestrutura de Varejo na Nuvem)	270
Marketplaces e Fintechs do Agronegócio	191
CarbonTech & Conservação	147
Tecnologia de Meio de Cadeia	146
Restaurantes Online e Marketplace de Refeição	146
Software de Gestão Agrícola e Sensores	127
Alimentos inovadores	79
Tecnologia para Varejo e Restaurantes em Lojas Físicas	67
Ag Biotecnologia	41
Bioenergia & Biomateriais	33
Sistema de Agricultura Inovador	18
Robótica Agríxola, Mecanização e Equipamentos	2
Casa & Culinária	1

Figure 3. Investment by category of Startups in Agro – Latin America Agrifoodtech Investment Report 2023.

As in the previous year, the e-grocery *segment* was the most representative, and Latin American consumers are no different from the rest of the world in their demand for home food deliveries. Grocery delivery startups are in mature stages of growth around the world, and in Latin America some more advanced-stage deals have propelled the category total to more than US\$400 million.

Next, the *cloud retail infrastructure* segment was the second that most appeared in the *deals* made, with Colombia leading this category, with four startups, Rappi, Foodology, Muncher and Melonn among the top six, especially with the regional domination of Rappi – the unicorn startup that is building home delivery infrastructure for food and products throughout Latin America.

Investor interest in Agricultural Marketplaces and Fintech startups ranked third, raising 73% more in 2022 (US\$191 million) than in 2021 (US\$110 million), albeit with fewer rounds. Startups in this category aim to provide a wide range of inputs and financing tools for farmers and the agricultural chain. This is particularly strong in the Latin America region, especially in markets such as Brazil, which had \$75 billion in working capital credit facilities available in 2022, all of which were utilized.

According to Agfunder's 2023 Latin America investment report, Brazil is by far the largest Latin American market for agrifoodtech startups and investments, holding almost 50% of the market share, with technologies spanning the entire supply chain. Colombia's agrifoodtech industry appears to be less diversified, with more deals closed for innovations aimed at the latter part of the supply chain, with the region's leading delivery app, Rappi, raising more than US\$100 million in 2022. Mexico closed the second highest number of deals during the year. Other countries, such as Venezuela and Belize, had fewer deals, but with significant amounts –
País	USD Milhões	Porcentagem do valor (%)	Negócios
Brasil	765	46	86
Colômbia	363	22	17
México	272	16	25
Chile	132	8	15
Argentina	49	3	18
Venezuela	48	3	2
Belize	27	2	2
Uruguai	10	0,6	1
Peru	6	0,3	8
Porto Rico	2	0,1	1
Costa Rica	-	-	1

Yummy with US\$47 million and Dimitra with \$26.5 million, respectively, placed these markets in the top ten in 2022 (Figure 4).

**Figure 4.** Table of the main countries and their investment values in agrifoodtechs – Latin America Agrifoodtech Investment Report 2023.

It is worth highlighting the four major theses of investment, related to the large subsegments of agtechs, which have been attracting a large flow of capital globally:

## A. AgFintechs

AgFintechs focus on using technology to improve the financial sustainability of the agricultural industry. These companies utilize financial technology (fintech) to address the unique challenges faced by farmers and agribusinesses, including access to credit, risk management, and supply chain financing. AgFintech companies are playing a transformative and agile role in the agricultural sector by providing financial services and innovative solutions tailored to meet the specific needs of farmers and companies in the agricultural sector. Such solutions encompass a range of innovative financial products and services, such as mobile banking, agricultural insurance, and supply chain financing, accompanied by advanced data analytics and risk management tools. Latin America, in turn, has a wide variety of AgFintech startups, all committed to helping farmers gain access to high-quality credit, as well as assisting the agricultural industry in digitizing its credit processes, which are essential for its operations in the sector. Investment data shown by Agfunder's 2023 Latam Report show that, in the category, there was a slight drop in 2022, with a total of investment of US\$1.8 billion in 2022, compared to US\$1.9 billion in 2021. However, this amount does not fail to demonstrate the strength of the category.

## **B. Biological Inputs**

AgBiotechs are companies that produce and market biological products (viruses, fungi or bacteria and microbiological or macrobiological products, such as wasps and mites), which

contribute to greater productivity and biological balance in the fight against pests.

As indicated in AgFunder's 2023 Global Agrifoodtech Report, in collaboration with Temasek (Singapore Sovereign Fund), investment in AgBiotechs grew by 8.5%, from US\$2.51 billion in 2021 to US\$2.73 billion in 2022. This increase is particularly noticeable in a category generally dominated by North America. The Chinese company Zhongxin Breeding, which specializes in raising pigs using techniques such as genomic selection and somatic cell cloning, excelled at developing new breeding lines in response to market demand. In the Brazilian market, the biologics sector has maintained a steady double-digit growth

for several years. Brazil, with its vast biodiversity, offers fertile ground for the development of biological solutions that make agriculture more productive, making use of biocompatible products.

## C. Marketplaces

Marketplaces are the virtual spaces for buying and selling products. In the agricultural and food industry they offer a promising avenue to optimize and enhance the way farmers and food producers source inputs and sell their products. By bypassing intermediaries and wholesalers, these marketplaces empower farmers to get better prices for their produce, while buyers can access fresher, better quality food at reduced costs. This process has the potential to reduce food waste and greenhouse gas emissions and improve transparency throughout the supply chain.

For consumers, marketplaces in the agricultural and food industry provide a wide variety of products, including specialty and locally sourced foods that may not be readily available in traditional retail chains. In addition, these platforms offer detailed information about products, such as their origin and production methods, empowering consumers to make better-informed purchasing decisions.

The growing adoption of e-commerce, the growing interest in sustainably and locally produced food, and the need for more effective and transparent supply chains are driving the idea behind marketplaces in the agricultural and food industry. This trend has the potential to benefit all parties involved, contributing to the creation of a more sustainable, equitable and responsive food ecosystem.

## D. Climatechs

Climatechs are companies that, through the use of technology, act directly or indirectly to reduce the impacts of global warming and Greenhouse Gases (GHGs). Consumers are becoming more aware of sustainability, and this awareness impacts their purchasing decisions. This movement will foster investments in solutions focused on traceability, water management and carbon neutrality. These companies can operate in different areas, such as mobility and transportation, energy, agriculture and land use, manufacturing, construction and financial services. In 2022, investment funds focused on the area channeled a total of US\$64 billion, according to a report by Climate Tech VC.

Looking at individual segments, the 2022 Pitchbook report shows that carbon technology had its best year in venture capital investments in 2022, with a total investment value of \$4.2 billion, compared to \$3.6 billion in 2021. The number of carbon technology investment deals also reached a new record, with 204 deals in 2022, compared to 167 in 2021. Within carbon technology, the increase in venture capital investments in all forms of carbon capture (point source, direct air and biological) was sufficient to offset the drop in fintech

carbon investments since 2021. The "industry" segment, which includes manufacturing decarbonization, material generation and processing, as well as recycling technologies, remained largely stable compared to 2021, and its biggest year-over-year change consisted of a drop in investments in lithium battery recycling, offset by an increase in investments in green chemicals and manufacturing. The built environment segment showed a moderate increase reaching a new high point in 2022, but there was a reduction in venture capital funding for "land use" technologies, in particular for climate and land data.

The four theses explained above are present in Brazil, and each year with new agtechs contributing to respond to the various challenges of each segment. Observing the historical series of risk investments in Brazilian agtechs, presented in the following graph (Figure 5), it is possible to understand the evolution of the maturity of the agtech subsegments in Brazilian agribusiness, which went from US\$109 million in 2021 to US\$200 million in 2022 in the high-risk market.





The first thing that should be highlighted is the relative inconstancy. The volume of investment in Brazilian agtechs varied considerably between 2017 and 2022, with a great increase in investment volumes in 2018, followed by a drop in 2019, a slight recovery in 2020 and more significant growth in 2021 and 2022.

This variation is common in sectors that are still developing, which may cause some hesitation on the part of venture capital investors. In addition, this ecosystem presents a large disparity in size among participants, with some well-established startups in advanced stages, while most of the market is in initial formation, depending on initial investments and angels for funding.

Looking at the last five years, there has been an acceleration in investments in the sector, which may be the beginning of a more stable investment curve. It is worth mentioning the record volume of investments made in 2022 in agtechs, being the best year for the segment.

The year of 2023 began with a great challenge for startups of all segments, with the adaptation of the market, which was overheated by the economic incentive strategies after the Covid-19 crisis, and the consequent correction of some overvalued prices. The volume of investments is expected to fall; if the 2022 level is maintained, it can already be considered a win for the sector.

Regarding investment asset categories, investments are divided by stage and nature. The first point that draws attention is the large volume of investments in the seed and pre-seed categories, dedicated precisely to giving the first breath to innovative businesses to develop their products for the markets in which they operate (Figure 6).



## Investimentos por Categoria de Ativos, 2022

As a rule, the large volume of investment in the early stages – presented in the chart above with the names angel, pre-seed and seed - is a sign of health and vitality for the ecosystem. It means that there is a willingness on the part of investors to foster new businesses, which increases the number of startups that survive the first few years and gives greater visibility to the sector as a whole.

According to LAVCA's 2023 annual report, private credit continued to grow, reaching a record US\$ 5.8 billion across 108 deals. This has occurred as local fund managers have increasingly filled a funding gap for distressed assets and small and medium-sized enterprises (SMEs) during a period of sharply rising interest rates.

Infrastructure debt also stood out as a significant driver of private credit growth, accounting for 34% of the total value of private credit deals in 2022. However, venture capital (VC) and technology investments slowed due to global adjustments in valuations and a renewed emphasis on profitability. After a record year with nearly \$16 billion of VC investment in 2021, invested capital fell to US\$ 7.8 billion in 2022.

Investments began to slow down primarily with late-stage rounds (Series C+) and spread

Figure 6. Gráfico 1: LAVCA 2023 Source: (insert source)

to early-stage rounds (Series A-B) as the year progressed. Notably, initial rounds proved to be more resilient and surpassed \$1 billion for the first time in history. Despite the slowdown, VC remained the second largest asset class in the region in terms of invested capital and surpassed all VC annual totals prior to 2021. There were also record levels of investment in several underrepresented markets (Bolivia, Costa Rica, Ecuador, Venezuela) and in emerging sectors (cleantech, biotech, HRtech and adtech).



## Investimento de capital de risco trimestral na América Latina por estágio em USD bilhões, 2020 - 2022

The high volume of investment not only evidence the need for the products and solutions proposed by the startups, but also the high levels of acceptance and recognition of the players participating in the agribusiness chain. This is shown in the graph above as angels, pre-seed and seed, demonstrating that recognition is exemplified as a promotion for the creation and growth of companies and the market as a whole.

After a record year of investment in VC, with almost US\$16 billion invested in 2021, venture capital financing slowed down in 2022. This was due to global corrections in valuations and increased critical analysis by investors. In 2022, VC investors allocated US\$7.8 billion across a total of 1,114 deals, marking a 51% reduction in invested capital compared to the previous year. This slowdown, which did not affect all stages uniformly, began in the advanced stage rounds (Series C+) in early 2022 and, throughout the year, spread to earlier stages. Remarkably, most of the investment was concentrated in the first months of the year, with 72% of VC dollars contributed in the first half of 2022. The pullback in investment was particularly noticeable in late-stage funding rounds, which largely rely on global investors. This happened amidst the volatility of public markets and an environment of less favourable outflows.

In 2022, investors earmarked \$2 billion for late-stage rounds, marking a 79% reduction compared to the \$9.5 billion invested in 2021. However, seed funding demonstrated resilience

Figure 7. Gráfico 2: LAVCA 2023 Source: (insert source)

during this downturn as an increasing number of local fund managers continued to invest in startup entrepreneurs. Venture capital (VC) investors active in early startups included the likes of 500 Global, 99 Startups, Angel Ventures, Bertha Capital, Bossa Nova, Canary, DOME, Newtopia, Platanus Ventures, and YC. The increase in early stage negotiations led to a new record of 1,114 deals in 2022, representing a 22% increase compared to 2021. Initial investment in the region surpassed the \$1 billion mark in 2022, compared to about \$650 million in 2021 and approximately \$300 million in 2020.

## Ranking of the Startup Ecosystem in the world

StartupBlink considers 2023 as a year of resilience and adaptability (Startupblink, 2023), and considers the number of startups, ecosystem quality and business environment in its ranking. On the other hand, Startup Genome considers performance, funding, connectivity, market reach, knowledge, talent and experience.

The 2023 Startup Ecosystems Ranking (Startupblink, 2023) ranked the city of São Paulo as the 17th startup ecosystem in the world, falling one position if compared with the 2022 report. In addition, the Global Startup Ecosystem Report (Startup Genome, 2023) ranks São Paulo in 26th position.

The city of São Paulo rose two positions compared to the 2022 ranking, remaining the only city in Latin America ranked among the 30 most relevant ecosystems in the world (Startup Genome, 2023). In the analysis of the best ranked cities among those with the largest startup ecosystems in the world, the surveys by Startup Genome (2023) and StartupBlink (2023) show the ranking presented in Table 1.

Position	StartupBlink	Startup Genome
1	San Francisco	Silicon Valley (San Francisco)
2	New York	New York City
3	London	London (tied with New York)
4	Los Angeles	Los Angeles
5	Boston	Tel Aviv
6	Beijing	Boston
7	Shanghai	Beijing
8	Bangalore	Singapore
9	Paris	Shanghai
10	Tel Aviv	Seattle
11	Berlin	Washington, D.C.
12	Seattle	Seoul
13	New Delhi	Berlin

Tabela	1. Ranking	of cities	with the	largest	startup	ecosystems	in 2023,	top 20	cities.
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Position	StartupBlink	Startup Genome
14	Tokyo-Yokohama	Amsterdam-Delta
15	Chicago	Токуо
16	Shenzhen	San Diego
17	São Paulo	Toronto-Waterloo
18	Washington, D.C.	Paris
19	Stockholm	Chicago
20	Singapore City	Sydney and Bengaluru-Karnataka (tied)

Source: StartupBlink 2023 and Startup Genome 2023.

In StartupBlink's 2023 report, cities in the global top 10 remained mostly stable, with the exception of Tel Aviv (10th in 2023) and Paris (9th in 2023) which reversed positions. Shanghai, the second-ranked Chinese Ecosystem, retained 7th place globally, but is separated from the top six cities by a substantial gap in total score, making it closer to lower-ranked ecosystems. The USA remains the most representative country in the ranking, with seven cities in the top 20.

In the 2023 Startup Genome report, the top three ecosystems have maintained their positions since 2020, with Silicon Valley remaining at the top, followed by New York and London, tied for second place.

In the comparison between the two rankings, Singapore was included in the top 10 for the first time, climbing an impressive 10 positions and reaching the 8th place, the biggest improvement in rankings over the previous 18th place.

Such relevance is also observed in agribusiness, according to the Global Report on Startup Ecosystems for the Agtech & New Food Sector (Startup Genome, 2023). The top five Agtech & New Food ecosystems are Silicon Valley, New York City, London, Tel Aviv-Jerusalem, and Denver-Boulder. The main cities can be seen in Table 2.

Tabela 2. Global ranking of agtech ecosystems and new food startups, top 25 cities in agro.

Position	Startup Genome
1	Silicon Valley
2	New York City
3	London
4	Tel Aviv-Jerusalem
5	Denver-Boulder
6	Los Angeles
7	Boston
8	Beijing
9	Vancouver

Position	Startup Genome
10	Research Triangle

- Table 2. Globally, Brazil is an agribusiness powerhouse, and the ecosystem in the city of São Paulo, focused on innovation in agriculture and livestock, was in 18th position, that is, ten above the general position of the city of São Paulo (28th place).

In 2022, due to the slowdown in venture capital funding, after a year of impressive growth in 2021, the region recorded a 5% drop in the value of early-stage funding, as well as a significant 72% reduction in the value of Series B+ funding and a 54% drop in the Series B business count. Despite the decline, total funding in 2022 still outpaced the years prior to 2021, indicating a positive long-term outlook.

In the scenario of startup ecosystems in Latin America, São Paulo stands out as one of the main technology hubs and the largest city in Brazil. Recently, it climbed two positions in the ranking and now occupies the 26th position, being the highest ranked ecosystem in the region and the only one among the top 30. According to GSER 2023, the five main ecosystems in Latin America, in descending order, are: São Paulo, Mexico City, Buenos Aires, Santiago-Valparaíso and Bogotá. In addition, the ranking of the five ecosystems considered emerging by Startup Genome includes Rio de Janeiro, Curitiba, Belo Horizonte, Monterrey and Porto Alegre. Financing activity in São Paulo was highlighted at GSER 2023 at events such as Nubank's \$41.5 billion IPO in 2021, Creditas' \$310 million Series F round in January 2022, and Neon's \$300 million Series D round in February 2022. In addition, other Brazilian cities are also rapidly developing their own tech startup communities, driven by the government's Legal Framework for Startups, launched in June 2021, which encourages experimentation with innovative technologies and business models.

Financimento por Continente	USD total
América do Norte	13.6b
Ásia	8,6b
Europa	5,1b
América Latina	1,1b
África	640M
Oceania	317M

## **Final Considerations**

Figure 8. Investment in agrifoodtechs by continent – Latin America Agrifoodtech Investment Report 2023.

According to AgFunder's 2023 global Latin America report mapping, the United States continues to dominate the industry, accounting for more than 90% of North America's total. Within this scenario, California accounted for almost half with \$5.5 billion. Asia still has a much *larger* agrifoodtech sector than Europe, despite a huge reduction in financing for China (Figure 8). Africa countered the global slump based on a few big deals, while Latin America experienced the biggest drop, with some of the highest rates of global inflation impacting investor demand.

Of the total raised by US companies, those based in the state of California – that is, Silicon Valley – captured almost half, with US\$5.3 billion, almost double that of the second largest global market, India. While agrifoodtech is clearly a global industry, other US states have also managed to raise significant sums, such as New York, which has surpassed other leading tech hubs such as the UK, China and France with \$1.7 billion raised. Massachusetts and Illinois were on par with Israel at just under \$1 billion. Business activity is an important measure of entrepreneurship, and while it has declined from its 2021 peak, the United States has closed more deals than all the other top 10 countries combined.

## Assessment of the maturity level of AgTechs and FoodTechs in Brazil through a self-declared diagnostic tool

#### Introduction

Radar Agtech is a mapping of Brazilian agro startups and the main source of information about technology-based companies in the industry. Prepared by Embrapa, SP Ventures and Homo Ludens with the support of Sebrae, it presents the profile, area of operation and location of Brazilian agtechs and identifies their investors, a strategic initiative generated for the first time in 2021.

According to growing demands, in a market that showed significant expansion in 2022, aiming to improve its scope and analytical capacity on how startups linked to Brazilian agribusiness are developing, Radar Agtech Brasil 2022 is becoming a strong reference for actions to promote and encourage entrepreneurship and innovation, stimulating partnerships between startups, educational and research institutions and investors.

Continuing this evolutionary work, for 2023, in partnership with Tecnopuc (Science and Technology Park of PUCRS), one of the most awarded and traditional Innovation Ecosystems in Latin America, through its vertical agro, Celeiro Agrohub, the purpose is to take another step in getting to know the maturity level of the more than 1700 agtechs already mapped and distributed throughout the national territory.

In this context, a "Diagnostic Tool" was previously developed to identify the current business scenario of these technology-based companies. The methodology is based on the five axes of Cerne<sup>1</sup> (Entrepreneur Profile, Technology, Capital, Market and Management), with the addition of a Social and Environmental Impact axis.

The objective is to help entrepreneurs and *advisors* understand the maturity of their startups and what decisions should be made for the development of their own business and of the new, innovative company. To support this partnership, in 2021, Tecnopuc's technical group<sup>2</sup>

<sup>1</sup> The National Association of Entities Promoting Innovative Enterprises (Anprotec), together with partner institutions (Sebrae, CNPq, MCT, Finep, among others), began efforts to provide greater potential for impact of the business incubation process in the country. In this sense, a new model of action was developed based on successful experiences nationally and internationally and aligned with the best practices and trends of the incubation frontier. Called the Reference Center for Supporting New Enterprises, CERNE created a model and a standard of action, in order to expand the incubators' capacity to systematically generate successful innovative ventures. Thus, a baseline was created to allow incubators of different areas and sizes to use basic elements to reduce the level of variability in achieving success of the supported companies. To date, Anprotec and Sebrae have already coordinated the CORE implantation process in 76 incubators, at maturity level 1 or 2. Thus, it is important to evaluate the implementation program of the CORE model and verify the positive results and points of improvement, as well as to analyze the effects on local development.

<sup>2</sup> IMHOFF, B.; VENTURINI, D.C.; REIS, N.T.; ABREU T.M.; VINÍCIUS BECKER, Diagnóstico de Startups: o método de mensuração do

joined a large company to support a new project aimed at boosting the innovation ecosystem of the state of Rio Grande do Sul. The challenge was to set up a remote acceleration program until the end of the social distancing period.

For eight months, with activities aimed at enhancing the skills of entrepreneurs and monitoring diagnostic indicators, the program offered support for the continuous development of startups. It was determined that each of the startups would be followed by an *advisor*, a function performed by employees from strong companies, through voluntary sponsorship, observing the needs of the nascent companies and connecting them to the linked innovation ecosystems. For each dimension analyzed, questions were made to assess the enterprise, and the answers lead to a business maturity score, ranging from 1 (weak) to 5 (high) maturity level as per the previously highlighted dimension.

The «Diagnostic Tool» was generated through an electronic *survey* (self-declared and voluntary form), in which those responsible for the companies (startups) reflect on the most expressive issues of the reality of their enterprise. The form consists of 33 questions related to the six axes used by Tecnopuc, in order to assess the level of maturity of its related companies, as described below and which will now be expanded within the scope raised by Radar Agtech 2023.

The objective is to offer a tool that will serve as the foundation for a document with relevant information to startups and the formulation of public and private policies that stimulate the sustainable development of innovative businesses. After completing this "self-declared" form, the data are mined in spreadsheets and gathered into a broader database, in which each company automatically receives its self-diagnosis , and later, if interested, a consolidated comparative diagnosis, according to its segment of operation and its corresponding geographical area. This form was automated thanks to the collaboration of Creatus<sup>3</sup>, a company incubated at Tecnopuc (Figure 9). Thus, a file was generated with the answers of each startup, notes and explanations about each dimension. Once a significant number of respondents was gathered, a visual experience was also generated informing their level of maturity, by dimension, compared to the general and specific average for each segment of operation in the market.

The tool is responsible for guiding *advisors* and entrepreneurs in the next steps of their business, during the course of the program. The grades obtained are indicators that make it possible for the organizing team to find trends and points where there is more difficulty in managing their journey.

desenvolvimento de startups em programa de aceleração com grandes empresas. ANPROTEC: ANAIS, 2021.

<sup>3</sup> Creatus is a Venture Builder that operates in a CTO as a Service format, helping startups and companies get their ideas off the ground and into action. Thus, it develops customized technologies such as apps, platforms and other technology-based solutions. Website available at : https://creatusdev.com



**Figure 9.** Startups self-declared report template. **Source:** Tecnopuc.

Thus, the Diagnostic Tool is a practical way to monitor the evolution of startups, within the acceleration programs, according to pre-established axes. However, it needs continuous improvement to enable more critical analyses, as well as more accurate insights for the *advisor* and the participating companies. It is important to emphasize that the intention of the diagnosis is not to stimulate a dispute between the startups, in order to identify those who develop more in the program, since it is understood that each company has its differences and specific traits, as well as its respective stage of development.

As a result, individual analysis is suggested, with deeper evaluations and paths for each challenge, taking into account the stage of development of the company and its business. For this purpose, it is necessary to establish what data you want to obtain with the answers of the startups, in order to structure and standardize the most relevant information of the tool. As a suggestion, the analysis of the application dynamics should be compared in cases in which the entrepreneur provides the answer upon reading the question, instead of that in which the entrepreneur reads the possible answers, minimizing biases that distort their reality at that specific time, since when the entrepreneur has access to the standard answers, they might choose those which will result in better answers.

## **Diagnostic Tool Axes**

Tecnopuc's group<sup>4</sup> carried out several tests with different tools and approaches in order to make the development process of startups at Tecnopuc more concrete. After evaluations and validations with several players and experts, a decision was made to create their own methodology, built on the knowledge and experience of the Tecnopuc Startup team that is involved in this project.

<sup>4</sup> VENTURINI, D.C.; ANTUNES, E.N.; LEHMEN, G.A.; SILVA, J.R.; POMPERMAIER, L.B, Diagnóstico de Startups: estratégia para mensuração do desenvolvimento de negócios nascentes.

The methodology is based on the following pillars (dimensions) – Entrepreneur; Technology; Management; Market; Capital – which were established by Cerne and serve to guide and strengthen the development of startups and enterprises as a whole.

Tecnopuc also integrated a Social Impact node, due to the guidelines of the Institute of Business Citizenship (ICE) that encouraged Brazilian accelerators and incubators to play a strategic role in stimulating and supporting companies with social impact.

Based on the strategy suggested by Tecnopuc's Social Impact management node, the "Impact" axis was introduced as part of the evaluation of startups. Thus, a sixth dimension was also evaluated, precisely addressing the theme of Social Impact in order to capture how this fundamental dimension is incorporated into the business model of startups. (Figure 10).

ENTREPRENEURSHIP Profile development enterpreneur: strengthening soft skills, network management relationship, participation in courses and events.	<b>TECHNOLOGY</b> Development of a solution to meet the customer needs through the use of technologies innovative.	MANAGEMENT Installation strategies and business growth, considering aspects such as business model, constitution team and marketing.
MARKET Market undestanding for commercial development of business.	<b>CAPITAL</b> Main needs, demands and strategies for capital leverage.	IMPACT Insertion of the impact theme in the business model, measurable and aligned way governance and strategy.

**Figure 10.** Definition of the Cerne pillars, plus the Impact Axis by Tecnopuc **Source:** Tecnopuc.

## **Diagnostic Tool Survey**

*Surveys* provide better understanding of causal mechanisms , can serve as the main source of data and can generate data that will be analyzed quantitatively later <sup>6</sup>.

This survey was structured in seven parts, covering the six previously mentioned axes and plus an introductory part. The questionnaire comprises 54 questions, which are open and closed, with 21 questions about the startup in the introduction and 33 about the axes.

The introductory part aims to collect data about startups, which allows the survey of their profile . Objectively, it demonstrates a general parameter about startups, as well as geographic profile, category, values, financial and business models and other key points. This part comprises 21 open questions described in the Table 3.

Tabela 3. Questions from the introductory part of the diagnostic tool survey

INTRODUCTION	
1. Startup Name	
2. Contact email	

INTRODUCTION
3. Contact telephone number
4. Startup CNPJ
5. Name of Startup partners
6. Startup Website
7. Startup social networks
8. State of the Startup
9. Startup City
10. Total employees
11. Startup Description
12 . Business customers
13. Value proposition
14. Startup Revenue Sources
15. Relationship channels with customers and stakeholders
16. Business relationship strategies
17. Key Startup Activities
18. Startup's key partners
19. Costs involved in running the business
20. Startup business models
21. Target audience

Source: Prepared by the authors

The second part corresponds to the entrepreneurship axis and comprises 5 questions, shown in the Table 4 below, which seek to understand the development of the startup's entrepreneurial profile, evaluating relationship network management, participation in events and courses, consolidated skills and development of new skills.

Tabela 4. Questions from the entrepreneurship axis of the diagnostic tool survey.

ENTREPRENEURSHIP	
1. Profile of the Founders	
	-

2. Has any partner already started a business, has experience in new businesses, or mentored other businesses? OR have you been working for more than 3 years?

3. Participation in courses/mentoring/improvement programs for business development in the last 6 months:

4. Participation in a business-related event in the last 6 months:

#### **ENTREPRENEURSHIP**

```
5. Is there a contact management practice (relationship network)?
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Source: Prepared by the authors

The third part, which addresses the technology axis, seeks to analyze the technical structure of the team and the development of solutions through the use of innovative technologies. It comprises 6 questions, according to the Table 5.

Tabela 5. Questions from the technology axis of the diagnostic tool survey.

#### TECHNOLOGY

- 1. What are the technologies present in the startup's solution:
- 2. Is the team structured to support the technical development of the project?
- 3. Do you have a product/service roadmap?
- 4. Is there a formalized and documented list of system requirements?
- 5. Does the Startup have a working MVP?
- 6. Is the technology used by the startup innovative?

Source: Prepared by the authors

When it comes to the management axis, the objective is to analyze the strategies used for installation and growth, use of indicators, marketing plan used and sales structure. It corresponds to the fourth part of the questionnaire, consisting of 6 questions, indicated in the following image (Table 6).

Tabela 6. Questions from the management axis of the diagnostic tool survey.

MANAGEMENT
1. Does the startup have a Canvas or management tool/macro view of the startup?
2. Does the startup have a structured marketing plan?
3. Does the startup have a defined sales structure?
4. Does the startup have skills and functions mapped according to the business strategy?
5. Does the team have control over CAC, Revenue, Churn, MRR, LTV indicators?
6. Does the startup plan to expand its team?

Source: Prepared by the authors

The fifth part analyzes market competencies, perception and analysis of competition, level of maturity (validation, traction and expansion or scale) and notion of market sizing. This part is composed of 6 questions, described in the Table 7.

Tabela 7. Questions from the market axis of the diagnostic tool survey.

#### MARKET

1. What are the markets in which the startup operates?

2. Does the startup have the size of the market in which it operates? 3. Does the startup know its rivals, rivals and substitutes?

4. Does the team plan expansion/new products for other segments, markets and/or geography?

5. Is the product/service already on the market? What is the user's perception?

6. Startup maturity phase.

6. Fase de maturidade da startup:

Source: Prepared by the authors

When analyzing the capital axis, which is the sixth part of the *survey*, the objective is to verify the startup's perception of demand and strategy to foster capital, as well as to evaluate the size and management of financial capital. The Table 8 describes the questions used.

Tabela 8. Questions from the capital axis of the diagnostic tool survey.

CAPITAL
1. If you have already received investment, what type of funding was made?
2. Does the startup know or have already reached its break-even point (PE - when revenues and expenses are equal)?
3. What is the financial sustainability of the startup?
4. Does the startup have a plan for raising financial resources?
5. Does the team prospect calls for proposals, challenges, hackathons to raise funds?
6. Valuation (Estimated company value)

Source: Prepared by the authors

The seventh and last part evaluates the impact axis, in which the potential impact of the startup is verified, as well as its alignment with the strategies and missions. This part consists of 4 questions, as shown in the following image (Table 9).

**Tabela 9.** Questions from the impact axis of the diagnostic tool survey.

#### IMPACT

1. Is the commitment to social or environmental impact explicit in the startup's mission?

2. What is the startup's strategy to generate a positive impact?

3. Does the startup care about a diverse, equitable and inclusive work environment?

4. Are the startup's products or processes structured in a way that restores or preserves the environment in some way? Or contribute to the sustainable development agenda?

Source: Prepared by the authors

## **Diagnostic Tool Application**

The application of the diagnostic tool reaches a new dimension with the institutional partnership granted between Tecnopuc/PUCRS and Embrapa , aiming to add an analytical look to Radar AgTech. Through this joint action, startups already registered in previous editions of Radar are now encouraged, via invitation by spontaneous adhesion, to respond to the diagnosis, adding greater analytical power to the evolution of innovative businesses in Brazilian agribusiness. Thus, a certain percentage of companies was expected to join this call, as a pilot and validation of this joint proposal, in order to strengthen this practice, providing greater impact and scope for the subsequent editions of this nationwide survey.

During this process, the Radar AgTech team plays a greater supervisory role, closely monitoring the startups' responses. Next, the answers are analyzed, and Radar AgTech uses its experience and knowledge to identify areas of vulnerability and opportunities for improvement. The result of this analysis made by the management is fundamental, since it will be the basis for defining specific actions to be implemented during the program. These actions aim to strengthen startups in areas identified as the most critical and amenable to support and management of more effective and assertive public policies.

On the other hand, startups are also expected to assume their leading role, becoming active in interpreting the answers and creating their own action plans, allowing them to analyze and implement significant improvements in their operations and strategies, based on the answers generated, as shown in the following Figure 11.



**Figure 11.** Startup maturity according to the Diagnostic Tool. **Source:** Brazilian Agricultural Research Corporation (Embrapa)

In this edition, as a validation of the Diagnostic Tool, a preliminary survey was carried out (without more sophisticated statistical validity, since the "n" is very low), obtaining some

voluntary responses from startups, with a total of 24 responses. However, of this set, only 20 of them answered completely, which lead to the exclusion of 4 incomplete forms. Thus, the first diagnosis results in the analysis of this small stratum, revealing the analytical potential proposed by the tool, focused only on the analysis of the individual maturity of each respondent. In addition, the general analyses are incipient.

For this first round, voluntary startups are distributed in seven states: Pernambuco (n= 1), Mato Grosso (n= 1), Espírito Santo (n= 1), Rio de Janeiro (n= 1), Paraná (n= 2), São Paulo (n= 5) and Rio Grande do Sul (n= 9) and have a higher concentration in the southeast and south regions. The following map (Figure 12) shows the overall average maturity of startups by state. It is worth remembering that the scale of the instrument varies from 0 (absence of the dimension) to 5 (high level of maturity).



Figure 12. Heat map of the average maturity level of startups by state. Source: Prepared by the authors

## Average Maturity by Axis



Figure 13. Average maturity level of startups by axis. Source: Prepared by the authors

When analyzing the averages of maturity by axis, it is noted that some axes show more strength, with higher averages and smaller variations between the sample . They are, respectively: Entrepreneurship, Technology, Impact, Market, Management and Capital (Figure 13 e Figure 14).



Figure 14. Maturity level variation of startups by axis. Source: Prepared by the authors

The multifactorial assessment, considering several axes, is extremely important, as it allows the identification of vulnerabilities and strengths in a quantitative and visual way. The analysis of the maturity levels of the startups, observing the same startup, shows the variation



## of the maturity level in different axes (Figure 15).

# Figure 15. Graph 3. Maturity level of startups by axis. Source: Prepared by the authors

In the end, everyone involved – Radar AgTech, startups and the agribusiness ecosystem as a whole – benefits from this knowledge and experience, further strengthening the sector and driving innovation.

## **Future Developments**

Through this new analytical instrument, the expectation is to generate more assertive *insights* for the different *stakeholders* of Brazilian agribusiness, highlighting the following factors:

For the governments:

- identifying strengths and weaknesses of nascent companies, with a differentiated technological base (Agri&Food Techs), serving as a radar for the allocation of policies that induce innovation and sectoral development and/or territorial coverage of high demand and regional impact;
- evaluating the maturity stages of companies and their businesses, in order to establish promotion and dissemination policies with potential national and international markets.
- measuring the business potential, value addition and generation of employment, income and taxes of this special set of companies that play an important role for the future of the country.

For innovation ecosystems:

- identifying priority areas for action, profile of related companies, maturity stages, market potential, with a view to establishing development policies, training, mentoring and strategic connections,
- assisting in attracting new partners, investors and markets to its territory of coverage and local socioeconomic impact.
- stimulating the development of local and regional public actions that boost its performance and local dynamism.

For *smart money* investment funds:

- identifying better investment opportunities in Agri&Food *Techs*, according to the level of maturity, priority investment thesis and degree of risk associated with the prospective businesses;
- establishing private development programs, in areas of high potential and demand for corporate business, with a view to raising funds from Corporate Ventures, aligned with the current businesses and/or bearers of a promising future.

For startups:

- identifying their current strengths and weaknesses;
- assisting in the allocation of privileged resources, in weaker dimensions and that may compromise the advancement of the business;
- updating and socializing the maturity stage for the set of partners and investors already committed to the business;
- providing evidence of their business reputation with priority markets and prospective customer base, especially if they evolve through an independent audit that attests to the real evolution of their corporate governance;
- guiding the plan of agreed goals and facilitating complementarity in potential subsequent and pertinent strategic alliances and partnerships.

## CHAPTER 3

# Representativeness and participation of women in the Brazilian Agtech ecosystem

## Introduction

In practice, there are still no rights, equal pay and equal opportunities for women, compared to the reality of men. The vision is increasingly broadened and inclusive strategies are developed; however, there is a long way to go to achieve gender equity in the business environment.

To promote diversity and increase the presence of women in the organizational environment, it is necessary to promote awareness of the value of a diverse workforce. Encouraging the growth of the number of women in the most varied positions, public or private, is one of the ways to achieve a more inclusive, creative society that provides a better quality of life for its citizens.

In this sense, although there are still divergences and often resistance, it is increasingly acknowledged that providing opportunities for all people – regardless of gender, race, social status, sexuality, age group, disabilities – leads to improvement in the organizational environment, increased productivity and innovation, as well as contributes to a fairer society.

With regard to the agricultural industry, the performance and representation of women has been growing a lot in recent years. Although there is male predominance in the industry, the presence and impacts of female activity have been increasingly highlighted.

About half of Latin America's rural population is composed of women, who face challenges such as work overload, lack of access to production resources and low appreciation of their work. Patriarchal culture also limits their political participation and economic autonomy.

Although gender equality is a goal recognized by the 2030 Agenda, women, and especially those living in rural areas, continue to face significant inequalities in access to resources, decision-making power and food security. Despite the difficulties, rural women play a crucial role in defending their territories, biodiversity and communities, as well as transmitting important knowledge.

Many functions in agriculture are performed by female workforce. Rural producers and workers, researchers and educators, managers in large companies, entrepreneurs in startups. In all of these roles, they contribute to agri-food systems, to the world supply of food and fiber, to the generation and dissemination of new knowledge and technologies, and to the promotion of sustainability and agricultural innovations.

This chapter presents an analysis focused on the representation and participation of women in Agtech entrepreneurship (agro startups), analyzing studies and research on the subject, as well as the survey promoted in Radar Agtech 2022, on the female presence in startup management; complemented with data on the female presence that are detailed in the chapter "Deepening the profile of agtechs" of Radar Agtech 2023. Additionally, this chapter introduces programs focused on encouraging women entrepreneurs, as well as collectives and events focused on the development of women working in the agricultural industry.

## Female entrepreneurship in Agro

Female entrepreneurship dates back to the struggle for women's rights, breaking paradigms and prejudices, contributing to diversity and innovation in business. Selvi and Jegan (2023) present the entrepreneurial woman as a woman or a group of women who innovate in conducting an economic activity.

A more detailed analysis of the 2017 Agro Census (*MAPA et al.*, 2020) points out that the number of women directing rural properties in Brazil reached 1 million, out of a universe of 5.07 million, which represents just under 20% of the properties. Regarding the area, women manage about 30 million hectares, which corresponds to only 8.5% of the total area occupied by rural establishments in the country.

There is a great regional diversity of the presence of women managing properties. Most are in the Northeast (57%), followed by the Southeast (14%), North (12%), South (11%) and Midwest (6%). Women own only 19% of the 5.07 million farms, while men own 81% of them.

The 2017 Agricultural Census reveals that although a significant portion of agricultural establishments are run by women (especially in Family Agriculture), there is still a discrepancy in this distribution, especially considering the map of the population residing in the country established by the 2022 Census (IBGE, 2023). According to these data, the Brazilian population is mainly composed of women (51.5%) and, in the country, there are about 6 million more women than men.

Among the challenges faced by rural women in their entrepreneurial practice, Pontes *et al.* (2022) highlight: limited access to agricultural land and profitable markets; lack of business networks; limited time for activity (due to care for children, the elderly and the sick); poverty and insufficient financial resources; little access to credit, technology and knowledge; lack of inclusion instruments; and little institutional and social support. Some mechanisms that can help reduce obstacles are: organization of women's groups to gain access to services, information and business partnerships; and technical and business training actions.

Another point observed in the study by Pontes *et al.* (2022) refers to the distribution of women among the different segments of agribusiness. While agribusiness men are predominantly active in the primary segment (agriculture and livestock), women are mainly active in agribusiness and agricultural services.

The researchers also highlight that the role of women in agricultural properties and markets is increasingly accentuated, with the recognition of their fundamental role as an agent of change, promoting the sustainability of agri-food systems and ensuring food and nutritional security for families. However, according to the authors, female entrepreneurship in agribusiness still remains an under-explored area academically, which reinforces the importance of the approach of the present study.

## Agtech Entrepreneurship

Although, in theory, the stages of the entrepreneurial journey are the same for both men and women, throughout the development of the business, the survival of companies run by women faces more challenges and difficulties. Still, there is growth in the number of women who become leaders in their businesses (Selvi, Jegan, 2023).

Female entrepreneurship is considered an essential tool to enable women's empowerment. The factors that affect women's participation roles are different around the world, changing with the dynamic nature of the environments in which they have lived.

The Global Entrepreneurship Monitor – GEM (2022) report points out that female activity in startups is usually slightly lower than male activity (on average, 10.4% of women interviewed versus 13.6% of men). This means that two out of five early-stage startups are run by women. Nevertheless, the report indicates that one in three high-growth entrepreneurs and one in three innovative entrepreneurs working in national or international markets are women. In addition, women entrepreneurs working in upper-middle-income countries represent some of the most innovative and high-growth entrepreneurs in the world and are on par with men when it comes to focusing on the international market.

However, it appears that in most national business environments the rules and supportive systems for entrepreneurs are designed to meet the male universe. There are stereotypes and prejudices that harm women in their access to key resources for their enterprise, which influences their choices both in relation to the type of enterprise, the skills necessary for the startup, the recognition of opportunities, their self-confidence and in relation to their fear of failure (GEM, 2022).

Even so, in the global context, women represent almost half of entrepreneurs offering innovative products and services in their local markets and a third of entrepreneurs offering innovations at the national and international levels.

Data from the Brazilian market indicate that the country has 22,347 startups organized in 78 communities, in 787 municipalities (STARTUPBASE, 2022). Of these, only 16.9% are established by women. In the analysis of the base of Agtechs, startups specialized in developing solutions for agribusiness, this number drops to 5.1%.

In the 2022 edition of Radar Agtech Brasil, several challenges faced by women in the business world were presented, including: the lack of support from the environment (friends and family); the little time to dedicate to the enterprise due to being the main responsible for domestic activities; sexism; the difficulty of being heard and having to deal with the impostor syndrome. To overcome common challenges for women entrepreneurs, several women's collectives have been created in Brazil.

## **Representativeness of female entrepreneurship in Agtech**

Within the scope of **women in agtech entrepreneurship**, through data from the Radar Agtech Brazil 2023 database and a partnership with the Brazilian Micro and Small Business Support Service (Sebrae), it was possible to identify that, **of the total agtechs**, **36.4**% have at least one **woman in their corporate structure**, meaning that in 711 startups analyzed there are women as members. The number of members and the analysis of the corporate composition are presented in Tables 10 and 11.

Number of female members	Number of agtechs	Share of agtechs (%
1 member	531	27.1%
2 members	146	7.4%
3 members or more	34	1.7%

Tabela 10. Number of women in the company.

Number of female members	Number of agtechs	Share of agtechs (%
Total	711	

Source: Radar Agtech Brasil 2022.

Tabela 11. Analysis of the corporate composition

In relation to the shareholding structure	Quantity	Participation
Only female members/founders	76	3,8%

Source: Radar Agtech Brasil 2023.

Therefore, there is a growth in the participation of women in agtechs of approximately 8% compared to last year, since in Radar Agtech 2022 (FIGUEIREDO et al.,2022) this proportion was lower, that is, in relation to the female presence in its corporate structure, 520 startups were identified with at least one member, corresponding to 28.7% of the total amount of agtechs mapped in 2022. The quantitative analysis of the performance of startups, in 2022, with female participation in relation to the links in the production chain (before, inside and after the farm) is presented in Table 12.

Tabela 12. Participation of Agtechs with female members in relation to the Links of the production chain

Link of the Production Chain	Quantity	Participation
Before	81	16%
Inside	175	34%
After	260	50%
* 4 unrated	520	

Source: Radar Agtech Brasil 2022.

The chapter "Detailed profile of the agtechs" examines the distribution of members and collaborators in agtechs, considering gender and area of activity in the company.

In addition, considering exclusively **247** agtechs who answered our questionnaire, among the members of the responding startups, it was observed a predominance of men (76.9%). The analysis of the distribution of members in the business areas reveals similar proportions of men, women and non-binaries in all areas, with the male presence ranging between 75.5% and 79%, approaching the general average of 76.9%.

When examining collaborators, an equitable distribution between men, women and non-binaries is identified in all areas, although male predominance is lower than the general average (61.8%). In the more technical areas, the proportion of men is higher than the general average, reaching 69.9% in production and operations and 71.6% in research and development. Two areas have a male proportion above 50%, but below the average: 54.1% in marketing and sales and 51.9% in other areas of the business. The administrative and financial area stands out as the only one with a higher proportion of women (55.3%).

The majority representation of men as members is evident in all areas of the company, including the most technical ones. This raises a few challenges, such as the need to attract and

retain diverse talent for entrepreneurial careers as members, as well as diversify the talent pool in stem (Science, Technology, Engineering and Mathematics) areas, particularly in research and development and production and operations.

In addition to the previously mentioned challenges, women face other obstacles to creating a startup (Radar Agtech Brasil, 2022):

- reconciling motherhood and family care generates fewer hours to dedicate to the enterprise;
- behavioral and cultural difficulties, prejudice or disrespect in networking, attracting investors or even approving credit;
- lack of support from the 3Fs (Friends, Family and Fools);
- lack of representation;
- dealing with impostor syndrome;
- manterrupting;
- mansplaining.

In the research carried out by Agtech Garage, within the profile of women who innovate in agribusiness, women scored higher in more challenges, the main ones being:

- sexism;
- difficulty in being heard;
- lack of trust from the people around them.

The results of both surveys carried out by Radar Agtech 2022 and Agtech Garage reveal that practices that result in the asymmetry of relations between men and women continue to be reproduced within the scope of digital agriculture, which does not contribute to the reduction of inequalities in the field.

## Female entrepreneurship and specific programs

On the other hand, the data also reveal that there is a collective articulation that has started an emancipatory process that leads women to seek solutions to their own needs. There are data that reinforce the power of leadership, innovation and results of companies established by women: a survey by Sebrae in partnership with the Getulio Vargas Foundation (FGV) shows that 11% of entrepreneurs innovated in their businesses during the crisis, while 7% of men made no changes.

Companies with female leaders have up to 20% better results, according to the UN, and greater potential to generate profits for their investors, according to BCG consultancy.

In terms of how effectively companies turn a dollar of investment into a dollar of revenue, startups founded and co-founded by women are significantly better financial investments. For every dollar of funding, these startups generated 78 cents, while male-founded startups generated less than half of that – just 31 cents. (Abouzahr *et al.*, 2018)

Based on this data, some programs decided to dedicate themselves to supporting only women, and some groups were created to strengthen female entrepreneurship.

Considering the importance of collectives for female entrepreneurship, this chapter will address some very prominent groups that have been articulated in the country. In addition to the importance of collectives, it is interesting to note that many of them, such as the Women of Brazil Group (Grupo Mulheres do Brasil), chaired by Luiza Helena Trajano, have female leaders who stand out in their sectors and who increase the representation of female leaders.

#### Investments and programs for women entrepreneurs

Many banks and financial institutions offer credit lines and loans with favorable interest rates for women entrepreneurs. This is the case of the credit line "**Desenvolve Mulher**", designed especially to serve women entrepreneurs and to foster micro, small and medium-sized companies managed by women in Develop SP, as well as the "**Brasil Pra Elas**" program, which invests in more credit from federal banks for women and in entrepreneurial education through consultancies (training and qualification) of the national network of the Brazilian Micro and Small Business Support Service (Sebrae).

Competitions and awards aimed at women entrepreneurs, with cash prizes, *mentoring* and visibility for the business, also help to boost female entrepreneurship and reduce gender gaps in the issue. An example is the **Sebrae Women in Business Award**, an initiative that values and encourages female entrepreneurship in Brazil, recognizing the work and dedication of women entrepreneurs who contribute to the country's development. In addition to this, the *Women Empowerment Award* launched by the Bayer Foundation, in partnership with The Unknown Group, which through the Social Innovation contest seeks to empower female entrepreneurs of innovative projects in Latin America, including an award of 25 thousand euros in cash, as well as providing visibility for the winner through the Communication and participation of the network of entrepreneurs supported by the Bayer Foundation.

In addition, there are venture capital funds that focus on investing in startups led by women, which can provide funding for entrepreneurs with innovative ideas and facilitate the connection of these women with other companies and areas of the market, contributing to the growth and maturation of companies and also founders.

Nowadays, the number of programs that offer training and qualification to help women develop their entrepreneurial and business management skills is increasing and this qualification can be furthered by mentoring networks organized among women from different areas and positions who seek to share their experience and contribute to others with the same intention. Some examples are: **Itaú Mulher Empreendedora**program, which aims to connect and empower women business owners; **Academia para Mulheres Empreendedoras**, the program made in partnership with Grupo +Unidos and which every year trains women in the metropolitan regions of São Paulo, Rio de Janeiro and the Federal District – the course offers three months of classes on business expansion, finance, financial planning, negotiation, sales, marketing, operations and management; **Desenvolve project**, of Grupo Boticário, focused on offering free education to people in social vulnerability through courses in the area of technology to reduce the distance and enable gender and race not to be barriers in the market; and the **Female Force**program, which began as an internal initiative of Maya Capital fund, whose objective is to create a community of women entrepreneurs in technology and offer exclusive access to women references in the market in mentoring and even customized monitoring in their businesses, as well as other events to increase community ties.

The most effective way to change the gender inequality scenario is through the investment of capital in women's startups, given that, in the development of any business, the encouraging power of investment, credit and financing is essential for its growth and eventual success. It is clear that if we seek to increase female representation in business and agribusiness, as well as reduce wage differences and other prejudices, more accelerations and investments will be needed in businesses led by women.

#### Incubators, accelerators and programs

Many startup and incubator acceleration programs offer support to female entrepreneurs, including funding, mentoring, and access to resources. The "Women in Tech" and "Cherie Blair Foundation for Women" programs are examples of that, most of them with the goal of social impact, not business. Aiming to support women in business development, there are timid actions such as the online platform Ela Pode, which is a training program through free courses focused on the development of social-emotional skills essential for the success of women entrepreneurs, and which seeks a job placement, carried out by the Instituto Rede Mulher Empreendedora, supported by Google.

#### Collectives to encourage women entrepreneurs and in agribusiness

In order to accelerate the necessary changes, especially regarding the expansion of opportunities and representation for women in different professional segments, it is noticeable the increase in the number of female collectives that have been created in Brazil and abroad. In view of this important phenomenon, this chapter will present three collectives created in the last 10 years that significantly contribute to the country, in general, as well as to the agricultural sector.

#### Grupo Mulheres do Brasil

The Women of Brazil Group (Grupo Mulheres do Brasil) was created in 2013 by 40 women from different industries, in order to engage civil society in achieving improvements for the country. It is chaired by businesswoman Luiza Helena Trajano and has 115 centers in Brazil and abroad, with 120,434 participants. The actions are organized through committees, which work with topics such as agribusiness, communication, girls from Brazil, refugee insertion and entrepreneurship.

It is a very organized group, with bylaws, primers, code of conduct and the gathering of actions that can be replicated. Its objectives include:

- Act in the defense of women's interests and in favor of female protagonism, to ensure the achievement of effective equality of rights between women and men, and the increase of women's participation in all decision-making spaces;

- Encourage and collaborate for the mobilization of society, through the female gaze, with a view to adopting practical and effective actions, including public policies, that collaborate and contribute decisively to the construction of concrete solutions to the various problems faced by society.

More information can be obtained on the initiative's website: https://www.

grupomulheresdobrasil.org.br/.

#### Rede Mulher Empreendedora (RME)

Ana Fontes, founder of Rede Mulher Empreendedora (RME), worked for almost 17 years in the organizational world, suffering a lot of discrimination, because she is a woman, northeastern and of black origin. Ana had stability, but resigned because she no longer wanted to live in this environment.

Upon leaving, she was selected to participate in the 10,000 Women program, created by the Getúlio Vargas Foundation (FGV) in partnership with the Goldman Sachs group. Only 35 women were chosen from a total of 1,000 entries.

That, instead of making her happy, made her uncomfortable. With that, Ana began to write, in a blog, what she saw as a participant in the program. At the end of 12 months, the blog had built a network of 100,000 women. It was the beginning of Rede Mulher Empreendedora (Entrepreneurial Woman Network), the first and largest support network for female entrepreneurs in Brazil.

In 2017, Ana established the Rede Mulher Empreendedora Institute, which trains women in social vulnerability, focusing on black, trans, community-based or over 50-year-old entrepreneurs. RME provides services for companies that believe in female entrepreneurship: special projects, dissemination partnerships, sponsors, event sponsorship, development of training programs, community management, advertising, brand activation, diversity consultant, relevant events and curatorship.

More information can be obtained on the initiative's website: https://rme.net.br/.

#### Specific Groups for Women in Agribusiness

A Forbes survey (2022) lists the agribusiness women's groups that operate in the country, including 50 organized groups, most of which were created in the last three to four years. Some examples are presented in Table 13, indicating opportunities in each group.

Group and description	Further information
Comissão Nacional de Mulheres do Agro CNA (National Commission of Women of Agro) The women's commission of the National Confederation of Agriculture and Livestock (CNA) was born in August 2023. It was the 18th commission created, similar to those that already existed for livestock, credit, etc. The group is being structured with the same profile as the others, in which a collegiate is formed by members of the Agriculture and Livestock Federations of the states, civil entities and technical advisors.	Website: https://cnabrasil.org.br/areas-de- atuacao/mulheres-do-agro Meet the representatives of the commission: https://cnabrasil.org.br/paginas-especiais/ comissao-mulheres-representantes

Tabela 13. Some groups of women in Agribusiness (Source: Forbes, 2022)

Group and description	Further information
Comitê Nacional de Mulheres do Sistema OCB (National Committee of Women of the OCB System) Created in 2020 by the Brazilian Cooperative Organization System (OCB), the committee brings together 23 women from 16 states, including representatives of agriculture, credit, health and labor, and production of goods and services. Women attended training, trainings, exchanges and events, such as seminars and lectures. This year, the central committee created the "Manual for the Implementation of Women's Committees in Cooperatives" to support the formation of nuclei and committees in cooperatives throughout the country.	Learn about the manual for implementing women's committees in cooperatives: https://somoscooperativismo.coop.br/ publicacao/94/manual-de-implementacao- de-comites-de-mulheres-nas-cooperativas
EVA – Elas vivem o agro (They live the Agro) The group was formed in 2021 at the initiative of Cargill Animal Nutrition and today has 40 women among rural producers, researchers and the Cargill team. Its structure is an open group, promoting meetings, exchanges of experiences and training. The activities are coordinated by the administrator Licihelen Delabio.	A number of podcasts and videos can be found on Spotify and YouTube, respectively.
Comissão de Produtoras Rurais da Federação da Agricultura e Pecuária de Goiás Created in 2015, the group is a commission of the Federation of Agriculture of the State of Goiás. It has 24 participants under the command of Rizzia Ribeiro, a rural producer in the southeast of the state. The commission orders fieldwork, such as lectures, courses, participations, and promotes content on leadership and management, mainly.	Learn about the actions carried out by the commission: https://sistemafaeg.com. br/noticias/mulheres-em-campo-evento- reuniu-publico-feminino-de-todo-o-estado- na-sede-da-faeg
<b>FAEMG Mulher</b> The group brings together women linked to the Federation of Agriculture of the State of Minas Gerais who had already been working on themes about women. The commission will be coordinated by agronomist Silvana Novais. This process originated in 2018, with the creation of the Empreendedoras do Agro de Minas group, which will continue to be active on Whatsapp. Annual events, information exchange and training occur with the participation of about 3,000 women.	Read the article about the launch of the commission: http://www.sistemafaemg. org.br/noticias/faemg-lanca-comissao-da- mulher-e-do-jovem

Group and description	Further information
Agroligadas Formed by women working in agribusiness, Agroligadas was created five years ago with the purpose of connecting the countryside and the city through educational and communication actions. It is the result of the union of women who fight for female protagonism, in favor of the prosperity of the industry. More than 1,400 women are connected to the group, representing more than 100 cities from 17 different states. To date, more than 100 events have been held within the scope of the collective.	Website: https://agroligadas.com.br/.
<b>CEMF – State Commission of Women of FAEP</b> The group was born in January 2021 and is part of the Federation of Agriculture of the State of Paraná (FAEP). It is coordinated by the farmer Lisiane Rocha Czech, with the proposal of fostering rural leaders. CEMF already has 27 local commissions formalized in the municipalities, with about 1,000 women registered.	See the commission's manual: https://www. sistemafaep.org.br/manual-da-comissao- das-mulheres/
<b>Agro Mulheres Rondônia</b> The movement was born by the hands of agriculturalist Antonielly Rottoli, from Agropecuária Espírito Santo, in the municipality of Alto Paraíso-RO. She is also director of Aprosoja in the state and president of the rural union of Alto Paraíso. The group started in 2019 through digital networks, inspired by the National Congress of Women in Agribusiness (CNMA). The group has already held two face-to-face events, the second of which took place in August 2023.	Visit the collective's Instagram: https://www. instagram.com/mulheresagrorondonia/
International Women's Coffee Alliance – IWCA Brasil The group was born in 2012, linked to the International Women's Coffee Alliance (IWCA), a non-profit organization created in 2003 with women from the US and Nicaragua coffee industry. There are currently 22 integrated countries. In Brazil, there are about 170 coffee growers, most of them members of the entity, in addition to companies such as Olam and Três Corações among the associates.	Website: https://iwcabrasil.com.br/iwca

Sources: Forbes (2022) and collective websites/social media.

#### Main events promoted for women in Agribusiness

Events are important moments for interaction between different actors who have a common interest and, in the case of agribusiness, who are part of the sector. In this sense, there are several agricultural events with a gender bias, which enable a great integration between women who perform different activities within the sector.

#### Encontro de Mulheres Que Fazem A Diferença No Agronegócio Brasileiro

The development of rural activity requires efficiency and management to be conducted and women play a fundamental role in contributing effectively and making a difference in advancing productivity. To this end, it is essential that they have the opportunity to enter this context and expand their range of action.

Designed to make this increasingly evident reality visible, the Meeting of Women Who Make a Difference in Brazilian Agribusiness (Encontro de Mulheres Que Fazem A Diferença No Agronegócio Brasileiro) is one of the main events aimed at producers, managers, agricultural science professionals, executives, representatives of entities, entrepreneurs, among others, who seek to strengthen ties and expand knowledge to make a difference in their fields of activity.

The event, which had its 5th edition in 2023 and took place as part of the Expoingá program (Maringá/PR), connects hundreds of rural producers and managers linked to Rural Societies, Cooperatives, Rural Unions and Senar/Faep System, with the presence of some of the main references of the productive sector and in charge of representative entities of Brazilian agribusiness, with lectures, presentation of cases and discussions of topics of paramount importance, such as management, innovation, entrepreneurship and family succession.

More information can be obtained on the event's website: https://mulheresdoagronegocio. com.br/.

#### National Congress of Women in Agribusiness

Although the National Congress of Women in Agribusiness (CNMA) is not a collective in the same way as the two examples presented above, we understand that its inclusion is important because it is a space that brings together women who work in agribusiness. The first event took place in 2016 and now, in 2023, its 8th edition takes place, being the largest congress of women in agriculture in Latin America.

The event records, in each of its last three editions, the presence of more than 2,500 participants. In the 2022 edition, it had more than 12 hours of content, with 42 sponsors, 52 speakers, with representatives from 26 Brazilian states and four different countries.

In the 2023 edition, female protagonism was present in all four existing spaces, with about 3,000 participants. The program took place in the Arena Master (main stage), in the Technical Hub (space dedicated to technical and scientific content), in the Arena # OAGROÉDELAS and in the Arena # OAGRONÃOPARA, in an event that took place on October 25 and 26.

In their content board, it is possible to observe the presence of important female leaders throughout their journey. In 2023, it was attended by Paula Packer, general head of Embrapa Environment, Gislaine Balbinot, executive director of the Brazilian Agribusiness Association (ABAG), Marina Mantovani, communication director of the Brazilian Food Industry Association (ABIA) and Belisa Maggi, president of the André and Lúcia Maggi Foundation. In previous editions, it has had as content advisors people such as Carla Freitas, rural producer and cofounder of the Female Agribusiness Center, and Andrea Cordeiro, creator of the Movement Mulheres do Agronegócio BR.

#### Prêmio Mulheres do Agro

The winners of the 6th edition of the Women in Agribusiness Award (Prêmio Mulheres do

Agro), promoted by Bayer and the Brazilian Agribusiness Association (ABAG) with the support of Fealq, were known during the 8th National Congress of Agribusiness Women (CNMA), held on October 25 and 26, 2023, in São Paulo. "Doubling Agro in size with sustainability: The Brazilian Brand" was the theme of CNMA, which brought together more than three thousand congressmen.

Focusing on ESG – environmental, social and corporate governance – the 2023 edition of the Women in Agribusiness Award awarded nine rural producers for their agricultural practices based on these three pillars – divided between small, medium and large properties – and one scientist in the "Science and Research" category, a novelty in this year's award.

Fealq's Product Manager, Paula Arigoni, attended the event, reinforcing the importance of the initiative that aims to bring women to the center of discussions on agribusiness. "Fealq became one of the supporting entities of the Women in Agribusiness Awards, adding to this affirmative action that began 6 years ago and today is a reference for the sector."

(Source: FEALQ)

#### Observatories

Observatories are usually created as a kind of strategic and intelligence instance on a given topic. Thus, they bring together fundamental content and information for decision making at different levels, both in the governmental sphere and also for companies. There are some observatories in Brazil focused on gender, presented below.

#### Observatório Brasil da Igualdade de Gênero

The Brazilian Observatory on Gender Equality (OBIG - Observatório Brasil da Igualdade de Gênero) was created on March 8, 2009, as a result of the process of institutionalization and improvement of policies for women in Brazil.

It is a strategic mechanism to support the formulation and implementation of public policies for women in Brazil and to monitor indicators of gender inequalities and women's rights.

Today, the Observatory is a General Coordination that integrates the Executive Secretariat (Decree No. 11.351, of January 1, 2023) of the Ministry of Women and has the mission of contributing to the promotion of gender equality and women's rights in Brazil, considering the multiple forms of inequalities between women, in addition to serving as a tool to:

- Strengthen and stimulate social participation;
- Subsidize the formulation, implementation and evaluation of public policies;
- Give visibility to the public policies and actions that the Brazilian State carries out at the national and international levels.

The objectives of the observatory are:

- Monitor gender indicators and the promotion and guarantee of women's rights;
- Support decision-making in public policies for women in Brazil;
- Promote access to information and produce content on gender equality and policies for women to strengthen social participation;

• Ensure national and international dialogue for the exchange and dissemination of information, data and statistics.

The activities focus on three axes:

#### Axis 1: Analysis and monitoring of indicators

The Observatory's main product on this axis is the Women's Annual Socioeconomic Report (Raseam). Established through Law 12.227 of April 12, 2010, Raseam is a descriptive and analytical compilation of the main databases and indicators related to the demographic and socioeconomic profile of Brazilian women.

#### Axis 2: Production and dissemination of information

The Observatory Magazine (Revista do Observatório), published from 2009, addresses issues that are relevant to the debate on public policies for women and the promotion of gender equality. The content is developed in various formats, such as articles, columns, chat and interviews, incorporating different perspectives and points of view of civil society, government and academia.

In addition to the magazine, the Observatory publishes the Bulletin Observa Gênero, which reports on issues related to women's rights, reading tips and films, new legal frameworks, in succinct texts, prepared by the OBIG team, with Raseam as a source and connecting indicators to some prominent topic today.

#### Axis 3: International dialogue

The Observatory attends technical meetings and contributes to the preparation of reports to monitor commitments made by the Brazilian government.

The activities are related to the annual report on gender indicators for the Observatory on Gender Equality in Latin America and the Caribbean (OIG), maintained by ECLAC, and the monitoring of the implementation of the platforms for action of the Beijing +20 Conference, the Cairo +20 Conference, the UN Commission on Population and Development and the Sustainable Development Goals (SDGs). In this sense, the observatory has a privileged dialogue with the OAS Inter-American Commission of Women.

#### Rural women's observatories

The Observatory of Rural Women of Brazil, created in 2022, is part of Embrapa's Strategic Intelligence System - Agropensa. Through the visual and interactive presentation of data, analysis, diagnoses and prognoses, the Observatory intends to provide subsidies for the development of strategies, projects and programs and for the creation or improvement of public policies for the benefit of women who work in agricultural, forestry and/or aquaculture activities. It is an intelligence tool for monitoring and anticipating relevant issues in the field, considering regional and/or thematic clippings.

It is also a tool that responds to the goals of the Sustainable Development Goals (SDGs) of the 2030 Agenda, especially SDG 5, referring to target 5.b, "Enhance the use of enabling

technology, in particular information and communications technology, to promote the empowerment of women".

The Observatory of Rural Women of Brazil has an internal articulation, through the Embrapa Rural Women of Brazil Network, which includes representatives of the Company's Decentralized Units, located in the different regions of Brazil, and with an external articulation, through the collaboration of partner institutions and organizations. It is supported by the Food and Agriculture Organization of the United Nations (FAO) and financed by the Ministry of Agriculture and Livestock (MAPA).

## **Final Considerations**

Female entrepreneurship has been standing out as a driving force for innovation and positive results in the business world. Women entrepreneurs have demonstrated greater capacity for leadership and innovation, overcoming challenges, including during economic crises. Women-led companies perform up to 20% better, according to the UN, and are more profitable for investors, according to BCG consultancy.

In the scenario of investments and programs for women entrepreneurs, several initiatives have emerged to provide financial support and training. Credit lines such as "Desenvolve Mulher" and programs such as "Brasil Pra Elas" seek to boost businesses led by women. Competitions and awards, such as Prêmio Sebrae Mulher de Negócios and Women Empowerment Award, not only recognize the work of female entrepreneurs, but also offer resources to boost their projects.

Venture capital funds targeting women-led startups are another essential tool for fostering innovation and growth in female entrepreneurship. In addition, training and capacity-building programs, such as Itaú Mulher Empreendedora and the Academy for Women Entrepreneurs, have played a crucial role in developing women's entrepreneurial and management skills.

In the context of incubators, accelerators and programs focused on women entrepreneurs, the support offered to them goes beyond financial investment, including mentoring and access to resources. Examples such as the "Women in Tech" program and the "Cherie Blair Foundation for Women" stand out for their social impact.

Several collectives have emerged to strengthen and support women entrepreneurs, promoting female representation in the most varied sectors. The group Grupo Mulheres do Brasil, chaired by Luiza Helena Trajano, plays a significant role in providing leadership and visibility to women in different areas. With a focus on agribusiness, groups such as Grupo Mulheres do Brasil, Rede Mulher Empreendedora (RME) and several specific groups for women in agribusiness stand out, which promote unity and mutual strengthening.

Events such as the Meeting of Women Who Make a Difference in Brazilian Agribusiness and the National Congress of Women in Agribusiness provide valuable opportunities for interaction, learning and networking for women entrepreneurs in the sector. In addition, spaces such as the Brazilian Gender Equality Observatory play a crucial role in data collection and analysis that support public policies and actions aimed at gender equality.

In summary, female entrepreneurship has gained prominence, driven by programs, investments, collectives and events that seek to promote equal opportunities and support women entrepreneurs in their journey towards business success. The role of these initiatives is critical to creating a more inclusive and equitable environment in the business world.

## CHAPTER 4 I

## Financial resources and promotion mechanisms throughout the life cycle of an agtech

## Introduction

Agtechs can benefit enormously from the resources in their surroundings to promote their development, growth, and scale. The innovation ecosystem offers various resources and mechanisms to enable, structure and deliver business growth. Financing is one of the most demanded and important resources to help companies build their structure and drive growth.

It is clear that the demands of a startup for resources and investments differ throughout its development journey. Financial resources are essential, but it is also necessary to think about acquiring knowledge and skills, establishing connections and obtaining mentoring from entrepreneurs and other professionals in the market.

The entrepreneurs need to identify the specific demands of each stage of the startup's journey and think strategically about how the financial resources raised will be applied. In addition, it is necessary to pay attention to what skills and connections they need to articulate in each phase and in the segment in which they work or intends to work.

Knowledge and connections are also important to increase the chances of success in obtaining resources. Entrepreneurs need to know the incentive and financing instruments in the innovation ecosystem and consider the best strategy for funding, knowledge acquisition and networking, taking into account the pros and cons in each case.

One of the biggest concerns of entrepreneurs is to secure funding for innovative proposals, mainly due to the inherent risk of innovative projects, considering that, the more radical the degree of innovation, the more uncertainty is associated to its development. This is also a concern of financing agents, who seek to favor the emergence and growth of innovative companies that will have an impact on the economy, in addition to solving specific problems that affect the growth of the industry.

The purpose of this chapter is to present the main types of financial incentive and/or promotion mechanisms available to agribusiness startups. Resources are considered depending on the current life cycle phase of the startups.

## 1. Incentive and investment alternatives for startups

The nascent agricultural technology-based companies – agtechs – play a central role in the innovation dynamics of the agricultural sector. These startups are important channels of innovation, working with cutting-edge technologies and, with greater risk tolerance, interacting and disseminating technologies to different players in the agricultural industry.

The specificities of agtech entrepreneurship stand out, such as the dependence on biological and environmental factors, seasonality, production cycles, variety of products, great influence of climate factors and relevance of sustainable practices and specific regulations (RAMOS; PEDROSO, 2021).

The performance of startups relies on the quality of services and resources provided by the innovation ecosystem in which they operate. The characteristics of the environment can both encourage effective interactions between entrepreneurs, established companies, universities and research institutes, investors and government agencies and enhance efforts to generate knowledge, maximizing the economic impact of the innovations generated (TRENDOV *et al.*, 2019). Table 1 demonstrates the incentive and support mechanisms that are usually offered to startups by players in the innovation ecosystem.

Startups establish riskier business models seeking to generate great impact in the market (SEBRAE MINAS, 2021). To achieve impactful results, startups go through a journey of several phases, characterized by the combination of their internal resources with external resources and competencies in order to create value and results superior to those they would achieve individually (MARCON, RIBEIRO, 2021).

In the case of the agricultural innovation ecosystem, there are several critical and supporting functions that can be offered to support an innovative technology to overcome bottlenecks and advance the development process (STRAEDE *et al.*, 2022). Agricultural technologies include machinery, chemical and biological products, mineral fertilizers, buildings, cultivation and breeding techniques, veterinary knowledge, distributed across a wide network of players. In this case, the term "technology" refers to the physical instruments to perform an activity, the activity itself and the knowledge and skills required for its application.

Agricultural technology-based startups go through three main processes: the invention phase (new solutions in the prototype phase); the implementation phase by rural producers (or other links in the industry's production chains) in processes of dissemination and technological adoption; and the broader adoption phase, in which the aggregate effect of producer adoption decisions causes a macro effect on the market (STRAEDE *et al.*, 2022). These are critical functions that contribute to allow innovative technologies reaching the third level, with wider adoption, according to STRAEDE *et al.* (2022) related to market, regulatory, market acceptance and organizational aspects.

Several players are involved in actions to promote technological advancement and also strengthen new ventures. Universities, public research centers and their technological innovation centers (NITs) are public agents that encourage the initial phase of the process – inventions – and the establishment of new technology-based companies. Initiatives promoted by these players include: offering courses focused on innovation and entrepreneurship; promoting entrepreneurial competitions focused on students and technology-based startups; signing technical cooperation agreements with startups for technological development; creating *spin offs* from patents and technologies created at the university and, in many cases, services and infrastructure for incubating new companies, as well as technology parks (BAMBINI, 2021). The objectives are: to facilitate the transfer of technologies generated in universities and research institutes; to foster new companies from new products, services and markets; to disseminate technological products and services and, with this, to promote regional economies.

Business incubation and acceleration programs are promising mechanisms to support the creation, development and maturation of technology-based startups, being preferred for the development of public development policies (MIAN *et al.*, 2021). Other existing supportive
instruments are: innovation hubs, science and technology parks, *coworking* spaces, *maker spaces* and virtual models for fostering and articulating startups and ecosystem players<sup>1</sup> (Table 14).

In relation to agtech entrepreneurship, in recent years, several initiatives have been created to support and encourage new ventures around universities and agricultural research centers, in order to meet the specific demand of this segment of entrepreneurs (BAMBINI, 2021). Some requirements are specific to the sector, such as: access to the scientific knowledge base in agricultural sciences and possibly other fields, such as engineering and computer science; field testing needs; reliance on the biological life cycle of crops and animals, requiring longer technological validation periods than in other industries; the relevance of an entrepreneur's agricultural *background*, both in training and identification with the industry. This recent movement to create incubation and acceleration programs focused on agtech startups, with the involvement of universities, research centers, corporations and specialized investors, has been enriching the agricultural innovation ecosystem as a whole, providing entrepreneurs with more qualified and specialized supportive instruments.

Mechanisms	Description
Events promoting innovative culture	Hacktathons and Challenges, Startup Weekend, Ideation Programs, Pre- Acceleration, Competitions or Pitches presentations from startups, such as Demoday, programs to articulate relationships between startups and players in the innovation ecosystem.
Incubator	Entity that aims to support entrepreneurs, enabling them to develop innovative ideas and turn them into successful ventures. It offers infrastructure, training and management support, guiding entrepreneurs on administrative, commercial, financial and legal aspects, among other issues essential to the development of a company.
Accelerator	Usually a private mechanism, to support startups. Normally accelerators are not linked to academic centers and are more focused on highly scalable businesses – which can grow quickly and attract investments. They are led by entrepreneurs with previous success, with their own investment capacity or financed by venture capital.
Venture Capital	Also referred to as risk capital or investment, it is one of the ways to raise funds to carry out the startup's plans and projects. The investor contributes with financial resources to the business in exchange for equity interest, usually minority interest, in a privately held company. There are different types of contributions for each stage of the startup life cycle.
<i>Venture Builder</i> Startup Factory	An organization that accelerates the growth of a startup based on the ideas and resources of its leaders, using internal resources: it raises capital, selects human resources, designs business models and offers legal advice, and executes the company's marketing campaigns. Other tools are: consulting, <i>coworking</i> , exchange of experiences, mentoring, strategic help and investments.

Tabela 14. Table 1: Types of incentive and supportive mechanisms for startups

<sup>1</sup> The instruments to support and foster entrepreneurship were widely described in the chapter Panorama of the Agtech Ecosystem.

Mechanisms	Description
Coworking	A group of people, companies and organizations that work independently of each other, but that share spaces.
Innovation Hub	Physical space that gathers people who interact and, consequently, create, undertake, work and innovate together, in a network. These spaces offer infrastructure (auditorium, meeting rooms, cafes) for all activities.
Articulation of relationships between the startup and ecosystem players	Promotion of an event to select startups with certain characteristics (such as life cycle stage and area of activity) to participate in a dissemination and award event, together with the articulation of relationships with accelerators, research centers and investors. The event promotes the startup and offers opportunities for future growth.

Source: Aranha (2016).

Next, we specifically address another important resource necessary for the development of an enterprise: investment, whether public or private. Investment demands, as well as existing instruments, are strongly associated with the stages of the entrepreneurial journey, presented below.

# 2. Stages of the Entrepreneur's Journey and related investment types

Entrepreneurs need to have a clear knowledge of the development stage of their startup, so that they can map the supportive mechanisms available to provide the development and scaling of the company. From there, it is possible to define the company's demands and the necessary investment, outlining a *roadmap* for the evolution of its growth strategy.

Understanding the maturity stage of a business is fundamental to define the next steps towards success (SEBRAE MINAS, 2021).

Also, in the context of a dynamic agricultural innovation ecosystem, there is no such thing as only one solution or path towards growth. The selection of supportive mechanisms and sources of funding varies not only according to the stage of life in which the startup is, but also according to the type of technology, the production chain and the intended market segment.

## 2.1 The Stages of the Startup Lifecycle

Although the literature proposes different structures to describe the phases of the startup life cycle, we consider the stages proposed by Carrete and Faria (2019) to be more representative for our analysis, due to the greater detail in the characterization of each phase. The phases described by the authors are: (1) ideation and applied technology; (2) identification of a viable product; (3) prototyping and testing; (4) customer portfolio and its growth; (5) expansion of the customer base (*Scale-Up*); (6) maturity, exit or death. Nevertheless, it is understood that not all startups will fit perfectly into this six-step roadmap. After all, *"one size fits all"* rarely applies to the complexity and uniqueness of each enterprise, especially when it comes to an indusry as

diverse as agribusiness.

### 2.1.1 Ideation from a technology/applied research

The ideation and research phase is the starting point for the development of a startup based on the conception of a business from the identification of an opportunity in the market, which can arise from both an unmet customer need and a new demand (VILENKY, 2021). Based on this identified opportunity, the entrepreneur conceives an innovative and different solution to meet this need, often based on a scientific discovery or the development of new technologies. In many cases, at this early stage of the venture, startups may not yet be formalized, sometimes even established as an individual initiative (KÖNIG *et al.*, 2019).

When venturing on this journey, planning and market research are fundamental pillars to accomplish the idea. The SEBRAE study (2014) shows three main causes of death of enterprises between the 1st and 5th year of life:

- **Pre-planning: Planning** activities at the beginning of the venture are key to increasing its chances of success. Planning activities include: information on the intended market (target customers and their consumption habits, competitors, suppliers), survey of the basic items to start the company (team qualification, working capital, infrastructure, necessary investment), as well as legal and tax requirements. At this stage, it is essential to seek help from people or institutions to plan the business start-up and establish a business plan to open the project.
- Business management: companies that improve their products and services, based on cutting-edge technologies, innovating in processes and investing in training, tend to survive for a longer period in the market. Previous experience of the management team or knowledge in the field are important for the companies to remain in the market. Establishing a consistent market strategy gives edge for companies to remain in the market, with emphasis on products and services that stand out.
- Entrepreneurial **behavior**: an entrepreneurial attitude is essential for the success in the initial stage, with emphasis on: intensively searching for information related to the business, persistence and the organization in the pursuit of its objectives, anticipating the facts, establishing objectives and goals, planning and monitoring each phase of the enterprise, seeking quality and efficiency and being willing to face moderate risks. Intensifying contacts and relationships with other companies, banks, entities and the Government is essential in order to increase the company's chances of survival through collaborations and access to market information.

At this stage, entrepreneurs should seek answers to critical questions, such as: What problem does the startup intend to solve? What solution is proposed? Who are the potential customers and what is the pain addressed by the product/service? And what is the potential market size for the solution designed?

In the context of agribusiness, the depth and extent required in this phase of ideation and research are even more pronounced. The complexity of this industry demands a detailed understanding of scientific and technological knowledge associated with variables that influence production such as soils, climate, irrigation, production practices, pests and diseases. This can involve not only theoretical research, but also laboratory analysis, field studies and an in-depth understanding of the different varieties of crops and creations (RAMOS; PEDROSO, 2021).

When considering financing for this initial stage, full of uncertainties and risks, it is prudent for entrepreneurs to seek alternative sources of funding, in view of the difficulty of raising funds from private investment funds. Generally, public sources from research funding agencies or government agencies are more widely available for this type of high-risk investment.

In the ideation stage, participation in pre-incubation and incubation programs at universities, as well as in competitions such as hackathons and challenges is important to test the emerging business, gathering market information, and to improve the technology involved from the acquisition of new knowledge about planning mechanisms, entrepreneurial techniques and develop interactions with other players involved in agricultural innovation and its intended segment of activity (FURUKAWA, 2018).

## 2.1.2 Identification of a viable product

Applying the *Lean Startup* methodology, presented by Ries (2012), can be useful at this stage, based on the feedback cycle based on *Build, Measure, Learn* as a strategy for product development. This philosophy is based on the construction of a Minimum Viable Product (MVP), in the Build stage, seeking to maximize learnings related to the product/ service and the market, through incremental and iterative engineering.

The MVP is not necessarily a prototype, but rather the simplest version of a product that can be shown to customers to absorb as much learning as possible. It can simply be a PowerPoint slide, a template of a basic structure, or the presentation of a dataset. The intention is to test ideas and hypotheses and promote learning about product functions, customer needs, pricing, distribution channels, among other aspects.

The identification and testing phase of the MVP is usually financed by *insider financing*, which refers to the application of the entrepreneur's own financial resources or those of his family or friends, or even credit and personal loans. *Bootstrapping* is another mechanism used to refer to the use of techniques such as acquiring used equipment instead of new ones, loaning infrastructure for a given period, employing volunteer work of friends and relatives or managing the business from the residence of the entrepreneur (CARRETE; FARIA, 2019).

## 2.1.3 Prototyping and testing

The prototyping and testing stage naturally emerges after understanding the market and identifying the needs to be met. It represents the moment when ideas take concrete form, evolving into tangible innovations that aim to make an impact on society. This phase often involves advanced technological research, often carried out in academic settings, such as universities, or specialized Research and Development (R&D) centers, as mentioned by Vilenky (2021). This is particularly true in the case of tech-based startups.

This phase is characterized by the elaboration of a prototype, which can also be understood as a proof of concept or demonstrative version of the innovative solution. The central objective at this stage is to test technical (verifying that the technology works and can be scaled); economic (ensuring a viable return on investment); and market (validating the acceptance and interest of potential customers) feasibility (Picken, 2017), in order to achieve the product/ service most appropriate to the market demand to be met (CARRETE; FARIA, 2019). In the case of agtech entrepreneurship, there are challenges related to the need for a broader period for testing and iterations, involving the planting, growth and harvesting process, for example. Factors such as the growth cycle of crops and farms as well as the influence of environmental variables, such as droughts or excessive rainfall, can prolong these evaluation periods (RAMOS; PEDROSO, 2021).

Even though there are still uncertainties related to the prototyping and testing phase, they are smaller when compared to the ideation and research phase, which increases the range of funding possibilities at this stage of the life cycle. In addition to the previously explored sources, such as *bootstrapping* and university programs (such as pre-incubation and incubation), public agents and private entities focused on entrepreneurship appear on the horizon, such as innovation hubs and accelerators, ready to support startups at this vital moment in their trajectory (CARRETE; FARIA, 2019).

### 2.1.4 Customer Portfolio and Growth

In this phase, the startup begins to attract customers and strengthen its portfolio, starting to generate income, based on the lessons learned from the previous phases. With a clearer and more shared business vision in the company, the focus is on building a robust portfolio of customers and assertive market penetration (Paschen, 2017; Picken, 2017).

In addition, in this early sales stage, *venture capital* investors are already interested in financing startups, in order to promote their growth, by acquiring percentages of shares, for example, in order to obtain part of the company's results in a long-term perspective (CARRETE; FARIA, 2019). In general, they are angel investors, that is, individuals who invest equity in startups (ANJOS DO BRASIL, 2023). Angel investors are usually experienced professionals or executives, with an important relationship network, which also aim to guide entrepreneurs based on their knowledge and contacts, in order to promote the growth of the startup (CARRETE; FARIA, 2019).

Growth requires more structured management and a broad set of administrative demands. The startup creates a solid structure with a professional team, an important customer portfolio, financial transactions and strengthening its presence in the market. The process requires planning, especially regarding the allocation of (both human and financial) resources, the definition of operational strategies and the selection of appropriate tools for growth. Key management challenges include: organizing and controlling (growing) revenues; meticulous cash flow management; defining sales and customer service channels; and continuously collecting feedback to optimize processes. In addition, it is crucial to navigate the competitive environment, manage a growing team, and broaden the startup's networks and strategic partnerships.

This phase of the journey now requires the implementation of clear metrics for the management of each of its processes. Key Performance Indicators (KPIs) provide quantitative insights into the performance of each process, enabling continuous assessment of what is working and the identification of areas that need improvement (GALLI; GIACOMELLI, 2017).

Regarding agtechs, the scenario is even more specific. Growth, in these cases, can be conditioned by factors such as the availability of arable land, the necessary investments in agricultural equipment and the ability to manage vast areas of cultivation (RAMOS; PEDROSO, 2021).

Finally, as the startup progresses through this growth cycle, external support becomes

even more crucial. The guidance of accelerators, incubators and mentors is an invaluable tool to help structure the company. In addition, investment rounds and financial contributions become more frequent and vital. Specifically, at this stage, the presence of angel investors and venture capitalists becomes more prominent, fueling and enabling this much-desired expansion (CARRETE; FARIA, 2019).

Another interesting financing mechanism is seed capital, a long-term financing designed by investment funds, which can reach up to R\$5 million in the contribution to businesses in the development phase (ABSTARTUPS, 2023). Seed capital makes larger contributions than angel investors in order to cover initial expenses, such as product or service development, market research, team expansion and finalization of the business plan. Resources are also used to ensure the stability of the company until it becomes sustainable.

Seed capital can also be applied in projects that already have a defined offer and have a small customer base. In this case, the investment is made to expand the structure, production and consumption, as well as to establish these startups in the market to attract the interest of funds with greater investment power.

To lessen the risks of losses, seed capital investors often form funds that raise financial resources from other investors and distribute those funds across multiple startup companies.

### 2.1.5 Expansion of the customer base (Scale-Up)

*Scale-up* refers to scalability, which translates into the ability of a business to grow while maintaining its essence and, ideally, expanding revenue without a proportional increase in costs (RAMOS; PEDROSO, 2021). This is the moment when startups seek to strengthen their presence in the market, focusing on increasing sales, expanding their participation and ensuring constant profitability to provide a return to their investors (Paschen, 2017). Losada (2020) states that to qualify as a *scale-up*, the company must register a growth of 20% per year for three consecutive years, in revenues or in number of employees.

This stage of the startup's journey is associated with investments in marketing and infrastructure to enable the company to expand its production scale or service offer in order to meet the increased demand generated by investment in marketing (CARRETE; FARIA, 2019).

The challenges are immense at this stage, in order to establish robust market leadership and achieve competitive scale of action (ROTHAERMEL; DEEDS, 2004). Often, achieving the desired scalability can require drastic decisions, such as the need to pivot the business to overcome stagnation zones. Therefore, startups that reach this level of *scale-up* stand out in the entrepreneurial environment.

In the context of agribusiness startups, expansion is not just about increasing the number of users or customers. It is necessary to verify the segments most adherent to the product or service and consider a significant geographical component, taking into account regional particularities such as climate, soil and logistical challenges (RAMOS; PEDROSO, 2021).

Given the complexity of the demands at this stage, a large volume of funding is required. Since both the business and its market are more defined at this stage, the risk involved is lower, although important. With this, the startup starts to attract other categories of private investors.

The so-called *Venture Capital*, also called Entrepreneurial Capital or Risk Capital, refers to private entities that make investments in companies that seek to expand their client base and their portfolio of products and services (CARRETE; FARIA, 2019). In general, they are characterized by the acquisition of an equity interest in the company. They are mainly made up of large corporations, banking institutions or specialized investors. These funds target small or medium sized start-ups, but with significant revenue and growth potential.

Although the operation is modest, the company needs to have a validated product and already conquered a share of the market. The amount is in the range of millions and it is common for several funding rounds to occur, indicated as series A, series B, series C and so on (3CAPITAL, 2023).

After receiving investments from *Venture Capital* funds, the subsequent stages in the entrepreneurial trajectory include the exploration of Private Equity funds, which become relevant when the company ceases to be a startup, develops into a consolidated enterprise with solid foundations and significant results.

At this stage of a startup's life cycle, entrepreneurs no longer have the profile to access government financing, but they do not have the business history, revenue stability and customer portfolio to access bank credit lines or capital markets. Another potential source of investment comes from large companies, *Corporate Venture Capital* (VC).

### 2.1.6 Maturity and exit (optional)

The maturity stage is often referred to as the "adult life" of a startup. It is the moment when the company reached its peak of prosperity and independence, supported by a well-structured and robust team of employees. However, this stage also presents specific challenges. With the slowdown of expansion cycles, some companies may face intense competition or even negative cash flows once the period of exponential growth has come to an end (LOSADA, 2020).

At this stage, entrepreneurs are faced with crucial decisions. They may choose to push the company forward in pursuit of further expansion or consider going out of business. If the decision is to expand, it is vital to seek new opportunities and ventures. However, it is necessary to question the company's ability to sustain and manage additional projects, ensuring that the essence and values of the business remain intact.

To support growth and stabilization strategies at this stage, both domestically and internationally, some financing options include the reinvestment of profits, the search for new risk investments and borrowing.

*Private Equity* is a source of financing for companies that do not have access to investors because they are not listed on any stock exchange, but need capital because they have enormous opportunities for growth. *Private equity* is characterized by the acquisition of equity interest in the company, which allows the investor to take part on the startup's decision-making committee. Thus, the company receiving investment acquires not only the invested capital, but non-financial resources associated with the experience of the fund managers aiming at value, increasing management capacity, expanding the client portfolio, enabling relationships with the other companies in its portfolio of investees as well as expanding access to other sources of investments (due to proximity to financial institutions) (CARRETE; FARIA, 2019).

The so-called "Exit" refers to the moment when the company decides to be acquired by major *players* in the sector or choose other paths, in which the title "startup" is no longer applicable. One of the possibilities of evolution is for the company to decide to go public on the stock exchange. The term *Initial Public Offering*, commonly referred to as IPO, involves the process by which a company goes public for the first time, through shares that are traded on the stock exchange (ENDEAVOR BRASIL, 2023).

Going public, in accordance with Brazilian law, refers to publicly trading its securities,

such as shares, debentures and promissory notes, usually on a stock exchange. The purchase of shares on the stock exchange can be a way to raise funds to expand the company, if it offers credibility as to its profitability potential.

In the context of agribusiness startups, several paths have been followed. With regard to exit movements, or divestment, one of the most common paths is the acquisition of agtechs by large corporations. In the Brazilian case, two recent examples are: in 2020, the purchase of agfintech Gira, which operates in receivables, by Santander; and in 2021, the acquisition of Brain Agriculture, focused on the credit market, by Serasa Experian (FIGUEIREDO *et al.*, 2021).

To a lesser extent, some startups have decided on the path of growth, such as the Brazilian startup Agrosmart, established in 2014, which acquired the Argentinian startup BoosterAgro – owner of the main agrometeorological application in Latin America – seeking to consolidate its presence in Latin America.

In the context of great dynamism of the Brazilian agricultural innovation ecosystem, it can be said that the exit or death phase does not refer to an "end", but to a transformation of the company's status in the business ecosystem.

The phases of the startups' journey and their characteristics are represented in Figure 16, along with the most common financing mechanisms in these phases.



**Figure 16.** Representation of the phases of a startup life cycle and the related investment sources **Adapted** from Carrete e Faria (2019)

The various financing mechanisms for agtechs made available by the different agents of the Brazilian innovation ecosystem are shown below.

## 3. Promotion and incentive mechanisms focused on agtechs

In this section, we describe the result of a non-exhaustive search on the main organizations and mechanisms for encouraging and financing startups focused on agriculture and its links. The objective is to provide the entrepreneur with knowledge about sources where to seek financing.

### 3.1 What is valued by funders interested in agtechs?

The Sebrae Entrepreneurial Capital Platform (online) is a very useful resource for entrepreneurs to guide themselves as to the appropriate type of investments to seek, depending on the stage of development of the enterprise and other attributes.

There are several types of financiers/investors interested in agtechs, whose characteristics can be described in variables and examples such as:

- 1) Sector: public, private or third sector.
- 2) Objectives: financial return, strategic investment, portfolio diversification, regional development, innovation, encouragement of a technology/sector, empowerment of minorities, reduction of risk/dependence, solution to an operational pain.
- 3) Performance: local, regional, national or international.
- 4) Term/cycle: short, medium or long term; annual, multiannual cycle.
- 5) Scope: individual, project, company, portfolio, research, patent, concept test or commercial.
- 6) Type of financial resource: repayable with grants, traditional loan, *venture debt*, non-refundable, equity investment, *blend finance*.
- 7) Type of innovation: incremental or disruptive; emerging or consolidated.
- 8) Technological Maturity Level: from idea to established production.
- 9) Company revenue and volume of financial resources: *venture capital* scale (seed, series A, B, C, D, E).
- 10) Selection and contracting format: public calls, continuous flow, number and existence of limit of selected companies, call on *equity crowdfunding* platform, *road show*, exit forms.

Financial and non-financial controls and counterparts, if there is a need or not to exit.

Each combination of these variables may result in a greater or lesser suitability of the agtech with the organization and the type of financing offered to the market. Just as an agtech can and should try to access several sources of investment, organizations can also offer different types of funding to better adapt to the needs of audiences at different times of the project and company.

Each funding source has its pros and cons and the choice depends on the specific needs and circumstances of each startup. For example, different objectives are related to different players/types: financial return (*venture capital*, banks), portfolio diversification and strategic investment (open innovation programs, *corporate venture capital*), regional development (indirect administration of state and municipal governments), innovation and incentive to a technology/sector (FINEP, State Research Support Foundations), minority empowerment (specific programs, quotas in lines/programs), risk/dependence reduction, solution to an operational pain (open innovation programs).

What needs to be offered for each type of funding provider varies according to the

goal of each one and the phase of the startup they focus on. For example, in order to attract investors (especially private ones), startups need to develop a solid business plan, demonstrate traction, have a competent team, and present a compelling value proposition. For each stage of the startup, there are investors with different expectations about the maturity of the product/ service, the business, the technology and/or the market, as well as perceptions of risk and expected return in different deadlines. The investor has a relationship with the company and not with the individual or the specific product/service.

For public funders that promote innovation, they generally follow the project's logic. In startups, the product/service and the technology/business often converge because the portfolio is limited. In more mature companies, it is possible to have a mature product/service or even at the end of the market cycle and another with an initial technological maturity level. FAPESP has a funding line for small companies (Innovative Research in Small Companies – PIPE) and includes in its annex 6 the logic of the level of technological maturity (Technology Readiness Level – TRL) and its connection with the program (FAPESP, 2022). Every project submitted to these initiatives must present the intended technological evolution, characterizing the initial TRL and what will be the expected TRL at the end of the project.

### 3.1.2 TRL levels and their contexts

TRL levels can be directly related to the stages of the Entrepreneur's Journey and the related investment types from the previous session of this chapter. Table 15 demonstrates the fundamental elements of TRL.

Tabela	15.	Technological	maturity	levels	and	context
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TRL	TRL Level Context
1	<b>Basic principles observed and reported</b> Initial level of technological maturity. Basic scientific research begins to be translated into applied research and technological development. (p.3)
2	<b>Formulation of the concept and/or application of the technology</b> <i>Practical applications of TRL1 are beginning to be identified or invented</i> . (p.4)
3	<b>Proof of concept of critical functions in an analytical and/or experimental way</b> <i>R&amp;D activities are initiated. Studies and experiments through validation of proofs of concept from</i> <i>the applications or concepts envisioned in TRL2.</i> (p.4)
4	<b>Validation in laboratory environment of components and/or experimental tests</b> From the success in the validation of proofs of concept of critical functions, it becomes necessary to integrate/join the parts (critical functions) for validation in an integrated way in components and/or experimental tests. (p.4)
5	<b>Validation in relevant environment of components and/or experimental tests</b> Basic elements of the technology must be integrated in a reasonably realistic and integrated way (level of components, subsystems or system) that can be tested in a simulated way or even in a real environment. (p.5)

TRL	TRL Level Context
6	<b>Demonstration of system model or functional prototype in relevant environment</b> Integrated system model, functional prototype of the system shall be tested in relevant environment. At this stage, technological evolution is more associated with reliability of operation than with R & D requirements. (p.5)
7	<b>Demonstration of the functional prototype in an operational environment</b> Validation of the prototype of the system working in a real environment, like the one that will be installed when it is finalized. Prototype must be tested close to or at the scale planned for the operating system. (p.6)
8	<b>Fully complete system, tested, qualified and demonstrated</b> <i>In most cases, it is the final stage of system development. It may imply integration with legacy</i> <i>systems.</i> (p.6)
9 Source: N	<b>System already successfully operated in all critical conditions</b> The main difference between TRL 8 and 9 is the operation. Bugs may occur in the implementation and operation process that will need to be corrected at this stage. It should not include previously planned improvements or other variations of the solution. (p.7)

TRL was initially designed for the space industry and its application in various scenarios generated specific characteristics according to the sector. For example, according to Fiuza (2021), at level 5, when it comes to validation in a real environment. When it comes to a technology for agribusiness, this is when field tests begin.

## 3.2 Sources of investment in the initial stage

In the dynamic world of agtechs, securing adequate early-stage funding is a crucial pillar of success. This sector, which combines technological innovations with the needs of modern agriculture, requires substantial investment not only in research and development, but also in infrastructure and human capital. The disruptive nature and scalability potential of agtechs make them attractive to a variety of investors, from venture capitalists to government programs and social impact funds. The challenge for entrepreneurs is to identify the most appropriate source of funding that aligns with the objectives and phase of development of their business.

In the initial stage, agtechs often turn to funding sources such as incubators and accelerators specialized in the agricultural sector, which offer not only capital, but also mentoring and access to contact networks. In addition, government grant programs and *pitch* competitions can be vital opportunities to obtain funding without ceding equity interest. Another growing trend is *crowdfunding*, where the farming community and the general public can invest directly in projects they see as promising. This crowdfunding model not only raises funds, but also creates a support base and validates the market for the product or service offered. There is still *bootstraping*, mentioned earlier.

## 3.2.1 Private investments

In the emerging agtech sector, where technological innovation meets the needs of

modern agriculture, various forms of private investment play a key role in the development and scalability of these companies. A common type of investment is venture capital, which is particularly suitable for agtechs due to its innovative nature and exponential growth potential. Venture capital investors, often specializing in technology and sustainability, provide essential funding for research and development, helping agtech startups turn pioneering ideas into marketable and sustainable solutions in the agricultural market.

Angel investors are also vital sources of capital for early-stage agtech startups. These investors, often former entrepreneurs or seasoned professionals in the agricultural industry, provide capital, offer mentorship, mentorship, and access to valuable networks. They tend to invest in companies that show great potential to positively impact agricultural practices, from improving production efficiency to implementing sustainable and environmentally friendly practices.

In addition, *private equity* investment is beginning to gain traction in the agtech space, especially in companies that are past the early stage and have demonstrated a viable and scalable business model. *Private equity* funds often make strategic investments in agtech companies that have the potential to significantly reshape agriculture sectors through automation, biotechnology, or data management solutions. These investments are critical to scale innovative solutions and take agtechs to the next level of growth and expansion in the global market.

### 3.2.2 Public funding

The public sector plays a crucial role as a facilitator and supporter. Governments around the world have implemented a variety of initiatives to stimulate innovation and entrepreneurship in the agricultural sector. In Brazil, for example, programs such as BNDES Garagem and Brasil Venture Debt offer financing, as well as an enabling environment for innovation through mentoring, networking and technical support. These programs are designed to help startups at different stages of development, from the ideation phase to scalability.

In addition to direct financing, the public sector can also provide indirect incentives, such as tax benefits, subsidies, and the simplification of bureaucratic processes. Initiatives such as Finep Inovacred and Inovacred Expresso demonstrate a commitment to innovation by facilitating access to credit for companies in various phases of growth. These programs aim to reduce the financial burden on startups, allowing them to focus on developing technologies and solutions that could revolutionize agriculture.

Public-private partnership programs are also key. Initiatives such as Conecta Startup Brasil encourage collaboration between startups, established companies and research institutions. Such partnerships can lead to the development of innovative technological solutions while giving startups access to resources that might otherwise be out of reach. This access is particularly important in the agtech sector, where integrating new technologies can be complex and expensive.

Finally, public sector support goes beyond funding and includes creating a robust ecosystem to support innovation and entrepreneurship. Initiatives such as trade shows, workshops and acceleration programs are essential to connect entrepreneurs with investors, mentors and potential customers. In addition, the public sector can play a role in promoting favorable regulations that encourage the growth of agtechs, while ensuring that new technologies are safe and sustainable. The initiatives listed on the Brazilian government's Startup Point website demonstrate a broad spectrum of support and funding available to startups, including those in the agtech sector. These initiatives span several critical steps in a startup's lifecycle, from Ideation to Scale. For example, programs like BNDES Garagem and Brasil Venture Debt offer financial and technical support to early-stage startups, helping them turn innovative ideas into viable projects. In later phases, such as Operation and Scale, programs such as Finep Inovacred and Inovacred Expresso provide crucial resources for startups to expand their operations and increase their impact on the market.

In addition, initiatives such as Conecta Startup Brasil promote the interaction between startups, consolidated companies and the innovation ecosystem, favoring the development of disruptive technologies and effective solutions. These programs reflect the public sector's commitment to nurturing the growth of agtech startups by offering them a range of resources that go beyond funding, including mentoring, access to networking, and support in navigating regulatory and market challenges. This multifaceted approach is essential to ensure that agtechs can thrive and contribute significantly to innovation in the agricultural industry.

### 3.3 Initiatives Mapped by Stage and Type of Support/Nature

The portal for federal startup support initiatives, Startup Point, implemented by the National Startup Support Initiatives Committee, is a comprehensive platform created to help innovative entrepreneurs identify and access the most appropriate government actions and programs for their business development. This online resource is a valuable tool for startups seeking guidance and support as it offers a clear overview of the various federal initiatives available.

Startup Point is designed to facilitate the search for specific programs that can leverage innovative businesses, offering details about each initiative, including its objectives, eligibility criteria and benefits offered. The portal is an essential resource for entrepreneurs who want to maximize the growth potential of their startups in the dynamic innovation ecosystem. Table 16 shows the sources of investments by stage of the startup life cycle and Table 17, the initiatives according to the nature of the investment.

Initiative	Phase					
initiative	Ideation	Validation	Operation	Scale		
BNDES Garagem		x	x	х		
Brasil Venture Debt				х		
Entrepreneurial Capital		х	х	х		
Catalisa Hub	х	х	х	х		
Catalisa ICT	x	x	x	х		
Catalisa MPE			х	х		
Centelha	х	х				
Conecta Startup Brasil	x					

Tabela 16. Startup funding initiatives by stage of the journey

	Phase					
Ιηπατινε	Ideation	Validation	Operation	Scale		
Delta Lab		x	x	х		
Diplomacia da Inovação	x	х	х	х		
Espaço Finep		х	x	x		
Finep Inovacred			х	х		
Finep Inovacred Expresso			х	х		
Finep Startup		х	х	х		
Finep Tecnova		х	х			
Fundo de Coinvestimento Anjo	x	х	х	х		
IA <sup>2</sup> MCTI		х	х			
Ideiaz powered by InovAtiva	x					
Indicator 2 IoT FIP				х		
Inova Amazônia	x	х	х	х		
InovAtiva Brasil		х	х	х		
InovAtiva de Impacto Socioambiental		х	х	х		
LIFT Lab	x	х				
Mulheres Inovadoras		х	х	х		
NISA	x	х	х	х		
Portal Agro Hub Brasil		х	х	х		
Programa de Internacionalização de Startups			х	х		
Programa TechD	x	х	х			
RHAE		х	x	х		
Sandbox Regulatório			x			
Sebrae Like a Boss	x	х	x	х		
StartOut Brasil			x	х		
Startup Nordeste Source: Startup Point (online)	x	х	x	х		

### Tabela 17. Startup support initiatives by nature

Initiative	Initial business modeling	Financial services and investment	Connecting and Networking	Business mentoring	Qualification and training	Internationalization	Specialized infrastructure and services
BNDES Garagem		x	х	x	x		
Brasil Venture Debt		х	х				
Entrepreneurial Capital			х	x	x		
Catalisa Hub			х				
Catalisa ICT		х	х	х	x		
Catalisa MPE			х	x	x		
Centelha	x	х	х	х	x		
Conecta Startup Brasil	x	х	х	x	x		x
Delta Lab		х	х	х	x		
Diplomacia da Inovação			х	х	x	х	
Espaço Finep		х	x	х	x		x
Finep Inovacred		x	x				
Finep Inovacred Expresso		x					
Finep Startup		x	x				
Finep Tecnova		x	x	x	x		
Fundo de Coinvestimento Anjo		x	x				
IA <sup>2</sup> MCTI		x	x	x	x		
Ideiaz powered by InovAtiva	x		x	x	x		
Indicator 2 IoT FIP			x				
Inova Amazônia	x		х	х	x		x
InovAtiva Brasil			х	х	х		
InovAtiva de Impacto Socioambiental			х	x	x		
LIFT Lab	x		х	х			x
Mulheres Inovadoras			х	х	x		x
NISA	x		x	x	x		

Initiative	Initial business modeling	Financial services and investment	Connecting and Networking	Business mentoring	Qualification and training	Internationalization	Specialized infrastructure and services
Portal Agro Hub Brasil	x		x	x	x		x
Programa de Internacionalização de Startups			x	x	x	x	
Programa TechD	x		x	x	x	x	
Sebrae Like a Boss	х				x		
StartOut Brasil			x	x	x	x	
Startup Nordeste	x		x	x	x		

Source: Startup Point (online)

## **3.3 Financing and Promotion**

### 3.3.1 Non-refundable promotional lines.

This section is based on the content made available by MAPA (2022a).

A non-refundable line of credit is a type of financing in which the funds provided do not need to be returned by the beneficiary. Generally, these lines of credit are offered by governments or international organizations as part of development programs, with the objective of supporting specific projects that bring social, economic, technological or environmental benefits. They are often used to encourage innovation, R&D, support small and medium-sized enterprises, and projects focused on sustainability and social development. Unlike traditional loans, non-repayable lines of credit work more like a grant or donation.

The non-refundable development lines, available on the website of the Brazilian Ministry of Agriculture, Livestock and Food Supply (MAPA), offer a number of options to support innovation and research projects in the agricultural industry. These lines include partnerships via Institutes of Science, Technology and Innovation (ICTI), such as EMBRAPII – Brazilian Company for Industrial Research and Innovation and SibratecShop<sup>2</sup>, which offer shared laboratories. In addition, there are tax incentives available, such as Lei do Bem (Good Law), Lei de Informática (Computer Law) and ISS Tecnológico (Technological ISS), adopted in Paraná.

Other mechanisms in the chain include the R&D clause of the Electricity Sector, and Finep offers several options such as the Economic Subsidy for Innovation, the Centelha Program, and sector funds and the National Fund for Scientific and Technological Development (FNDCT). Sebrae also stands out with programs such as SEBRAETEC, Production Chain and Procompi,

<sup>2</sup> O SibratecShop se enquadra na Iniciativa Laboratórios Abertos. It is operated through Sebraetec. This is a partnership between Sebrae, Senai and MCTI that expands the availability of support mechanisms for nascent companies, startups and small business owners who seek to strengthen themselves through the development of innovative products and processes. Sebraetec enables the production of prototypes for these companies. This is a pilot initiative.

aimed at technological development and the competitiveness of micro and small industries.

MCTIC/FINEP offers SibratecShop, Brazilian Technical Response Service (SBRT<sup>3</sup>) and Technological Bonus, while BNDES offers BNDES Garagem and FUNTEC. The National Council for Scientific and Technological Development (CNPq) offers programs such as the Training of Human Resources in Strategic Areas (RHAE) and notices of Technological Bonuses and Training. Finally, the Research Support Foundations (FAPs) in several Brazilian states offer specific support for research and innovation, such as FAPAC in Acre, FAPEAL in Alagoas, and FAPESP in São Paulo, among others. FAPs administer Centelha at the state level.

#### 3.3.2 Refundable Promotion Lines

This section is based on the content made available by MAPA (2022b).

A repayable line of credit is a type of financing in which the funds provided to the beneficiary must be returned, usually with interest, in accordance with the terms and conditions set forth. This type of credit is common in banks and financial institutions and can be used for a variety of purposes, such as working capital, business expansion, equipment purchase, among others. Repayable lines of credit are a form of borrowing and as such require the borrower to meet payment obligations within the agreed time frame.

The Reimbursable Financing Lines offered by the Brazilian government, as listed on the website of the Ministry of Agriculture, Livestock and Food Supply, include several options to support projects in the agricultural sector. BNDES offers programs such as the Tecnópolis Development Foundation (FUNTEC), BNDES Climate Fund, FINEM<sup>4</sup> for different sectors, including innovation, agriculture, and support for national engineering. In addition, Finep offers lines such as CONECTA, INOVAÇÃO and FINEP Startup.

State development agencies, such as Desenvolve Alagoas, DesenBahia, GoiásFomento, Fomento Paraná, among others, also offer reimbursable financing lines. These agencies are essential to local and regional projects, supporting a variety of development initiatives. State regional development banks, such as Banco Regional de Desenvolvimento do Extremo Sul (BRDE), Banco do Estado do Rio Grande do Sul S.A. (Banrisul), Banco de Desenvolvimento do Estado de Minas Gerais (BDMG), and Banco da Amazônia (Basa), offer financing options for specific projects in the agricultural sector in their respective regions, contributing to economic development and innovation in the field.

These repayable lines of financing play a vital role in supporting the Brazilian agricultural sector by providing the necessary financial resources for innovation, expansion and modernization of agriculture and livestock in the country.

## Conclusion

This chapter presented a non-exhaustive review of the support and promotion mechanisms of startups, seeking to direct the focus to agtechs. While general investment principles apply

<sup>3</sup> SBRT is an information service created to meet the technological needs of micro and small enterprises and entrepreneurs from all over the country.

<sup>4</sup> Financing for investment projects, public or private, aimed at generating and increasing productive capacity in the various sectors of the economy.

to startups in general, it is important to tailor your approach to meet the specifics of the agricultural industry and attract investors who share your interest and understanding of the agricultural market. In addition, agribusiness startups must be aligned with the innovation and sustainability trends that are shaping the future of the industry. Thus, the opportunities to obtain financial resources and other supportive mechanisms for the development of startups are expanded.

The initial phase of startups is usually the most challenging step for obtaining funding. Thus, the public sector is one of the largest supporters of projects at this stage, especially for offering many mechanisms financed with non-refundable resources. The public sector is also present to support other phases with reimbursable resources, favoring conditions that are generally more attractive than those offered by the private sector.

By explaining the characteristics of the phases of the startups' journey and the supporting and financing mechanisms that companies can use in each of them, the chapter went deeper into the specifics of agtechs and how they can benefit from support in their development journey. There is a plethora of opportunities, as seen in the supportive instruments, which were presented both by phases of the journey and by the nature of the investments. Promoting entrepreneurship and the training of entrepreneurs also integrates several of the instruments presented.

Entrepreneurial activity is primarily what enables the resolution of very complex problems related to agribusiness, as well as the emergence of new opportunities for growth in the sector. There are instruments of promotion and support on an advantageous basis in Brazil. Therefore, the focus is now on motivating new agtechs and promoting qualification opportunities for aspiring entrepreneurs and incumbent entrepreneurs, so that they are able to take advantage of and at the same time create new opportunities for sector growth through high-tech ventures.

## CHAPTER 5

## Method

This chapter describes: (1) the collection process for the agtech mapping database; (2) the taxonomy, (3) the classification and validation of agtechs; and (4) the changes in the survey form in relation to 2022.

It is important to note that due to changes in the method it is not possible to directly compare the 2019, 2020/2021 and 2022 data, due to the following factors:

- improvement of information related to agtechs over the years;
- increase in data sources with databases of potential agtechs over the years;
- availability of an agtech registration form in 2022 and 2023; and
- changes in the criteria for inclusion / removal of agtechs in the study.

Due to these factors there were cases of agtechs that already existed in 2019, 2020 and 2021, but that had not been mapped in the 2020/2021 study and that were identified in the 2022 study, for example.

To enable the comparison of the data, it would be necessary to remake the classification of all the data from previous editions by thhe current method. Therefore, the analysis prioritized making relative comparisons between what each edition showed and identifying the similarities and differences. Although the database has evolved, it still does not enable a longitudinal analysis.

Agtech mapping has characteristics that differ from other studies, such as the census and the survey, which have additional objectives.

In turn, a census seeks to understand a population based on data collected from the studied population. Thus, it relies on research instruments, such as questionnaires, to perform an active search. In addition, it relies on the willingness of the research subjects to provide answers. Since it does not work with sampling, but with the entire population, it is a process that requires big budget and extended collection time, except if the population is very small.

In turn, mapping works with publicly available information and, therefore, does not rely on the availability of companies and individuals to respond to a survey, nor on the authorization to use the identified information, since it is already publicly available. On the other hand, it does not include very specific and detailed data (made available only by the identified individuals and companies).

The term "survey" refers to a type of research that mainly uses quantitative instruments to describe a population in greater depth, but without claiming to be a census survey. This type of research is quite common and is additional to the previous approaches.

Since 2022, Radar Agtech relied on two data collection fronts, in the form of a mapping and a survey, the results of which are presented in specific chapters.

## Collection process for agtech mapping database

This section describes the methodology for building the database of startups operating in the agricultural industry and investments in agreechs, the criteria for inclusion and exclusion and the data fields included in each database.

### Agtechs database

The agtechs database in Radar Agtech 2023 was built from update and qualification of the data collected in previous studies.

The qualification/update of the agtechs database included the following activities:

- 1) Verification of the list of agtechs presented in Radar Agtech as active or inactive, from the following virtual identifiers, publicly accessible: active website, social media with updates and CNPJ (national registry of legal entities) status.
- 2) From this stage, the descriptive data of each startup, as well as its area of operation, were updated.
- 3) Several initiatives have been undertaken to expand the database, including new agtechs, from:
  - a) Professional contacts and systematic monitoring of websites and news conveyed by actors in the agricultural innovation ecosystem (government agricultural research agencies, state and federal research institutes, sources of research, innovation and entrepreneurship, innovation *hubs*, incubators, accelerators and investors of entrepreneurial capital) made by the directors (Embrapa, SP Ventures and Homo Ludens);
  - b) Analysis and comparison with other agtech reports published in Brazil;
  - c) Voluntary registration of startups on the *website* radaragtech.com.br, in the form of a survey;
  - d) Disclosure by the directors' press office to the media;
  - e) Disclosure with Sebrae Nacional to the Sebrae system;
  - f) Marking of agtechs identified in 2022 with a LinkedIn profile in the publication referring to the registration;
  - g) Paid ads campaign on LinkedIn focusing on agtechs identified in 2022 with a profile on LinkedIn and similar companies (*"look alike"* option of campaign setup).
- 4) From the identification of new agtechs, a new stage of qualification of these data was promoted, contemplating:
  - h) Verification of the activity/inactivity of the new agtechs, considering the following virtual and publicly available identifiers: active website, social media with updates and CNPJ status.
  - j) Automated search for information from the CNPJ (with support from Sebrae).
- 5) A step to consolidate information was carried out, which involved merging data about the same company from different sources; excluding duplicate data; and deleting non-validated agtechs from digital identifiers.

From this process, the mapping gathered about 2.100 agtechs operating in Brazil. However, according to the inclusion and exclusion criteria – presented below – 1704 agtechs were validated.

### 2023 Agtechs Database Inclusion and Exclusion Criteria

As a mapping research, Radar Agtech relies on publicly available and open information to carry out its study. In applying the criteria listed below, the decision was to maintain the largest number of startups that met the inclusion criterion (sufficient condition), even when there was no information about the company that could be used to evaluate it regarding the removal criteria. Thus, upon subsequent analysis with new information, there may be some startups in this map that should have been removed. In addition, as the context of startups is very dynamic, there is a possibility that potentially validated agtechs have closed the company after the completion of our analyses. A new edition of the Radar is expected to contain the necessary adjustments and to provide an overview as close as possible to the reality of the innovation ecosystems in Brazil.

The criteria to include agtechs in the database were: active digital presence (website and/or social media) associated with the availability of information about their location and their area of operation contained in the CNPJ data and/or in the digital presence.

Startups whose markets are not related to the agribusiness chain were removed, even though they have been listed in other studies and directories of the industry.

Regarding the company's time of activity, we decided not to use the criterion contained in the legal framework of startups (10 years), since, for many categories of agtechs, the cycles of technology development and its adoption are longer than the cycles of startups from other sectors of the economy. Thus, this study considered the period of up to 20 years of establishment.

The revenue indicator was not considered in the analysis of startups – a criterion for classification of startups withhin the legal framework of startups, which considers a revenue of less than 16 million reais, since it was not possible to collect publicly available information on revenue for all mapped agtechs.

The following were also excluded: (i) agtechs that were acquired by other larger companies, regardless of whether or not they continue as autonomous companies within the group of the purchasing company; (ii) companies that present themselves with different names, but have the same CNPJ; (iii) agtechs with CNPJ written off or unfit; and (iv) foreign agtechs operating in Brazil.

### Taxonomy

Since 2019, the analysis of agtech's insertion in the production chain has considered the traditional *Agribusiness* approach to analyze the production system, from suppliers to the final consumer.

This perspective considers segments upstream (before) and downstream (after) of the productive activity. Within each segment, non-exclusive categories add to the classification of agtechs.

Small adjustments were made to the taxonomy used by Radar Agtech Brasil 2020–2021 in relation to the 2019 edition, which are presented in the 2020–2021 edition. Therefore, it was not possible to make a longitudinal comparison of the behavior of the categories between the 2019 and 2020/2021 editions.

Since the 2023 edition of Radar Agtech maintained the taxonomy of the 2020–2021 and 2022 edition, it is possible to make comparisons in terms of regions, segments (before, inside and after the farm) and by categories of operation (Tables 18, 19 and 20).

Category	Description
Laboratory Analysis	Startups that trade and/or develop new methods for laboratorial analysis related to nutrient levels, soil composition and development of plants and animals.
Credit, swap, insurance, carbon credits and fiduciary analysis	Startups that provide financial services such as credit, <i>barter</i> , securitization and analysis and trade of carbon credits for rural producer and fiduciary analysis of rural properties.
Fertilizers, inoculants and plant nutrition	Startups that trade and/or develop new fertilizers, inoculants and nutrients, in order to improve plant development, growth and immune system.
Animal Genomics and Breeding	Startups working with applied genomics to increase cattle's productivity, weight gain and health, and to increase the efficiency in the insemination process, using genetic testing, genotyping and other techniques.
Marketplace of raw materials for agribusiness	Startups that develop and provide online platforms for the trade of productive ra materials, equipment and services aimed at agricultural and livestock production
Animal nutrition and health	Startups that trade and/or develop new foods, drugs and care in order to improve the development, weight gain and immune system of animals
Seeds, seedlings and plant genomics	Startups that trade and/or develop disruptive methods, processes and technologies in the variety of seeds and seedlings, as well as in multiplication, germination and distribution methods. This category also includes startups that trade and/or develop genetic improvement of plants, develop technology for scalable production of biological substances and define new uses for these substances.

### Tabela 18. Description of categories before the farm - Radar Agtech

 Tabela 19. Description of the categories before the farm in Radar Agtech.

Category	Description
Beekeeping and Pollination	Startups that develop beekeeping technologies, such as special foods and data-based management, offering pollination services, platforms to facilitate the connection between beekeepers and producers; and producers and traders of honey and honey products.
Connectivity and Telecommunication	Startups that trade and/or develop equipment and systems to take and ensure connectivity inside the farm.

Category	Description
Content, Education, Social Media	Startups that develop and provide online platforms for dissemination of content, information and best agricultural, agronomic and cattle-raising practices, and that provide consulting with the purpose of empowering, training and bringing rural producers closer to each other.
Biological control and integrated pest management	Startups that market and/or develop biochemical and biological variants (macroscopic or microscopic) aimed at combating pests and diseases, as well as startups that develop technologies for population control and optimizing the use of raw materials, through agronomic intelligence, in order to carry out an effective and efficient control of pests and diseases.
Drones, machinery and equipment	Startups that develop and provide aerial vehicles, machinery and equipment for use in the farm.
Shared Economy	Startups that provide equipment and machinery for rent and promote their shared used among rural producers.
Agricultural waste management	Startups that trade and/or develop equipment, methods and processes to improve the waste management in the property.
Internet of Things for Agro: Detection of pests, soil, climate and irrigation	Startups that develop and provide equipment and sensors capable of communicating with each other.
Meteorology and irrigation and Water management	Startups that develop and provide equipment, methods and processes to improve the predictability of rain levels, as well as those that enable better management and efficiency in the irrigation process, as well as higher efficiency in the farm's water management.
Integrating platform for systems, solutions and data	Startups that offer integrated solutions for monitoring of agronomic variables and management or traceability of the production chain.
Remote sensoring, diagnosis and image monitoring	Startups that develop and provide online platforms that help the rural producer in controlling, knowing and delimitating the farm based on imagery, radars and algorithms to identify patterns.
Rural Property Management System	Startups that develop and provide online platforms to assist the management, organization and decision-making of rural producers.
Telemetry and Automation	Startups that trade and/or develop equipment and algorithms for process collection, consolidation and automation.

 Tabela 20. Description of the categories inside the farm in Radar Agtech.

Category	Description
Innovative foods and new food trends	Startups that develop and provide foods with better nutritional levels, using replacement ingredients and creating new uses for existing ingredients.
Storage, Infrastructure and Logistics	Startups that develop and provide new processes, methods and technologies for storage and transportation of commodities and food.
Biodiversity and Sustainability	Startups that develop and provide new sustainable processes, methods and technologies and/or for protection and/or responsible use of the biodiversity.
Bioenergy and Renewable Energy	Startups that develop and provide new processes, methods and technologies for production of bioenergy and/or renewable energy.
Cloud kitchen and ghost kitchen	Startups that provide shared kitchens for the production of meals for <i>delivery</i> .
Food industry and processing 4.0	Startups that develop and provide new processes, methods and technologies, with the purpose of increasing efficiency in the use of raw materials, energy, water etc. in the food industry.
Marketplaces and trade and sales platforms for agriculture and livestock products	Startups that develop and provide online platforms for trade of commodities and products produced by agribusiness in a large scale, focused on internationalization.
Online grocery	Startups that develop and provide online platforms for trade of unprepared food and products, offering the possibility of a monthly subscription, focused on the end consumer.
Urban farming: plant factory and new ways of farming	Startups that develop and provide new processes, methods and technologies for production of crops in urban or indoor areas.
Online restaurants and meal kits	Startups that develop and provide online platforms for trade of prepared products (meals, snacks, sweets) and foods which are ready for consumption or that only need heating, offering the possibility of a monthly subscription focused on the end consumer
Food safety and traceability	Startups that develop and provide technologies acting to increase the quality and durability of food, as well as to help with the traceability of ingredients used in companies within the productive chain.

Category	Description
Autonomous management system for food stores and services	Startups that develop and provide processes, methods and technologies for the automation of stores, as well as to assist retail management.
Packaging, environment and recycling systems	Startups that develop and provide new processes, methods and technologies for packaging in order to mitigate negative impacts on the environment and facilitate recycling.

Description of the categories after the farm in Radar Agtech.

### Classification and validation of agtechs

In the survey questionnaire, participants were asked the main category of agtech and if there were secondary category(ies) in which the company operates. This main category indicated by the respondent was considered when it exists.

If agtech itself did not self-classify in the 2022 or 2023 survey, the classification of each agtech was made by a person on the team, and was reviewed in the following cases:

- When the first examiner suggested the removal of the agtech due to lack of data, another examiner would try to find data by other means;
- When the first examiner suggested the removal of the agtech due to inadequacy according to removal criteria, another examiner would confirm this decision;
- When the first examiner was in doubt regarding the main category; and
- When there was no consensus between the first and the second examiner, and a third examiner also gave his or her opinion and the debate would go on until a consensus was reached.

The process of identifying any secondary categories of mapped agtechs has not been completed for all agtechs, so this data will not be published in this report.

## Changes in the 2023 survey form in relation to the 2022 form

The main change in the 2023 survey compared to 2022 was the introduction of a block of questions on talent management and diversity, in order to better understand the profile of professionals working in the sector.

Other changes were incremental, with the increase of options in three questions and the insertion of two questions about the relationship of agtechs with their local ecosystem.

Only the question of environmental impact was removed, as there was an overlap with the question regarding the sustainable development goals.

### Insertion of the talent and diversity management block

The questions block on talent management and diversity has the following text and the following questions:

"We remind you that data on people will be collected with a view to developing policies for people development and inclusion in the industry, and will be published anonymously.

What is the number of members in the business? Please complete the options that apply to the main area.

	Men	Women	Non-Binaries
Financial and Administrative			
Production and Operations			
Research and Development			
Marketing and Sales			
Other business areas			

What is the number of collaborators (non-members) in the business? Please complete the options that apply to the main area.

	Men	Women	Non-Binaries
Financial and Administrative			
Production and Operations			
Research and Development			
Marketing and Sales			
Other business areas			

Are you aware of the presence of LGTBQIA+ people in the company?

1) Yes

2) No

3) I don't know

Are there any black, indigenous, disabled, neurodivergent, foreign, refugee, trans and/or over 50 years old people in your business?

1) Yes

2) No

What is the distribution of these people in the business? Please complete the options that

### apply.

	Male Members	Female Members	Non- binary Members	Male collaborators	Female Collaborators	Non-binary Collaborators
Black						
Indigenous						
Disabled						
Neurodivergent						
Foreigners						
Refugees						
Trans						
Over 50						

Are you aware of the presence of LGTBQIA+ people in the company?

- 1) Yes
- 2) No
- 3) I don't know

As the unit of analysis is the company, not the individual, sexual orientation was not quantitatively surveyed.

## Incremental changes

- a) Increase of options in agtech's operations:
- Your agtech operates with

2022	2023
Livestock	Chicken
Aquaculture	Cattle (Oxen and Cows)
Pig Farming	Equines
Poultry	Swine (Pigs)
Other animals	Sheep
Horticulture	Goat
Grains	Buffaloes
Fruits	Fish
Other vegetables	Bees
	Other animals
	Forestry (Forests)
	Vegetables
	Fruit Farming
	Sugarcane
	Cassava
	Cotton
	Tobacco
	Soybean
	Corn
	Coffee
	Rice
	Wheat
	Barley
	Other Grains
	Orange
	Banana
	Сасао
	Other Fruits
	Medicinal and aromatic plants
	Unconventional edible plants
	Other vegetables

Inserting questions about the local ecosystem

"Does your company participate in any local innovation ecosystem (local productive arrangement and/or innovation hub can also be mentioned)?

1) Yes

2) No

Which ecosystem(s)?

Is your company participating in any environment, network and/or innovation and/or entrepreneurship program (incubator, accelerator, hub, mentoring, local productive arrangement, etc.)?

- 1) Yes
- 2) No

What programs?"

b) Increased options in private funding sources

"From which of these sources of private financing has the company already received financial resources?

Founders, family, friends and other individualsFounder Private t agriculturePrivate technology-related notices for agricultureagribusi Private t Private to to agribusi Private to to agribusi Private to to agribusi Private to to agribusi Private to to agribusi Private to Private to Priva	rs, family, friends and other individuals technology-related notices for iness technology-related notices (not specific ousiness) notices for high impact business notices from other areas al accelerator tional accelerator e Bullder crowdfunding neesting c Capital al company tional Company rivate sources ate source

c) Increased options in private funding sources

"What sources of public funding have you received support from?

2022	2023
Public technology-related notices for agriculture Technology-related public notices Public notices from other areas Business Incubator Non-refundable research resources Loans Venture Capital Tax incentives (laws to support culture, innovation and others) No public source Other public sources	Public technology-related notices for agriculture Public technology-related notices (not specific to agribusiness) Public notices for high impact business Public notices from other areas Business Incubator Non-refundable research resources Loans Venture Capital Tax incentives (e.g. innovation support laws) Other public sources No public source

Exclusion of the question on environmental impact, maintaining the question on sustainable development goals

Exclusion of the question

"Does the agtech bring direct or indirect environmental impact on the following fronts?

1) Impact on food production and deforestation pressure

- 2) Impact on healthy living and well-being
- 3) Impact on the use and management of raw materials
- 4) Impact on water use and management
- 5) Impact on energy use and management
- 6) Impact on land use and management
- 7) Impact on greenhouse gas emissions
- 8) Impact on chemical use and pollutant emission
- 9) Startup has no environmental impact

## CHAPTER 6 I

## **Analysis of the Agtech Mapping**

This chapter presents two categories of analysis of the mapping of Brazilian Agtechs: (i) geographical and (ii) by segments of the agricultural production chain and by categories of activity. The same analyses are available for interactive consultation at the website radaragtech. com.br.

Radar Agtech Brasil 2023 identified 1,953 active agtechs headquartered in the national territory (Table 21). This mapping evaluates both the mortality of agtechs, from one edition of the report to another , as well as the emergence of new startups operating in the agricultural sector, computing the difference between these movements.

## Analysis of the geographical distribution of agtechs

This section analyzes the distribution of agtechs in the Brazilian territory considering the regions of the country, its federative units and, at the local level, in the municipalities.

The geographical analysis of agtechs can be considered an indicator of the degree of maturity of the state of agricultural innovation in different locations, showing local/regional development hubs and places that may be the target of policies to promote entrepreneurship and innovation.

### By regions and federative units

The geographical distribution of agtechs in the context of a territory can be an important indicator of the maturity of local ecosystems of agricultural innovation. It is considered that the regions, states and localities with the greatest presence of technology-based startups working in agriculture, usually located close to universities and research institutes focused on agriculture and/or the productive sector, concentrate the most innovative initiatives in the generation of new knowledge, practices and technologies for the industry.

In this sense, the Agtech Brazil 2023 Radar identified 1,953 Agtechs, 82.8% of the total mapped, concentrated mainly in the Southeast (56,9%) and South (26%) regions of the country. The federative unit with the highest number of agtechs is São Paulo, with 43,2% of the country's total. The Southeast region still holds the highest percentage of startup concentration, which remained with little decrease compared to last year.

Although, globally, the amount of active agtechs mapped in 2023 is 14.7%% higher than the value of the 2022 edition of Radar Agtech Brasil, there is a slight trend of deconcentration from the Southeast, while the North region grew significantly, from 1.5% in 2022 to 5.9% in 2023 (Table 21).

Region	Agtechs in 2023	% of total in 2023	% of total in 2022	% of total in 2020/21	% of total in 2019
Southeast	1112	56,9%	61.4%	62.5%	65.7%
South	508	26%	25.6%	25.2%	23.2%
Center-West	114	5,8%	6.2%	6.0%	6.2%
North	116	5.9%	1.5%	1.8%	1.5%
Northeast	103	5.2%	5.2%	4.6%	3.5%
TOTAL	1953	100%	100%	100%	100%

#### Tabela 21. Active Agtechs by Region

Figure 17 illustrates the distribution of Agtechs by region and federative unit. To facilitate the analysis, the colors of the regions were maintained for the States and Municipalities in all the figures of this edition of Radar Agtech: for example, the State and Municipality of São Paulo will always be in red, which corresponds to the Southeast region.



Figure 17. Distribution of agtechs by region and federative unit.

This distribution reflects the results of the mapping of the mechanisms for generating innovative enterprises in Brazil<sup>1</sup>, especially with regard to incubators and startup accelerators, located mainly in the Southeast and South regions of the country. The existence of an infrastructure to support innovation, players focused on generating new knowledge and training personnel in technological fields, as well as the presence of a capital of established relationships for innovation are factors of attraction for the emergence of new companies.

Similarly, this type of structure and interrelationships could be articulated to promote regional and agricultural development in regions with less presence of agtechs and, in theory, with less maturity with regard to the generation of agricultural innovation. An action in this direction has been undertaken by the Agro Hub Brazil Platform, articulated by the Ministry of Agriculture, Livestock and Food Supply, which aims to promote the exchange of information on the initiatives promoted in various regions and localities and on the existing players in the Brazilian agricultural innovation ecosystem.

In the analysis of the agtechs present by federative units, there was a continuity in the top five positions since the 2019 edition, occupied by São Paulo (845), Rio Grande do Sul (194), Paraná (182), Minas Gerais (169) and Santa Catarina (132) (Table 2). However, the states of Mato Grosso and Goiás advanced in their quantities and proportion of mapped Agtechs, from 36 (2.1%) and 32 (1.9%) to 39 (2.0%) and 35 (1.8%), respectively. The state of Bahia had a slight reduction, from 34 (2.0%) to 33 (1.7%).

	Fodorativo Unit	2022	0/	2022	0/
1		845	/3 2%	800	/7 0%
-	51	045	45.270	800	47.070
2	RS	194	9.9%	133	7.8%
3	PR	182	9.3%	176	10.3%
4	MG	169	8.6%	154	9.0%
5	SC	132	6.8%	128	7.5%
6	RJ	71	3.6%	69	4.1%
7	МТ	39	2.0%	36	2.1%
8	GO	35	1.8%	32	1.9%
9	ВА	33	1.7%	34	2.0%
10	PA	29	1.5%	15	0.9%
11	ES	27	1.4%	22	1.3%
12	AM	23	1.2%	4	0.2%
13	MS	21	1.1%	15	0.9%

#### Tabela 22. Federative Units Ranking

<sup>1</sup> ANPROTEC – National Association of Entities Promoting Innovative Enterprises. Mapeamento dos mecanismos de geração de Empreendimentos Inovadores no Brasil. Brasília: Anprotec, 2019. 225p.

	Federative Unit	2023	%	2022	%
14	DF	19	1.0%	21	1.2%
15	PE	20	1.0%	17	1.0%
16	CE	20	1.0%	17	1.0%
17	то	19	1.0%	8	0.5%
18	AC	16	0.8%	0	0.0%
19	AP	15	0.8%	1	0.1%
20	MA	14	0.7%	1	0.1%
21	RR	7	0.4%	0	0.0%
22	RO	7	0.4%	0	0.0%
23	RN	5	0.3%	6	0.4%
24	РВ	5	0.3%	7	0.4%
25	PI	4	0.2%	5	0.3%
26	SE	2	0.1%	2	0.1%
	Total	1953		1703	

Tables 23, 24, 25, 26 and 27 show the distribution of agtechs in each region, by federative unit. In view of the continental dimensions of Brazil and the various patterns of occupation of this territory, with regard to natural conditions (relief, climate, water availability) and the different productive, commercial, economic and even population movements (considering the waves of migration), each Brazilian region has its particular features regarding the development characteristics of its agricultural industry<sup>2</sup>.

Some regions present greater indexes of extensive agricultural enterprises, such as sugarcane, livestock, coffee and grains, especially the Southeast, South and Center-West regions. However, the activities developed by family farmers are very relevant to the Brazilian economy and food security in the country.

Table 23 presents the data mapped in the Southeast region, which concentrates 56.9% of the 1,953 agtechs identified in this edition of Radar Agtech Brasil. In the context of this region, the highest concentration remains in the state of São Paulo (76.5%), followed by Minas Gerais (15.1%), Rio de Janeiro (6.4%) and Espírito Santo (2.4%).

<sup>2</sup> BAMBINI, M. D., BONACELLI, M. B. M. Ecossistemas Agtech no Brasil: localização, caracterização e atores envolvidos. In: WORKSHOP ANPROTEC; INNOVATION SUMMIT BRASIL, 2019. Florianópolis. O futuro dos ambientes de inovação: anais chamada de trabalhos 2019. Brasília, DF: Anprotec, 2019. pp. 789-802.

States	2020/2021	2022	2023	State participation % in the region in 2023
São Paulo	757	800	845	75.9%
Minas Gerais	143	154	169	15.1%
Rio de Janeiro	63	69	71	6.4%
Espírito Santo	20	22	27	2.4%
Total	983	1045	1112	100%

#### Tabela 23. Agtechs mapped in the Southeast region, by state

It is noteworthy that the percentage difference between the 2022 and 2023 mappings in the Southeast region was 6%, lower than the overall variation in the country of 14.7%. The state of Espírito Santo had the highest percentage variation in the region, 22.7%.

In the South region, 508 agtechs are located, which represent 26% of the agtechs mapped in 2023. In Paraná, they are 35.8%; in Rio Grande do Sul, 38.1%; and in Santa Catarina, 25.8%, according to Table 24.

It can be seen that the region, as a whole, had an increase in the number of mapped agtechs, higher than the variation occurred at the national level (16.7% of the South region against 14.6% of the country). Rio Grande do Sul was the state that had the highest percentage increase: 46.6% from 2022 to 2023.

States	2020/2021	2022	2023	State participation % in the region in 2023
Rio Grande do Sul	124	133	194	38.1%
Paraná	151	176	182	35.8%
Santa Catarina	122	128	132	25.8%
Total	397	437	510	100%

Tabela 24. Mapped Agtechs in the South Region, by State

The participation of the North, Northeast and Center-West regions in the amount of mapped agtechs represents less than 10% each.

In the Center-West region (Table 25), the country's agricultural frontier with grain, fiber and livestock production, in large farms with a commercial and export focus, 6% of agtechs were identified. The number of agtechs mapped in 2023 was 11.5% higher than in the 2022 edition, with emphasis on the significant contribution of the state of Mato Grosso do Sul, in which the percentage of startups increased by 46.6%.

States	2020/2021	2022	2023	State participation % in the region in 2023
Mato Grosso	30	36	39	33.6%
Goiás	30	32	35	30.1%
Mato Grosso do Sul	17	15	21	18.2%
Distrito Federal	17	21	19	16.6%
Total	94	104	114	100%

Tabela 25. Agtechs mapped in the Center-West region, by State

The Northeast region, with 103 agtechs, has 5.2% of the agtechs mapped in the national territory. In the 2019 edition, the region had 3.5% of the mapped agtechs and in the 2020/2021 edition, 4.6%, reflecting a sustained growth in the period.

There was a percentage growth of 15.7% in the active agtechs mapped in the region, compared to the 2022 edition, according to Table 26. Bahia maintained the position of the highest percentage in the region (32%), followed by Ceará and Pernambuco (19.4% each). Maranhão surprised with a percentage of 13.5%, followed by the states of Paraíba (4.5%), Rio Grande do Norte (4.5%), Piauí (3.8%) and Sergipe (1.9%).

States	2020/2021	2022	2023	State participation % in the region in 2023
Bahia	25	34	33	32.00%
Ceará	13	17	20	19.40%
Pernambuco	11	17	20	19.40%
Maranhão	1	1	14	13.50%
Paraíba	7	7	5	4.50%
Rio Grande do Norte	9	6	5	4.50%
Piauí	4	5	4	3.80%
Sergipe	2	2	2	1.90%
Total	72	89	103	100%

Tabela 26. Mapped Agtechs in the Northeast Region, by State

The largest increases in the number of startups mapped in 2023 occurred in Maranhão (1300%), Ceará (17.6%) and Pernambuco (17.6%). It should be remembered that the Radar Agtech mapping evaluates both the mortality of agtechs and their birth, computing the difference between these movements. The largest decreases identified occurred in Paraíba (-28.5%), Piauí (-20%), Rio Grande do Norte (-16.6%) and Bahia (-2.9%).

The Northeast region has an important number of teaching and research institutes, regional resources focused on the agricultural sector, as well as mechanisms that generate enterprises and startup communities. Over the past few years, the region has taken initiatives
to promote an entrepreneurial and innovation culture, as well as to create installed capacity of company incubators and accelerators. Examples of local entrepreneurial communities include: All Saints Bay (Salvador/ BA), Caju Valley (Aracaju/SE), Cajuína Valley (Teresina/ PI), Carnaúba Valley (Parnaíba/ PI), Carranca Valley (Petrolina/PE), Kariri Valley (Juazeiro do Norte/ CE), Manguezal (Recife/PE), Rapadura Valley (Fortaleza/CE), Santana Valley (Feira de Santana/BA), Sete Colinas(Garanhuns/PE), SoLuíses (São Luís/MA), Starttropeiros (Campina Grande/PB) e Sururu Valley (Maceió/AL)<sup>2</sup>. Among other relevant actions that may be contributing to the sustained growth of the agtech movement in the region is the AgroNordeste Plan, implemented in 2019 in order to strengthen small and medium producers, integrating public actions and policies for the region, the north of Minas Gerais and Espírito Santo, in partnership with several organizations, such as Embrapa and SEBRAE. The newly implemented AgroNordeste Digital Program will also play an important role in expanding access to rural connectivity, fostering technology-based entrepreneurship and structuring agricultural innovation ecosystems in Northeastern Brazil. Actions are planned in Vale do São Francisco (PB), Vale do Jaguaribe (CE), Vale do Açu (RN), Oeste Baiano (BA) and Cariri Paraibano (PB).

The North region, as already highlighted in Table 27, had a significant growth identified in its percentage share, going from 1.5% in 2022 to 5.9% in 2023, matching the Central-West region (5.9%) and surpassing the Northeast region (5.2%). The state of Pará (25%) continues to lead the region, followed by Amazonas (19.8%), Tocantins (16.3%), Acre (13.7%), Amapá (12.9%), Roraima (6%) and Rondônia (6%). Table 7 shows this distribution.

The region as a whole showed a surprising increase in the number of identified agtechs mapped compared to 2022, with increases in the percentages of all states. This growth reveals the potential of the North to foster and develop agtech entrepreneurship, considering that there is an important structure of knowledge installed, such as research centers, Embrapa units, universities and federal institutes, located mainly in the states of Amazonas, Pará and Tocantins. Entrepreneurial communities have also been developing in the region, including 153 Valley (Gurupi/ TO), Açaí Valley (Belém/PA), Aquiri Valley (Rio Branco/AC), Buruti Valley (Boa Vista/ RR), Chambary Valley (Araguaína/TO), Ji-Paraná Community (Ji-Paraná/RO), Tambaki Valley (Porto Velho/RO), Tucuju Valley (Macapá/ AP).

States	2020/2021	2022	2023	State participation % in the region in 2023
Pará	14	15	29	25.00%
Amazonas	4	4	23	19.80%
Tocantins	7	8	19	16.30%
Acre	0	0	16	13.70%
Amapá	2	1	15	12.90%
Roraima	1	0	7	6.00%
Rondônia	0	0	7	6%
Total	28	28	116	100%

The next section discusses the presence of agtechs in the context of municipalities.

#### By municipalities

In 2023, 22 municipalities with 16 or more active agtechs were identified, with a total of 1,102 agtechs (56.4% of the total number of this edition). Of these municipalities, 12 are capitals of federative units. Some municipalities that are not capitals have significant participation in agtechs, such as Piracicaba (SP), Ribeirão Preto (SP) and Campinas (SP), with 65, 60 and 47 agtechs each, respectively (Figure 18). To facilitate viewing, the colors of the bars of each city follow the color pattern of the regions and states of the previous figures.



Figure 18. Brazilian municipalities where more than 10 Agtechs are located

The 12 municipalities with the most agtechs mapped account for 46.8% of the total agtechs. There was a slight deconcentration in this group when comparing 2023 with previous editions (50.9% in 2020/2021 and 50.3% in 2022). The first six positions in the ranking of cities have São Paulo ahead with 385 agtechs, followed by Curitiba (73), Piracicaba (65), Ribeirão Preto (60), Porto Alegre (55) and Rio de Janeiro (53). Among the 22 cities with more than 16 agtechs, the state of São Paulo stands out with 6 cities, followed by Rio Grande do Sul (3), Minas Gerais, Santa Catarina and Paraná, these three states each with two cities. The other six states, GO, DF, AM, PA, ES and AC, have only the capital with 16 or more agtechs (Table 28).

СІТҮ	STATE	2023 Agtechs	2023 Ranking	2022 Agtechs	2022 Ranking
São Paulo	SP	385	1	368	1
Curitiba	PR	73	2	69	2
Piracicaba	SP	65	3	61	3

Tabela 28. Ranking	of Agtechs by City
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СІТҮ	STATE	2023 Agtechs	2023 Ranking	2022 Agtechs	2022 Ranking
Ribeirão Preto	SP	60	4	36	9
Porto Alegre	RS	55	5	48	6
Rio de Janeiro	RJ	53	6	57	4
Florianópolis	SC	48	7	43	8
Campinas	SP	47	8	51	5
Belo Horizonte	MG	44	9	44	7
São José dos Campos	SP	28	10	25	11
Santa Maria	RS	27	11	16	18
Londrina	PR	26	12	30	10
Uberlândia	MG	31	13	24	12
Goiânia	GO	23	14	21	13
Brasília	DF	19	15	21	13
Manaus	AM	20	15	3	83
São Carlos	SP	19	16	20	15
Belém	PA	17	17	3	83
Vitória	ES	17	17	12	21
Chapecó	SC	16	16	17	16
Lajeado	RS	16	16	2	122
Rio Branco	AC	16	16	0	-

# **Concentration of Agtechs in Regions, Federative Units and Municipalities**

An important indicator to be considered is the concentration of agtechs in relation to the number of inhabitants of a given location (Table 29). Calculating the rate of agtechs per 100,000 inhabitants in federative units and municipalities provides deeper understanding on the relative importance of agtechs in the local ecosystem, adding to the information on the absolute number of agtechs mapped<sup>3</sup>.

The South and Southeast regions have a higher concentration than the Brazilian average (0.91), and the South region has the highest index (1.67) followed by the Southeast (1.23), Midwest (0.69), North (0.61) and Northeast (0.17) regions.

<sup>3</sup> The indexes considered the population estimated by IBGE for 2021, made available by the Directorate of Research – DPE – Coordination of Population and Social Indicators – COPIS.

Region	Agtechs	%	Population	Agtechs/100 thousand inhabitants
South	508	26%	30,402,587	1.67
Southeast	1112	56,9%	89,632,912	1.23
Brazil	1953	100.0%	213,317,639	0.91
Center-West	116	5.9%	16,707,336	0.69
Northeast	103	5.2%	57,667,842	0.17
North	116	5.9%	18,906,962	0.61

#### Tabela 29. Agtech Concentration by Region

In relation to the Federative Units, nine states stand out with concentrations higher than the national average, which reflects their relative importance: Minas Gerais, Rio Grande do Sul, Paraná, Amazonas, Rio de Janeiro, São Paulo, Santa Catarina, Acre and Tocantins. It is worth mentioning the presence of three states in the North region among the federative units identified with an agtechs index/100,000 inhabitants above the national average (Table 30).

STATE	Number of Agtechs	Population	Agtechs/100 thousand inhabitants
Minas Gerais	162	2,839,188	5.71
Rio Grande do Sul	195	3,560,903	5.48
Paraná	183	4,059,905	4.51
Amazonas	23	877,613	2.62
Rio de Janeiro	71	3,289,290	2.16
São Paulo	848	46,649,132	1.82
Santa Catarina	132	7,338,473	1.8
Acre	16	906,876	1.76
Tocantins	19	1,607,363	1.18
Espírito Santo	27	3,094,325	0.87
Goiás	35	4,108,508	0.85
Bahia	32	4,269,995	0.75
Mato Grosso do Sul	22	3,567,234	0.62
Mato Grosso	39	7,153,262	0.55
Amapá	15	3,365,351	0.45
Roraima	7	1,815,278	0.39

STATE	Number of Agtechs	Population	Agtechs/100 thousand inhabitants
Distrito Federal	19	9,240,580	0.22
Maranhão	14	7,206,589	0.19
Pernambuco	20	11,597,484	0.17
Salvador	1	652,713	0.15
Pará	29	21,411,923	0.14
Ceará	20	14,985,284	0.13
Sergipe	2	2,338,474	0.09
Paraíba	5	8,777,124	0.06
Rondônia	7	11,466,630	0.06
Piauí	4	9,674,793	0.04
Rio Grande do Norte	5	17,463,349	0.03

The municipality of Viçosa is the only one with less than 100,000 inhabitants on the list, and has the highest rate of agtechs per 100,000 inhabitants (17.5). Another 9 municipalities in Table 31 have up to 1 million inhabitants, with emphasis on Piracicaba (14.9). Among the cities with 1 to 5 million inhabitants, Campinas (4.2) and Curitiba (3.5) stand out. Among the municipalities with more than 5 million inhabitants, São Paulo has an index (3.0) well above the average of the South region (1.43) and Brazil (0.8); while Rio de Janeiro (0.8) has an index within the same range as the national average.

Tabela 31. Concentration of Agtechs i	n Cities with more than	10 agtechs
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Municipality	UF	Agtechs/100 thousand inhabitants	Agtechs	Population
Lajeado	RS	18,60	16	86.005
Jaboticabal	SP	16,66	13	78.029
Piracicaba	SP	15,84	65	410.275
Viçosa	MG	13,77	11	79.910
Santa Maria	RS	9,47	27	285.159
Florianópolis	SC	9,29	48	516.524
Ribeirão Preto	SP	8,19	59	720.116
São Carlos	SP	7,40	19	256.915
Chapecó	SC	7,03	16	227.587
Vitória	ES	4,60	17	369.534
Londrina	PR	4,48	26	580.870

Municipality	UF	Agtechs/100 thousand inhabitants	Agtechs	Population
Uberlândia	MG	4,39	31	706.597
Barueri	SP	4,29	12	279.704
Campinas	SP	3,84	47	1.223.237
Rio Branco	AC	3,81	16	419.452
São José dos Campos	SP	3,80	28	737.310
Curitiba	PR	3,72	73	1.963.726
Porto Alegre	RS	3,69	55	1.492.530
Uberaba	MG	3,23	11	340.277
Palmas	то	3,19	10	313.349

# **By Categories**

Maintaining the complexity of the individual ecosystem in each federative unit, demonstrated in 2022, the presence or absence of agtechs by category maintained a similar distribution to that of previous years. Table 32 shows that São Paulo is the only federative unit to have the 33 categories of Agtechs in the unit itself, and the other units that can be highlighted are: Minas Gerais (32), Santa Catarina (31), Rio Grande do Sul (30) and Paraná (29).

Federative Unit	Number of Categories
São Paulo	33
Minas Gerais	32
Santa Catarina	31
Rio Grande do Sul	30
Paraná	29
Rio de Janeiro	24
Bahia	16
Goiás	16
Mato Grosso	15
Amazonas	14
Espírito Santo	14
Ceará	13

Federative Unit	Number of Categories
Mato Grosso do Sul	13
Tocantins	13
Distrito Federal	12
Pernambuco	12
Acre	10
Amapá	9
Maranhão	9
Pará	9
Roraima	7
Rio Grande do Norte	5
Rondônia	5
Paraíba	4
Piauí	4
Sergipe	2

Regarding cities, Table 33 shows that São Paulo has agtechs in 32 of the 33 categories, as in 2022. Regarding the breadth of categories, the highlights were the city of Curitiba (23 to 26); Ribeirão Preto (21 to 21) maintained the breadth of categories and Florianópolis (23 to 22), Belo Horizonte (21 to 20), Piracicaba (22 to 21) and Campinas (24 to 21) had a reduction in the breadth of categories. Other cities that stood out are Rio de Janeiro (23) and Porto Alegre (22).

Fabela 33. Municipalities with agtech	ns present in 10 or more	e categories
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Cities	STATE	Number of Categories
São Paulo	SP	32
Curitiba	PR	26
Rio de Janeiro	RJ	23
Florianópolis	SC	22
Porto Alegre	RS	22
Campinas	SP	21
Piracicaba	SP	21
Ribeirão Preto	SP	21
Belo Horizonte	MG	20
Santa Maria	RS	16
Manaus	AM	14

Cities	STATE	Number of Categories
São Jose dos Campos	SP	14
Londrina	PR	13
Brasília	DF	12
Chapecó	SC	12
Lajeado	RS	12
São Carlos	SP	12
Uberlândia	MG	12
Campo Grande	MS	11
Goiânia	GO	11

# Synthesis of Geographic Analysis

The data shows results consistent with previous editions of the Agtech Radar. The ecosystem continues to mature, with an increase in the number of agtechs and a slow trend of geographical decentralization. The most traditional Innovation Ecosystems continue to be highlighted: in the state of São Paulo, the capital has the largest number of agtechs and the greatest diversity of categories; and the cities of Piracicaba, Ribeirão Preto, Campinas, São José dos Campos and São Carlos are in prominent positions in the ranking of cities with the largest number of agtechs and concentration of agtechs/population.

The South Region has the highest concentration of agtechs/population, with two (RS and PR) of the three states in this region being among the four states with the highest rates, in descending order: Minas Gerais, Rio Grande do Sul, Paraná and Amazonas. Most states do not have municipalities with more than 16 agtechs outside the capital. The states with cities with over this number of agtechs are: São Paulo (6), Minas Gerais (2), Rio Grande do Sul (2) and Santa Catarina (1). These two factors reinforce the role of knowledge production sites and the most dynamic business centers.

This 2023 edition of Radar Agtech drew attention to the growth of the North region in terms of identifying the number of agtechs, an increase of 300% compared to 2022, an expansion led by the states of Pará, Amazonas, Tocantins, Acre and Amapá.

The example of Viçosa, highlighted for being the only city with less than 100,000 inhabitants with more than 10 agtechs and having the highest concentration of agtechs/population, shows the importance of the local ecosystem, research and specialization for municipalities that do not have the business dynamics of the capitals.

On the other hand, the example of São Paulo shows the importance of its innovation ecosystem, built over decades, which has achieved international recognition as one of the main innovation hubs in the world. Its size and complexity benefit all innovative industries and their interconnections, through its ecosystems of *fintechs, healthtechs* and *edtechs*. At the same time, São Paulo is the city with the largest and most complete agtech ecosystem.

Thus, each city and federative unit needs to know its innovation ecosystems very well to enhance the sustainable growth of its agtechs, so as not to implement actions that are not suited to its reality. In the case of agtechs, it is very important that all stakeholders articulate so that public and private agents can exploit synergies in the best possible way.

# **Analysis of Categories**

An important part after the mapping is carried out is to take advantage of the information collected to understand how the agro innovation ecosystem is distributed among the various production chains. Thus, this section presents the analysis of the agtechs in the Radar by their categories, highlighting the distribution of agtechs between segments and categories, allowing an overview of the technological activity of the mapped startups, as well as the field of activity in three segments of the chain. This overview also allows us to identify the main opportunities for insertion in the agricultural production chain.

#### By Segment (Before, Inside and After the Farm)

Radar Agtech Brasil 2023 categorizes startups mapped from the segment of the agricultural production chain in which it operates, considering the Agribusiness approach that includes three stages:

- 1) **Before the farm:** actions that an agricultural producer needs to take before starting the production, such as acquiring credit or raw materials, such as seeds, seedlings, fertilizers, agrochemicals, tractors and implements, irrigation equipment, packaging, among others.
- 2) **Inside the Farm:** agricultural production activities themselves and everything that needs to be done during them, such as rural property management, water management, inputs and planning, commonly associated with production within the farm.
- 3) After the farm: activities developed once the product leaves the hands of the producer/ farmer, such as: distribution, logistics, processing, packaging, wholesale and retail sales and consumption. Startups operating in the food segment (also mapped in Radar Agtech) are inserted in this segment.

In 2023, Radar Agtech Brasil identified 331 agtechs (16.95%) working before the farm, 815 inside the farm (41.73%) and 807 agtechs after the farm (41.32%), as shown in Figure 19.





In addition, the graphs in Figure 20 allow viewing the amount of categories of the agtechs

mapped in each of the segments.



Figure 20. Figure X2 - Distribution of Agtechs by segment and categories

Table 34 shows the distribution of agtechs by segment of operation in relation to the total amount mapped, also bringing data from the three previous editions of Radar Agtech Brasil.

2022	Segment	2019	20/21	2023
14.21%	Before	18%	12.60%	16.94%
41.40%	Inside	35%	41.70%	41.73%
44.39%	After	47%	45.60%	41.32%

Tabela 34. share of startups by segment (%)

The 2023 data in Table 34 show the maintenance of the balance between startups operating "inside" and "after" the farm, both with about 40% participation. In addition, after the drop in the percentage of agtechs working "before", the segment regained space once again in 2023, approaching the percentage value of 2019, now with approximately 17%.

#### Categories of operation from the market and area of operation

Radar Agtech Brasil also ranks the mapped startups according to their category of operation, within each segment, which follows an international classification standard. The analysis by group of categories allows us to identify, in a more refined way, the segments in which the agtech operates with regard to its technological activity and the type of solution it offers to producers, cooperatives or other players in the industry.

Tables 35, 36 and 37 show the distribution of agtechs mapped in 2023 in each segment, according to the 34 categories established in Radar Agtech Brasil. It is worth emphasizing that an agtech can act in more than one category; thus, the report considers the main activity of each startup for classification purposes.

Category	Segment	Number of agtechs	Percentage share
Credit, swap, insurance, carbon credits and fiduciary analysis	Before	85	25%
Fertilizers, inoculants and plant nutrition	Before	73	22%
Animal nutrition and health	Before	42	12%
Laboratory Analysis	Before	37	11%
Seeds, seedlings and plant genomics	Before	36	11%
Marketplace of raw materials for agribusiness	Before	36	10%
Animal Genomics and Breeding	Before	22	6%

Tabela 35. Participation of agtechs in the segment "before the farm" by categories

Table 35 shows that the categories with the highest percentage participation are: "Credit, swap, insurance, carbon credits and fiduciary analysis" with 25%, "Fertilizers, Inoculants and Plant Nutrition" with 22% and "Laboratory analysis" with 15% of startups in the segment.

Categories with lower percentage share may indicate opportunities for entrepreneurs. In 2023, it was observed that the same categories as in the last Radar study remained with less participation, namely: Plant (11%) and Animal (6%) Genomics and Marketplaces for raw materials (with 10%).

Category	Segment	Number of agtechs	Percentage share
Rural Property Management System	Inside	170	20.80%
Integrating platform for systems, solutions and data	Inside	146	17.90%
Drones, machinery and equipment	Inside	98	12%
Remote sensoring, diagnosis and image monitoring	Inside	84	10.30%
Content, Education, Social Media	Inside	79	9.60%
Internet of Things for Agro: Detection of pests, soil, climate and irrigation	Inside	58	7.10%
Biological control and integrated pest management	Inside	45	5.50%
Meteorology, irrigation and water management	Inside	40	4.90%
Telemetry and Automation	Inside	37	4.50%
Agricultural waste management	Inside	18	2.20%
Connectivity and Telecommunication	Inside	16	1.90%
Shared Economy	Inside	14	1.70%
Beekeeping and Pollination	Inside	10	1.20%

Tabola 36 Partic	ination of antechs i	in the seament "Inside	the Farm" by categories
	ipation of agreens	in the segment molut	since and by categories

In Table 36, the categories with the highest percentage of representation in the context of the segment "inside the farm" are: Rural property management system (20.8%), Integrating platform for systems, solutions and data (17.7%), Drones, machinery and equipment (12%) and Remote sensoring, diagnosis and image monitoring (10.3%). There are 500 agtechs classified in these four categories, representing 25.6% of the startups mapped in 2023.

It can be said that this set of categories is characterized by the application of digital technologies to agricultural production, a technological field that has been strengthened in recent years, presenting higher rates of adoption among producers according to recent research. At the same time, it can be inferred that there is a group of agtechs gaining strength in this sector, increasing the supply of products and services and, consequently, leveraging competition in these categories.

The categories with the lowest presence of agtechs and, therefore, that can offer windows of opportunity for new entrepreneurs in the sector are: Connectivity and Telecommunication and Beekeeping and Pollination.

Category	Segment	Number of agtechs	Percentage share
Innovative foods and new food trends	After	277	34.30%
Marketplaces and trade and sales platforms for agriculture and livestock products	After	103	12.70%
Biodiversity and Sustainability	After	83	10.20%
Storage, Infrastructure and Logistics	After	68	8.40%
Online grocery	After	51	6.30%
Autonomous management system for food stores and services	After	44	5.40%
Online restaurants and meal kits	After	40	4.90%
Food industry and processing 4.0	After	36	4.40%
Bioenergy and Renewable Energy	After	35	4.30%
Packaging, environment and recycling systems	After	27	3.30%
Food safety and traceability	After	21	2.60%
Urban farming: plant factory and new ways of farming	After	19	2.30%
Cloud kitchen and ghost kitchen	After	3	0.30%

Tabela 37. Participation of agtechs in the segment "After the farm" by categories.

In the "After the Farm" (Table 37) segment, the "Innovative foods and new food trends" category stands out, with 277 agtechs, which represents 34% of the total agtechs in this segment. The number is slightly lower than that mapped in 2022, but it continues to confirm food consumption trends, involving less animal protein, a greater search for healthy diets, and certified and tracked foods. We highlight the alternatives that have been offered by startups in this category, usually also classified as foodtechs.

The analysis of each category in relation to the overall amount of the three segments (before, inside and after the farm) is presented in Table 38, with the absolute amount of each category and the overall percentage of distribution.

Tabela 38. Number and percentage of agtechs per frequency of categories of operation

Categories	Segment	N	%
Innovative foods and new food trends	After	277	14.2%
Rural Property Management System	Inside	170	8.7%
Integrating platform for systems, solutions and data	Inside	146	7.4%
Marketplaces and trade and sales platforms for agriculture and livestock products	After	103	5.3%

Categories	Segment	N	%
Drones, machinery and equipment	Inside	98	5.1%
Credit, swap, insurance, carbon credits and fiduciary analysis	Before	85	4.4%
Remote sensoring, diagnosis and image monitoring	Inside	84	4.3%
Biodiversity and sustainability	After	83	4.2%
Content, Education, Social Media	Inside	79	4.0%
Fertilizers, inoculants and plant nutrition	Before	73	3.7%
Storage, infrastructure and logistics	After	68	3.5%
Internet of Things for Agro: Detection of pests, soil, climate and irrigation	Inside	58	3.0%
Online grocery	After	51	2.6%
Biological control and integrated pest management	Inside	45	2.3%
Autonomous management system for food stores and services	After	44	2.3%
Animal nutrition and health	Before	42	2.2%
Meteorology, irrigation and water management	Inside	40	2.0%
Online restaurants and meal kits	After	40	2.0%
Laboratory Analysis	Before	37	1.9%
Telemetry and Automation	Inside	37	1.9%
Marketplace of raw materials for agribusiness	Before	36	1.8%
Seeds, seedlings and plant genomics	Before	36	1.8%
Food industry and processing 4.0	After	36	1.8%
Bioenergy and renewable energy	After	35	1.8%
Packaging, environment and recycling systems	After	27	1.4%
Animal Genomics and Breeding	Before	22	1.1%
Food safety and traceability	After	21	1.1%
Urban farming: plant factory and new ways of farming	After	19	1.0%
Agricultural waste management	Inside	18	0.9%
Connectivity and Telecommunication	Inside	16	0.8%
Shared Economy	Inside	14	0.7%
Beekeeping and pollination	Inside	10	0.5%
Cloud kitchen and ghost kitchen	After	3	0.2%
TOTAL		1953	100.0%

The global analysis shows the continued importance of the foodtech sector in Brazilian agricultural entrepreneurship, with "Innovative Foods and New Food Trends" representing 14.2% of the total mapped startups, as in previous years. In all editions of the study, this category obtained the main percentage share. However, once again the category showed a drop in percentage share, falling from 16.5% in 2022 to 14.2% in 2023. Once again, the other categories of activity gained more relevance for the agtech ecosystem, meaning a better balance of participation in the various agricultural production chains.

Figure 21 shows the five main categories of the 2023 Radar, compared to the two previous editions of the study. As previously stated, startups in the category of "Innovative Foods" lost their share, as well as "Rural Property Management Systems" and "Agricultural Product Marketplaces", while startups of "Integrating Platforms" maintained the growth trend and "Drones and Machinery" reversed their trend, growing again in participation.



Figure 21. Top five categories of Radar 2023, Radar 2022 and Radar 2020/2021

These five categories represent at least 40% of the total Brazilian agro startups in the four editions of Radar Agtech Brasil. This means that, although there are different areas that can be commercially exploited by agtechs, the technological profile of the industry tends to lead entrepreneurs to these five categories. Four out of these five categories bring technologies focused on digital technologies, involving programming and development of software and related machinery and equipment.

In conclusion, based on the data presented, Brazil maintained the same pattern of distribution of startups among the categories defined by Radar Agtech Brasil. The result is an indication that the image that Radar brings from the country reflects the reality experienced by Brazilian entrepreneurs.

# CHAPTER 7 I

# Detailed profile of the agtechs

In addition to mapping, the Agtech Radar also conducts a survey to better understand the profile and demands of agtechs. As detailed in the method chapter, the main change from the previous survey was the inclusion of a section on talent management and diversity.

This chapter initially presents the characteristics of the sample, such as age, location, billing, category and the performance of these agtechs. Next, the insertion of agtechs in the ecosystem is analyzed, as well as their sources of public and private financing, business models, the impact on the Sustainable Development Goals (SDGs), the profile of the talents working in agtechs and their perceptions about challenges for agtechs, technological and market trends, and points of improvement in the ecosystem.

# Sample profile

The sample consisted of 247 agtechs, corresponding to % of the mapped agtechs.

#### Year of establishment

The sample profile comprises agtechs younger than the mapped population of agtechs, according to the following table: 66% were established from 2018, while, in the mapping, this percentage is 45.6%. Although less accentuated, this characteristic is similar to the previous edition, which had 70% were founded as of 2017 (Table 39).

	Sample	Sample %	Mapped	% Mapped
Until 2014	38	15.4%		
2015-2017	46	18.6%		
2018-2020	89	36.0%		
2021-2023	74	30.0%		
	192			

Tabela 39. Year of establishment of agtechs from the sample and from the map.

This characteristic may further emphasize the challenges of younger companies, but it does not undermine the goal of deepening the characteristics and perceptions of agtechs.

#### Location

Most agtechs of the sample and mapping are found in the Southeast (52.1% of the sample,

% of the mapping) and South (34.5% of the sample, % of the mapping) regions. Although there are differences in terms of percentage, especially for the states of São Paulo (26.4% of the sample, lower than 47% of the mapped agtechs) and Rio Grande do Sul (15.5% of the sample, higher than 7.8% of the mapped agtechs), the overall composition is quite similar (Table 40).

State of the company's registered office	Agtechs in Sample	Sample %	Mapped	% Mapped
São Paulo	89	36.00%		
Rio Grande do Sul	39	15.80%		
Paraná	31	12.60%		
Minas Gerais	30	12.10%		
Santa Catarina	15	6.10%		
Goiás	8	3.20%		
Rio de Janeiro	8	3.20%		
Pernambuco	5	2.00%		
Mato Grosso do Sul	4	1.60%		
Bahia	3	1.20%		
Ceará	3	1.20%		
Distrito Federal	3	1.20%		
Espírito Santo	2	0.80%		
Piauí	2	0.80%		
Acre	1	0.40%		
Amapá	1	0.40%		
Mato Grosso	1	0.40%		
Sergipe	1	0.40%		
Tocantins	1	0.40%		
Total	247	100.00%		

Tabela 40. Federative Units of the agtechs from the sample and from the map.

The main cities that make up the sample also make up the mapping ranking. The differences can be explained by the greater or lesser effectiveness and engagement in each location, which reinforces the importance of having additional methods to understand the ecosystem (Table 41).

City	Agtechs in Sample	Sample %	Mapped	% Mapped
São Paulo	29	11.70%		
Porto Alegre	13	5.30%		
Curitiba	12	4.90%		
Piracicaba	9	3.60%		
Uberlândia	8	3.20%		
Florianópolis	7	2.80%		
Ribeirão Preto	7	2.80%		
Campinas	6	2.40%		
Londrina	6	2.40%		
Santa Maria	6	2.40%		
Goiânia	5	2.00%		
Rio de Janeiro	5	2.00%		
São Carlos	5	2.00%		
São José dos Campos	5	2.00%		
Cascavel	4	1.60%		

Tabela 41. Cities with headquarters of the most frequent agtechs in the sample.

Agtechs from the following cities also participated in the sample:

- Cities with three agtechs: Alegrete, Brasília, Campo Grande, Caxias do Sul, Patos de Minas, Recife, Santa Rita do Sapucaí
- Cities with two agtechs: Belo Horizonte, Campo Bom, Indaiatuba, Joinville, Luís Eduardo Magalhães, Maringá, Ouro Preto, Paulínia, Pelotas, Santo André, Teresina
- Cities with one agtech: Alfenas, Alpinópolis, Aracaju, Araçatuba, Araçoiaba da Serra, Bandeirantes, Barueri, Bebedouro, Campo Mourão, Chapecó, Criciúma, Curitiba, Dianópolis, Dois Vizinhos, Dourados, Esmeraldas, Estrela, Fortaleza, Fraiburgo, Governador Valadares, Guaraciaba do Norte, Horizonte, Horizontina, Itapetininga, Jaboticabal, Jacareí, Januária, Japira, Lages, Lajeado, Lavras, Macaé, Macapá, Manhuaçu, Maracanaú, Marília, Medianeira, Mogi das Cruzes, Niterói, Palotina, Passo Fundo, Perdizes, Petrolina, Presidente Prudente, Quatro Barras, Resende, Rio Branco, Rio Grande, Rio Verde, Rondonópolis, Salvador, Santa Maria, Santa Rosa de Goiás, São Caetano do Sul, São Francisco de Assis, São Francisco do Sul, São José do Rio Preto, São Jose dos Campos, São Leopoldo, São Sebastião do Paraíso, Sorocaba, Taboão da Serra, Tapiraí, Taubaté, Uberaba, Uruaçu, Uruguaiana, Vacaria, Vale Verde, Varginha, Vicentinópolis, Vila Velha, Vinhedo, Vitoria, Vitória de Santo Antão, Xanxerê.

#### Revenue

In line with the profile of young companies in the sample, the lowest turnover ranges are more frequent: 40.4% of the 225 respondents declared a turnover of up to R\$81 thousand; 58.2% of up to R\$360 thousand; 32.4% between R\$360 thousand and 3.6 million; 9.3% between 3.6 million and 90 million. No agtech in the sample reported revenues in excess of 90 million. The ranges are detailed in the table below (Table 42).

Tabela 42. Revenue of agtechs from the sample.

Revenue	Agtechs	%
Up to R\$81 thousand	91	40.4%
From R\$81.1 thousand to R\$130 thousand	14	6.2%
From R\$130.1 thousand to R\$180 thousand	9	4.0%
From R\$180.1 thousand to R\$360 thousand	17	7.6%
From R\$360.1 thousand to R\$720 thousand	20	8.9%
From R\$720.1 thousand to R\$1.8 million	34	15.1%
From R\$1.81 million to R\$3.6 million	19	8.4%
From R\$3.61 million to R\$4.8 million	3	1.3%
From R\$4.81 million to R\$16 million	13	5.8%
From R\$16.1 million to R\$30 million	2	0.9%
From R\$30.1 million to R\$90 million	3	1.3%

# Segment of agtechs from the sample

Regarding the category from Radar Agtech that best describes the agtech (main category), the most cited segment was Inside the Farm (59.1%), followed by Before the Farm (21.9%) and After the Farm (19.0%). This characteristic differs greatly from the general profile of the mapped agtechs, in which the After the Farm segment is the largest, but was similar to the profile of the 2022 respondents (Inside the Farm 59.7%; Before the Farm 24.3%; and After the Farm 15.9%) (Table 43).

Tabela 43. Performance b	y segment	of the agtechs	from the sample	and mapping.
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	Main Category		Mapping	
Segment	Agtechs	%	Agtechs	%
Before	54	21,9%	331	16,9%

	Main Category		Mapping	
Segment	Agtechs	%	Agtechs	%
Inside	146	59,1%	815	41,7%
After	47	19,0%	807	41,3%

The most mentioned categories as the main category were:

- Inside the Farm: Rural Property Management System; Integrating platform for systems, solutions and data; Remote Sensoring, Diagnosis and Image Monitoring; and Drones, Machinery and Equipment.
- Before the Farm: Credit, exchange, insurance, carbon credits and fiduciary analysis and Fertilizers; Inoculants and Plant Nutrition.
- After the Farm: Marketplaces and trade and sales platforms for agricultural products; and Biodiversity and Sustainability.

Five categories in the After the Farm segment – Online Grocery; Online Restaurants and Meal Kit; Packaging Systems, Environment and Recycling; Cloud Kitchen and Ghost Kitchen; and Autonomous Store Management System and Food Services – did not have representatives in the sample. Table 44 – Main category of agtechs from the sample and from the map shows the details of the responses.

	Main Category		Mapping	
Segment and Category	Agtechs	%	Agtechs	%
Inside – Rural Property Management System	33	13,4%	170	8,7%
Inside - Integrating platform for systems, solutions and data	22	8,9%	146	7,4%
Inside - Remote sensoring, diagnosis and image monitoring	19	7,7%	84	4,3%
Inside - Drones, Machinery and Equipment.	17	6,9%	98	5%
Before - Credit, swap, insurance, carbon credits and fiduciary analysis.	16	6,5%	85	4,3%
Inside - Internet of Things for Agro: pest detection, soil, climate and irrigation	16	6,5%	58	2,9%
After - Marketplaces and Trade and sales platforms for agricultural products	14	5,7%	103	5,2%
Before - Fertilizers, inoculants and plant nutrition.	11	4,5%	73	3,7%
Inside – Telemetry and automation.	10	4,0%	37	1,85

Tabela 44. Main category of agtechs from the sample and from the map.

	Main Catego	ory	Mapping	
Segment and Category	Agtechs	%	Agtechs	%
Inside - Biological control and integrated pest management.	9	3,6%	45	2,3%
After - Biodiversity and Sustainability.	9	3,6%	83	4,2%
Before – Marketplace of raw materials for agribusiness.	8	3,2%	36	1,8%
Before - Nutrition and Animal Health.	7	2,8%	43	2,2%
Inside - Meteorology, irrigation and water management	7	2,8%	40	2%
Before – Seeds, seedlings and plant genomics.	6	2,4%	36	1,8%
Then - Storage, Infrastructure and Logistics.	6	2,4%	68	3,4%
Before - Laboratory analysis.	5	2,0%	37	1,9%
After - Innovative foods and new food trends.	5	2,0%	277	14,1%
Inside - Connectivity and Telecommunication.	4	1,6%	16	0,85
After - Food industry and processing 4.0.	4	1,6%	36	1,8%
After - Urban farming: plant factory and new ways of farming.	4	1,6%	21	1%
Inside - Content, education, social media.	3	1,2%	79	4%
Inside - Agricultural waste management.	3	1,2%	18	0,9%
After - Food safety and traceability.	3	1,2%	19	0,9%
Inside - Beekeeping and Pollination.	2	0,8%	10	0,5%
Then - Bioenergy and Renewable Energy.	2	0,8%	35	1,7%
Before - Genomics and Animal Reproduction.	1	0,4%	22	1,1%
Inside - Shared economy.	1	0,4%	14	0,7%

Companies in general have Livestock (45.2%) and Aquaculture (21.3%) as their main areas of activity, as well as the cultivation of Grains (59.0%), Fruits (43.1%) and Other Vegetables (43.6%). In detailed survey, Sugarcane (10%) and Coffee (4.3%) were mentioned the most. There were also 5% mentions of wholes (all, all crops, all vegetables, whole FLV chain, etc.).

 Tabela 45. Table 7: Segment of agtechs from the sample.

Your agtech operates with	Agtechs	%
Animals		
Cattle (Oxen and Cows)	77	36%
Chicken	42	20%

Your agtech operates with	Agtechs	%
Swine (Pigs)	41	19%
Fish	41	19%
Other animals	37	18%
Grains		
Soybean	118	56%
Corn	117	55%
Coffee	91	43%
Wheat	78	37%
Rice	68	32%
Other Grains	74	35%
Fruits		
Orange	69	33%
Banana	54	26%
Other Fruits	80	38%
More Cultures		
Sugarcane	90	43%
Cotton	82	39%
Horticulture	80	38%
Forestry (Forests)	67	32%
Cassava	45	21%
Other vegetables	69	33%
Total	212	100%

In the specification of others, the following were cited:

- Other Animals: Shrimp (4), Goats (3), Horses (2), Dogs (2), Cats (2), Bees (2) and Edible Insects (1); in addition to the answer All (5).
- Other grains: Sorghum (4), Peanuts (5), Beans (2), Barley (1), Malt (1), in addition to the answers All (5), Organic chain (1), various grain crops (1).
- Other fruits: Cocoa (4), Pineapple (4), Grape (3), Coconut (3), Cupuaçu (2), Tomato (2), Melon (2), Strawberry (2), Cashew (2), Chestnuts (1), Açaí (1), Passion Fruit (1), Blueberry (1), Short Cycle Fruit (1), Organic Chain (1).
- Other vegetables: Tomato (6), Lettuce (3), Potato (3), Mushroom (3), Sorghum (3), Carrot (2), Beet (1), Buffaloes (1), *Cannabis Ruderalis* (1), Onion (1), Cilantro (1), Cucurbits (1), Yerba Mate (1), Tobacco (1), Hops (1), Macaúba (1), Orchids (1), Cucumber (1), Okra (1), Cabbage (1), Ferns (1); in addition to the answers All (10), Miscellaneous (2), Organic

Chain (1), Vegetables (1), Organic Products (1), Food Leftovers (1), Groceries (1), Greens in General (1), Native Vegetable Species (1).

The most common business models of these companies are B2B (*Business to Business*), B2C (*Business to Consumer*) and B2B2C (*Business to Business to Consumer*), with 75%, 43% and 33% of the focus of the companies' business models, respectively. These data indicate a prevalence of businesses destined for other companies before reaching the consumer, although direct work with the consumer is not significantly rare (Table 46).

Model	n	%
B2B (Business to Business)	132	75%
B2C (Business to Consumer)	76	43%
B2B2C (Business to Business to Consumer)	58	33%
B2G (Business to Government)	7	4%
D2C (Direct to Consumer)	7	4%
B2E (Business to Employee)	2	1%
C2C (Consumer to Consumer)	2	1%
TOTAL	175	100%

Tabela 46. Business models of agtechs from the sample.

# Connection with Innovation and Entrepreneurship Ecosystems and Networks

Two questions on this topic were included in the 2023 questionnaire. The question about the company's participation in some innovation ecosystem had 209 respondents and 77% of agtechs declared to participate in the local innovation ecosystem, considering that local productive arrangement (LPA) and/or innovation hub could also be mentioned (Table 47).

<b>Tabola 17</b> Table 0: Actoch's participation in the local inno	vation accountam
Table 41. Table 9. Aylecti 5 participation in the local inno	valion ecosystem.

Response	n	%
Yes	161	77%
No	48	23%

As expected, there was a great diversity in the responses, and innovation ecosystems and most cited actors are located in cities with a greater number of agtechs and/or in more mature innovation ecosystems, with emphasis on Piracicaba/SP. Eight players received six or more mentions: Agtech Garage, Agropolo Vale, Cubo, Cocriagro, Snash, Pulsehub, ESALQTec and ACATE Agtech (Table 48).

Ecosystem	Mentions	Host city	URL
Agtech Garage	27	Piracicaba/SP	agtechgarage.com
Agropolo Vale	15	São José dos Campos/SP	pitsjc.org.br/projetos/apl-agropolo-vale/
Cubo	14	São Paulo/SP	cubo.network/hub/agro
Cocriagro	13	Londrina/PR	cocriagro.com.br
Snash	10	Rio de Janeiro/RJ	snash.com.br
Pulsehub	10	Piracicaba/SP	pulsehub.com.br
ESALQTec	7	Piracicaba/SP	esalqtec.com.br
ACATE Agtech	6	Florianópolis/SC	agtech.acate.com.br

Tabela 48. Table 10: Innovation ecosystems and players most cited by agtechs.

Other ecosystems, APLS and hubs with three or more mentions were: Iguassu Valley (Oeste Paraná, PR, 4); InovaTec – UFSM Technology Park (Santa Maria, RS, 4); Espaço Impulso (Cascavel PR, 4); Barn Agrohub (Porto Alegre, RS, 3); Techstart Agrodigital (Campinas, SP, 3); Agro Committee of ABstatups (SP, 3).

Two mentions: 100 Open Startups; Celeiro AgroHub; Distrito; Endeavor; ExoHub; Fusion/FCJ; Google for Startups; Hotmilk; Instituto Caldeira; InovAtiva; Parque Tecnológico da Região de Joinville - Inovaparq; Irrigatech (PUC Curitiba); Pacto Global da ONU Capitalismo Consciente Enactus; Pampatec; Parque Tecnológico Itaipu; Plug and Play; Prointec; Supera Park; UberHub; Ventiur Aceleradora.

With one mention: ABC Valley; ABRS Startups ; Agifes - Agência de Inovação do Ifes (Instituto Federal do Espírito Santo); Agrostart, Agrovalley; AMAZ - Aceleradora de Impacto FIP/MMA – Programa de Investimento Florestal no Brasil; Amazon Investor Coallition; APDM; Atômica; Avance; AYA Earth Partners Hub; Banritech; Base 27 ; Bioma de Inovação de Maringá; Câmara de Comércio Árabe; Candy Valley; Capri Venture Builders; CatalisaICT; Centro de Inovação de Videira; Clube BoraFazer; Cluster Aeroespacial Brasileiro SJC; cocriation lab; Comeia; ConectarAgro; Confraria do Empreendedor; Criatec (Unijuí); Crios UFRJ; Ecossistema de Inovação de Campo Mourão em Porto Alegre-RS; Espaço Conexo Randon; EVOA (Maringá); Feevale Techpark Campo Bom-RS; Fiemg LAB 4.0; Foodtech; Founder Institute; Founders Group; Fundação Educere; Green Sampa; Gyntec; HITT - Hub de Inovação Tecnológica de Taubaté; Hub de Inovação Instituto de Tecnologia de Alimentos de Campinas (ITAL); Hub Inovação Social CEE – Ribeirão Preto; Hub Microsoft Founders; Hub USP de INOVAÇÃO; I CoLab – Instituto Colaborativo de Blockchain; ICEBiot UFRGS; ICorps; Idexo; Inatel Startups - Incubadora de Empresas do Inatel; INCAMP UNICAMP; Incubadora Horizonte Empreendedor; Incubadora Municipal de Palotina; InovaAgro da Universidade Federal de Pelotas; Inovabra Habitat; Inovação no Agronegócio Goiano; InovaHub; Inovamun; InovaUFABC - Incubadora de Base Tecnológica da UFABC; Instituto Inovanex São Caetano do Sul; INTEC - Incubadora Tecnológica de Campos Novos; Jaraqui Valley; Legado; Lifehub; Locus do Pescado 4.0; Lócus Plataforma AgritechNE; Manacial CEDAE; Manguez.al; Newcastle; Ninna Hub; Orion Parque; OutReach; Parq tec; Parque Tecnológico de Sorocaba - EMPTS; Parque Tecnológico e Científico Zenit da Universidade Federal do Rio Grande do Sul – UFRGS; Partec/UFC; Pelotas Parque Tecnológico; Piauí Original Hub; Porto Digital; Prointec – Santa Rita do Sapucaí-MG; Rapadura Valley; Rede Ecossistemas PE; Rede RIAGRO; Rede Unesp de Inovação; Rio Doce Labs; Roundtable; SancaHUB; Seed Gov; Sistema Regional de Inovação Centro Ocidental Paranaense; SUDOTEC; TecnoPuc; Tecnosinos – São Leopoldo/RS ; TecnoUCS; TECNOVATES/UNIVATES – Lajeado/RS; The Venture Builder Portugal; Thrive; Today 2030; TRÊ Investimentos com Causa; UFV INOVA ; Universidade Vale do Paraíba (UNIVAP); UPF Parque PAMPATEC; Uruguaiana; Vale do Genoma; Vale dos Ipês em Lavras/MG; X-Node China; Yunus Negócios Sociais.

Although they fit more into the question about programs, Sebrae and its initiatives (Sebrae for Startups, Sebraelab, Centelha and Alumni Sebrae) were mentioned 14 times. Other programs, ApexBrasil, BNDES Garagem, FAPESP and FINEP (2), were also mentioned.

The question about participation in some environment, network and/or innovation and/or entrepreneurship program (incubator, accelerator, hub, mentoring, local productive arrangement, etc.) had 211 respondents, and also showed a very significant insertion of 63.5% (Table 49).

Response	agtechs	%
Yes	134	63,5%
No	77	36,5%

**Tabela 49.** Agtech's participation in innovation and/or entrepreneurship programs.

The programs with the most mentions were (Table 50):

Program	Mentions	Host city	URL
CocriAgro	7	Londrina - PR	https://cocriagro.com.br/
Sebrae For Start	7	São Paulo	https://startups.sebraesp.com.br/
Cyklo Agritech	6	Luís Eduardo Magalhães - BA	https://cykloagritech.com/
Agropolo Vale	5	São José dos Campos - SP	https://pitsjc.org.br/projetos/apl- agropolo-vale/
Agtech Garage	5	Uberaba - MG	https://www.agtechgarage.com/
Centelha	5	Brasília - DF	https://www.programacentelha.com.br/
Ventiur	5	São Leopoldo - RS	https://ventiur.net/

Tabela 50. Innovation and/or entrepreneurship programs most mentioned by agtechs.

Other innovation and/or entrepreneurship programs cited with 3 or more mentions were [list]

With two mentions:

With one mention:

#### **Private and Public Financing**

Questions about private and public funding have been refined since Radar Agtech 2022, with the inclusion of more options.

Regarding the sources of private financing, the most common remain the same as in the 2022 edition: Founders, family, friends and other individuals as the most cited category (71.8%), followed by Angel Investment (*angel investing*, 22.1%), National Accelerators (17.4%) and Entrepreneurial Capital (*venture capital*, 15.4%). It is worth mentioning the variety of options accessed by agtechs, which illustrates the importance of each to meet the diversity of agtechs' needs and the offerings of national and international ecosystem actors. Some of these options are related to the organizations' open innovation actions (public notices), others related to the private investment chain (*crowdfunding, venture builders*, international accelerators) in addition to traditional financing options (loans).

In 2022, private notices were not specified and the percentages with 10% or above were: Founders, Family, Friends and other individuals, with 65%; *Angel investing*, with 24%; National accelerator, with 18%; Entrepreneurial Capital (*venture capital*), with 12%; Private notices, 10%; and Loans, with 10%. Table 51 shows the percentages for 2023.

Private source	Agtechs	%
Founders, family, friends and other individuals	140	71.8%
Angel investing	43	22.1%
National accelerator	34	17.4%
Venture Capital	30	15.4%
Loans	25	12.8%
Private technology-related notices (not specific to agribusiness)	18	9.2%
National company	15	7.7%
Private technology-related notices for agribusiness	14	7.2%
Private notices for high impact business	11	5.6%
Virtual crowdfunding	9	4.6%
International Company	9	4.6%
Venture Builder	8	4.1%
International accelerator	6	3.1%
Private notices from other areas	2	1.0%
Other private sources	11	5.6%
No private source	23	12%

 Tabela 51. Private sources of financing of agtechs from the sample.

Regarding public funding sources, it is noteworthy that most companies do not use public funding (54.9%). Those that use it generally seek non-specific technology Public Notices for agribusiness (26.7%) and non-refundable research resources (18.5%), followed by public notices for impact businesses (7.7%), public notices for impact businesses (7.7%), public notices for technology for agriculture (7.2%), Loans (7.2%) and public notices from other areas (4.6%). Although Entrepreneurial Capital (*venture capital*) and Tax Incentives (such as innovation support laws) have received few mentions, it is important to remember that the amount contributed by these types of sources is generally high.

In 2022, public notices were not separated by type, and corresponded to 29% of responses. Non-refundable Research Funds accounted for 19% of mentions. A significant decrease was the mention of Business Incubators – from 10% in 2022 to 4.6% in 2023. The proportion of agtechs that declared not having received public financial resources (54.9%) is not much different from 2022 (56%). Table 52 shows the results for the year 2023.

Public Source	Agtechs	%
Public technology-related notices (not specific to agribusiness)	52	26.7%
Non-refundable research resources	36	18.5%
Public notices for high impact business	15	7.7%
Public technology-related notices for agriculture	14	7.2%
Loans	14	7.2%
Public notices from other areas	9	4.6%
Business Incubator	9	4.6%
Venture Capital	4	2.1%
Tax incentives (e.g. innovation support laws)	3	1.5%
Other public sources	6	3.1%
No public source	107	54.9%

Tabela 52. Public sources of financing of agtechs from the sample.

# Talents and diversity

This is the first time that the survey brings data on the talents who work at agtechs. The session is organized in two blocks: the first, on the distribution of members and collaborators by gender and area of the company, and the second with other diversity indicators in agtechs.

#### Distribution of members and collaborators by gender and area of the company

The question about the distribution of members by gender and area of the company had 189 agtechs respondents. The distribution of members by gender showed the predominance of men (76.9%), with an average of 4.9 members per agtech (Table 53).

Gender	People	%	Average per agtech
Men	714	76.9%	3.8
Women	208	22.4%	1.1
Non-Binaries	7	0.8%	0.0
TOTAL	929	100%	4.9

Tabela 53. Distribution of members by gender.

The distribution of members by area is 49.8% in the most technical areas, totaling production and operations and research and development, and 50.2% in the areas related to business, that is, the administrative and financial areas, marketing and sales and other areas of the business (Table 54).

#### Tabela 54. Distribution of members by area.

Area	Members	% in the area	Average per agtech
Financial and Administrative	241	25.9%	1.3
Production and Operations	257	27.7%	1.4
Research and Development	205	22.1%	1.1
Marketing and Sales	135	14.5%	0.7
Other business areas	91	9.8%	0.5
TOTAL	929	100%	4.9

The distribution of members in the business areas by gender similar proportions of men, women and non-binaries in all areas, with the proportion of men (between 75.5% and 79%) close to the general average (76.9%) (Table 55).

Tabela 55. Distribution of members in the business areas.

Area	Gender	People	% of the total	% in the area	Average per agtech
Financial and Administrative	Men	182	19.6%	75.5%	1.0
	Women	57	6.1%	23.7%	0.3
	Non-Binaries	2	0.2%	0.8%	0.0
Production and	Men	203	21.9%	79.0%	1.1
Operations	Women	52	5.6%	20.2%	0.3
	Non-Binaries	2	0.2%	0.8%	0.0

Area	Gender	People	% of the total	% in the area	Average per agtech
Research and	Men	155	16.7%	75.6%	0.8
Development	Women	49	5.3%	23.9%	0.3
	Non-Binaries	1	0.1%	0.5%	0.0
Marketing and	Men	103	11.1%	76.3%	0.5
Sales	Women	31	3.3%	23.0%	0.2
	Non-Binaries	1	0.1%	0.7%	0.0
Other business areas	Men	71	7.6%	78.0%	0.4
	Women	19	2.0%	20.9%	0.1
	Non-Binaries	1	0.1%	1.1%	0.0

The question about the distribution of collaborators had 170 respondents, fewer than the number of respondents about members. This decrease can be attributed to several factors, such as the absence of collaborators at agtech (many startups operate only with members and outsourced services, without permanent collaborators), abandonment of the questionnaire or the question. In the next edition of Radar Agtech, the option "agtech only has members, it does not have collaborators" will be placed in the questionnaire to differentiate such scenarios.

The distribution of collaborators by gender follows the pattern of the distribution of members, but although the predominance continues to be men, it is lower (61.8%), with an average of 15.2 collaborators per agtech (Table 56).

Gender	People	%	Average per agtech
Men	1594	61.8%	9.4
Women	967	37.5%	5.7
Non-Binaries	17	0.7%	0.1
TOTAL	2578	100%	15.2

Tabela 56. Distribution of collaborators by gender.

The distribution of collaborators by area also follows the pattern of the distribution of members, although the distance between the two major areas is slightly greater: 55.2% in the more technical areas adding production and operations and research and development; and 44.8% in the areas related to business – administrative and financial, marketing and sales and other areas of the business. The detail on "other areas of the business" (21.8%) deserves attention, as it is very high. The proportion of the marketing and sales area is similar (14.7%) and that of the administrative and financial area (8.4%) is much lower than that of the members (25.9%) (Table 57).

Area	Collaborators	% in the area	Average per agtech
Financial and Administrative	217	8.4%	1.3
Production and Operations	886	34.4%	5.2
Research and Development	535	20.8%	3.1
Marketing and Sales	379	14.7%	2.2
Other business areas	561	21.8%	3.3
	2578		15.2

Tabela 57. Distribution of collaborators by area.

Similar proportions of men, women and non-binary in all areas, with the proportion of men different from the overall average (61.8%) (Table 58):

- In the more technical areas, the proportion of men is higher than the general average: 69.9% in production and operations and 71.6% in research and development.
- Two areas have a proportion of men greater than 50%, but lower than the average: 54.1% in marketing and sales and 51.9% in other areas of the business.
- The administrative and financial area is the only one with the highest proportion of women (55.3%).

Area	Gender	People	% of the total	% in the area	Average per agtech
Financial and	Men	96	3.7% 44.2%		0.6
Administrative	Women	120	4.7%	55.3%	0.7
	Non-Binaries	1	0.0%	0.5%	0.0
Production and	Men	619	24.0%	69.9%	3.6
Operations	Women	261	10.1%	29.5%	1.5
	Non-Binaries	6	0.2%	0.7%	0.0
Research and Development	Men	383	14.9%	71.6%	2.3
	Women	148	5.7%	27.7%	0.9
	Non-Binaries	4	0.2%	0.7%	0.0
Marketing and Sales	Men	205	8.0%	54.1%	1.2
	Women	172	6.7%	45.4%	1.0
	Non-Binaries	2	0.1%	0.5%	0.0

Tabela 58. Distribution of collaborators by area.

Area	Gender	People	% of the total	% in the area	Average per agtech
Other business areas	Men	291	11.3%	51.9%	1.7
	Women	266	10.3%	47.4%	1.6
	Non-Binaries	4	0.2%	0.7%	0.0

The differences presented deserve to be explored in greater depth. On the whole, men are predominant as members in all areas of the company, as well as in the more technical areas. This illustrates some challenges, such as attracting and retaining non-male talent for the entrepreneurial career to act as members; as well as attracting and retaining diverse talent for stem (Science, Technology, Engineering and Mathematics) careers, on which the areas of research and development and production and operations are based.

#### Other indicators of diversity in agtechs

The survey also asked about the knowledge regarding the presence of LGTBQIA+ individuals in the company and obtained 197 answers. Importantly, the unit of analysis of the survey is the organization, not the individual. Thus, questions like this, related to the individual, may be subject to inaccuracies due to factors other than the respondent's lack of knowledge about the question and their ability to gather accurate information, which is reflected in the percentage of 24.9% in the answer "I don't know". Of the remaining 75.1%, 44.2% declared not to know and 31.0% declared to know (Table 59).

Response	Agtechs	%
Yes	61	31,0%
No	87	44,2%
l don't know	49	24,9%

Tabela 59. Knowledge about the presence of LGTBQIA+ individuals at the agtech.

The question about the existence of black, indigenous, disabled, neurodivergent, foreign, refugee, trans and/or over 50-year-old people in the business had 195 respondents. While this question also has individual aspects involved, it is easier for the respondent to offer a more accurate answer. The response was positive for 64.1% of respondents (Table 60).

**Tabela 60.** Existence of black, indigenous, disabled, neurodivergent, foreign, refugee, trans and/or over 50 years old people at agtech.

Response	Agtechs	%
Yes	125	64,1%
No	70	35,9%

The distribution was detailed by 102 respondents out of 125 who declared that there

were black, indigenous, disabled, neurodivergent, foreign, refugee, trans and/or over 50 years old people in their business (81.6%). The two groups most present among members and collaborators are people over 50 and black people, but with important differences.

Among the members, the most important group is people over 50, followed by black people (Table 61).

Group among members	People
Over 50	185
Black	53
Foreigners	13
Neurodivergent	8
Indigenous	4
Disabled	3
Trans	2
TOTAL	268

 Tabela 61. Diverse groups among members.

Among the collaborators, the most important group is black people, followed by people over 50 (Table 62).

Group among collaborators	People
Black	440
Over 50	68
Disabled	12
Neurodivergent	9
Foreigners	7
Indigenous	3
TOTAL	539

 Tabela 62. Diverse groups among collaborators.

The distribution of people in the diverse groups is detailed in the table below, which shows the diverse groups in the agtechs (Table 63).

#### Tabela 63. Diverse groups in agtechs.

Group	Role and gender	People	Group	Role and gender	People
Black	Male Members	43	Foreigners	Male Members	10
	Female Members	9		Female Members	3
	Non-binary Members	1		Non-binary Members	0
	Male collaborators	241		Male collaborators	
	Female Collaborators	192		Female Collaborators	5
	Non-binary Collaborators	7		Non-binary Collaborators	1
Indigenous	Male Members	2	Refugees	Male Members	0
	Female Members	2		Female Members	0
	Non-binary Members	0		Non-binary Members	0
	Male collaborators	2		Male collaborators	0
	Female Collaborators	1		Female Collaborators	0
	Non-binary Collaborators	0		Non-binary Collaborators	0
Disabled	Male Members	0	Trans	Male Members	0
	Female Members	3		Female Members	1
	Non-binary Members	0		Non-binary Members	1
	Male collaborators	11		Male collaborators	
	Female Collaborators	1	Female Collaborators		0
	Non-binary Collaborators	0		Non-binary Collaborators	0
Neurodivergent	Male Members	5	Over 50	Male Members	174
	Female Members	2		Female Members	11
	Non-binary Members	1		Non-binary Members	0
	Male collaborators	5		Male collaborators	46
	Female Collaborators	4		Female Collaborators	21
	Non-binary Collaborators	0		Non-binary Collaborators	1

#### Sustainable Development Goals

The Sustainable Development Goals (SDGs) with the highest identification of agtechs continued to be Zero hunger and sustainable agriculture (62.3%), Responsible consumption and production (54.4%) and Industry, innovation and infrastructure (48.8%), according to the 215 respondents. The impact of agtechs to achieve the SDGs indicated by the UN may be becoming clearer for agtechs: there was an average percentage growth of 10.6% in mentions in 13 of the 17 SDGs (Table 64).

SDG	Agtechs	2022	% 2023	Difference	Growth
Zero hunger and sustainable agriculture	134	59.4%	62.3%	2.9%	4.9%
Responsible consumption and production	117	53.9%	54.4%	0.5%	0.9%
Industry, Innovation and Infrastructure	105	44.2%	48.8%	4.6%	10.4%
Action against global climate change	69	27.9%	32.1%	4.2%	15.1%
Decent work and economic growth	62	30.9%	28.8%	-2.1%	-6.8%
Health and well-being	58	23.0%	27.0%	4.0%	17.4%
Sustainable Cities & Communities	46	18.2%	21.4%	3.2%	17.6%
Life on land	41	12.7%	19.1%	6.4%	50.4%
Partnerships and Means of Implementation	39	14.5%	18.1%	3.6%	24.8%
Clean water and sanitation	38	15.8%	17.7%	1.9%	12.0%
No Poverty	33	11.5%	15.3%	3.8%	33.0%
Reduced inequalities	33	15.8%	15.3%	-0.5%	-3.2%
Life Below Water	33	11.5%	15.3%	3.8%	33.0%
Affordable and Clean Energy	28	11.5%	13.0%	1.5%	13.0%
Quality Education	24	10.3%	11.2%	0.9%	8.7%
Gender equality	24	13.9%	11.2%	-2.7%	-19.4%
Peace, justice and strong institutions	7	4.8%	3.3%	-1.5%	-31.3%
				2.0%	10.6%

Tabela 64. Sustainable Development Goals (SDGs) and agtechs.

# Key challenges for the business



Figure 22. Word cloud of key business challenges.

As observed in the word cloud (Figure 22), the major challenges for agtechs are quite diverse, with emphasis on struggle to access capital, especially in the early stages and scaling the business, in addition to the perception of the need to change the *mindset* for the effective insertion of products or services in the market. This is actually related to the struggle in showing the value existing in what is offered by agtechs.

Another aspect that deserves attention is related to the challenge of finding properly qualified professionals to work in agtechs. In this sense, taking into account the word cloud, it is observed that agtechs understand that the insertion of cutting-edge technologies is a trend in the sector, which certainly demands professionals with high levels of training.



#### Figure 23. Word cloud of technological and market trends.

With regard to major technological and market trends, agtechs point out to the intensification in the use of more complex technologies. Among them, it is important to highlight: artificial intelligence; IoT (internet of things); automation; digitization; machine learning; increased connectivity and use of sensors (Figure 23).

Linking this question to the previous one, considering the difficulty of showing the value of a technology and the necessary change of *mindset*, there is possibly a mismatch between how some agtechs view the scenario and the reality of the market. Despite understanding that cutting-edge technologies will probably shape the future of agriculture, there are still major limitations in Brazil, such as an insufficient telephone network in the countryside and the slow-paced installation of the 5G network in the country.

Another point that appears as a strong trend and deserves special attention is the intensified use of sustainable technologies. Thus, agtechs believe that biological raw materials, the circular economy itself and other approaches linked to sustainability should be strengthened in the near future.


#### Desired improvements in the agtech ecosystem

Figure 24. Word cloud of desired ecosystem improvements.

As for what could be improved in the agtech ecosystem, the main highlight is access to finance, from both private and public source. In this sense, it is interesting to observe the relevance that agtechs attribute to the State for the advancement of the ecosystem, indicating the need for support legislation, State subsidy and efficiency of the service offered by it (Figure 24).

Despite the existence of several innovation environments in Brazil, agtechs stated that they believe that the connections between the different players could be more frequent and effective. Also, there is a need for demonstrative events, validation fields, which are obstacles mainly for agtechs in the early stage, in addition to training professionals on more complex topics related to entrepreneurship.

# Directory of Agtechs in the Segment Before the Farm

This chapter provides the directories of agtechs organized by segment and category, region, Federative Unit, city and their respective URLs and LinkedIn

#### **BF – Laboratory test**

Agtech	Sites	City	State	Region
Acquaplant	https://acquaplant.com.br	Joinville	Santa Catarina	S
Agrorobótica	● https://agrorobotica.com.br	São Carlos	São Paulo	SE
Agrosafety	https://agrosafety.com.br	Santa Bárbara d'Oeste	São Paulo	SE
Alsukkar	https://alsukkar.com.br	Ribeirão Preto	São Paulo	SE
Auftek Servicos de Tecnologia LTDA	https://auftek.com.br	Santa Maria	Rio Grande do Sul	S
Bioagrocert Soluções Agrícolas	https://bioagrocert.com.br	Barretos	São Paulo	SE
Biolinker	https://biolinker.tech	São Paulo	São Paulo	SE
Bionexus	https://bionexus.com.br	Chapecó	Santa Catarina	S
ByMyCell	● https://bymycell.com.br/	Ribeirão Preto	São Paulo	SE
C4 Biotecnologia	● https://c4biotecnologia.com.br	Lençóis Paulista	São Paulo	SE
Cellco Biotec do Brasil LTDA	https://cellco.com.br	São Carlos	São Paulo	SE
ConectBio	● https://conectbio.com.br	Rio de Janeiro	Rio de Janeiro	SE
Сгор	● https://cropbiolabs.com.br	Botucatu	São Paulo	SE
DGLab	● https://dglab.com.br	Ribeirão Preto	São Paulo	SE
ECO Diagnóstica	https://ecodiagnosticavet.com.br	Nova Lima	Minas Gerais	SE
Fine Instrument Technology	• https://fitinstrument.com	São Carlos	São Paulo	SE
GoGenetic Agro	● https://gogeneticagro.com.br	Curitiba	Paraná	S
Herbae	● https://herbae.com.br	Jaboticabal	São Paulo	SE

Agtech	Sites	City	State	Region
Intecso	● https://intecso.com.br	Curitiba	Paraná	S
KCBiotech	https://linkedin.com/company/ kcbiotech-solutions/about/	Curitiba	Paraná	S
LM Insight	https://www.luzdomonte.com/	Uberlândia	Minas Gerais	SE
Macofren tecnologias	<ul> <li>https://linkedin.com/company/ scienco-biotech/mycompany/</li> </ul>	Brasília	Distrito Federal	со
Merkato	https://linkedin.com/in/regina- -affonso-93a97810a	Limeira	São Paulo	SE
Microbióticos	<ul> <li>https://linkedin.com/company/ microbioticos-analises-laborato- riais-s-cltda/about/</li> </ul>	Campinas	São Paulo	SE
MS Bioscience	<ul> <li>https://www.linkedin.com/com- pany/ms-bioscience/</li> </ul>	Maringá	Paraná	S
Nanocore	<ul> <li>https://linkedin.com/company/ ikoveagro/</li> </ul>	Campinas	São Paulo	SE
Neoprospecta		Florianópolis	Santa Catarina	S
OnFarm	https://linkedin.com/company/ revella-tech	Pirassununga	São Paulo	SE
Onsite Genomics	https://onsitegenomics.com	Brasília	Distrito Federal	со
PLANT COLAB	● https://plantcolab.com.br	Lages	Santa Catarina	S
Prevet Sanidade Aquícola	● https://prevet.com.br/home	Jaboticabal	São Paulo	SE
Prevet Sanidade Aquícola	● https://prevet.com.br	Jaboticabal	São Paulo	SE
Scheme Lab	https://schemelab.com	São Paulo	São Paulo	SE
Scienco Biotech	https://linkedin.com/company/ scienco-biotech/mycompany/	Lages	Santa Catarina	S
Sinergia Botânica	https://linkedin.com/in/regina- -affonso-93a97810a	Florianópolis	Rio de Janeiro	SE
SpecLab	● https://speclab.com.br	Sumaré	São Paulo	SE
Tecnicontrol	● https://tecnicontrol.ind.br	Piracicaba	São Paulo	SE
Zeit	● https://zeitbr.com.br	Santa Maria	Rio Grande do Sul	S

## **BF – Credit, exchange, insurance, carbon credits and fiduciary analysis**

Agtech	Sites	City	State	Region
@BANK	● https://arrobank.com.br/	São Paulo	São Paulo	SE
AGMIND	<ul> <li>https://linkedin.com/company/ agmind/</li> </ul>	Piracicaba	São Paulo	SE
AgriCarbon	https://agricarbon.tech	São Paulo	São Paulo	SE
Agriculture Collateral Experts	https://aceagr.com.br	Ribeirão Preto	São Paulo	SE
AGRINT	• https://agrint.com.br	Campinas	São Paulo	SE
AgriSafe	• https://agrisafe.agr.br	São Paulo	São Paulo	SE
Agristamp	• https://agristamp.com.br	São Paulo	São Paulo	SE
Agro Empreender	• https://agroempreender.com.br	Itapetinga	São Paulo	SE
Agroeducar	https://agrolocal.agr.br	Porto Alegre	Rio Grande do Sul	S
Agroforestry Carbon	https://agroforestrycarbon. com.br	Florianópolis	Santa Catarina	S
agrolend	● https://agrolend.agr.br	São Paulo	São Paulo	SE
Agromatic	https://agromatic.agr.br	Ribeirão Preto	São Paulo	SE
Agrometrika	● https://agrometrika.com.br	Vinhedo	São Paulo	SE
Agronomics	• https://agronomics.agr.br	Ribeirão Preto	São Paulo	SE
AGROPAGO	https://agropago.com.br	Porto Alegre	Rio Grande do Sul	S
AgroVantagens	https://agrovantagens.com	Caxias do S	Rio Grande do Sul	S
Akkwa AgFintech	https://akkwa.com.br	Florianópolis	Santa Catarina	S
Arara Seed	https://araraseed.com.br	Ribeirão Preto	São Paulo	SE
Arroba Bank	https://arrobank.com.br/	São Paulo	São Paulo	SE
Audsat	https://audsat.com.br	São Paulo	São Paulo	SE
BART SOLUCOES DE TECNOLOGIA DIGITAL S.A	https://bartdigital.com.br	Londrina	Paraná	S
Base Ag.	https://linkedin.com/company/ base-ag-solutions/	Rio de Janeiro	Rio de Janeiro	SE
Biofíliza	● https://biofilica.com.br	São Paulo	São Paulo	SE

Agtech	Sites	City	State	Region
Bioma Investimentos	https://biomainvestimentos. com	São Paulo	São Paulo	SE
Bluebell Index	• https://bluebellindex.com/br/	São Paulo	São Paulo	SE
BMV - Programa Brasil Mata Viva	https://brasilmataviva.com.br	Goiânia	Goiás	со
Boi Seguro	<ul> <li>https://linkedin.com/company/ segurbovapp</li> </ul>	São Paulo	São Paulo	SE
Bolsa Agro CPR	● https://bolsaagrocpr.com.br	Barueri	São Paulo	SE
Bolsagri	https://bolsagri.com.br/home	São Paulo	São Paulo	SE
Brain Agriculture	• https://brain.agr.br	Indaiatuba	São Paulo	SE
brCarbon	• https://brcarbon.com.br	Piracicaba	São Paulo	SE
Campo Capital	● https://campocapital.com.br	Patrocínio	Minas Gerais	SE
Cerc	● https://cerc.inf.br	São Paulo	São Paulo	SE
Consisti	• https://creditar.app.br	Palmas	Tocantins	N
Conta Café	• https://contacafe.com.br	Vitória	Espírito Santo	SE
Creditares	https://creditares.com.br	Florianópolis	Santa Catarina	S
Culte	● https://culte.com.br	São Paulo	São Paulo	SE
E-ctare	<ul> <li>https://linkedin.com/in/ecta- re-plataforma-do-agricultor- -0480581ba/</li> </ul>	São Sebastião do Paraíso	Minas Gerais	SE
EEmovel.Agro	https://linkedin.com/company/ eemovel	Cascavel	Paraná	S
Epioneers	● https://epioneer.io	São Paulo	São Paulo	SE
Eumostro	https://sobre.eumostro.com.br	Florianópolis	Santa Catarina	S
FarmCred	https://farmcred.online/	Goiânia	Goiás	со
FarmTech	https://farmtech.com.br/	São Paulo	São Paulo	SE
Fazenda Cheia	https://fazendacheia.com.br	Florianópolis	Santa Catarina	S
Fortalece Seguros	https://fortaleceseguros.com.br	Rio Grande	Rio Grande do Sul	S
Gira	● https://gira.com.br/#	Uberlândia	Minas Gerais	SE
Grão Digital	<ul> <li>https://www.linkedin.com/ company/graodigital/</li> </ul>	São Paulo	São Paulo	SE

Agtech	Sites	City	State	Region
Green Bonds Brasil Ltda	<ul> <li>https://greenbondsbrasil.com.</li> <li>br</li> </ul>	Brasília	Distrito Federal	со
IMBR Agro	● https://imbragro.com.br	Piracicaba	São Paulo	SE
INPLANET	• https://inplanet.earth	Piracicaba	São Paulo	SE
Inspecto Agri	● https://inspectoagri.com	Goiânia	Goiás	со
Itsy Seguros Agro	https://itsyseguros.com	São Paulo	São Paulo	SE
jUM4	● https://jum4.store	Maringá	Paraná	S
Laqus	● https://laqus.com.br	São Paulo	São Paulo	SE
Litos	• https://litosbr.com	São Paulo	São Paulo	SE
Master Barter	https://masterbarter.com.br	Goiânia	Goiás	со
Masterbarter Negocios, Solucoes e Pagamentos Instituicao de Pagamento SA	https://www.linkedin. com/company/masterbar- ter-agri/?originalSubdomain=br	Goiânia	Goiás	со
Mititech.Agro	• https://mititechagro.com.br	São Paulo	São Paulo	SE
Moeda	https://moedaseeds.com	Brasília	Distrito Federal	со
Nagro	● https://nagro.com.br	Uberaba	Minas Gerais	SE
Nato-Digital	● https://nato-digital.com	Palmas	Tocantins	N
Newe	• https://neweseguros.com.br	Rio de Janeiro	Rio de Janeiro	SE
Okb Eco Critpo	<ul> <li>https://okbecologica.wixsite. com/okb-eco-cripto</li> </ul>	Bonfin	Roraima	N
Opa Agro	● https://opaagro.com.br/	Uberlândia	Minas Gerais	SE
Openbox - Green Fintech	https://openbox.com.br	Florianópolis	Santa Catarina	S
Pag-Agro	● https://pag-agro.com	São Paulo	São Paulo	SE
PICSEL	• https://picsel.com.br/	Santa Bárbara d'Oeste	São Paulo	SE
Pin Seguradora	https://pinseg.com.br	São Paulo	São Paulo	SE
PORTO Co.	● https://porto.company	Cascavel	Paraná	S
QUIPOTECH	https://www.quipo.io/	Petrópolis	Rio de Janeiro	SE
Radix Florestal	https://radixflorestal.com.br	Brasília	Distrito Federal	со

Agtech	Sites	City	State	Region
RIO TEFE AGROPODUTOS DA AMAZÔNIA		Tefe	Amazonas	N
Rural Pago	https://ruralpago.com/	São José do Rio Preto	São Paulo	SE
SAVE THE GREEN	<ul> <li>https://savethegreen.world/ brasil</li> </ul>	Manaus	Amazonas	N
Sigria	● https://sigria.com/	Piracicaba	São Paulo	SE
Softfocus (Crédito Rural)	https://softfocus.com.br	Pato Branco	Paraná	S
SPOTSAT	https://spotsat.com.br	São Paulo	São Paulo	SE
StartMeUp	● https://smu.com.vc     ●	São Paulo	São Paulo	SE
Terra Magna	https://terramagna.com.br	Sao Jose dos Campos	São Paulo	SE
Terralogs	• https://terralogs.com.br	São Paulo	São Paulo	SE
Token Rural	● https://tokenrural.com	São Paulo	São Paulo	SE
Traive Finance	● https://traivefinance.com	São Paulo	São Paulo	SE
VEGA MONITORAMENTO E ORIGINAÇÃO AGROAMBIENTAL LTDA	https://VEGAMONITORAMEN- TO.COM.BR	Sao Jose dos Campos	São Paulo	SE
Verde rural	https://verderural.com.br	Londrina	Paraná	S
Wiz Corporate	<ul> <li>https://wizcorporate.com.br/ agronegocio</li> </ul>	Brasília	Distrito Federal	со

#### **BF – Fertilizers, Inoculants and Plant Nutrition**

Agtech	Sites	City	State	Region
Agrivalle	https://agrivalle.com.br	Salto	São Paulo	SE
Agro 100	● https://agro100.com.br	Londrina	Paraná	S
Agrocete	● https://agrocete.com.br	Ponta Grossa	Paraná	S
Agroper organicos		Lajeado	Rio Grande do Sul	S
Agroquimiologia	● https://agroquimiologia.com.br	Marília	São Paulo	SE

Agtech	Sites	City	State	Region
Algen	<ul> <li>https://oceanaminerals.com/ nutri%C3%A7%C3%A3o-vege- tal-algen</li> </ul>	Jundiaí	São Paulo	SE
Aloe Fértil Brasil	● https://aloefertilbrasil.com.br	Santa Cruz do Rio Pardo	São Paulo	SE
Amazon Agro	• https://amazonagro.com.br	Belém	Pará	N
Amazon Biofert	https://sites.google.com/view/ amazonfert/p%C3%A1gina-i- nicial	Масара́	Amapá	N
Argilos	https://argilos.com.br	São Paulo	São Paulo	SE
Axihum Fertilizantes	https://axihum.com.br	Rincão	São Paulo	SE
Beeotec	https://beeotec.com	Curitiba	Paraná	S
Befert	https://befert.com.br/	Uberlândia	Minas Gerais	SE
Bioagreen	https://bioagreen.com.br	Santa Maria	Rio Grande do Sul	S
BIOAMAZON	https://bioamazon21.wixsite. com/bioamz	Manaus	Amazonas	Ν
Biocacau	https://www.instagram.com/ biocacau_ac/	Rio Branco	Acre	N
Biodiversita Tecnologia Microbiana	● https://biodiversita.com.br	Paulínia	São Paulo	SE
Biorosam	● https://biorosam.com.br	Criciúma	Santa Catarina	S
Biosolvit	• https://biosolvit.com	Barra Mansa	Rio de Janeiro	SE
BIOTA INNOVATIONS	https://biotainova.com.br/	Uberaba	Minas Gerais	SE
Biotecland RO	• https://biotecland.com	Rolim de Moura	Rondônia	N
BIOTRENDS	• https://biotrends.com.br/	Fortaleza	Ceará	NE
BVL Vida	https://bvlvida.com.br/a-em- presa	Barreiras	Bahia	NE
C6Bio	https://c6bio.com.br/	São José dos Pinhais	Paraná	S
CampoRico	● https://camporico.com.br	São Paulo	São Paulo	SE
Cia das Algas (Netuno)	https://ciadasalgas.com.br	Traíri	Ceará	NE
CiaCamp	https://ciacamp.agr.br	Cordeirópolis	São Paulo	SE
Dana Agro	● https://danaagro.com	Tarumã	São Paulo	SE
DDM	● https://damatasalada.com.br	São Paulo	São Paulo	SE

Agtech	Sites	City	State	Region
Digital Farms	<ul> <li>https://www.linkedin.com/ company/digitalfarms/</li> </ul>	Bandeirantes	Paraná	S
Ecodefense	• https://ecodefense.com.br	Toledo	Paraná	S
FertGel	<ul> <li>https://linkedin.com/in/adriel- -bortolin-b587928b</li> </ul>	São Carlos	São Paulo	SE
Ferti Sense	https://linkedin.com/in/caroli- na-moraes-5062b172/#expe- rience	Cerquilho	São Paulo	SE
Fertile Agrosciences	• https://fertileagro.com	Jaboticabal	São Paulo	SE
Fertsan	● https://fertsan.com.br	Fortaleza	Ceará	NE
GENICA INOVACAO BIOTECNOLOGICA S.A.	https://genica.com.br/	Piracicaba	São Paulo	SE
Go Solos	● https://gosolos.com.br/	Curitiba	Paraná	S
Ikove Agro	<ul> <li>https://linkedin.com/company/ ikoveagro/</li> </ul>	Piracicaba	São Paulo	SE
INBC	● https://inbcgroup.com.br	Palhoça	Santa Catarina	S
Innova Logic Lab	● https://innovalogiclab.com.br	Poços de Caldas	Minas Gerais	SE
Inocular Soluções Biotecnológicas	<ul> <li>https://inocular-solucoes-bio- tecnologicas.negocio.site</li> </ul>	Lucas do Rio Verde	Mato Grosso	СО
Insect Protein - Ingredientes Sustentáveis	https://insectprotein.com.br	Campo Bom	Rio Grande do Sul	S
Itatijuca Biotech	● https://itatijuca.com     ●	Taboão da serra	São Paulo	SE
Jardim Bonito	https://jardimbonito.com.br	São Paulo	São Paulo	SE
Krilltech Nanotecnologia Agro	https://krilltech.com.br	São Paulo	São Paulo	SE
LEVEAGRO INSUMOS AGRICOLAS LTDA	https://www.leveagro.com/	Pinheros	São Paulo	SE
LINAX		Votuporanga	São Paulo	SE
MAQUINAGRO SERVIÇOS LTDA	https://maquinagro.com.br/	Aracruz	Espírito Santo	SE
MASSALAS	● https://massalas.com.br	Esmeraldas	Minas Gerais	SE
Massari	● https://massari.com.br	Salto de Pirapora	São Paulo	SE
Microgeo	● https://microgeo.com.br	Limeira	São Paulo	SE
NanoMetallis	https://nanometallis.com.br	Indaiatuba	São Paulo	SE

Agtech	Sites	City	State	Region
Nório Nanotecnologia		Joinville	Santa Catarina	S
Novatero BioAg	● https://novatero.com.br	Joinville	Santa Catarina	S
Omega Agro	● https://omegaagro.com.br	Canoas	Rio Grande do Sul	S
Openeem	• https://openeem.life	São Paulo	São Paulo	SE
Probiom	• https://probiom.com.br	Campinas	São Paulo	SE
ProspectaBio	https://prospectabio.com.br	Porto Alegre	Rio Grande do Sul	S
Prospersea	• https://prospersea.com	Angra dos Reis	Rio de Janeiro	SE
RevBio	https://www.linkedin.com/ company/revbio/?originalSub- domain=br	Paulínia	São Paulo	SE
Revella Agritech	https://linkedin.com/company/ revella-tech	Florianópolis	Santa Catarina	S
Riga Brasil	• https://rigabrasil.com.br	Santa Luzia	Minas Gerais	SE
Rizobacter	• https://rizobacter.com.br/	Londrina	Paraná	S
Selenolife	https://selenolife.com.br	São Paulo	São Paulo	SE
Solusolo	• https://solusolo.com.br	Varginha	Minas Gerais	SE
Superbac	https://superbac.com.br	Cotia	São Paulo	SE
TerraMares	https://terramaresambiental. com.br	Rio Grande	Rio Grande do Sul	S
Tns Nanotecnologia	https://tnsolution.com.br	Florianópolis	Santa Catarina	S
Verde	• https://verde.ag	Belo Horizonte	Minas Gerais	SE
Vital Force	https://vitalforce.com.br	Barretos	São Paulo	SE
Vittia Fertilizantes e Biologicos		São Joaquim da Barra	São Paulo	SE
YBY Inovações Biotecnológicas	<ul> <li>https://pb.programacentelha. com.br/es1/empresa/yby-ino- vacoes-biotecnologicas</li> </ul>	João Pessoa	Paraíba	NE
ZEOFERTIL	● https://zeofertil.com	Porto Alegre	Rio Grande do Sul	S

#### **BF – Animal Genomics and Breeding**

Agtech	Sites	City	State	Region
ACHILLES GENETICS	<ul> <li>https://novo.achillesgenetics. com.br/</li> </ul>	Garça	São Paulo	SE
Agribov	● https://agribov.com.br	São Paulo	São Paulo	SE
Agropartners	• https://agropartners.com.br	Araçatuba	São Paulo	SE
Biomin Biotecnologia	● https://biomin.com.br	Divinópolis	Minas Gerais	SE
Breender	• https://breender.com.br	São Paulo	São Paulo	SE
Cellen	• https://cellen.com.br	Rio de Janeiro	Rio de Janeiro	SE
Evolutta Agro	● https://evolutta-agro.com	Ribeirão Preto	São Paulo	SE
FABP Biotech	• https://fabpbiotech.com.br	Rio de Janeiro	Rio de Janeiro	SE
FastBio	● https://fastbio.com.br	Ribeirão Preto	São Paulo	SE
Gentros	● https://gentros.com.br	Paulínia	São Paulo	SE
iBiotech	https://cietec.org.br/project/ ibiotech	São Paulo	São Paulo	SE
Inprenha	● https://inprenha.com.br/	Jaboticabal	São Paulo	SE
Invitra	https://invitra.com.br	Ribeirão Preto	São Paulo	SE
Kimera Biotecnologia	<ul> <li>https://kimerabiotecnologia. com</li> </ul>	Ribeirão Preto	São Paulo	SE
Krom (Cotton Droplet)	<ul> <li>https://krom.com.br/cotton.</li> <li>html</li> </ul>	São Paulo	São Paulo	SE
MetaQuantiON	https://metaquantion.com	Piracicaba	São Paulo	SE
PersonalPec	https://personalpec.com.br/ home/	Campo Grande	Mato Grosso do S	СО
Procriare Genética	● https://procriare.com.br	Uberlândia	Minas Gerais	SE
Regenera Stem Cells	https://regeneravet.com.br	Campinas	São Paulo	SE
rheabiotech	● https://rheabiotech.com.br	Campinas	São Paulo	SE
Symbiomics	https://symbiomics.com.br	Florianópolis	Santa Catarina	S
WTA	● https://wtavet.com.br	Cravinhos	São Paulo	SE

#### Agtech Sites City State Region AGmais https://agmais.agr.br index.agmais.agr.br index.agmais.agmais.agmais.agmais.agmais.agmais.agmais.agmais.agmais.agmais.agmais.agmais.agmais.agmais.agmais.agmais.agmais.agmais.agmais.a **Rio Grande** S Porto Alegre do Sul AgriAcordo https://agriacordo.com Itapetininga São Paulo SE • https://agrimaqequipamentos. São Paulo Agrimaq Arujá SE com.br https://agrinumo.com.br/ AGRINUMO São Paulo São Paulo SE AgriStore https://agristore.com Nova Mutum Mato Grosso CO https://agrofinder.com.br S Agrofinder Passo Fundo **Rio Grande** do Sul AgroMercador https://agromercador.ag **Ribeirão Preto** São Paulo SE https://agropeq.com.br **Ribeirão Preto** São Paulo SE Agropeq S Alfakit https://alfakit.com.br Florianópolis Santa Catarina AMD Agro ● https://amdagro.com.br Tangará da Serra Mato Grosso CO AMVAC do Brasil https://amvacdobrasil.com.br Jaboticabal São Paulo SE https://aquainsumos.com.br S Aqualn /Aqua Insumos Londrina Paraná https://arrendafacil.com.br Arrenda Facil Dourados Mato Grosso CO do S Cachaça Gestor https://cachacagestor.com.br/ **Ouro Preto Minas Gerais** SE **Capim Digital** Piracicaba São Paulo SE **Colhesul Peças** https://colhesul.com.br **Rio Grande** S Independência Agrícolas do Sul **Comprador Moderno** https://compradormoderno. **Belo Horizonte** Minas Gerais SE com.br **Rio Grande** S Connectbuy do Sul ● https://cotaagro.com **Rio Grande** S Cota Agro Santa Maria do Sul https://cotamaq.com.br Cotamaq Patos de Minas **Minas Gerais** SE https://farmby.com.br Paraná S Farmby Florianópolis https://forfarmerbr.com S FOR FARMER Ponta Grossa Paraná INNOVATION https://googado.com.br **Belo Horizonte** Minas Gerais SE Googado https://insumoagricola.com.br São Paulo São Paulo SE Insumo Agrícola

#### **BF – Marketplace of Raw Materials for Agribusiness**

Directory of Agtechs in the Segment Before the Farm

Agtech	Sites	City	State	Region
Lojao agricola	https://lojaoagricola.com.br	Horizontina	Rio Grande do Sul	S
Marketplace Agro2Business.com	https://agro2business.com	Taboão da serra	São Paulo	SE
npk soluções	● https://leveagro.com	São Paulo	São Paulo	SE
Pangea Parts	• https://pangeaparts.com.br	São Paulo	São Paulo	SE
PopAgro	● https://popagro.com.br	São Paulo	São Paulo	SE
PRODUCE	https://produce.agr.br/	Chapecó	Santa Catarina	S
Produtor Agro	● https://produtoragro.com.br	São Paulo		SE
PRORURAL	● https://prorural.okad.com.br/	Lauro de Freitas	Bahia	NE
RECH AGRICOLA	• https://www.rech.com/	Primavera do Leste	Mato Grosso	со
Solo Sagrado	• https://solosagrado.com	Mogi Guaçu	São Paulo	SE
Uniclean	https://uniclean.com.br	Lajeado	Rio Grande do Sul	S
wewe	● https://uol.com.br	São Paulo	São Paulo	SE

#### **BF – Animal Nutrition and Health**

Agtech	Sites	City	State	Region
AgroBovi	● https://agrobovi.com.br	Anápolis	Goiás	со
AgroForte	• https://meuagroforte.com.br	São Paulo	São Paulo	SE
Algabloom	https://algabloom.com.br	Florianópolis	Santa Catarina	S
AlgaSul Biotecnologia de Microalgas	https://algasul.com.br	Rio Grande	Rio Grande do Sul	S
American Nutrientes	<ul> <li>https://americannutrients.</li> <li>com.br</li> </ul>	Teutônia	Rio Grande do Sul	S
Animal Flower	https://animalflower.com.br	São Paulo	São Paulo	SE
Arenales Homeopatianimal	https://arenales.com.br	Presidente Prudente	São Paulo	SE
Auster	https://austernutri.com.br	Horizontina	São Paulo	SE
BIOGENIC	● https://biogenic.com.br	Taboão da serra	São Paulo	SE

Agtech	Sites	City	State	Region
Bio-Sano	https://wcsasistemas.com/ empresas/Parana/35/bio-sano- -industria-de-produtos-farma- cos-ltda-me-bio-sano-tecnolo- gia-em-saude-animal.php	Toledo	Paraná	S
Biotrends	• https://biotrends.com.br/	Eusébio	Ceará	NE
Buzz Fly	https://buzzfly.com.br	São Paulo	São Paulo	SE
Camarões Brasil	<ul> <li>https://linkedin.com/company/ camaroes-brasil/</li> </ul>	Jaboticabal	São Paulo	SE
Cooperativa Languirú	https://languiru.com.br/insti- tucional	Teutônia	Rio Grande do Sul	S
C-tec	https://c-tec.ind.br/site	Jardinópolis	Santa Catarina	S
CYNS	https://cyns.com.br	São Paulo	São Paulo	SE
Decoy	• https://decoysmart.com	Ribeirão Preto	São Paulo	SE
Farmacore	• https://farmacore.com.br	Ribeirão Preto	São Paulo	SE
GenoBiomas Biotecnologia	<ul> <li>https://linkedin.com/company/ genobiomas</li> </ul>	Sao José dos Campos	São Paulo	SE
Imeve	● https://imeve.com.br	Jaboticabal	São Paulo	SE
InsetoGood	https://instagram.com/roraifru- t?igshid=YmMyMTA2M2Y=	Gurupi	Tocantins	N
Kayros	https://kayrosambiental.com.br	Paulínia	São Paulo	SE
Launer Química	https://launer.com.br/institu- cional	Estrela	Rio Grande do Sul	S
Londribio	https://londribio.com.br	Londrina	Rio Grande do Sul	S
Nanoscoping	https://nanoscoping.com.br	Florianópolis	Santa Catarina	S
NUTRIMAIS SAUDE ANIMAL	https://nutrimais.ind.br/	São José do Rio Preto	São Paulo	SE
Oipeixe		Manaus	Amazonas	N
Pec agro treinamento e consultoria	● https://pecagro.com.br	Perdizes	Minas Gerais	SE
Phytobiotec	https://phytobiotec.com	Florianópolis	Santa Catarina	S
PRIMASEA	● https://primasea.com/home	Candeias	Bahia	NE

Agtech	Sites	City	State	Region
Pró.Campo Nutrição Animal	• https://pcampo.com.br	Londrina	Paraná	S
Protin Biotech	https://protinbiotech.com.br	Itapevi	São Paulo	SE
Salus	https://salusgroup.com.br	Santo Antônio da Patrulha	São Paulo	SE
Sanavis	https://sanavis.tech	São Paulo	São Paulo	SE
Symbiotec	https://icorpsbrasil.com.br/ symbiotec	Piracicaba	São Paulo	SE
Synergy Animal Research	• https://synergy.vet.br	Vila Velha	Espírito Santo	SE
Tecnoblock	• https://tecnoblocknutri.com.br	Campo Grande	Mato Grosso do S	СО
Tilabras	● https://tilabras.com.br/pt/inicio	São Paulo	São Paulo	SE
Veros	● https://veros.vet	São Paulo	São Paulo	SE
Vitafort	● https://vitafort.com.br	Ribeirão Preto	São Paulo	SE
Yes	● https://yes.ind.br	Campinas	São Paulo	SE
Ylive	● https://ylive.com.br	São Paulo	São Paulo	SE

#### **BF – Seeds, Seedlings and Plant Genomics**

Agtech	Sites	City	State	Region
AB Plant Biotech	● https://myrtus.com.br	São Paulo	São Paulo	SE
ADWA Cannabis	https://adwacannabis.com.br	Viçosa	Minas Gerais	SE
Bejo	● https://bejo.com.br	Bragança Paulista	São Paulo	SE
Bioclone	● https://bioclone.com.br	Eusébio	Ceará	NE
Biome4all	● https://biome4all.com.br	São Paulo	São Paulo	SE
Bioplix	<ul> <li>https://linkedin.com/company/ bioplix</li> </ul>	Porto Alegre	Rio Grande do Sul	S
BPI	● https://bpibiotecnologia.com.br	Botucatu	São Paulo	SE
Brasil Agritest	https://brasilagritest.com	São Carlos	São Paulo	SE
Casa Agrícola Salim	https://agricolasalim.com.br	Joinville	Santa Catarina	S
Casgen Biotecnologia em Mudas	<ul> <li>https://casgenbiotecnologia. com</li> </ul>	Resende	São Paulo	SE

Agtech	Sites	City	State	Region
Cropview	● https://cropview.com.br	Ponta Grossa	Paraná	S
Demetra	https://demetraagronegocios. com.br	Toledo	Paraná	S
DIOXD	https://dioxd.com	Luis Eduardo Magalhães	Bahia	NE
DOROTH	● https://doroth.com.br/	Piracicaba	São Paulo	SE
DUAGRO	https://duagro.com/	Encantado	Rio Grande do Sul	S
ekoating	• https://ekoating.com	Curitiba	Paraná	S
GoGenetic	• https://gogenetic.com.br	Curitiba	Paraná	S
HapiSeeds	• https://hapiseeds.com	Rio de Janeiro	Rio de Janeiro	SE
Hope Kphé	<ul> <li>https://www.linkedin.com/ in/carlos-fernando-baltieri- -b3272644/</li> </ul>	Ribeirão Preto	São Paulo	SE
Image pesquisas	• https://imagepesquisas.com.br	Fortaleza	Ceará	NE
Multi Mudas Brasil	https://multimudasbrasil.com. br	Andradina	São Paulo	SE
MYRTUS PLANT BIOTECH LTDA	https://myrtus.com.br/	São Paulo	São Paulo	SE
NovAg Agricola		Rio Verde	Goiás	со
NOVAPLANTA	https://instagram.com/nova- plantagpi	Gurupi	Tocantins	N
Pangea biotec	https://pangeiabiotech.com	Campinas	São Paulo	SE
PIRAÍ Sementes	● https://pirai.com.br	Piracicaba	São Paulo	SE
Plante Sempre	https://plantesempre.com.br	Chapecó	Santa Catarina	S
QP Mudas	https://qpmudas.com.br	Santa Maria	Rio Grande do Sul	S
Raix Sementes	● https://raixsementes.com.br	São Miguel do Oeste	Santa Catarina	S
rdj		Lavras	Minas Gerais	SE
RESEBA	https://sementesamazonia.com	Porto Velho	Rondônia	N
SEED4SEED	● https://seed4seed.com.br	Campos dos Goytacazes	Rio de Janeiro	SE
Sementes Nativas	https://www.linkedin.com/in/ edwardmguel/	Uberlândia	Minas Gerais	SE

Directory of Agtechs in the Segment Before the Farm

Agtech	Sites	City	State	Region
Singular Seeds S3	https://singularseeds.com.br	Campinas	São Paulo	SE
Verdartis	• https://verdartis.com.br	Ribeirão Preto	São Paulo	SE
Verde Nativo	https://verdenativo.com.br	Bragança Paulista	São Paulo	SE
Viveiro Nativo	● https://viveironativo.com.br	Patos de Minas	Minas Gerais	SE

### **Directory of Agtechs in the Segment Inside** the Farm

Agtech	Sites	City	State	Region
Aoitech, Apicultura de Precisão	• https://apitech	Vicentinópolis	Goiás	со
Bee2Be	● https://bee2be.eco.br	Salvador	Bahia	NE
Geo Bee Am	<ul> <li>https://www.linkedin.com/in/ geo-bee-am-2333b8264/</li> </ul>	São Luís	Maranhão	NE
Integrapis	• https://integrapis.com.br/	Rio de Janeiro	Rio de Janeiro	SE
Simbee	• https://simbee.negocio.site/	Jaboticabal	São Paulo	SE
GeoApis	● https://geoapis.tech	Piracicaba	São Paulo	SE
Agrobee	https://agrobee.net	Ribeirão Preto	São Paulo	SE
Heborá	● https://hebora.com.br	Ribeirão Preto	São Paulo	SE
+ Abelhas	• https://maisabelhas.com	Porto Alegre	Rio Grande do Sul	S
Enxame Hidromel	https://facebook.com/Enxa- meHidromel/	Porto Alegre	Rio Grande do Sul	S

#### **IF – Apiculture and Pollination**

#### **IF – Connectivity and Telecommunication**

Agtech	Sites	City	State	Region
AgroMarketing	https://agromarketing.com	Rondonópolis	Mato Grosso	со
Onlyfarm	https://onlyfarms.com.br/	Campo Grande	Mato Grosso do S	со
Meltech	https://meltech.com.br	Recife	Pernambuco	NE
Aiko	● https://aiko.digital	Belo Horizonte	Minas Gerais	SE
GEOSITE TECNOLOGIA S.A.	<ul> <li>https://telecom.digicade.com.</li> <li>br/geosite-telecom/autentica- cao/login.jsp</li> </ul>	Belo Horizonte	Minas Gerais	SE
Blue Sky Network	https://blueskynetwork.com.br	Barueri	São Paulo	SE

Directory of Agtechs in the Segment Inside the Farm

Agtech	Sites	City	State	Region
AGROMOBILITY	<ul> <li>https://linkedin.com/company/ agromobility</li> </ul>	São Paulo	São Paulo	SE
Brdot	• https://brdot.com.br	São Paulo	São Paulo	SE
CONECTARAGRO	<ul> <li>https://www.conectaragro. com.br/</li> </ul>	São Paulo	São Paulo	SE
Pluginbot	● https://pluginbot.ai	São Paulo	São Paulo	SE
Verde Telecom	https://verdeinternet.com/ telecom	São Paulo	São Paulo	SE
Fuga pras Colinas	● https://fugaprascolinas.com.br	Tapiraí	São Paulo	SE
BST Networks	• https://bstnetworks.com.br	Curitiba	Paraná	S
Global Press	https://globalpress.com.br	Jaguariaíva	Paraná	S
Venko Networks	https://venkonetworks.com	Porto Alegre	Rio Grande do Sul	S
Becon	https://becon.com.br	Joinville	Santa Catarina	S

#### IF – Content, Education, Social Media

Agtech	Sites	City	State	Region
Implanta IT Solutions	● https://implantait.com.br	Goiânia	Goiás	со
Agronews	• https://agronewsbrasil.com.br	Cuiabá	Mato Grosso	со
Escola Agro	https://escolaagro.com.br	Campo Novo do Parecis	Mato Grosso	СО
RuralCentro	https://ruralcentro.com.br	Campo Grande	Mato Grosso do S	СО
Agro Insight	https://agroinsight.com.br	Luís Eduardo Magalhães	Bahia	NE
Alimente Solos	• https://alimentesolos.com.br	Salvador	Bahia	NE
The Green Hub	● https://thegreenhub.com.br	Salvador	Bahia	NE
PlantEDU	<ul> <li>https://linkedin.com/company/ plantedu/</li> </ul>	Banabuiú	Ceará	NE
Bússola Socioambiental/ Bússola Consultoria em Pesquisa, Educação e Sustentabilidade	https://instagram.com/bussola- socioambiental	São Luís	Maranhão	NE

Agtech	Sites	City	State	Region
EduFlor	• https://eduflor.com.br	Recife	Pernambuco	NE
Syagrus - Consultoria & Certificação Socioambiental	https://syagrus.com.br	Cruzeiro do S	Acre	N
BAMBUZINI	https://Bambuzini-EscolaeEstú- diodeBioarquitetura	Rio Branco	Acre	N
Instituto GeoLAB	• https://geoeconomico.com.br	Rio Branco	Acre	N
Seringal Biotec - Produtos e Serviços Biotecnológicos da Amazônia	https://Emconstrução	Rio Branco	Acre	N
Tuxtu	● https://tuxtu.com.br	Macapá	Amapá	N
VITA DIGITAL Soluções	https://vitadigital.com.br	Belém	Pará	N
SOLO-RR	● https://solorr.com.br	Boa Vista	Roraima	N
Ikigai - microverdes	https://ikigai-piscicultura-sus- tentavel.negocio.site	Gurupi	Tocantins	N
Ateck Consultoria e Representação para Piscicultura	https://ateckconsultoria.com	Palmas	Tocantins	N
Smart Agri	● https://smart.agr.br	Paraíso do Tocantins	Tocantins	N
Minas RFID	• https://minasrfid.com.br	Belo Horizonte	Minas Gerais	SE
QUALIBEE	• https://qualibee.com.br/	Belo Horizonte	Minas Gerais	SE
Rehagro	● https://rehagro.com.br/site	Belo Horizonte	Minas Gerais	SE
Aquila	https://aquila.com.br	Nova Lima	Minas Gerais	SE
Portal do Agronegócio	<ul> <li>https://portaldoagronegocio. com.br</li> </ul>	Uberaba	Minas Gerais	SE
Ag.In	● https://agin.agr.br	Uberlândia	Minas Gerais	SE
AGRO10X	● https://agro10xanimais.com.br/	Uberlândia	Minas Gerais	SE
AgroSchool	• https://agroschool.com.br	Uberlândia	Minas Gerais	SE
Sapiens Agro	• https://sapiensagro.com	Uberlândia	Minas Gerais	SE
Brasbiotec	• https://brasbiotec.com	Rio de Janeiro	Rio de Janeiro	SE
Datagro Markets	https://datagro.com/datagro- -markets	Barueri	São Paulo	SE
Agromulher	https://agromulher.com.br	Campinas	São Paulo	SE
YouAgro		Campinas	São Paulo	SE

Agtech	Sites	City	State	Region
Athenagro	• https://athenagro.com.br/	Casa Branca	São Paulo	SE
Valornovo	● https://valornovo.com	Cravinhos	São Paulo	SE
ManejeBem - Assessoria em Agricultura Sustentável	https://manejebem.com	Florianópolis	São Paulo	SE
SABRi Sabedoria Agrícola	https://sabri.com.br	Jaboticabal	São Paulo	SE
Agripoint	<ul> <li>https://milkpointventures.com.</li> <li>br</li> </ul>	Piracicaba	São Paulo	SE
Agro Sucesso	● https://agrosucesso.com.br/site	Piracicaba	São Paulo	SE
AgroAdvance	• https://agroadvance.com.br	Piracicaba	São Paulo	SE
Agromic	• https://agromic.com.br	Piracicaba	São Paulo	SE
APagri	• https://apagri.com.br	Piracicaba	São Paulo	SE
Beefpoint	https://beefpoint.com.br	Piracicaba	São Paulo	SE
EducaPoint	● https://educapoint.com.br/	Piracicaba	São Paulo	SE
GO WINNERS	• https://gowinners.com.br/	Piracicaba	São Paulo	SE
Droneng	https://droneng.com.br	Presidente Prudente	São Paulo	SE
Agro de Respeito	https://youtube.com/c/agrode- respeito	Rio Branco	São Paulo	SE
Vida de granja	● https://vidadegranja.com.br/	Sales Oliveira	São Paulo	SE
Alimentares	• https://alimentares.com	Santo André	São Paulo	SE
Doutor Agro	• https://doutoragro.com	Santos	São Paulo	SE
STC Simuladores	https://stcsimulador.com.br	São Jose dos Campos	São Paulo	SE
Agrotools	● https://agrotools.com.br	São Paulo	São Paulo	SE
ensistec	https://ensistec.com.br	São Paulo	São Paulo	SE
FoodPass	• https://foodpass.com.br	São Paulo	São Paulo	SE
GreenHub	● https://thegreenhub.com.br	São Paulo	São Paulo	SE
GrowinCo	● https://growinco.com	São Paulo	São Paulo	SE
Life Biological Control (Pragas)	https://pragas.com.br	São Paulo	São Paulo	SE
Mastera	https://mastera.com.br	São Paulo	São Paulo	SE
N2BBrasil	https://n2bbrasil.com	São Paulo	São Paulo	SE

Agtech	Sites	City	State	Region
Nutrisoft	• https://nutrisoft.com.br	São Paulo	São Paulo	SE
Revista dos Vegetarianos	<ul> <li>https://revistavegetarianos. com.br</li> </ul>	São Paulo	São Paulo	SE
Salt Ambiental	https://saltambiental.com.br	São Paulo	São Paulo	SE
Suculentando	• https://suculentando.com	São Paulo	São Paulo	SE
Cooltivando Vida	https://cooltivando.com.br	Curitiba	Paraná	S
Já entendi Agro	• https://jaentendiagro.com.br	Curitiba	Paraná	S
Realize Hub	• https://realizehub.com	Curitiba	Paraná	S
Veteduka	• https://veteduka.com.br	Curitiba	Paraná	S
Abraseda	• https://abraseda.org.br	Londrina	Paraná	S
AGROTRUST	<ul> <li>https://agrotrust.wixsite.com/ agrotrust</li> </ul>	Londrina	Paraná	S
+ Soja		Camobi	Rio Grande do Sul	S
Jahde Technologia	https://jahde.com.br	Lajeado	Rio Grande do Sul	S
Retta	● https://retta.com.br	Lajeado	Rio Grande do Sul	S
Semiocrop		Passo Fundo	Rio Grande do Sul	S
Accore Automação	● https://accore.com.br/servicos	Porto Alegre	Rio Grande do Sul	S
Agrischool	● https://agrischool.com.br	Porto Alegre	Rio Grande do Sul	S
AGRO KAIZEN	● https://agrokaizen.com.br	Porto Alegre	Rio Grande do Sul	S
Capril Virtual	● https://caprilvirtual.com.br	Porto Alegre	Rio Grande do Sul	S
Elevagro	https://elevagro.com	Porto Alegre	Rio Grande do Sul	S
Keeps	● https://keeps.com.br	Florianópolis	Santa Catarina	S

#### **IF – Biological Control and Integrated Plague Management**

Agtech	Sites	City	State	Region
Agroneural	https://agroneural.com	Brasília	Distrito Federal	СО
Kidera	https://linkedin.com/in/kidera- -biotecnologia-67592422a	Brasília	Distrito Federal	СО
Blue Tecnologias E Participações Empresariais	https://bluetecnologias.com.br	Formosa	Goiás	со
Solubio	● https://solubio.agr.br	Gurupi	Tocantins	N
JB Biotecnologia	• https://jbbiotecnologia.com.br	Paraopeba	Minas Gerais	SE
Predativa	• https://predativa.com.br	Patos de Minas	Minas Gerais	SE
Smartbugs	https://www.linkedin.com/ company/smartbugs/about/	Viçosa	Minas Gerais	SE
Ballagro	● https://ballagro.com.br	Bom Jesus dos Perdões	São Paulo	SE
Pattern Ag	● https://pattern.ag	Campinas	São Paulo	SE
Colly Química	● https://collyquimica.com.br	Capivari	São Paulo	SE
Bio Controle	● https://biocontrole.com.br	Indaiatuba	São Paulo	SE
Zasso	● https://zasso.com.br	Indaiatuba	São Paulo	SE
Homeopatia Rural	https://homeopatiarural.com	Jaú	São Paulo	SE
Promip	https://promip.agr.br	Limeira	São Paulo	SE
Gênica	● https://genica.com.br	Piracicaba	São Paulo	SE
Ideelab	● https://ideelab.com.br	Piracicaba	São Paulo	SE
Pragas.Com	• https://pragas.com.vc	Piracicaba	São Paulo	SE
Smartbreeder	https://smartbreeder.com.br	Piracicaba	São Paulo	SE
Actinobac Agrosciences	<ul> <li>https://linkedin.com/company/ actinobac-agrosciences/about/</li> </ul>	Ribeirão Preto	São Paulo	SE
TZ Biotech	● https://tzbiotec.com.br	Ribeirão Preto	São Paulo	SE
Agrientech	• https://agrientech.com	São Carlos	São Paulo	SE
DOMINUS SOLI	https://dominussoli.com.br/	São João da Boa Vista	São Paulo	SE
NCB Sistemas Embarcados EIRELI - EPP	https://linkedin.com/com- pany/77182512	São Jose dos Campos	São Paulo	SE
BR3 Agrobiotecnologia	● https://br3.ind.br	São Paulo	São Paulo	SE

Agtech	Sites	City	State	Region
Herbiciencia	● https://herbiciencia.com.br/	São Paulo	São Paulo	SE
M2D1 - Inovação para o Novo Normal	https://m2d1.com	São Paulo	São Paulo	SE
Oga	• https://ogawabiocycles.com	São Paulo	São Paulo	SE
TerrNova Desinfecção	● https://terranovasa.com.br	São Paulo	São Paulo	SE
Innovatis	• https://innovatisbio.com	Taboão da serra	São Paulo	SE
Vector Control	• https://vectorcontrol.agr.br	Vinhedo	São Paulo	SE
Sintrop	<ul> <li>https://linkedin.com/company/ sintropsa/</li> </ul>	Cascavel	Paraná	S
Diagneasy	<ul> <li>https://penseagro.paniclobster. com/teams/20</li> </ul>	Curitiba	Paraná	S
FAVO TECNOLOGIA	• https://growinbyfavo.com.br/	Curitiba	Paraná	S
AGRIBELA	● https://agribela.com.br	Londrina	Paraná	S
Usina Biologica	https://usinabiologica.com.br	Londrina	Paraná	S
Dillon	• https://dillonbio.com.br	Caxias do S	Rio Grande do Sul	S
Simbiose	https://simbiose-agro.com.br	Cruz Alta	Rio Grande do Sul	S
Isca Tecnologias	https://isca.com.br	ljuí	Rio Grande do Sul	S
PARTAMON	https://partamon.com	Pelotas	Rio Grande do Sul	S
Bioln	https://bioinagro.com.br	Porto Alegre	Rio Grande do Sul	S
DigiFarmz Smart Agriculture	<ul> <li>https://linkedin.com/company/ digifarmz</li> </ul>	Porto Alegre	Rio Grande do Sul	S
ILEXO P&D	• NE	Porto Alegre	Rio Grande do Sul	S
Bionfarm	https://bionfarm.com	Santa Maria	Rio Grande do Sul	S
Nório	<ul> <li>https://www.linkedin.com/ company/n%C3%B3rio-nano- tecnologia/</li> </ul>	Joinville	Santa Catarina	S
Agrize	https://agrize.com.br	Vila Nova Joinville	Santa Catarina	S

#### **IF – Drones, Machines and Equipment**

Agtech	Sites	City	State	Region
Drone Ops	https://droneops.com.br	Brasília	Distrito Federal	СО
NONG	https://nong.com.br	Brasília	Distrito Federal	СО
ARGOS	<ul> <li>https://instagram.com/argosa- gricultura</li> </ul>	Goiânia	Goiás	СО
Avant Agro	<ul> <li>https://www.instagram.com/ avant.agro/</li> </ul>	Itumbiara	Goiás	со
TechCampo	● https://techcampo.com.br/	Canarana	Mato Grosso	со
Agrotecno	https://agrotecno.com.br	Lucas do Rio Verde	Mato Grosso	со
ENG - Soluções Tecnológicas LTDA - ME	https://engtecnologia.com	Campo Grande	Mato Grosso do S	СО
Rupert Indústria Aeronáutica LTDA	https://rupert.com.br	Caruaru	Pernambuco	NE
Prisma Inox	https://prismainox.com.br	Belém	Pará	N
Olho do Dono	• https://olhododono.agr.br	Vitória	Espírito Santo	SE
Seive	● https://seive.com.br	Belo Horizonte	Minas Gerais	SE
Verde Drone	• https://verdedrone.com	Belo Horizonte	Minas Gerais	SE
Modulagro	● https://modulagro.com.br/	Juiz de Fora	Minas Gerais	SE
Tbit	● https://tbit.com.br	Lavras	Minas Gerais	SE
CADOMA SOLUCOES AUTOMATIZADAS LTDA	https://www.cadoma.com.br/	Três Marias	Minas Gerais	SE
Alta Aerospace	<ul> <li>https://www.linkedin.com/ company/alta-aerospace/ about/</li> </ul>	Uberlândia	Minas Gerais	SE
Volutech	https://volutech.com.br	Viçosa	Minas Gerais	SE
Astech	● https://astech.eco.br	Petrópolis	Rio de Janeiro	SE
Stella Tecnologias	<ul> <li>https://www.stellatecnologia. com/</li> </ul>	Rio de Janeiro	Rio de Janeiro	SE
Sollus	https://facebook.com/sollus- mecanizacao	Assis	São Paulo	SE
Agtech Academy	● https://agtech.academy	Barueri	São Paulo	SE
Jetwind Brasil	● https://jetwind.com.br	Barueri	São Paulo	SE
Maply Tecnologia	● https://maply.io	Barueri	São Paulo	SE

Agtech	Sites	City	State	Region
IRON DRONES - IMAGENS AEREAS	https://irondrones.com.br/	Guarulhos	São Paulo	SE
DALLAS AUTONOMUS	• https://dallasautonomus.com	Jacareí	São Paulo	SE
Grunner	https://grunnertec.com.br/ sobre.php	Lençóis Paulista	São Paulo	SE
Tecnofacil	● https://tecnofacil.foryou.digital     ●	Marília	São Paulo	SE
chem4u	● https://chem4u.com.br	Mauá	São Paulo	SE
RK	● https://brvant.com.br	Mogi das Cruzes	São Paulo	SE
Fishtag	• https://fishtag.com.br	Mogi Guaçu	São Paulo	SE
Agricef	• https://agricef.com.br	Paulínia	São Paulo	SE
SensorVision Inteligência Embarcada	https://sensorvision.com.br	Paulínia	São Paulo	SE
Aero Agri	● https://aeroagri.com.br	Piracicaba	São Paulo	SE
Arable Brazil	• https://www.arable.com/	Piracicaba	São Paulo	SE
Drop	• https://dropagricultura.com.br	Piracicaba	São Paulo	SE
NATUTEC DRONE	https://www.natutecdrone. com.br/	Piracicaba	São Paulo	SE
Smart Sensing	<ul> <li>https://smartsensingbrasil. com.br</li> </ul>	Piracicaba	São Paulo	SE
Nuvem UAV Indústria de Aeronaves	https://nuvemuav.com	Presidente Prudente	São Paulo	SE
Beer2U	● https://beer2u.com.br	Ribeirão Preto	São Paulo	SE
SARDRONES	• https://sardrones.com.br	Ribeirão Preto	São Paulo	SE
Saci Soluções	https://sacisolucoes.com.br	Santa Bárbara d'Oeste	São Paulo	SE
Altamar	● https://altamar.com.br	Santos	São Paulo	SE
DropScope (SprayX)	● https://sprayx.com.br	São Carlos	São Paulo	SE
Enalta (Rex)	https://linkedin.com/company/ enalta	São Carlos	São Paulo	SE
ModelWorks	https://modelworks.com.br	São Carlos	São Paulo	SE
Xmobots	https://xmobots.com.br	São Carlos	São Paulo	SE
Acrux	● https://acruxtech.com.br	São Jose dos Campos	São Paulo	SE
DRONEGIS	https://www.dronegis.com.br/ agroneg%c3%b3cio.html	São Jose dos Campos	São Paulo	SE

Agtech	Sites	City	State	Region
Moya Aero	https://moyaaero.com	São Jose dos Campos	São Paulo	SE
NCB SISTEMAS EMBARCADOS	• https://www.ncb.ind.br/	São Jose dos Campos	São Paulo	SE
BioLambda	https://biolambda.com	São Paulo	São Paulo	SE
CROMAI	● https://cromai.com	São Paulo	São Paulo	SE
D'Arcy	● NE	São Paulo	São Paulo	SE
Elio Tecnologia	<ul> <li>https://linkedin.com/company/ elio-tecnologia-ltda./mycom- pany/</li> </ul>	São Paulo	São Paulo	SE
FUTURISTE TECNOLOGIA LTDA	https://www.futuriste.com.br/	São Paulo	São Paulo	SE
G-Drones	● https://g-drones.com.br	São Paulo	São Paulo	SE
Nexdrones	https://nexdrones.com.br	São Paulo	São Paulo	SE
Agrovest	• https://epicont.com	Cambe	Paraná	S
Agroflux	● https://agroflux.ind.br	Campo Mourão	Paraná	S
PRO SOLUS	● https://prosolus.com	Campo Mourão	Paraná	S
EAGLE POWER TECNOLOGIA	https://eaglepower.com.br/	Cascavel	Paraná	S
ALSV DRONE FLORESTAL	• https://linkedin.com/alsv	Curitiba	Paraná	S
Heavy Motors	<ul> <li>https://linkedin.com/company/ heavymotors/</li> </ul>	Curitiba	Paraná	S
Alvaz	https://alvaz.com	Londrina	Paraná	S
Daga Agrinavi	<ul> <li>https://linkedin.com/company/ daga-agrinavi/</li> </ul>	Toledo	Paraná	S
iLexTec	https://linkedin.com/company/     ilextec/about/	Arvorezinha	Rio Grande do Sul	S
Tormaxx	https://facebook.com/profile. php?id=100027303442641	Campo Bom	Rio Grande do Sul	S
Ajagro	https://ajagro.agr.br	Canoas	Rio Grande do Sul	S
Autofarm	https://autofarm.com.br	Caxias do S	Rio Grande do Sul	S
Agrotemp	https://Agrotemp.com.br	Estrela	Rio Grande do Sul	S

Agtech	Sites	City	State	Region
SCHAVINSKI PD&I PARA O AGRONEGOCIO	● https://schavinski.com.br/	Horizontina	Rio Grande do Sul	S
Doled	● https://doled.net.br	ljuí	Rio Grande do Sul	S
ORION DRONES	https://oriondrones.com.br/	Passo Fundo	Rio Grande do Sul	S
Plantário	https://plantario.com.br	Porto Alegre	Rio Grande do Sul	S
SkyAgri	● https://skyagri.com.br	Porto Alegre	Rio Grande do Sul	S
SkyDrones	https://skydrones.com.br	Porto Alegre	Rio Grande do Sul	S
Auros Robotics	https://www.aurosrobotics. com/	Rio Grande	Rio Grande do Sul	S
G2W Sistemas	https://g2wsistemas.com	Santa Maria	Rio Grande do Sul	S
Modum do Brasil	https://modumdobrasil.com.br	Santa Maria	Rio Grande do Sul	S
Arpac	https://arpacbrasil.com.br	São Leopoldo	Rio Grande do Sul	S
PVT Agriculture (Antiga Pulverjet)	https://pvtagriculture.com.br	Tapejara	Rio Grande do Sul	S
DRONES FOR AGRO	<ul> <li>https://www.linkedin.com/ company/dronesforagro/ about/</li> </ul>	Vacaria	Rio Grande do Sul	S
TRATOTEK	https://instagram.com/trato- tek_	Aracaju	Santa Catarina	S
Gertech Soluções Industriais Ltda	https://gertech.ind.br	Chapecó	Santa Catarina	S
Topview Agricultura Inteligente	<ul> <li>https://linkedin.com/company/ topview-agro</li> </ul>	Chapecó	Santa Catarina	S
Fornari Industria	https://fornariindustria.com.br	Concórdia	Santa Catarina	S
Be1 Tecnologia	● https://www.be1.com.br/	Criciúma	Santa Catarina	S
Horse Machine	https://horsemachine.com.br/	Criciúma	Santa Catarina	S
Fazendas Bioma	https://fazendasbioma.com.br	Florianópolis	Santa Catarina	S

Directory of Agtechs in the Segment Inside the Farm

Agtech	Sites	City	State	Region
Horus Aeronaves	https://horusaeronaves.com	Florianópolis	Santa Catarina	S
Novarum Sky Tecnologia	https://novarumsky.com	Florianópolis	Santa Catarina	S
Agricotec	https://agricotec.com.br	Jaraguá do S	Santa Catarina	S
ҮАК	• https://yaktractors.com	Joinville	Santa Catarina	S
SF Geo - S Florestas	https://sulflorestas.com.br	Lages	Santa Catarina	S
S florestas	https://sulflorestas.com.br/	Lages	Santa Catarina	S
Triton	https://tritonmaquinas.com.br	Luzerna	Santa Catarina	S
Ligretech Industria e Comercio de Equipamentos Ltda	https://ligretech.com.br	Rio Negrinho	Santa Catarina	S
BIA Tecnologia	https://bia.ind.br	São Francisco do Assis	Santa Catarina	S

#### IF – Shared Economy

Agtech	Sites	City	State	Region
Maqfácil	<ul> <li>https://maqfacil.wixsite.com/ maqfacil</li> </ul>	Cuiabá	Mato Grosso	со
Fiboo	● https://fiboo.com.br	Barreiras	Bahia	NE
Tour Gourmet	● https://tourgourmet.com.br	Salvador	Bahia	NE
Agranus	● https://roraiagro.com	Boa Vista	Roraima	N
Alluagro	● https://alluagro.com.br	Uberlândia	Minas Gerais	SE
AgriMates	• https://agrimates.com.br	Campinas	São Paulo	SE
Comida Invisível	• https://comidainvisivel.com.br	São Paulo	São Paulo	SE
MTGG Participações e Empreendimentos	<ul> <li>https://mahoganyroraima.com.</li> <li>br</li> </ul>	São Paulo	São Paulo	SE
poupachef	• https://poupachef.com	São Paulo	São Paulo	SE
SharedEquips	https://comunidade.startse. com/in/sharedequips	São Paulo	São Paulo	SE

Agtech	Sites	City	State	Region
Zoe	● https://zoe.com.br	São Paulo	São Paulo	SE
Teste Receitas	https://testereceitas.com.br	Sertãozinho	São Paulo	SE
ViaRural	https://viarural.net.br	Porto Alegre	Rio Grande do Sul	S
MAQ33	• NE	Santa Maria	Santa Catarina	S

#### IF – Agricultural waste management

Agtech	Sites	City	State	Region
Canteiro	https://instagram.com/cantei- robr	Horizonte	Ceará	NE
DUQUE RECICLAGEM	<ul> <li>https://duquesustentabilidade. com.br/</li> </ul>	Rio Branco	Acre	N
Renovarresiduos Consultoria	<ul> <li>https://linkedin.com/company/ renovarres%C3%ADduos-con- sultoria/</li> </ul>	Boa Vista	Roraima	N
aterra	https://aterraambiental.com	Belo Horizonte	Minas Gerais	SE
VG Residuos	https://vgresiduos.com.br	Belo Horizonte	Minas Gerais	SE
Grupo Vitae	• https://vitaebrasil.com.br	Uberaba	Minas Gerais	SE
LETS FLY SUSTENTAVEL COMERCIO DE PRODUTOS DE PROTEINA DESIDRATADOS LTDA	● https://letsfly.com.br/	Papucaia	Rio de Janeiro	SE
BR Polen	• https://brpolen.com.br	Rio de Janeiro	Rio de Janeiro	SE
DevCoffee	• https://devcoffee.com.br	Leme	São Paulo	SE
EcoBiotech	● https://ecobiotech.com.br	Ribeirão Preto	São Paulo	SE
da Natureza	<ul> <li>https://cietec.org.br/project/ danatureza</li> </ul>	São Paulo	São Paulo	SE
Eureciclo	• https://eureciclo.com.br	São Paulo	São Paulo	SE
Morada da Floresta	https://moradadafloresta.eco. br	São Paulo	São Paulo	SE
RSU Brasil	• https://rsubrasil.com.br	São Paulo	São Paulo	SE
Tec3geo	● https://tec3geo.com.br	São Paulo	São Paulo	SE
Kemia Tratamento de Efluentes	● https://kemia.com.br	Chapecó	Santa Catarina	S

Agtech	Sites	City	State	Region
Brotei	• https://brotei.com.br	Florianópolis	Santa Catarina	S
startup suinocultura	• NE	Xanxere	Santa Catarina	S

### IF – Internet of Things for Agriculture Agtechs: plague detection, soil, climate and irrigation

Agtech	Sites	City	State	Region
Droklin	https://droklin.com	Goiânia	Goiás	со
MAURICIO NICOCELLI NETTO LTDA	https://www.monagriap.com/	Lucas do Rio Verde	Mato Grosso	СО
Kalliandra	https://kalliandra.com.br	Luís Eduardo Magalhães	Bahia	NE
SMAP	• https://smap.tech	Maracanaú	Ceará	NE
Ar inovações loT	• https://arinovacoesiot.com.br	São Luís	Maranhão	NE
PMETECH	• https://pmetech.com.br	Petrolina	Pernambuco	NE
E.AI TECNOLOGIAS INTELIGENTES LTDA	● https://eai.tec.br	Recife	Pernambuco	NE
SEMINE - Agricultura Irrigada Inteligente	https://semine.com.br	Recife	Pernambuco	NE
PotyChip	https://potychip.com.br/#re- gion2wrap	Natal	Rio Grande do N	NE
Doutor Açaí Soluções Digitais	https://trakto.link/doutoracai	Rio Branco	Acre	N
Chemical Treinamento e Inovação Tecnológica	<ul> <li>https://chemicalinovacao.com.</li> <li>br</li> </ul>	Manaus	Amazonas	N
IBEEF	• https://facebook.com/ibeefufr	Belém	Pará	N
Nanosensors	https://nanosensors.com.br	Palmas	Tocantins	N
Neo Farm (Projeto Neo Things IoT)	https://neofarm.agr.br	Belo Horizonte	Minas Gerais	SE
Neo Things IoT	• https://neothingsiot.com	Belo Horizonte	Minas Gerais	SE
NEOFARM	● https://neofarm.com.br/	Belo Horizonte	Minas Gerais	SE
Siatel	https://www.siatel.com.br/	Uberlândia	Minas Gerais	SE
IoT Studio	● NE	Rio de Janeiro	Rio de Janeiro	SE

Agtech	Sites	City	State	Region
Phygitall	• https://phygitall.com.br	Rio de Janeiro	Rio de Janeiro	SE
AgroInfo	• https://agroinfoti.com.br	Campinas	São Paulo	SE
Agrosmart	• https://agrosmart.com.br	Campinas	São Paulo	SE
edroponic	https://edroponic.com/	Campinas	São Paulo	SE
Кајоо	• https://kajoo.com.br/#features	Campinas	São Paulo	SE
PalmaFlex	• https://palmaflex.com.br	Campinas	São Paulo	SE
TARVOS	● https://tarvos.ag	Campinas	São Paulo	SE
Prime Field	• https://primefield.com.br	Jaú	São Paulo	SE
Werkey	● https://werkey.co/	Piracicaba	São Paulo	SE
InovaFarm.com.br	https://inovafarm.com.br	Santa Rita da Sapucaí	São Paulo	SE
Sensaiotech	• https://sensaiotech.com	Santo André	São Paulo	SE
AnimalITAG	• https://br.animalltag.com	São Carlos	São Paulo	SE
Techduto Soluções	https://techduto.com.br	São Jose dos Campos	São Paulo	SE
Treevia	● https://treevia.com.br	São Jose dos Campos	São Paulo	SE
Dynalogic	• https://dynalogic.net	São Paulo	São Paulo	SE
Orbyt Al	https://orbytai.com/?pa- ge_id=143	São Paulo	São Paulo	SE
RMS Math	● https://rmsmath.com.br	São Paulo	São Paulo	SE
Anáhata Serviços Agronômicos	<ul> <li>https://linkedin.com/company/ anahataagro</li> </ul>	Sorocaba	São Paulo	SE
Carbono Zero	https://carbonozero.eco	Uruaçu	São Paulo	SE
E-AWARE	● https://www.eaware.com.br/	Curitiba	Paraná	S
E-AWARE TECHNOLOGIES	<ul> <li>https://linkedin.com/company/ eawaretechnologies</li> </ul>	Curitiba	Paraná	S
Extractify	● https://extractify.ai	Curitiba	Paraná	S
IrriGate	https://instagram.com/irrigate. oficial?igshid=ZDdkNTZiNTM=	Curitiba	Paraná	S
True Work	● https://truework.com.br	Curitiba	Paraná	S
AGFARMUS COMÉRCIO E SERVIÇOS LTDA	● https://www.agfarmus.com/	Maringá	Paraná	S
NetWord Agro	https://networdagro.com.br	Palotina	Paraná	S

Agtech	Sites	City	State	Region
Rise Go	● https://risego.com.br	Pato Branco	Paraná	S
Grandeo	• https://grandeo.com.br	Ponta Grossa	Paraná	S
Agrotatil	● https://agrotatil.com.br	Rolândia	Paraná	S
Prediza	https://prediza.io	Caxias do S	Rio Grande do Sul	S
Grupo ALLVAP	https://alvap.com.br-onagro. com.br	Lajeado	Rio Grande do Sul	S
AGROBI	https://agrobi.net/	Não-me-toque	Rio Grande do Sul	S
Eirene Solutions	https://eirenesolutions.com	Porto Alegre	Rio Grande do Sul	S
Falker Automação Agrícola	• https://falker.com.br	Porto Alegre	Rio Grande do Sul	S
Green Next	● https://greennext.com.br	Rio Grande	Rio Grande do Sul	S
CowMed	• https://cowmed.com.br	Santa Maria	Rio Grande do Sul	S
Raks	https://raks.com.br	São Leopoldo	Rio Grande do Sul	S
connecthings	https://maissi.com.br	Lages	Santa Catarina	S
Vaca Roxa	https://vavaroxaa.com	São Francisco do Assis	Santa Catarina	S
iGera	<ul> <li>https://linkedin.com/company/ inovaigera/</li> </ul>	São José	Santa Catarina	S

#### **IF – Meteorology and Irrigation and Water Management**

Agtech	Sites	City	State	Region
Akvofluo	https://akvofluo.com.br	Brasília	Distrito Federal	со
Ruhwater	<ul> <li>https://linkedin.com/company/ ruhwater</li> </ul>	Unaí	Goiás	со
Cadoma Solucoes Automatizadas Ltda	https://www.cadoma.com.br/	Três Marias	Mato Grosso	СО
SDW	https://sdwforall.com	Salvador	Bahia	NE
Irricontrol	https://irricontrol.com.br	Itajubá	Minas Gerais	SE

Agtech	Sites	City	State	Region
Nexus AgroAmbiente	https://nexusagroambiente. com.br	Januária	Minas Gerais	SE
Grupo Fienile (Irriluce)	● https://grupofienile.com.br	Monte Carmelo	Minas Gerais	SE
Soil Tecnologia	https://soiltech.com.br/	Santa Rita da Sapucaí	Minas Gerais	SE
irriger	● https://irriger.com.br	Uberaba	Minas Gerais	SE
Zeusagro	● https://zeusagro.com	Uberlândia	Minas Gerais	SE
IrriSimples	● https://irriplus.com.br	Viçosa	Minas Gerais	SE
Liamarinha	https://liamarinha.com.br	Viçosa	Minas Gerais	SE
Modclima	• https://modclima.com.br	Bragança Paulista	São Paulo	SE
Jacobucci Sistemas de Irrigação e Serviços	https://jacobucci.ind.br	Leme	São Paulo	SE
Ecology Glass	<ul> <li>https://facebook.com/Ecology- GlassAmbiental</li> </ul>	Limeira	São Paulo	SE
AGROMAKERS	● NE	Piracicaba	São Paulo	SE
Agrymet	• https://linkedin.com/agrymet	Piracicaba	São Paulo	SE
Tempo Campo	• https://site.tempocampo.org/	Piracicaba	São Paulo	SE
Weather Service	• https://weatherservice.com.br	Piracicaba	São Paulo	SE
Hidrofito	• https://hidrofitobrasil.com	Pirassununga	São Paulo	SE
Vexus Solutions	• https://vexus.solutions	Porto Alegre	São Paulo	SE
Acquanativa Monitoramento Ambiental	https://acquanativa.com.br	São Carlos	São Paulo	SE
Pitaya Irrigação	● https://pitayairrigacao.com.br	São Carlos	São Paulo	SE
Pwtech	● https://pwtech.eco.br	São Carlos	São Paulo	SE
Climacta	● https://climacta.agr.br	São Jose dos Campos	São Paulo	SE
MENTOR	https://attotechnology.com.br	São Jose dos Campos	São Paulo	SE
Agencia Climatempo	https://climatempo.com.br	São Paulo	São Paulo	SE
Field Pro	https://fieldpro.com.br	São Paulo	São Paulo	SE
Omni-Eletrônica	https://omni-electronica.com. br	São Paulo	São Paulo	SE
SEIP 7	● https://seip7.com	Sorocaba	São Paulo	SE

Directory of Agtechs in the Segment Inside the Farm

Agtech	Sites	City	State	Region
Monitorágua	<ul> <li>https://saadrodrigues.wixsite.</li> <li>com/website</li> </ul>	Taubaté	São Paulo	SE
FIRE LIMIT	• https://flimit.com.br/	Curitiba	Paraná	S
Smart Drop	<ul> <li>https://penseagro.paniclobster. com/teams/33</li> </ul>	Curitiba	Paraná	S
Acquaconte	https://acquaconte.com.br	Londrina	Paraná	S
Irriga system	https://irrigasystem.com	Santa Maria	Paraná	S
iCrop	● https://icrop.com.br	Uberlândia	Paraná	S
IRRIGA GLOBAL	https://irrigaglobal.com/br/	Santa Maria	Rio Grande do Sul	S
Sistema Irriga	https://sistemairriga.com.br	Santa Maria	Rio Grande do Sul	S
Eletroeste Tecnologia & Automação	https://linkedin.com/company/ eletroesters/mycompany/	Uruguaiana	Rio Grande do Sul	S
Abellion	https://comandosolutions.com/	Florianópolis	Santa Catarina	S

#### IF - Integrating platform for systems, solutions and data

Agtech	Sites	City	State	Region
Agryo	● https://agryo.com	Brasília	Distrito Federal	со
Startfish	https://startfish.com.br	Goiânia	Goiás	со
AgroV	● https://agrov.com.br	Cuiabá	Mato Grosso	со
Lucro rural	● https://lucrorural.com.br	Cuiabá	Mato Grosso	со
Silo Real	https://www.linkedin.com/ company/siloreal/about/	Cuiabá	Mato Grosso	со
Acronex	https://acronex.com	Lucas do Rio Verde	Mato Grosso	СО
TBDC	● https://tbdc.com.br	Nova Mutum	Mato Grosso	со
SAA	● https://saasoftware.com.br/	Primavera do Leste	Mato Grosso	СО
PLANTUP INTELLIGENCE	https://meuplantup.com	Rondonópolis	Mato Grosso	СО
Beef-Tec	https://beeftec.com.br	Campo Grande	Mato Grosso do S	СО

Agtech	Sites	City	State	Region
PERSONALBOV	https://personalbov.com/	Campo Grande	Mato Grosso do S	со
TOR TECH TECNOLOGIA & AUTOMAÇÃO	https://tortec.com.br/pages/ landing.html?v=1	Luís Eduardo Magalhães	Bahia	NE
AgroSusten	https://facebook.com/agro- susten	Salvador	Bahia	NE
SimpleVet	https://simples.vet	Salvador	Bahia	NE
Tetetanque	• https://teletanque.com.br	Salvador	Bahia	NE
Agrovesi	https://facebook.com/agrovesi	Quixadá	Ceará	NE
Flytech Agro	<ul> <li>https://linkedin.com/company/ flytechagro/</li> </ul>	Garanhuns	Pernambuco	NE
SMARTRURAL	• https://smartrural.com.br	Recife	Pernambuco	NE
BIPP	• https://bipp.com.br	Teresina	Piauí	NE
Acreaníssimo	• https://acreanissimo.com	Rio Branco	Acre	N
AçaíMaps	● https://acaimaps.com/	Macapá	Amapá	Ν
SELVA - Amazonic Blockchain Ecosystem	● https://selva.eco.br	Manaus	Amazonas	N
TUPY AGROFLORESTAL ATIVIDADES DE CONSULTORIA EM GESTAO EMPRESARIAL LTDA	https://tupyflorestal.com.br	Manaus	Amazonas	N
Amachains	https://amachains.com	Belém	Pará	N
Terras App Solutions	● https://terras.agr.br	Belém	Pará	N
Nice Planet	https://niceplanet.com.br	Redenção	Pará	N
Revella	● https://agenciarevella.com.br	Araguaina	Tocantins	N
A2W Plataforma Agro	● https://a2wplataforma.com.br	Alfenas	Espírito Santo	SE
Frete Rápido	● https://freterapido.com	Baixo Guandu	Espírito Santo	SE
B tracer	https://btracer.com.br	Belo Horizonte	Minas Gerais	SE
Flowins	https://flowins.me	Belo Horizonte	Minas Gerais	SE
Licentia	● https://licentia.digital     ●	Belo Horizonte	Minas Gerais	SE
Seedz Marketing e Fidelidade	https://seedz.ag	Belo Horizonte	Minas Gerais	SE
Ez Soluções	https://www.ezsolucoes.com. br/	Uberlândia	Minas Gerais	SE
Agtech	Sites	City	State	Region
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Sensix	https://www.sensix.ag	Uberlândia	Minas Gerais	SE
Sirius Bl	● https://siriusbi.com/	Uberlândia	Minas Gerais	SE
ESTEIO GESTÃO AGROPECUARIA	● https://esteiogestao.com.br/	Viçosa	Minas Gerais	SE
Mata Nativa	• https://matanativa.com.br	Viçosa	Minas Gerais	SE
Prodfy	• https://prodfy.com.br	Viçosa	Minas Gerais	SE
Campo Link	• https://campolink.com/	Rio de Janeiro	Rio de Janeiro	SE
Giinger Foodtech	• https://giinger.com.br	Rio de Janeiro	Rio de Janeiro	SE
GREENANT DO BRASIL SISTEMAS DE INFORMACAO S.A.	https://www.greenant.com.br/	Rio de Janeiro	Rio de Janeiro	SE
Rede Parcerias	• https://redeparcerias.com	Rio de Janeiro	Rio de Janeiro	SE
Santos Lab	• https://santoslab.com	Rio de Janeiro	Rio de Janeiro	SE
ONE Orgânico Natural Ecológico	<ul> <li>https://organiconaturalecologi- co.negocio.site</li> </ul>	Araçatuba	São Paulo	SE
Clube Agro Brasil	● https://clubeagro.com.br	Barra Bonita	São Paulo	SE
Cordeirobiz	• https://cordeirobiz.com.br	Botucatu	São Paulo	SE
IdealSis	• https://idealsis.com.br	Buritama	São Paulo	SE
Gobots	• https://gobots.com.br	Campinas	São Paulo	SE
Kasco	• https://kascosys.com.br	Campinas	São Paulo	SE
Sinactus	● https://www.sinactus.com/	Campinas	São Paulo	SE
YahP	https://yahp.com.br	Campinas	São Paulo	SE
Spectral Solutions	<ul> <li>https://spectralsolutions.com.</li> <li>br</li> </ul>	Embu das Artes	São Paulo	SE
EVACLOUDD	● https://www.evacloudd.com/	Franca	São Paulo	SE
NFeAGRO	● https://nfeagro.com.br	Franca	São Paulo	SE
e-Trap	● https://etrap.com.br	Ibirá	São Paulo	SE
Mercado de terras	https://mercadodeterras.com. br	Itapetininga	São Paulo	SE
NAPP Solutions	https://nappsolutions.com.br	Leme	São Paulo	SE
aFHF	● https://afhf.com.br	Matão	São Paulo	SE
AGRODATA	• https://agrodata.me/	Piracicaba	São Paulo	SE
BRFLOR	● https://brflor.com.br	Piracicaba	São Paulo	SE

Agtech	Sites	City	State	Region
Eiwa	https://linkedin.com/company/ eiwa-s.a/	Piracicaba	São Paulo	SE
Flama Science	• https://flamascience.com/flama	Piracicaba	São Paulo	SE
IntelliAgri	• https://intelliagri.com.br	Piracicaba	São Paulo	SE
Mbr Agro	● https://mbragro.com.br	Piracicaba	São Paulo	SE
Quickium	• https://quickium.com	Piracicaba	São Paulo	SE
Analytics2Go	<ul> <li>https://my.analytics2go.com/</li> <li>Web</li> </ul>	Presidente Prudente	São Paulo	SE
Agroconecta	• https://agroconecta.com.br	Ribeirão Preto	São Paulo	SE
Agroplanner	• https://agroplanner.com.br	Ribeirão Preto	São Paulo	SE
Altamap	• https://altamap.com.br	Ribeirão Preto	São Paulo	SE
AxiAgro - Inteligência e Conectividade	● https://axiagro.com.br	Ribeirão Preto	São Paulo	SE
Bem Agro	• https://bemagro.com/home	Ribeirão Preto	São Paulo	SE
InCeres Desenvolvimento de Software e Processamento de Dados S.A.	● https://inceres.com.br	Rio Das Pedras	São Paulo	SE
Ampla Intelligence	<ul> <li>https://amplaintelligence.com.</li> <li>br</li> </ul>	São Jose dos Campos	São Paulo	SE
Chico	● https://aichico.com.br	São Jose dos Campos	São Paulo	SE
Agrisoft	• https://agrisoft.com.br	São Paulo	São Paulo	SE
Agroscout	● https://agro-scout.com	São Paulo	São Paulo	SE
Agrus Data	• https://agrusdata.com	São Paulo	São Paulo	SE
Apsoft Agro	● NE	São Paulo	São Paulo	SE
Aurica	https://aurica.one	São Paulo	São Paulo	SE
Biocult	● https://biocult.com.br	São Paulo	São Paulo	SE
Docket	https://docket.com.br	São Paulo	São Paulo	SE
Dupeixe	https://linkedin.com/company/ app-dupeixe/about/	São Paulo	São Paulo	SE
Gaivota	● https://gaivota.ai	São Paulo	São Paulo	SE
Geofusion	https://geofusion.com.br	São Paulo	São Paulo	SE

Agtech	Sites	City	State	Region
GROUNDWORK BIOAG, LTD	https://groundwork.com.br/ wp/	São Paulo	São Paulo	SE
Guiato	● https://guiato.com.br	São Paulo	São Paulo	SE
InoArb	https://inoarb.azurewebsites. net	São Paulo	São Paulo	SE
IZIO	● https://izio.com.br	São Paulo	São Paulo	SE
Myleus	<ul> <li>https://linkedin.com/company/ myleusfoodsafety</li> </ul>	São Paulo	São Paulo	SE
Nama	● https://nama.ai	São Paulo	São Paulo	SE
PlataformaVerde	● https://plataformaverde.com.br	São Paulo	São Paulo	SE
Savvy Consultoria e Tecnologia	• https://savvytecnologia.com.br	São Paulo	São Paulo	SE
SciCrop	● https://scicrop.com	São Paulo	São Paulo	SE
Spacetime Analytics	https://spacetimelabs.ai	São Paulo	São Paulo	SE
Steinkirch	https://steinkirch.com	São Paulo	São Paulo	SE
Tractian	● https://tractian.com	São Paulo	São Paulo	SE
Worc	● https://worc.com.br	São Paulo	São Paulo	SE
Engegrow	● https://engegrow.com.br	Votuporanga	São Paulo	SE
Med Vaca Leite	https://medvacaleite.com	Campo Mourão	Paraná	S
AQUABIT	● https://aquabit.com.br	Cascavel	Paraná	S
SYSAGRO	<ul> <li>https://instagram.com/sysagro. solucoes</li> </ul>	Cascavel	Paraná	S
Girotech	● https://giro.tech	Curitiba	Paraná	S
Lithus	● https://lithus.com.br	Curitiba	Paraná	S
Neosilos	● https://neosilos.com	Curitiba	Paraná	S
O Polen	● https://opolen.com.br	Curitiba	Paraná	S
Radek Systems	● https://radek.com.br	Curitiba	Paraná	S
ST-One	● https://st-one.io	Curitiba	Paraná	S
WebReceita	● https://webreceita.com.br	Curitiba	Paraná	S
Stac	● https://agrostac.com.br	Foz do Iguaçu	Paraná	S
Arabyka	● https://arabyka.com	Londrina	Paraná	S
Brid Soluções	https://bridsolucoes.com.br	Londrina	Paraná	S
EFFORTECH TECHNOLOGY	● https://effortech.com.br/	Londrina	Paraná	S

Agtech	Sites	City	State	Region
FitoApp	● https://fitoapp.com.br	Londrina	Paraná	S
Fitovision	• https://fitovision.com.br	Londrina	Paraná	S
Spacevis	• https://spacevis.tech	Londrina	Paraná	S
Talkall	● https://talkall.com.br	Londrina	Paraná	S
Unisolo	● https://unisolo.agr.br	Maringá	Paraná	S
Laços do Agro	● https://lacosdoagro.com	Medianeira	Paraná	S
Bovaz	https://bovaz.com.br	Caxias do S	Rio Grande do Sul	S
Lupora	https://lupora.com.br	Caxias do S	Rio Grande do Sul	S
Farm 360	https://farm360.com.br	Flores da Cunha	Rio Grande do Sul	S
O Agro	● https://oagro.com.br	Frederico Westphalen	Rio Grande do Sul	S
e-Rural	https://exec.dev	ljuí	Rio Grande do Sul	S
Elysios	● https://elysios.com.br	Porto Alegre	Rio Grande do Sul	S
GRAZING Soluções Agropecuárias	https://grazing.com.br	Porto Alegre	Rio Grande do Sul	S
OvinoPro	https://ovinopro.com.br	Porto Alegre	Rio Grande do Sul	S
S- SOLUTIONS	<ul> <li>https://S.Solutions - Desenvolvi- mento e Pesquisa em Softwares (s-solutions.dev)</li> </ul>	Porto Alegre	Rio Grande do Sul	S
Auro Robotics	https://aurosrobotics.com	Rio Grande	Rio Grande do Sul	S
Agextec	https://agextec.com.br	Santa Maria	Rio Grande do Sul	S
Crops Team	https://fb.com/cropsteam	Santa Maria	Rio Grande do Sul	S
Instabov	● https://instabov.com.br	Santa Maria	Rio Grande do Sul	S
Performance Vegetal	https://performancevegetal. com.br	Santa Maria	Rio Grande do Sul	S
PULVERIZA	https://spraysolution.agr.br	Santa Maria	Rio Grande do Sul	S

Agtech	Sites	City	State	Region
HARD SOFT INFORMATICA LTDA	https://MARCAESINAL.COM.BR	São Francisco do Assis	Rio Grande do Sul	S
Essent Agro	• https://essentagro.com.br	Tucunduva	Rio Grande do Sul	S
FASTEC - Soluções em Tecnologia Rural	<ul> <li>https://fazendatecnologica. com.br</li> </ul>	Capinzal	Santa Catarina	S
Agrosimulador	• https://agrosimulador.com.br	Chapecó	Santa Catarina	S
Sempre mais sistemas	<ul> <li>https://agevolution.canalrural. com.br/startup/sempre-mais- -sistemas/</li> </ul>	Chapecó	Santa Catarina	S
Sigma	• https://siccerrado.com.br	Chapecó	Santa Catarina	S
Granter	• https://granter.com.br	Florianópolis	Santa Catarina	S
GoFind	• https://gofind.online	Joinville	Santa Catarina	S
Cowtrol Software	• https://cowtrol.com.br/	Lages	Santa Catarina	S
Neuron Lab	https://neuronlab.io	Ribeirão Preto	Santa Catarina	S
IGERA TECNOLOGIA E INOVACAO LTDA	https://igera.com.br/	São José	Santa Catarina	S

### IF – Remote Sensoring, Diagnosis and Image Monitoring

Agtech	Sites	City	State	Region
Ruraltech	https://ruraltech.com.br	Brasília	Distrito Federal	со
Geoinova	● https://geoinova.com.br	Goiânia	Goiás	СО
Tecno IT	● https://tecno-it.com.br	Goiânia	Goiás	со
E-agro Consultoria Agronomica E Geoprocessamento	<ul> <li>https://www.linkedin.com/ in/r%C3%B4mulo-proen%- C3%A7a-belis%C3%A1rio- -02b255160/</li> </ul>	Cáceres	Mato Grosso	со
Agro M2	<ul> <li>https://linkedin.com/company/ agro-m2/about/</li> </ul>	Cuiabá	Mato Grosso	СО
AgroEasy	https://agroeasymt.com.br	Rondonópolis	Mato Grosso	со

Agtech	Sites	City	State	Region
Kerow - Soluções de Precisão	https://kerow.com.br	Campo Grande	Mato Grosso do S	со
HEMAV BRASIL	https://linkedin.com/company/ hemav-s-l-	Goiânia	Bahia	NE
GeoSpace	https://geospace.eng.br	Eusébio	Ceará	NE
Stepps	• https://stepps.com.br/	Recife	Pernambuco	NE
INVENTO GEOSOLUCOES LTDA	<ul> <li>https://www.linkedin.com/ company/invento-geosolu%- C3%A7%C3%B5es-ltda/</li> </ul>	Aracaju	Sergipe	NE
Mateiro Digital	● https://mateirodigital.com.br	Rio Branco	Acre	N
Passyflora Brasil	• https://passyflorabrasil.com	Rio Branco	Acre	N
bussola.farm	https://bussola.farm	Machadinho D'oeste	Rondônia	N
LFG 19 TECH	<ul> <li>https://instagram.com/irorai- maruralti/</li> </ul>	Boa Vista	Roraima	N
EXTRACK TECNOLOGIA EM RASTREAMENTO EIRELI	https://extrack.com.br/	Belo Horizonte	Minas Gerais	SE
Gaia Soluções	● https://gaiasd.com/index.html	Belo Horizonte	Minas Gerais	SE
TERRA LEGAL	https://linkedin.com/com- pany/11507683/admin/	Ouro Preto	Minas Gerais	SE
Auster Imagens e Monitoramentos Aéreos LTDA	<ul> <li>https://linkedin.com/company/ austertecnologia/?originalSub- domain=br</li> </ul>	Santa Maria	Minas Gerais	SE
Agropixel	<ul> <li>https://linkedin.com/company/ agropixelbr</li> </ul>	São Sebastião do Paraíso	Minas Gerais	SE
Campo Seguro	● https://camposeguro.agr.br	Uberlândia	Minas Gerais	SE
GEAAP AGROCIENCIAS LTDA	• https://geaap.com.br/	Uberlândia	Minas Gerais	SE
IVARE - Soluções em Inteligência Artificial	https://ivare.com.br	Uberlândia	Minas Gerais	SE
Raster Agritech	⊚ NE	Uberlândia	Minas Gerais	SE
Sensix	● https://sensix.ag	Uberlândia	Minas Gerais	SE
Ambidados Serviços e Inovações LTDA	https://comunidade.startse. com/in/ambidados-servicos-e- -inovacoes-ltda	Rio de Janeiro	Rio de Janeiro	SE
GAIA TECNOLOGIAS	https://gaiatecnologias1.wixsi- te.com/home	Rio de Janeiro	Rio de Janeiro	SE

Agtech	Sites	City	State	Region
MAPS 245 START UP E SOFTWARE LTDA	<ul> <li>https://maps.lab245.com.br/ Maps245/</li> </ul>	Rio de Janeiro	Rio de Janeiro	SE
StarkSat	https://starksat.com	Rio de Janeiro	Rio de Janeiro	SE
Epic Of Sun	https://epicofsun.com	São Jose dos Campos	Rio de Janeiro	SE
CROPMAN INOVAÇÃO TECNOLOGICA E AGRICULTURA DIGITAL LTDA	• https://cropman.com.br	Bebedouro	São Paulo	SE
Birdview	https://birdview.com.br	Botucatu	São Paulo	SE
Spectrum	• https://spectrum.agr.br	Botucatu	São Paulo	SE
Agrocad	● https://agrocad.com.br	Campinas	São Paulo	SE
Anubz	● https://anu.bz	Campinas	São Paulo	SE
Farm Drone Consultoria Agrícola	https://farmdroneconsultoria. com.br	lpuã	São Paulo	SE
Labmet	https://labmet.com.br	Jaboticabal	São Paulo	SE
Um grau e meio	https://umgrauemeio.com/	Jundiaí	São Paulo	SE
Agrofficio	● https://agrofficio.com.br	Piracicaba	São Paulo	SE
Forlidar	https://forlidar.com.br	Piracicaba	São Paulo	SE
IDGeo	● https://idgeo.com.br	Piracicaba	São Paulo	SE
MyEasyFarm	• https://myeasyfarm.com	Piracicaba	São Paulo	SE
Pix2Agro	• https://inforow.com.br	Piracicaba	São Paulo	SE
digital rural	https://digitalrural.com.br	Presidente Prudente	São Paulo	SE
Inspectral	• https://inspectral.com.br	Presidente Prudente	São Paulo	SE
Autaz	• https://autaz.tech	Ribeirão Preto	São Paulo	SE
DAVID BARRAL SANTOS 31522484825	https://www.linkedin.com/ company/gravta/?originalSub- domain=br	Ribeirão Preto	São Paulo	SE
Quanticum	https://quanticum.com.br	Ribeirão Preto	São Paulo	SE
Effatha Agro	https://linkedin.com/company/ effatha-agro	Santo André	São Paulo	SE
Agrocomp	https://agrocomp.com.br	São José do Rio Preto	São Paulo	SE

Agtech	Sites	City	State	Region
AGTECH SOLUCOES AGROTECNOLOGICAS LTDA	https://www.linkedin.com/ company/grupoagtech/?origi- nalSubdomain=br	São José do Rio Preto	São Paulo	SE
Acosta Aerospace	https://acosta-aerospace.com	São Jose dos Campos	São Paulo	SE
ALTAVE	https://linkedin.com/company/ flyaltave	São Jose dos Campos	São Paulo	SE
Cron	https://cronsistec.com.br	São Jose dos Campos	São Paulo	SE
Cyan Agroanalytics	<ul> <li>https://linkedin.com/company/ cyan-agroanalytics/mycom- pany/</li> </ul>	São Jose dos Campos	São Paulo	SE
FT Sistemas	https://ftsistemas.com.br	São Jose dos Campos	São Paulo	SE
Geomap	● https://geomap.com.br	São Jose dos Campos	São Paulo	SE
radaz	https://radaz.com.br	São Jose dos Campos	São Paulo	SE
Adroit Robotics	<ul> <li>https://linkedin.com/company/ adroit-robotics</li> </ul>	São Paulo	São Paulo	SE
Agro Robotics	• https://agrorobotics.com.br	São Paulo	São Paulo	SE
GEOONDAS GEOFISICA E SENSORIAMENTO REMOTO LTDA	https://www.geoondas.com.br/	São Paulo	São Paulo	SE
GMG Ambiental	• https://gmgambiental.com.br	São Paulo	São Paulo	SE
Identity on Field	• https://iofcompany.com	São Paulo	São Paulo	SE
MVISIA	https://mvisia.com.br	São Paulo	São Paulo	SE
Optimus	● https://optimusgis.com.br	São Paulo	São Paulo	SE
Sccon	● https://www.sccon.com.br/	São Paulo	São Paulo	SE
cbcxbcxb	● NE	Curitiba	Paraná	S
Pixlog	• https://pixlog.com.br	Curitiba	Paraná	S
Pro Farm Soluções Agrícolas	https://thiagoaprado.com.br	Curitiba	Paraná	S
Z-TECS ZOOTECNIA INTELIGENTE	https://z-tecs.com	Curitiba	Paraná	S
Agrosat	https://agrosattopografia.com. br	Maringá	Paraná	S

Agtech	Sites	City	State	Region
AgFlier	https://agflier.com	Alegrete	Rio Grande do Sul	S
Allcomp	https://allcomp.com.br	Porto Alegre	Rio Grande do Sul	S
Codex	https://codex.com.br	Porto Alegre	Rio Grande do Sul	S
Pix Force	https://pixforce.com.br	Porto Alegre	Rio Grande do Sul	S
Auster Tecnologia	https://austertecnologia.com	Santa Maria	Rio Grande do Sul	S
ArnsTronic	• NE	Uruguaiana	Rio Grande do Sul	S
Agriexata	https://agriexata.com.br	Vacaria	Rio Grande do Sul	S
DIMO Soluções em Tecnologia	https://dimosolucoes.com.br	Chapecó	Santa Catarina	S
Agrosatelite	https://agrosatelite.com.br	Florianópolis	Santa Catarina	S
Canopy Remote Sensing Solutions	https://linkedin.com/company/ canopy-remote-sensing-solu- tions	Florianópolis	Santa Catarina	S
PecSmart	https://pecsmart.com.br	Florianópolis	Santa Catarina	S
Seasontree	https://seasontree.com	Fraiburgo	Santa Catarina	S
Quiron	https://quiron.digital	Lages	Santa Catarina	S

### IF – Rural Property Management System

Agtech	Sites	City	State	Region
Agrojob	https://bluefarm.com.br	Brasília	Distrito Federal	со
LinkSis	https://linksis.com.br	Brasília	Distrito Federal	СО
AgriQ Receituário Agronômico	https://agriq.com.br	Goiânia	Goiás	СО
Fazenda Rentável	https://fazendarentavel.com.br	Goiânia	Goiás	со

Agtech	Sites	City	State	Region
Geodata	• https://geodata.com.br	Goiânia	Goiás	со
iRancho	● https://irancho.com.br	Goiânia	Goiás	со
Multibovinos	● https://multbovinos.com.br	Goiânia	Goiás	со
Siagri	● https://siagri.com.br/	Goiânia	Goiás	со
Agropocket	• https://agropocket.com.br	Jataí	Goiás	со
PlansAgro	• https://fb.com/plansagro	Piracanjuba	Goiás	со
MAXXSOFT	• https://maxxsoft.com.br	Rio Verde	Goiás	со
STARBRAS AGTECH	● https://starBras.agr.br	Santa Rosa de Goiás	Goiás	СО
Campo S/A	● https://camposa.com.br	Alta Floresta	Mato Grosso	со
AGRIX	https://agrix.agr.br/	Cuiabá	Mato Grosso	со
Brazsoft	• https://brazsoft.com.br	Cuiabá	Mato Grosso	со
N2agro	https://n2agro.com.br/insta- gram.com/n2agro	Guarantã do N	Mato Grosso	со
Unisystem	• https://unisystem.agr.br	Rondonópolis	Mato Grosso	со
UpCampo	https://upcampo.com.br	Sapezal	Mato Grosso	со
Plantae	● https://plantae.agr.br	Sorriso	Mato Grosso	со
AGROINTELI	● https://agrointeli.com.br	Campo Grande	Mato Grosso do S	со
e-Laudo	● https://elaudo.agr.br/	Dourados	Mato Grosso do S	СО
OK Desenvolvimento de Softwares	● https://okds.com.br	Dourados	Mato Grosso do S	СО
Primor Agrícola	● https://primoragricola.com.br	Dourados	Mato Grosso do S	СО
Rastrovet	https://rastrovet.com.br	Maracaju	Mato Grosso do S	СО
AgHolmes	https://agriholmes.com.br	Luís Eduardo Magalhães	Bahia	NE
Consiste Informática	https://consiste.com.br	Salvador	Bahia	NE
Dr. Farm	https://facebook.com/DrFarm- BR	Salvador	Bahia	NE
Fertili	● https://fertili.com.br	Vitória da Conquista	Bahia	NE

Agtech	Sites	City	State	Region
Agrolite	https://Agrolite-GestãoRemota- deFazendas	Fortaleza	Ceará	NE
Delfos	https://delfosim.com	Fortaleza	Ceará	NE
Sisagri	● https://sisagri.com.br	Guaraciaba do N	Ceará	NE
Info Rio Sistemas	● https://inforio.com.br	Petrolina	Ceará	NE
Bodetech	https://bodetech.herokuapp. com	Juazeiro	Pernambuco	NE
Cultiv.aí	● https://cultivai.com.br	Recife	Pernambuco	NE
Multisoft	https://multisoftinformatica. com.br	Teresina	Piauí	NE
InovaManejo	<ul> <li>https://linkedin.com/in/ inovamanejo?originalSubdo- main=br</li> </ul>	Macapá	Amapá	N
AGBRA - Inteligência em Bons Negócios	<ul> <li>https://agbragroup.wixsite.</li> <li>com/agbra/agbra-solucoes-in- teligentes</li> </ul>	Manaus	Amazonas	N
AGRO365 - SOLUÇÕES PARA O CAMPO.	<ul> <li>https://linkedin.com/company/ agro365/</li> </ul>	Dianópolis	Tocantins	N
Mwova	● https://mwova.com.br	Vitória	Espírito Santo	SE
AgroSlim	https://agroslim.com.br	Alfenas	Minas Gerais	SE
Gerente Agrícola	https://gaagrosolucoes.com.br	Alfenas	Minas Gerais	SE
Agrow	• https://agrownegocios.com.br	Araguari	Minas Gerais	SE
Ideagri	● https://ideagri.com.br	Belo Horizonte	Minas Gerais	SE
NETResiduos	https://netresiduos.com.br	Belo Horizonte	Minas Gerais	SE
Procreare	● https://procreare.com.br	Belo Horizonte	Minas Gerais	SE
Softpec	● https://softpec.com.br	Belo Horizonte	Minas Gerais	SE
G. A. PEREIRA AGRONEGOCIO LTDA	https://gaagrosolucoes.com.br/	Cambui	Minas Gerais	SE
Geocampos	● https://geocampos.eng.br	Campos Altos	Minas Gerais	SE
Milk Plan		Cruzíla	Minas Gerais	SE
Agroger	https://agroger.com.br	Governador Valadares	Minas Gerais	SE
Autoponia	● https://autoponia.com.br	Itajubá	Minas Gerais	SE
Rural Smart	● https://ruralsmart.com.br/	Itajubá	Minas Gerais	SE
AgroBold	● https://agrobold.com.br	Lavras	Minas Gerais	SE

Agtech	Sites	City	State	Region
CERTIFICAFÉ	https://certificafe.com.br	Manhuaçu	Minas Gerais	SE
Muito Mais Café	https://maiscafe.com.br	Manhuaçu	Minas Gerais	SE
Controle de Gado	https://controledegado.com.br/ site/index.html	Monte Santo de Minas	Minas Gerais	SE
4milk	● https://4milk.com.br	Nova Lima	Minas Gerais	SE
AGROHUB	• https://agrohub.com.br/	Nova Lima	Minas Gerais	SE
GSB Softwares	• https://gsbsoftware.com.br	Patos de Minas	Minas Gerais	SE
WantU	<ul> <li>https://linkedin.com/company/ wantu-agro?original_refe- rer=https%3A%2F%2Fgoogle. com%2F</li> </ul>	Patos de Minas	Minas Gerais	SE
NetNúcleo NetBovino	● https://netnucleo.com.br	Uberaba	Minas Gerais	SE
Agrosolutions	https://agrosolutions.agr.br	Uberlândia	Minas Gerais	SE
Clarivi	● https://clarivi.com.br	Uberlândia	Minas Gerais	SE
Vine Soluções	● https://vinesolucoes.com.br	Uberlândia	Minas Gerais	SE
Dinnisoft Esteio Gestão Agropecuaria	https://esteiogestao.com.br	Viçosa	Minas Gerais	SE
PECUÁRIA BRASIL	https://linkedin.com/com- pany/82410078/	Viçosa	Minas Gerais	SE
TD Software	● https://agropecuaria.inf.br	Viçosa	Minas Gerais	SE
Sucellus	● https://sucellus.space	Macaé	Rio de Janeiro	SE
Databoi	● https://databoi.com.br	Rio de Janeiro	Rio de Janeiro	SE
Foodtech	https://foodtechconsultoria. com.br	Rio de Janeiro	Rio de Janeiro	SE
Arpeggeo	● https://arpeggeo.tech	São Paulo	Rio de Janeiro	SE
Equino Gestor	● https://equinogestor.com.br	Americana	São Paulo	SE
FMX - Smart Trato	● https://fmxsolucoes.com.br	Araçatuba	São Paulo	SE
Solinftec	● https://solinftec.com	Araçatuba	São Paulo	SE
Agritask	https://agritask.com	Barueri	São Paulo	SE
GRANULAR BRASIL LICENCIAMENTO E DISTRIBUICAO DE SOFTWARE DE AGRICULTURA LTDA.	https://sso.granular.ag/login	Barueri	São Paulo	SE
Agroboard	● https://agroboard.com.br	Campinas	São Paulo	SE
DataFarm	https://datafarm.com.br	Campinas	São Paulo	SE

Agtech	Sites	City	State	Region
Geração Agro	● https://geracaoagro.com.br	Campinas	São Paulo	SE
Le Bov	https://linkedin.com/company/ lebov-app	Campinas	São Paulo	SE
Pasto sempre verde	● https://facebook.com/psvapp	Campinas	São Paulo	SE
Izagro	● https://izagro.com.br	Franca	São Paulo	SE
Agricast	• https://agricast.com.br	Itatiba	São Paulo	SE
SSCrop Gestão de Fazendas	https://sscrop.com	Luis Eduardo Magalhães	São Paulo	SE
Agrostorm	• https://agrostorm.com.br	Marília	São Paulo	SE
@tech	• https://techagr.com	Piracicaba	São Paulo	SE
Agroclinic	https://agroclinic.com.br	Piracicaba	São Paulo	SE
Gatec	• https://gatec.com.br	Piracicaba	São Paulo	SE
Gerente Boviplan	https://pensamento.gerentebo- viplan.com.br/login	Piracicaba	São Paulo	SE
Milk Monitor	• https://milkmonitor.com.br	Piracicaba	São Paulo	SE
Simple Farm	• https://simplefarm.com.br	Piracicaba	São Paulo	SE
Aquaeficiência	• https://aquaeficiencia.com.br	Pirassununga	São Paulo	SE
GoFarms	https://gofarms.com	Presidente Prudente	São Paulo	SE
GO.FARMS DESENVOLVIMENTO DE SOFTWARE, CONSULTORIA E SERVICOS LTDA	https://www.gofarms.com/	Presidente Prudente	São Paulo	SE
RESCO	● NE	Ribeirão Preto	São Paulo	SE
Dominus Soli	https://dominussoli.com.br	São João da Boa Vista	São Paulo	SE
Perfect Flight App	https://perfectflightapp.com	São João da Boa Vista	São Paulo	SE
Livefarm Tecnologia Agropecuaria Ltda	https://livefarm.com.br	São José do Rio Preto	São Paulo	SE
Kersys	https://kersys.com.br	São Jose dos Campos	São Paulo	SE
Agrimanager	https://agrimanager.com.br	São Paulo	São Paulo	SE
Agromonitor Soluções Inteligentes	<ul> <li>https://linkedin.com/company/ global-partners-consulting- -brazil</li> </ul>	São Paulo	São Paulo	SE

Agtech	Sites	City	State	Region
Auravant Brasil Ltda	https://auravant.com/pt/ho- me-pt	São Paulo	São Paulo	SE
BovControl	https://bovcontrol.com	São Paulo	São Paulo	SE
BovExo	● https://bovexo.com	São Paulo	São Paulo	SE
CANAC	● https://www.canac.com.br	São Paulo	São Paulo	SE
G.R.A. Agricola	• https://graagricola.com.br	São Paulo	São Paulo	SE
MarketUP	● https://marketup.com	São Paulo	São Paulo	SE
Perfarm	• https://perfarm.com	São Paulo	São Paulo	SE
Ponki Marketing	● https://ponki.com.br	São Paulo	São Paulo	SE
Santa Food	https://santafood.com.br/home	São Paulo	São Paulo	SE
Shooju	● https://shooju.com	São Paulo	São Paulo	SE
SOhL Horticultura Digital	https://sohl.com.br	São Paulo	São Paulo	SE
Tecbov	● https://tecbov.com.br/	Sorocaba	São Paulo	SE
Agromove	https://agromove.com.br	Vinhedo	São Paulo	SE
Agrisolus	• https://agrisolus.com.br	Campo Mourão	Paraná	S
Datacoper	https://datacoper.com.br	Cascavel	Paraná	S
Farmin	● https://farmin.com.br	Cascavel	Paraná	S
AgriWin	● https://agriwin.com.br	Castro	Paraná	S
Agrotis Agroinformática	• https://agrotis.com	Curitiba	Paraná	S
Brisa Consulting	• https://brisaconsulting.com.br	Curitiba	Paraná	S
Fertile	• https://soufertile.com.br/	Curitiba	Paraná	S
MASTERPLANTI	• https://masterplanti.com.br	Curitiba	Paraná	S
MP SOLUCOES EM SOFTWARES PARA AGRONEGOCIO LTDA	https://www.masterplanti.com.     br/	Curitiba	Paraná	S
Rural X	• https://ruralxbr.com	Curitiba	Paraná	S
Leigado Software	● https://leigado.com.br	Dois Vizinhos	Paraná	S
Mootalk	https://milk.farmin.com.br	Dois Vizinhos	Paraná	S
CloudCRM	https://cloudcrm.tech	Foz do Iguaçu	Paraná	S
GESTOR AGRÍCOLA	https://gestoragricola.app/pt-br	Foz do Iguaçu	Paraná	S
Spot Agro	● https://spotagro.com.br	Foz do Iguaçu	Paraná	S
Checkmilk	https://checkmilk.com.br	Londrina	Paraná	S

Agtech	Sites	City	State	Region
Agroviário	● https://agroviario.com.br	Maringá	Paraná	S
FarmGo	● https://farmgo.com.br	Maringá	Paraná	S
SAG	● https://sag.com.br/	Pato Branco	Paraná	S
Viasoft	https://viasoft.com.br/agrotitan	Pato Branco	Paraná	S
Voraz	• https://voraztecnologia.com/	Pato Branco	Paraná	S
Agro Pro Monitor	● https://agropro.com.br	Ponta Grossa	Paraná	S
Avalia Sistemas	• https://avaliasistemas.com.br	Ponta Grossa	Paraná	S
Gestoragro	• https://gestoragro.online	Toledo	Paraná	S
Trinovati	● https://trinovati.com	Toledo	Paraná	S
Capataz	https://capataz.com.br	Alegrete	Rio Grande do Sul	S
SEAC Gestão	https://seacgestao.com	Alegrete	Rio Grande do Sul	S
Agro1	● https://agro1.inf.br	Erechim	Rio Grande do Sul	S
Praxiagro	• https://rstrainingrural.com.br	Júlio de Castilhos	Rio Grande do Sul	S
Agrare Tecnologia e Gestão no Campo	https://agrare.com.br	Passo Fundo	Rio Grande do Sul	S
Checkplant	● https://checkplant.com.br	Pelotas	Rio Grande do Sul	S
CONNECTERE AGROGESTÃO	https://connectere.agr.br	Pelotas	Rio Grande do Sul	S
Aegro	● https://aegro.com.br	Porto Alegre	Rio Grande do Sul	S
Pomartec	● https://pomartec.agr.br	Porto Alegre	Rio Grande do Sul	S
SOWAGRO	● https://sowagro.com.br	Porto Alegre	Rio Grande do Sul	S
Scadiagro	https://scadiagro.com.br	Rio Grande	Rio Grande do Sul	S
Drakkar / efarm	https://drakkar.com.br	Santa Maria	Rio Grande do Sul	S
efarm	https://efarm.agr.br	Santa Maria	Rio Grande do Sul	S

Agtech	Sites	City	State	Region
Planatech	● https://planatech.com.br	Santa Rosa	Rio Grande do Sul	S
Qualitec Rural	● https://icaravana.com	São Gabriel	Rio Grande do Sul	S
Brabov	● https://brabov.com.br	São Leopoldo	Rio Grande do Sul	S
ControlMilk	https://controlmilk.com.br	Teutônia	Rio Grande do Sul	S
Gestor RP	https://appgestorrp.com.br	Teutônia	Rio Grande do Sul	S
AgroD	https://agrodtech.com.br	Vacaria	Rio Grande do Sul	S
Agrofiscal	https://agrofiscal.com.br	Chapecó	Santa Catarina	S
Sistema Mais Leite	https://sistemamaisleite.com.br	Chapecó	Santa Catarina	S
Agriness	● https://agriness.com/pt	Florianópolis	Santa Catarina	S
Leaf		Florianópolis	Santa Catarina	S
Meu Pescado	<ul> <li>https://linkedin.com/company/ meupescado/</li> </ul>	Florianópolis	Santa Catarina	S
Rezolve	https://rezolve.com.br	Florianópolis	Santa Catarina	S
Ecomarine Biotech	https://ecomarinebiotech.com	Itajaí	Santa Catarina	S
Cowtrol	https://cowtrol.com.br	Lages	Santa Catarina	S
JETBOV	https://jetbov.com	Piracicaba	Santa Catarina	S
Gota	● https://gotaambiental.com.br	Rio Negrinho	Santa Catarina	S
Alcance Tecnologia	https://alcancetecnologia.com. br	São Miguel do Oeste	Santa Catarina	S

# **IF – Telemetry and Automation**

Agtech	Sites	City	State	Region
Dropfy	https://dropfy.agr.br	Brasília	Distrito Federal	со
Indext	https://linkedin.com/company/ indext	Campo Grande	Mato Grosso do S	СО
KEROW - SOLUÇÕESSOLUCOES DE PRECISÃOPRECISAO	https://www.kerow.com.br/	Campo Grande	Mato Grosso do S	со
Optimale	https://optimale.com.br	Campo Grande	Mato Grosso do S	СО
Rúmina	● https://rumina.com.br	Belo Horizonte	Minas Gerais	SE
Intergado	● https://intergado.com.br	Contagem	Minas Gerais	SE
Milckchain	<ul> <li>https://linkedin.com/company/ milkchain/about/</li> </ul>	Juiz de Fora	Minas Gerais	SE
Ativa Soluções	• https://ativasolucoes.com.br	Santa Rita da Sapucaí	Minas Gerais	SE
Ausyx	• https://linkedin.com/company/ ausyx/	Santa Rita da Sapucaí	Minas Gerais	SE
Campotech	<ul> <li>https://linkedin.com/company/ campotech/</li> </ul>	Santa Rita da Sapucaí	Minas Gerais	SE
SAGA - Sistema Antifurto para Gado	<ul> <li>https://linkedin.com/company/ saga-cattle-anti-theft-system</li> </ul>	Santa Rita da Sapucaí	Minas Gerais	SE
Soil	• https://soiltech.com.br	Santa Rita da Sapucaí	Minas Gerais	SE
P&D Soluções	https://pedsolucoesbrasil.com	Uberaba	Minas Gerais	SE
Csmart.ai	● https://csmart.ai/	Campinas	São Paulo	SE
Saveway	https://saveway.com.br	Campinas	São Paulo	SE
Tauflow	https://tauflow.com	Campinas	São Paulo	SE
Farm Solutions	https://farmsolutions.com.br	Piracicaba	São Paulo	SE
Velos	● https://velos.ag	São Carlos	São Paulo	SE
Agtech Agrotecnologias	<ul> <li>https://linkedin.com/company/ grupoagtech/</li> </ul>	São José do Rio Preto	São Paulo	SE
Tecsus	https://tecsus.com.br	São Jose dos Campos	São Paulo	SE
Agertek	● https://agertek.com.br	São Paulo	São Paulo	SE
AgriConnected	https://agriconnected.com	São Paulo	São Paulo	SE

Agtech	Sites	City	State	Region
agroThings	https://agrothings.net	São Paulo	São Paulo	SE
Angoera	● https://angoera.com.br	São Paulo	São Paulo	SE
Agroconforto	<ul> <li>https://facebook.com/Agro- conforto</li> </ul>	Castro	Paraná	S
B2k	https://www.b2ktech.com.br/	Curitiba	Paraná	S
loTag	● https://iotag.com.br	Curitiba	Paraná	S
Siaut	https://siaut.com.br	Curitiba	Paraná	S
Agritel	● https://agritel.com.br	Londrina	Paraná	S
Inobram	● https://inobram.com.br	Pato Branco	Paraná	S
Agres	https://agres.com.br	Pinhais	Paraná	S
Z2S	https://facebook.com/z2sbrasil	Passo Fundo	Rio Grande do Sul	S
Catfish Engenharia	https://catfish.eng.br	Vale Verde	Rio Grande do Sul	S
Packid	https://packid.com.br	Chapecó	Santa Catarina	S
Agrotechlink	https://agrotechlink.com	Joinville	Santa Catarina	S

# Directory of Agtechs in the Segment After the Farm

Agtech	Sites	City	State	Region
Bioporã	https://biopora.com	Brasília	Distrito Federal	СО
Cozinha sem Culpa	https://cozinhasemculpa.com. br	Goiânia	Goiás	СО
Estação Solar	● https://estacaosolar.com.br	Pirenópolis	Goiás	со
Floresta em pé	https://souflorestaempe.com. br	Juína	Mato Grosso	СО
Mixnutri	● https://mixnutri.com.br	Campo Grande	Mato Grosso do S	со
Coaper	https://polennatuflora.com.br	Canavieiras	Bahia	NE
Flora Miúra	• https://floramiura.com.br	Casa Nova	Bahia	NE
Paraiso Verde	https://casaparaisoverde.com	Ilhéus	Bahia	NE
Choc	https://choc-chocolatesfinos. com.br	Lauro de Freitas	Bahia	NE
Gula Fit Food	https://gulafit.com.br	Salvador	Bahia	NE
Iron Bag	• https://ironbag.com.br	Salvador	Bahia	NE
NossaFruta	https://nossafrutabrasil.com.br	Eusébio	Ceará	NE
Snackout	• https://snackout.com.br	Fortaleza	Ceará	NE
Biobee-MA	https://www.instagram.com/ biobee.ma/	São Luís	Maranhão	NE
Hempense	• https://hempense.com.br	São Luís	Maranhão	NE
Kemizon - Produtos da Amazônia com maior valor agregado	<ul> <li>https://Podereiprovidenciar-Ca- sosejanecessáriopossomelho- raradescriçãodesteformulário- também.</li> </ul>	São Luís	Maranhão	NE
Bem Natural	https://bemnaturalalimentos. com.br	Cabedelo	Paraíba	NE
Konjac Massa MF	https://konjacmassamf.com	João Pessoa	Paraíba	NE
Crokan	https://crokan.com.br	Petrolina	Pernambuco	NE

## AF - Innovative foods and new food trends

Agtech	Sites	City	State	Region
BioLogicus	• https://biologicus.com.br	Recife	Pernambuco	NE
FungiNE	<ul> <li>https://funginebiotecnologia.</li> <li>com</li> </ul>	Vitória de Santo Antão	Pernambuco	NE
Ecodrytec	https://ufpi.br/empresas-incu- badas	Teresina	Piauí	NE
Cajueiro	https://cajueiro.com.vc	Natal	Rio Grande do N	NE
Master Ideias Ltda	• https://MasterIdeiaseServiços	Rio Branco	Acre	N
Amazonly	<ul> <li>https://linkedin.com/company/ amazonly/instagram.com/ amazonlybr/facebook.com/ amazonlyBR/</li> </ul>	Macapá	Amapá	N
ANI / AMAZON-BIO (Conservante natural)	<ul> <li>https://www.linkedin.com/in/ ani-amazon-natural-ingredient- -0b0565254/</li> </ul>	Macapá	Amapá	N
Engenho Café de açaí	• https://engenhocafedeacai.com	Macapá	Amapá	N
Katu Bebidas	• https://katumbebidas.com.br	Macapá	Amapá	N
Sumano Ingredientes	https://sumanoingredientes. com.br	Macapá	Amapá	N
Trina Cervejaria	https://trinacervejaria@gmail. com	Macapá	Amapá	N
Urubatan Piatã Produtos Da Floresta Is	https://urubatanpiata.com.br	Macapá	Amapá	N
Amanayara Alimentos	● https://Emconstrução	Manaus	Amazonas	N
Coimbra Alimentos da Amazônia	https://www.instagram.com/ coimbra_alimentos/	Manaus	Amazonas	N
Terramazonia Superplants	https://terramazonia.co	Manaus	Amazonas	N
D'Amazônia Origens	<ul> <li>https://damazoniaorigens.com.</li> <li>br</li> </ul>	Maues	Amazonas	N
iBi - Abelhas da Amazônia	https://emconstrução	Presidente Figueredo	Amazonas	N
Paraoil	● https://paraoil.com.br	Acará	Pará	N
Amazônia Cacau	https://amazoniacacau.com.br	Belém	Pará	N
Biomimética Biotecnologia	https://revfood.com.br	Belém	Pará	N
Hidromel Uruçun da Amazônia	https://hidromelurucun.com.br	Belém	Pará	N

Agtech	Sites	City	State	Region
JAMBU SINIMBÚ	● https://jambusinimbu.com.br	Belém	Pará	N
UBS AMAZÔNIA	• https://ubsamazonia.com.br	Belém	Pará	N
Liovitta	https://liovitta.combr	Castanhal	Pará	N
Nutrify	● https://nutrify.com.br	Embu Guaçu	Pará	N
Deveras Amazônia	<ul> <li>https://deverasamazonia.com.</li> <li>br</li> </ul>	Santarém	Pará	N
Amazô Kombucha	https://instagram.com/amazo- kombucha	Vilhena	Rondônia	N
Roraifrut	https://instagram.com/roraifru- t?igshid=YmMyMTA2M2Y=	Boa Vista	Roraima	N
Carne de Jaca Palmas	<ul> <li>https://www.instagram.com/ carne.dejaca/</li> </ul>	Palmas	Tocantins	N
Curiango Brew - Cervejas Especiais	• https://curiangobrew.com.br/	Taquaruçu	Tocantins	N
Gi Alimentos	● https://saudaveldagi.com.br	Vila Velha	Espírito Santo	SE
Iza Foods	https://izafoods.com.br	Vitória	Espírito Santo	SE
Organ Alimentos	https://organalimentos.com.br	Vitória	Espírito Santo	SE
Vivaodia Lab Super Alimentos	<ul> <li>https://organicosvivaodia.com.</li> <li>br</li> </ul>	Vitória	Espírito Santo	SE
Noponto	<ul> <li>https://docesnoponto.com.br/ noponto?lightbox=dataItem-ih- qhw6fs</li> </ul>	Baldim	Minas Gerais	SE
CARLOS MARTINS VIANA 09949728657	https://www.linkedin.com/ company/granmoar/?original- Subdomain=br	Belo Horizonte	Minas Gerais	SE
GranMoar	<ul> <li>https://linkedin.com/company/ granmoar</li> </ul>	Belo Horizonte	Minas Gerais	SE
Java Chocolates	• https://javachocolates.com.br	Belo Horizonte	Minas Gerais	SE
Offgluten	● https://offgluten.com.br	Belo Horizonte	Minas Gerais	SE
Senhora Pipoca	• https://senhorapipoca.com	Belo Horizonte	Minas Gerais	SE
Cafe Campo Mistico	● https://campomistico.com.br	Bueno Brandão	Minas Gerais	SE
Haoma	● https://amohaoma.com.br	Divinópolis	Minas Gerais	SE
Mais Fit	● https://lojamaisfit.com.br	Itaúna	Minas Gerais	SE
SoleaFoods	https://soleabrasil.com.br	João Pinheiro	Minas Gerais	SE
Food4Fit	● https://food4fitbrasil.com.br	Juiz de Fora	Minas Gerais	SE
Vida Veg	● https://vidaveg.com.br	Lavras	Minas Gerais	SE

Agtech	Sites	City	State	Region
Ama-O	● https://amaofood.com.br	Moeda	Minas Gerais	SE
Oner Alimentos	● https://onerbrasil.com.br	Nova Lima	Minas Gerais	SE
Tim Ransley Alimentos - Mardico	https://mardico.com.br	Nova Lima	Minas Gerais	SE
Amantikir Origem Natural	https://amantikirnatural.com.br	São Lourenço	Minas Gerais	SE
Goodsoy / Belive	https://goodsoy.com.br	Uberaba	Minas Gerais	SE
AmázzoniGin	• https://amazzonigin.com	Barra Mansa	Rio de Janeiro	SE
Ginger Temperos	● https://gingertemperos.com.br	Niterói	Rio de Janeiro	SE
Bean Possible	• https://beanpossible.com.br	Rio de Janeiro	Rio de Janeiro	SE
Fazenda Culinária	https://fazendaculinaria.com.br	Rio de Janeiro	Rio de Janeiro	SE
Fazenda Futuro	● https://fazendafuturo.io	Rio de Janeiro	Rio de Janeiro	SE
Home Chefs	https://homechefs.com.br	Rio de Janeiro	Rio de Janeiro	SE
Leatt	● https://leatt.com.br	Rio de Janeiro	Rio de Janeiro	SE
ΝοΜοο	● https://nomoo.com.br	Rio de Janeiro	Rio de Janeiro	SE
NSC - Nutritional Science Company	https://facebook.com/nscom- panyus	Rio de Janeiro	Rio de Janeiro	SE
Purifica	● https://purifica.eco.br	Rio de Janeiro	Rio de Janeiro	SE
TARTINER	https://tartiner.com.br	Rio de Janeiro	Rio de Janeiro	SE
Tiferet	● https://tiferet.com.br	Rio de Janeiro	Rio de Janeiro	SE
Veguita	https://basicoplantfood.com.br	Rio de Janeiro	Rio de Janeiro	SE
Vitalatte & Yorgus	https://vitalatte.com.br;yorgus. com.br	Valença	Rio de Janeiro	SE
Rakkau	● https://rakkau.com.br	Americana	São Paulo	SE
Master Café	• https://mastercafe.com.br	Araraquara	São Paulo	SE
Kom	• https://kombuchakom.com.br	Atibaia	São Paulo	SE
BR Spices	• https://brspices.com.br	Barueri	São Paulo	SE
BrigadeiroComVC	https://brigadeiro.com.vc/ menus	Barueri	São Paulo	SE
Mais Pura	● https://maispura.ind.br	Barueri	São Paulo	SE
Republica do Jardim	<ul> <li>https://republicadojardim.com.</li> <li>br/</li> </ul>	Batatais	São Paulo	SE
Jaguacy Brasil	● https://jaguacy.com.br	Bauru	São Paulo	SE

Agtech	Sites	City	State	Region
Snella - Gotas de Colágeno	● https://snella.com.br	Botucatu	São Paulo	SE
Sabor Da Terra	https://osabordaterra.com.br	Bragança Paulista	São Paulo	SE
logurte Moo	● https://iogurtemoo.com.br	Brodowski	São Paulo	SE
Amazonika Mundi	https://amazonikamundi.com. br	Campinas	São Paulo	SE
BioinFood	• https://bioinfood.com	Campinas	São Paulo	SE
Native Berries	https://nativeberries.com.br	Campinas	São Paulo	SE
Noviga	• https://novigapartner.com.br	Campinas	São Paulo	SE
QPOD	• https://qpod.com.br	Campinas	São Paulo	SE
Flow Foods / Pipó Gourmet	https://flowfoods.com.br	Cotia	São Paulo	SE
Essência do Vale	• https://essenciadovale.com	Cruzeiro	São Paulo	SE
Ekobe Vitaminas e Suplementos	● https://ekobe.ind.br	Franca	São Paulo	SE
FAUNA & FLORA	https://faunaeflora.com.br	Franca	São Paulo	SE
Almaromi Viccino	• https://almaromi.com.br	Indaiatuba	São Paulo	SE
Frispy	● https://frispy.com.br	Indaiatuba	São Paulo	SE
Herbal Nutrition	• https://herbalnutrition.com.br	Inianópolis	São Paulo	SE
Britchis	• https://britchis.com.br	Itaí	São Paulo	SE
Alere Gourmet	https://aleregourmet.com.br	Itapecerica da Serra	São Paulo	SE
No Carbon	https://nocarbon.com.br	Itirapina	São Paulo	SE
Qualifruta	• https://qualifruta.com.br	ltu	São Paulo	SE
Strumpf	https://strumpf.com.br	ltu	São Paulo	SE
Enzymilk	https://facebook.com/Enzy- milk-107365687737907	Jaboticabal	São Paulo	SE
Alimentaryum	https://alimentaryum.com.br/ home	Jarinu	São Paulo	SE
Belnatur	https://loja-belnatur.negocio. site	Jundiaí	São Paulo	SE
Vegway Foods	https://vegwayfoods.com.br	Jundiaí	São Paulo	SE
Power One	● https://power1one.com.br	Marília	São Paulo	SE
Dorff	https://baladorff.com.br	Martinópolis	São Paulo	SE

Agtech	Sites	City	State	Region
Nutrawell	● https://nutrawell.com.br	Mirandópolis	São Paulo	SE
Villa Piva	● https://villapiva.com.br	Osasco	São Paulo	SE
Lotus Produtos Naturais	● https://lotusprodutos.com.br	Pindamonhangaba	São Paulo	SE
AIRON	<ul> <li>https://aironsaboresaude.com.</li> <li>br</li> </ul>	Ribeirão Preto	São Paulo	SE
Hakkuna	https://hakkuna.com	Ribeirão Preto	São Paulo	SE
YACON-BR	• https://yaconfos.com.br	Ribeirão Preto	São Paulo	SE
Yosen	• https://yosen.com.br	Ribeirão Preto	São Paulo	SE
La Pianezza	https://lapianezza.com.br	Santa Bárbara d'Oeste	São Paulo	SE
Gobeche Chocolates	https://gobeche.com.br	Santa Cruz do Rio Pardo	São Paulo	SE
H2life	https://h2lifesorvetes.com.br	Santo André	São Paulo	SE
The One Supps	• https://theonesupps.com	Santo André	São Paulo	SE
Morrones	https://facebook.com/morro- nesveg	São Caetano do S	São Paulo	SE
LioMeal	● https://liomeal.com.br	São Carlos	São Paulo	SE
Biotech	● https://lojabiotech.com.br	Sao Jose dos Campos	São Paulo	SE
100 Foods	● https://typcal.com.br	São Paulo	São Paulo	SE
Adaptogen / Quest	• https://adaptogen.com.br	São Paulo	São Paulo	SE
Alho Negro do Sitio	<ul> <li>https://alhonegrodositio.com.</li> <li>br</li> </ul>	São Paulo	São Paulo	SE
ATaldaCastanha	https://ataldacastanha.com.br	São Paulo	São Paulo	SE
Awí Earth Warriors Superfoods	https://awisuperfoods.com.br	São Paulo	São Paulo	SE
b.eat	• https://b-eatfood.com	São Paulo	São Paulo	SE
B.you	● https://byouacai.com	São Paulo	São Paulo	SE
Baer-Mate	https://baermate.com	São Paulo	São Paulo	SE
Blends do Brasil	• https://cafeblendsdobrasil.com	São Paulo	São Paulo	SE
Bombay	• https://bombayhs.com.br	São Paulo	São Paulo	SE
B-ON Nutrição	● https://b-on-nutricao.com.br	São Paulo	São Paulo	SE
Bravo Açai	● https://bravoacai.com.br	São Paulo	São Paulo	SE

Agtech	Sites	City	State	Region
Cafene Innova (Bitcoffee)	https://bitcoffee.com.br	São Paulo	São Paulo	SE
Caffeine Army	• https://caffeinearmy.com.br	São Paulo	São Paulo	SE
Caldo Natural	https://caldonatural.com.br	São Paulo	São Paulo	SE
Castanharia	• https://castanharia.com	São Paulo	São Paulo	SE
Celivita Gluten Free	• https://celivita.com.br	São Paulo	São Paulo	SE
Chock	• https://chock.com.br	São Paulo	São Paulo	SE
Chocolife	• https://chocolife.com.br	São Paulo	São Paulo	SE
Color Andina Food	https://colorandinafood.com.br	São Paulo	São Paulo	SE
Cucina di Manjuba / Fresco	https://cucinadimanjuba.com. br	São Paulo	São Paulo	SE
Cuesta Gourmet	https://cuestagourmet.com.br	São Paulo	São Paulo	SE
Da Terrinha Alimentos	https://daterrinhaalimentos. com	São Paulo	São Paulo	SE
DaOca	https://sorvetenaked.com.br	São Paulo	São Paulo	SE
Desinchá	• https://desincha.com.br	São Paulo	São Paulo	SE
Dobro	• https://soudobro.com.br	São Paulo	São Paulo	SE
Dux Nutrition Lab	• https://duxnutrition.com	São Paulo	São Paulo	SE
Energia da Terra	• https://energiadaterra.com.br	São Paulo	São Paulo	SE
Énozes	● https://amoenozes.com.br	São Paulo	São Paulo	SE
Estar Bem	<ul> <li>https://estarbemalimentos. com.br</li> </ul>	São Paulo	São Paulo	SE
Five Diamonds	https://fivediamonds.com.br	São Paulo	São Paulo	SE
Flora Fiora	• https://florafiora.com.br	São Paulo	São Paulo	SE
Foodz	● https://foodz.store	São Paulo	São Paulo	SE
Fresco	• https://eatfresco.com.br	São Paulo	São Paulo	SE
Gerônimo Foods	● https://geronimooo.com.br	São Paulo	São Paulo	SE
Gold&Ko	● https://gold-ko.com.br	São Paulo	São Paulo	SE
Green Up	• https://greenup.com.br	São Paulo	São Paulo	SE
holy nuts	https://holynuts.com.br	São Paulo	São Paulo	SE
Kiro Bebidas	https://bebakiro.com	São Paulo	São Paulo	SE
Leggera	https://sites.google.com/view/ leggera-foodtech/what-we- -do?pli=1	São Paulo	São Paulo	SE

Agtech	Sites	City	State	Region
Lifemix	● https://lifemix.com.br	São Paulo	São Paulo	SE
Lowko	● https://lowko.com.br	São Paulo	São Paulo	SE
Made In Natural	● https://madeinnatural.com.br	São Paulo	São Paulo	SE
Maismu	● https://lojamaismu.com.br	São Paulo	São Paulo	SE
Mbee Mel De Terroir	● https://mbee.com.br	São Paulo	São Paulo	SE
Mee Bebidas Criativas	• https://bebamee.com.br	São Paulo	São Paulo	SE
Mestiço Chocolates Ltda	<ul> <li>https://mesticochocolates.</li> <li>com.br</li> </ul>	São Paulo	São Paulo	SE
Miss Croc	https://misscroc.com.br	São Paulo	São Paulo	SE
Monnid Doces	● https://monnid.com.br	São Paulo	São Paulo	SE
More Plants	https://bluehops.com	São Paulo	São Paulo	SE
Mun Artesanal Proteína Sustentável	https://munartesanal.com	São Paulo	São Paulo	SE
Naked Nuts	• https://nakeDNuts.com.br	São Paulo	São Paulo	SE
Natural One	● https://natone.com.br	São Paulo	São Paulo	SE
Natuterra	• https://natuterradrinks.com	São Paulo	São Paulo	SE
Nutripleno	• https://nutripleno.com.br	São Paulo	São Paulo	SE
Nutrisanti	https://nutrisanti.com.br	São Paulo	São Paulo	SE
Oak's Burritos	• https://oaksburritos.com	São Paulo	São Paulo	SE
Olga RI	● https://olgari.com.br	São Paulo	São Paulo	SE
One More - Balanc	• https://onemoredrink.com.br	São Paulo	São Paulo	SE
Organic 4	● https://organic4.com.br	São Paulo	São Paulo	SE
Origem Temperos Milenares	https://origemtemperos.com.br	São Paulo	São Paulo	SE
Original Blend	• https://originalblend.com.br	São Paulo	São Paulo	SE
Padariadosbebês	<ul> <li>https://padariadosbebes.com.</li> <li>br</li> </ul>	São Paulo	São Paulo	SE
Pamalani	● https://pamalani.com.br/store	São Paulo	São Paulo	SE
Pão de Beijo	● https://paodebeijo.com.br	São Paulo	São Paulo	SE
Pasta de Amendoim da Tereza	https://pastadeamendoimdate- reza.com.br	São Paulo	São Paulo	SE
PIC ME	● https://picmenatural.com.br	São Paulo	São Paulo	SE
Puravida	● https://puravida.com.br	São Paulo	São Paulo	SE

Agtech	Sites	City	State	Region
Puro Verde	https://puroverdesucos.com.br	São Paulo	São Paulo	SE
Qualy ErvaseE Bomfloral	https://qlyervas.com.br	São Paulo	São Paulo	SE
Reserva Mundi	• https://reservamundi.com.br	São Paulo	São Paulo	SE
Resposta-teste		São Paulo	São Paulo	SE
RootsToGo	● https://rootstogo.com.br	São Paulo	São Paulo	SE
Sorvete Mondo	https://sorvetemondo.com.br	São Paulo	São Paulo	SE
Sowl	• https://ritualsowl.com.br	São Paulo	São Paulo	SE
Sri Sri Tattva	• https://srisriayurveda.com.br	São Paulo	São Paulo	SE
STEVIA 12	• https://stevia12.com.br	São Paulo	São Paulo	SE
The New Butcher	https://thenewbutchers.com.br	São Paulo	São Paulo	SE
The Question Mark Company	https://questionmark.com.br	São Paulo	São Paulo	SE
Tudozeroleite	● https://tudozeroleite.com.br	São Paulo	São Paulo	SE
Urban Remedy	● https://urbanremedy.com.br	São Paulo	São Paulo	SE
Utropia	● https://utropia.com.br	São Paulo	São Paulo	SE
Vegpet	● https://vegpet.com.br	São Paulo	São Paulo	SE
Vih!	https://vihkombucha.com.br	São Paulo	São Paulo	SE
WVEGAN	● https://wvegan.com.br	São Paulo	São Paulo	SE
Super Vegan	https://superveganchoc.com.br	São Vicente	São Paulo	SE
Casarão / Allgood	• https://sealalimentos.com.br	Tatuí	São Paulo	SE
NachoLoco	● https://nacholoco.com.br	Vinhedo	São Paulo	SE
Zaya	• https://zayaflour.com	Vinhedo	São Paulo	SE
Dr. Peanut	https://drpeanut.com.br	Almirante Tamandaré	Paraná	S
Carob House	https://carobhouse.com	Campina Grande do S	Paraná	S
Elemento Puro	https://elementopuro.com.br	Cascavel	Paraná	S
Duom Alimentos	<ul> <li>https://laboratorioduom.com.</li> <li>br</li> </ul>	Colombo	Paraná	S
Babuxca	https://babuxca.com.br	Curitiba	Paraná	S
Broto Facil	https://brotofacil.com.br	Curitiba	Paraná	S

Agtech	Sites	City	State	Region
Casa Rigani Sem Glúten	https://casariganisemgluten. com.br	Curitiba	Paraná	S
Le Bio	● https://lebio.com.br	Curitiba	Paraná	S
Molhos Artesanais Curitiba	https://facebook.com/ Molhos-Artesanais-Curiti- ba-560736114300283	Curitiba	Paraná	S
Nice Foods	• https://nicefoods.com.br	Curitiba	Paraná	S
PUTZ!	• https://pastaputz.com.br	Curitiba	Paraná	S
Sirnutri	https://produtosnaturaissirnu- tre.com	Curitiba	Paraná	S
Mandioca Iguaçu	https://mandiocasiguacu.com. br	Foz do Iguaçu	Paraná	S
Benni Alimentos	https://bennialimentos.com.br	Ibiporã	Paraná	S
Viva Mate	https://vivamatebrasil.com.br	Ivaí	Paraná	S
Catalmedic	https://catalmedic.com.br	Maringá	Paraná	S
Annora Alimentos	https://annora.com.br	Pinhais	Paraná	S
Colágeno Líquido - Qualinova	https://qualinova.com.br	Pinhais	Paraná	S
Santulana Alimentos Saudáveis	https://santulana.com.br	Caxias do S	Rio Grande do Sul	S
Cool Tea Company	https://coolteacompany.com.br	Dois Irmãos	Rio Grande do Sul	S
Baldo	● https://baldo.com.br	Encantado	Rio Grande do Sul	S
TENSEI	● https://tensei.com.br	Farroupilha	Rio Grande do Sul	S
Inovamate	● https://inovamate.com.br	llópolis	Rio Grande do Sul	S
Alquimista de Sabores	https://alquimistadesabores. com.br	Lajeado	Rio Grande do Sul	S
LYOH	https://facebook.com/lyohtec	Novo Hamburgo	Rio Grande do Sul	S
Stargene	https://stargene.com	Novo Hamburgo	Rio Grande do Sul	S
Hart's Naturais	https://hartsnatural.com.br	Pareci Novo	Rio Grande do Sul	S

Agtech	Sites	City	State	Region
Zele Alimentos Funcionais	https://zelealimentos.com.br	Portão	Rio Grande do Sul	S
Ambi Real Food	https://ambirealfood.com/#	Porto Alegre	Rio Grande do Sul	S
Better Life Br	https://betterlifebr.com.br	Porto Alegre	Rio Grande do Sul	S
FeelJoy	https://feeljoy.com.br	Porto Alegre	Rio Grande do Sul	S
QuiperFresh	https://quiperfresh.com.br	Porto Alegre	Rio Grande do Sul	S
TaoKombucha	https://taokombucha.com	Porto Alegre	Rio Grande do Sul	S
Tidbit Healthy Nutrition	https://tidbit.com.br	Porto Alegre	Rio Grande do Sul	S
Weecaps	https://weecaps.com.br	Santa Maria	Rio Grande do Sul	S
Linho Lev	● https://linholev.com.br	Santo Ângelo	Rio Grande do Sul	S
DaColônia	https://dacolonia.com.br	Santo Antônio da Patrulha	Rio Grande do Sul	S
Biofact 74	● https://biofact74	Uruguaiana	Rio Grande do Sul	S
Ocean Drop	https://oceandrop.com.br	Balneário Camboriú	Santa Catarina	S
Madhu Ghee	https://madhughee.com.br	Blumenau	Santa Catarina	S
FiberVita	https://fibervita.com	Chapecó	Santa Catarina	S
Biocelltis Biotecnologia S.A	https://biocelltis.com	Florianópolis	Santa Catarina	S
BIOGUMMY	https://biogummy.com	Florianópolis	Santa Catarina	S
Updairy	• https://updairy.co	Florianópolis	Santa Catarina	S
Veganway Nutrition	https://veganway.com.br	Florianópolis	Santa Catarina	S
Aromy Brasile	https://aromy.com.br	Gaspar	Santa Catarina	S

Agtech	Sites	City	State	Region
Donna Asta	https://donnaasta.com.br	Gaspar	Santa Catarina	S
Santo Óleo	https://santooleo.com.br	Gaspar	Santa Catarina	S
Seu Divino	• https://seudivino.com.br	Gaspar	Santa Catarina	S
Du Quintal Tempero Natural	https://duquintal.com.br	Itajaí	Santa Catarina	S
Vitalin	https://vitalin.com.br	Jaraguá do S	Santa Catarina	S
Naturinni	https://naturinni.com.br	Nova Trento	Santa Catarina	S
Souly	https://souly.com.br	Palhoça	Santa Catarina	S
Natupalm	https://natupalm.com.br	Porto Belo	Santa Catarina	S
Essential Nutrition	https://essentialnutrition.com.     br	São José	Santa Catarina	S
Nature Real Nutrition	• https://naturerealnutrition.com	Xaxim	Santa Catarina	S

# AF - Storage, Infrastructure and Logistics

Agtech	Sites	City	State	Region
Ataros	● https://ataros.io	Cuiabá	Mato Grosso	со
Rondon Gerenciamento de Riscos e Monitoramento de Veículos	● https://rondongr.com.br	Cuiabá	Mato Grosso	СО
Agrimapp	• https://agrimapp.com.br	Luis Eduardo Magalhães	Bahia	NE
Gravel Coin	https://gravelcoin.com	Salvador	Bahia	NE
E-Log Brasil	<ul> <li>https://facebook.com/elogbra- sil</li> </ul>	Balsas	Maranhão	NE
DiamondBigger Supply Chain	https://diamondbigger.com	São Luís	Maranhão	NE
Moovery	● https://moovery.app	João Pessoa	Paraíba	NE
Omniturn	● https://omniturn.com.br	Recife	Pernambuco	NE

Agtech	Sites	City	State	Region
AERORIVER	https://aeroriver.com.br	Manaus	Amazonas	N
Gekom	• https://gekom.com.br	Vitória	Espírito Santo	SE
Nutriimport	<ul> <li>https://gruponutriimport.com.</li> <li>br</li> </ul>	Vitória	Espírito Santo	SE
Spotx	https://spotx.com.br	Vitória	Espírito Santo	SE
Lupi Delivery	● https://lupi.delivery	Sete Lagoas	Minas Gerais	SE
Azship	• https://azship.com.br	Uberlândia	Minas Gerais	SE
Web Rota	● https://webrota.com.br	Uberlândia	Minas Gerais	SE
Target	● https://targetmp.com.br	Rio de Janeiro	Rio de Janeiro	SE
Jeffin e seus parça		Araçoiaba da Serra	São Paulo	SE
Talura	● https://talura.io	Barueri	São Paulo	SE
Aware Logistics	• https://awarelog.com	Campinas	São Paulo	SE
Tiffin Foods	https://tiffinfoods.com.br	Campinas	São Paulo	SE
NETVMI	https://www.netvmi.com.br/ site/ptbr/	Indaiatuba	São Paulo	SE
Clique Comida	• https://cliquecomida.com.br	Osvaldo Cruz	São Paulo	SE
Box Delivery	https://boxdelivery.com.br	Santos	São Paulo	SE
Agrega	• https://agrega.tech	São Paulo	São Paulo	SE
AppJusto	● https://appjusto.com.br	São Paulo	São Paulo	SE
B2log	● https://b2log.com.br	São Paulo	São Paulo	SE
Brasil Fretes	• https://brasilfretes.com.br	São Paulo	São Paulo	SE
CATU	● https://www.catu.com.br/	São Paulo	São Paulo	SE
ChefMeat	• https://chefmeat.com.br	São Paulo	São Paulo	SE
ChoppUp	● https://choppup.com.br	São Paulo	São Paulo	SE
Collectspot	• https://collectspot.com	São Paulo	São Paulo	SE
Comboyo	<ul> <li>https://linkedin.com/company/ comboyo-asymmetric-logistic- -solutions/about/</li> </ul>	São Paulo	São Paulo	SE
Eats for You	https://eatsforyou.com.br	São Paulo	São Paulo	SE
GFB	● https://gfbbrasil.com.br	São Paulo	São Paulo	SE
Goflux Tecnologia da Informacao LTDA	https://goflux.com.br	São Paulo	São Paulo	SE
Infleet	https://infleet.com.br	São Paulo	São Paulo	SE

Agtech	Sites	City	State	Region
Intelipost	https://intelipost.com.br	São Paulo	São Paulo	SE
Loggi	● https://loggi.com	São Paulo	São Paulo	SE
LOGSHARE TECNOLOGIA	https://logshare.com.br	São Paulo	São Paulo	SE
Mandaê	• https://mandae.com.br	São Paulo	São Paulo	SE
Nana Delivery	• https://nanadelivery.com	São Paulo	São Paulo	SE
РедаКі	• https://pegaki.com.br	São Paulo	São Paulo	SE
SaideraBrasil	• https://saiderabrasil.com.br	São Paulo	São Paulo	SE
Track Things	● https://trackthings.com.br	São Paulo	São Paulo	SE
Trucker do Agro	● https://truckerdoagro.agr.br	Campo Mourão	Paraná	S
AddLog	https://addlog.com.br	Curitiba	Paraná	S
Cargon	● https://cargon.com.br	Curitiba	Paraná	S
Cycloar	https://cycloar.ind.br	Curitiba	Paraná	S
Link Agro	<ul> <li>https://linkmonitoramento. com.br/blog/postagem-com- pleta/18</li> </ul>	Curitiba	Paraná	S
Melck	https://melck.com.br	Curitiba	Paraná	S
Termoplex	https://termoplex.com.br/#ho- me	Londrina	Paraná	S
Trace Pack	● https://tracepack.com.br	Londrina	Paraná	S
Tem entrega	● https://tementrega.com.br	Maringá	Paraná	S
Ironware	● https://ironware.com.br	Ponta Grossa	Paraná	S
Bushel do Brasil		Quatro Barras	Paraná	S
Apc Inova	https://apcinova.com.br	ljuí	Rio Grande do Sul	S
Tomasi Logistica	https://tomasilogistica.com.br	Lajeado	Rio Grande do Sul	S
Agrolocal	https://agrolocal.agr.br	Pelotas	Rio Grande do Sul	S
Melhor Envio	https://melhorenvio.com.br	Pelotas	Rio Grande do Sul	S
ChoppFácil	https://choppfacil.com.br	Porto Alegre	Rio Grande do Sul	S
Silo Verde	https://tecnosinos.com.br/livro- digital/company/silo-verde	São Leopoldo	Rio Grande do Sul	S

Agtech	Sites	City	State	Region
TraceTech	<ul> <li>https://tracetec.com.br/pages/ client.html</li> </ul>	Biguaçu	Santa Catarina	S
Neokohm	https://neokohm.com	Chapecó	Santa Catarina	S
PROCER AUTOMACAO LTDA	https://procer.com.br	Criciúma	Santa Catarina	S
Quartz Technology	• https://quartz4tech.com	Florianópolis	Santa Catarina	S
Veggi	• https://veggi.io	Florianópolis	Santa Catarina	S
Cheap2ship	• https://cheap2ship.com	ljataí	Santa Catarina	S
Motorista PX	https://motoristapx.com.br	Joinville	Santa Catarina	S

# AF - Biodiversity and Sustainability

Agtech	Sites	City	State	Region
Aliança da Terra / Produzindo Certo	https://produzindocerto.com.br	Goiânia	Goiás	со
Viveiro Ambiental	<ul> <li>https://viveiroambiental.com.</li> <li>br/</li> </ul>	Inhumas	Goiás	со
Biota Innovations	• https://biotainova.com.br/	Uberaba	Mato Grosso	со
Muda Meu Mundo	https://mudameumundo.com. br	Fortaleza	Ceará	NE
Biocy Soluções Ambientais	<ul> <li>https://biocysolucoesambie.</li> <li>wixsite.com/my-site</li> </ul>	Anapurus	Maranhão	NE
Carnaúba Business	<ul> <li>https://linkedin.com/in/ carna%C3%BAba-business-b- 8bb36233/</li> </ul>	Chapadinha	Maranhão	NE
Environment Inteligência de Negócios e Tecnologia	https://environbit.com.br	São Luís	Maranhão	NE
Fermenta	https://fermentape.com.br	Olinda	Pernambuco	NE
TreeID Legal	https://treeidlegal.com	Natal	Rio Grande do N	NE
Aedes Biotech	https://www.instagram.com/ aedesbiotech/	Rio Branco	Acre	N

Agtech	Sites	City	State	Region
Decomplast	<ul> <li>https://instagram.com/p/ CYui062rcET/?igshid=YmMyM- TA2M2Y=</li> </ul>	Rio Branco	Acre	N
REM TIJOLOECO	https://linkedin.com/in/rem- -tijoloeco-romulo-dos-santos- -pereira-aa65b224a/?origi- nalSubdomain=br	Macapá	Amapá	N
Prospecta	https://facebook.com/ prospecta.am/?paipv=0&ea- v=AfZZH4NMKQiqTchMO_ CYsptIs3HSvRIPugUvYMgtN- zk9tEKIUOQ4yE8nsFJySHF- J4II&_rdr	Manaus	Amazonas	Ν
UNAI BIOPAINES SUSTENTAVEIS LTDA	https://unaibiojoiassustentavei- sa.lojavirtualnuvem.com.br	Abaetetuba	Pará	N
Universo Saudável	<ul> <li>https://universosaudavel.com.</li> <li>br</li> </ul>	Ananindeua	Pará	Ν
Cuia Co Lab	<ul> <li>https://www.instagram.com/ cuiacolab/</li> </ul>	Belém	Pará	N
SCS SUSTAINABILITY & INNOVATION	<ul> <li>https://www.instagram.com/ biossurfactante/</li> </ul>	Belém	Pará	N
Startup Triplo-S	● https://itripsx.com.br	Belém	Pará	N
EcoSolux	https://instagram.com/eco. solux	Bragança	Pará	N
Pirarucu Da Mexiana	• https://pirarucudamexiana.com	Marajó	Pará	N
EKILIBRE AMAZÔNIA	• https://ekilibreamazonia.com	Santarém	Pará	N
MAHA BIOCOSMETICOS	https://linkedin.com/in/maha- biocosmeticos/?originalSubdo- main=br	Santarém	Pará	N
Neuroprotect	https://linkedin.com/in/maha- biocosmeticos/?originalSubdo- main=br	Santarém	Pará	N
COOPAX PRODUÇÃO AGROECOLOGICA	• https://coopax2.negocio.site	Ariquemes	Rondônia	N
Floresta Hub	• https://florestahub.com.br	Porto Velho	Rondônia	N
Meu Pé de Árvore	https://meupedearvore.com	Porto Velho	Rondônia	N
BITCICLO INOVA SIMPLES (I.S.)	https://bitciclo.eco.br	Boa Vista	Roraima	N
Ikigai Piscicultura Sustentável	https://www.linkedin.com/in/ marise-suzuki-a842a333/	Gurupi	Tocantins	N
Arara ECOS	● https://araraecos.com.br/	Palmas	Tocantins	N

Agtech	Sites	City	State	Region
Apse Cosmetics	• https://apsecosmetics.com.br	Vitória	Espírito Santo	SE
Abundance	• https://abundancebrasil.com	Belo Horizonte	Minas Gerais	SE
INOCAS	● https://inocas.com.br	Patos de Minas	Minas Gerais	SE
Sustineri Piscis	https://sustineripiscis.com	Duque de Caxias	Rio de Janeiro	SE
BioBureau	● https://biobureau.com.br	Rio de Janeiro	Rio de Janeiro	SE
Cosnatech	• https://cosnatech.com.br	Campinas	São Paulo	SE
PlantCare	• https://plantcare.com.br	Campinas	São Paulo	SE
Rubian	● https://rubian.com.br	Campinas	São Paulo	SE
Haka Bioprocessos	https://linkedin.com/company/ haka-bioprocessos	Catanduva	São Paulo	SE
Agttec Inovação	● https://agttec.com.br	Dois Córregos	São Paulo	SE
Aquavale	<ul> <li>https://instagram.com/aquava- leengenharia</li> </ul>	Jaboticabal	São Paulo	SE
Mirá Biotech	• https://mirabiotech.com.br	Mogi das Cruzes	São Paulo	SE
Тгатрро	● https://tramppo.com.br	Osasco	São Paulo	SE
Delta CO2	● https://deltaco2.com.br	Piracicaba	São Paulo	SE
Equilibrio Florestal	<ul> <li>https://equilibrioflorestal.com.</li> <li>br</li> </ul>	Piracicaba	São Paulo	SE
Geplant	• https://geplant.com.br	Piracicaba	São Paulo	SE
Neocert	● https://neocert.com.br	Piracicaba	São Paulo	SE
FARFARM	● https://farfarm.co	Porto Alegre	São Paulo	SE
Bioworldtec do Brasil	https://bioworldtec.com.br	Presidente Prudente	São Paulo	SE
O2eco Tecnologia Ambiental	● https://o2eco.com.br	Sao Jose dos Campos	São Paulo	SE
Blue Bell Index	• https://bluebellindex.com/br	São Paulo	São Paulo	SE
Cellva	https://cellva.com	São Paulo	São Paulo	SE
Communitaria Consultoria Social	https://communitaria.com.br	São Paulo	São Paulo	SE
Cotton Droplet	https://cottondroplet.com	São Paulo	São Paulo	SE
Domani Global	https://domani.global/ conteudo/saas?gclid=CjwK- CAjwloynBhBbEiwAGY25DN- TupZDelQ1NFu9E6t_e9c9wJXC- NZDLbdXDCGfXQ5GNs7zUKw- 95vlxoC-u8QAvD_BwE	São Paulo	São Paulo	SE

Agtech	Sites	City	State	Region
Eccaplan	● https://eccaplan.com.br	São Paulo	São Paulo	SE
geoflorestas	• https://geoflorestas.com.br	São Paulo	São Paulo	SE
JustyBioSolutions	• https://justybiosolutions.com	São Paulo	São Paulo	SE
Pyhcus	https://www.linkedin.com/in/ phycus-biomer-712bb6230/	São Paulo	São Paulo	SE
RADICLE BRAZIL	● https://radiclebrasil.com.br/	São Paulo	São Paulo	SE
Seiva Brasilis	https://seivabrazilis.com.br	São Paulo	São Paulo	SE
Aqualuz Camarao Ltda	<ul> <li>https://www.aqualuzcamarao. com.br/</li> </ul>	Taubaté	São Paulo	SE
Compostamais	● https://compostamais.com	Curitiba	Paraná	S
Flos Ambiental	<ul> <li>https://flosambiental.com/#flo- sambiental</li> </ul>	Curitiba	Paraná	S
Embio	https://embio.com.br/	Marechal Cândido Rondon	Paraná	S
SUSTENTEC - PRODUTORES ASSOCIADOS	https://sustentec.org.br	Pato Bragado	Paraná	S
Congrega Minerais	https://www.linkedin.com/in/ dalmer-maffei/	Pinhais	Paraná	S
MUSH	● https://mush.eco	Ponta Grossa	Paraná	S
Drº ECCOS - Hortas URBANAS	https://eccosrecyclle.com.br	Campo Bom	Rio Grande do Sul	S
Empoderamento feminino no agro		Caxias do S	Rio Grande do Sul	S
Viva Broto	https://vivabroto.com.br	Caxias do S	Rio Grande do Sul	S
Recic	https://recic.com.br	Lajeado	Rio Grande do Sul	S
Syntalgae	https://syntalgae.com.br	Lajeado	Rio Grande do Sul	S
NANOWEAR	https://nanowear.com.br	Novo Hamburgo	Rio Grande do Sul	S
ArboreaBiotech	https://arboreabiotech.com	Porto Alegre	Rio Grande do Sul	S
Regenera Moléculas do Mar	https://regeneramoleculas. com.br	Porto Alegre	Rio Grande do Sul	S
Directory of Agtechs in the Segment After the Farm

Agtech	Sites	City	State	Region
Siapesq	https://siapesq.com	Rio Grande	Rio Grande do Sul	S
Armazem LZ.	https://armazemlz.com.br	Santa Cruz do S	Rio Grande do Sul	S
Olive Plus	<ul> <li>https://linkedin.com/company/ oliveplus/</li> </ul>	Santa Maria	Rio Grande do Sul	S
Quimia	● https://quimea.com.br	Santa Maria	Rio Grande do Sul	S
Silo Verde	https://www.tecnosinos.com. br/company/silo-verde-2/	São Leopoldo	Rio Grande do Sul	S
Upcy Foods	https://upcyfoods.com.br	São Leopoldo	Rio Grande do Sul	S
GREENB BIOLOGICAL SOLUTIONS LTDA	● https://www.greenbtech.com/	Criciúma	Santa Catarina	S
Turma da Árvore	https://turmadaarvore.com.br	Lages	Santa Catarina	S

# AF - Bioenergy and Renewable Energy

Agtech	Sites	City	State	Region
BiHomun Energy	https://bihomun.com	Fortaleza	Ceará	NE
Inovathys	● https://vps276651.vps.ovh.ca	João Pessoa	Paraíba	NE
Brazilian Biocombustíveis	<ul> <li>https://brazilianbiocombusti- veis.com</li> </ul>	Macaíba	Rio Grande do N	NE
Amazon Reuse	<ul> <li>https://www.facebook. com/p/Amazon-Reu- se-100086748393689/</li> </ul>	Масара́	Amapá	N
Amazon Ecotechnology	https://Emdesenvolvimento	Manaus	Amazonas	N
Solalis - barcos elétricos	https://solalis.com.br	Manaus	Amazonas	N
BIO 6 Sustentável	● https://bio6sustentavel.com	Palmas	Tocantins	N
GreenEnergy Soluções sustentáveis	<ul> <li>https://linkedin.com/in/greene- nergy-startup-8a9640195/</li> </ul>	Palmas	Tocantins	N
BChem	https://bchem.com.br	Itaúna	Minas Gerais	SE
eco3energia	● https://eco3energia.com.br	Nova Lima	Minas Gerais	SE
NUCLEARIO	● https://www.nucleario.com/	Nova Friburgo	Rio de Janeiro	SE
Globalyeast	https://globalyeast.com	Rio de Janeiro	Rio de Janeiro	SE

Agtech	Sites	City	State	Region
Solar Market	https://solarmarket.com.br	Rio de Janeiro	Rio de Janeiro	SE
Syra Solar	• https://syrasolar.com	Rio de Janeiro	Rio de Janeiro	SE
EACEA SOLUÇOES EM CULTIVO PROTEGIDO	https://linkedin.com/in/eacea	Cunha	São Paulo	SE
Luiz Pereira Negócio Imobiliários	• https://luizpereira.com.br/	Mogi das Cruzes	São Paulo	SE
Agroenergia serviços energéticos	https://agroenergia.com.br	Ribeirão Preto	São Paulo	SE
GMota Bioprocess	● https://gmotabioprocess.com/	Ribeirão Preto	São Paulo	SE
Sunalizer	• https://sunalizer.com.br	Ribeirão Preto	São Paulo	SE
BioativosGroup	● https://bioativosgroup.com.br	São Paulo	São Paulo	SE
Carbosolo	https://cietec.org.br/project/ carbosolo	São Paulo	São Paulo	SE
GranBio	• https://granbio.com.br	São Paulo	São Paulo	SE
iSolis Brasilis Praticas Sustentaveis	https://isolis.com.br	São Paulo	São Paulo	SE
LICONIC SOLUCOES TECNOLOGICAS LTDA	• https://liconic.com.br/	Sorocaba	São Paulo	SE
Vida Maker	https://vidamaker.com	Sorocaba	São Paulo	SE
SEER	https://seer-tecnologia.webno- de.com	Tabapuã	São Paulo	SE
Bley Energias	https://linkedin.com/in/cicero- -bley-jr-38321523	Curitiba	Paraná	S
Eletricow	<ul> <li>https://penseagro.paniclobster. com/teams/41</li> </ul>	Curitiba	Paraná	S
Hidreo (antiga Metha)	● https://hidreo.com.br	Curitiba	Paraná	S
4WATT	https://4watt.tech/	Quedas do Iguaçu	Paraná	S
Termo Engenharia	<ul> <li>https://termoengenharia.com.</li> <li>br</li> </ul>	Lajeado	Rio Grande do Sul	S
Sebigás Cótica Bioenergia	https://sebigascotica.com.br	Porto Alegre	Rio Grande do Sul	S
VOLTERS	https://volters.com.br	Porto Alegre	Rio Grande do Sul	S
Biotechnos	https://biotechnos.com.br	Santa Rosa	Rio Grande do Sul	S
SulBiogás	https://sulbiogas.com	Florianópolis	Santa Catarina	S

#### AF - Cloud kitchen and ghost kitchen

Agtech	Sites	City	State	Region
SmartKitchens	• https://smartkitchens.com.br	Belo Horizonte	Minas Gerais	SE
Mimic	<ul> <li>https://linkedin.com/company/ mimicbrasil</li> </ul>	São Paulo	São Paulo	SE
Clouki	● https://clouki.com.br	Curitiba	Paraná	S

#### AF - Food industry and processing 4.0

Agtech	Sites	City	State	Region
Shimejito	https://shimejito.com	Brasília	Distrito Federal	со
Cogni	● https://cogni.group	Goiânia	Goiás	со
Industrycare	• https://industrycare.com.br	Goiânia	Goiás	со
FARM INBOX LTDA	<ul> <li>https://www.instagram.com/ pauloalexandre.fernandes.18/</li> </ul>	São Luís	Maranhão	NE
Senfio	● https://senfio.com	Recife	Pernambuco	NE
Simemap	https://simemap.com	Palmas	Tocantins	N
Orbita	• https://orbitaei.com.br	Belo Horizonte	Minas Gerais	SE
Gold Cultive Technology	https://goldcultive.negocio.site/	Santa Rita da Sapucaí	Minas Gerais	SE
Aimirim Pulse	https://aimirimsti.com.br	Uberlândia	Minas Gerais	SE
Inspire - La Food	• https://inspirealimentos.com	Rio de Janeiro	Rio de Janeiro	SE
IBY FOODS	https://ibyfoods.com.br	Campinas	São Paulo	SE
Spray Solution	• https://spraysolution.com.br	Itapevi	São Paulo	SE
if.IntelligentFoods	• https://intelligentfoods.com.br	Itupeva	São Paulo	SE
Intelup	https://intelup.com.br	Piracicaba	São Paulo	SE
Smart Yeast	• https://smartyeast.com.br	Piracicaba	São Paulo	SE
BFungi Food Technologies	https://instagram.com/bfungi- foods/	Ribeirão Preto	São Paulo	SE
Food Plant	<ul> <li>https://pt-br.facebook.com/ foodplantoficial/</li> </ul>	Ribeirão Preto	São Paulo	SE
Golden Beer Chopp	<ul> <li>https://goldenbeerchopp.com.</li> <li>br/</li> </ul>	Ribeirão Preto	São Paulo	SE
grYnfood	• https://site.grynfood.com/	Ribeirão Preto	São Paulo	SE

Agtech	Sites	City	State	Region
Palm Beer	• https://palmbeer.com.br/	Ribeirão Preto	São Paulo	SE
Suprema Alimentação Corporativa	● https://supremabr.com.br/	Ribeirão Preto	São Paulo	SE
Take&Go	● https://takeandgoapp.com/	Ribeirão Preto	São Paulo	SE
Veroo Cafés	● https://veroo.com.br	Ribeirão Preto	São Paulo	SE
Pentagro	• https://pentagro.com.br	São Carlos	São Paulo	SE
SetYou	● https://setyou.com.br	São Paulo	São Paulo	SE
Ag-Solution	https://ag-solution.co	Vargem Grande do S	São Paulo	SE
Agrosys	• https://agrosys.com.br	Criciúma	Paraná	S
Manfing	• https://manfing.com	Toledo	Paraná	S
Portanuova	https://portanuova.com.br	Caxias do S	Rio Grande do Sul	S
Pmetric	https://pmetric.com.br	Lajeado	Rio Grande do Sul	S
STW	● https://stwautomacao.com.br	Lajeado	Rio Grande do Sul	S
GreenB Biological Solutions LTDA	● https://greenbtech.com	Criciúma	Santa Catarina	S
Aquarela Advanced Analytics	● https://aquare.la	Florianópolis	Santa Catarina	S
S3nano Indústria de Aditivos Químicos Ltda	● https://s3nano.com	Florianópolis	Santa Catarina	S
Agapys	https://agapys.com	Joinville	Santa Catarina	S
Siosi	https://siosi.com.br	Pinhalzinho	Santa Catarina	S

#### **AF - Marketplaces and Trade and sales Platforms for agriculture and livestock products**

Agtech	Sites	City	State	Region
AgroPad	• https://agropad.com.br	Brasília	Distrito Federal	СО
Conecta Campo Business	https://app.vc/conectacampo- business     business     busines	Caldas Novas	Goiás	СО

Agtech	Sites	City	State	Region
eBarnPortal de Negócios Agrícolas	● https://ebarn.com.br	Goiânia	Goiás	со
Arado	• https://arado.com.br/	Belo Horizonte	Mato Grosso	со
CENTRAL SAFRA	• https://centralsafra.com.br/	Cuiabá	Mato Grosso	со
Gado Certo	• https://gadocerto.com.br	Cuiabá	Mato Grosso	со
Agrotonic	https://agrotronic.com.br	Lucas do Rio Verde	Mato Grosso	со
Agrity	• https://agrity.com.br	Nova Mutum	Mato Grosso	со
Boi24h	● https://boi24h.com.br	Sinop	Mato Grosso	со
Compre Rural	https://comprerural.com	Campo Grande	Mato Grosso do S	со
Trucadão	https://trucadao.com.br	Campo Grande	Mato Grosso do S	СО
Leiloapp	● https://leiloapp.com.br	Três Lagoas	Mato Grosso do S	СО
Aproxima Grãos	● https://aproximagraos.com.br	Luis Eduardo Magalhães	Bahia	NE
ERURAL	https://www.erural.net/conteu- do?q=marketplace	Salvador	Bahia	NE
Stono Ex	• https://stonoex.com	Salvador	Bahia	NE
Apys	• https://apys.net.br	São Luís	Maranhão	NE
Inspire	https://instagram.com/inspire. market1?utm_source=qr&igshi- d=MzNINGNkZWQ4Mg%- 3D%3D	Petrolina	Pernambuco	NE
AGROVARE	• https://agrovare.com	Recife	Pernambuco	NE
Lojas Country	• https://lojascountry.com.br	Recife	Pernambuco	NE
VBOI	● https://vboi.com.br/	Teresina	Piauí	NE
Onisafra	• https://onisafra.com	Manaus	Amazonas	N
Directto	https://directto.tech	Belém	Pará	N
DIRECTTO.TECH	https://https://www.directto. io/	Belém	Pará	N
Wine	● https://wine.com.br	Serra	Espírito Santo	SE
Haveacoffee	● https://haveacoffee.com.br	Venda Nova do Imigrante	Espírito Santo	SE

Agtech	Sites	City	State	Region
Ecopen Engenharia de Pesca	<ul> <li>https://facebook.com/eco- penproducaodepescado</li> </ul>	Vila Velha	Espírito Santo	SE
Agrai (Antiga Raiz Capixaba)	● https://agrai.com.br	Vitória	Espírito Santo	SE
Farmly	https://farmlyclub.com	Vitória	Espírito Santo	SE
Rede do Campo	• https://rededocampo.com.br	Alfenas	Minas Gerais	SE
Da Horta na Porta	https://dahortapraporta.com.br	Belo Horizonte	Minas Gerais	SE
TARKEN	● https://tarken.ag	Belo Horizonte	Minas Gerais	SE
SOFTCOM POUSO ALEGRE LTDA		Pouso Alegre	Minas Gerais	SE
Agrorigem	● https://agrorigem.com.br	Santa Rita da Sapucaí	Minas Gerais	SE
Grão Direto	• https://graodireto.com.br	Uberaba	Minas Gerais	SE
GRAO DIRETO LTDA	https://www.graodireto.com. br/	Uberaba	Minas Gerais	SE
Agromercantil	• https://agromercantil.com.br	Uberlândia	Minas Gerais	SE
Horse Bids	● https://HorseBids.com.br	Niterói	Rio de Janeiro	SE
Clubbi	• https://clubbi.com.br	Rio de Janeiro	Rio de Janeiro	SE
Gavea Marketplace	● https://gavea.com	Rio de Janeiro	Rio de Janeiro	SE
Newtail	https://newtail.com.br	Rio de Janeiro	Rio de Janeiro	SE
Civilitas	• https://civilitas.ola.click	Bauru	São Paulo	SE
Busca Terra	• https://buscaterra.com.br	Campinas	São Paulo	SE
Meu Quintal Orgânicos	https://meuquintalorganicos. com.br	Cordeirópolis	São Paulo	SE
FARMBOX	https://www.farmbox.net. br/#afarmbox	Jundiaí	São Paulo	SE
MFRural	● https://mfrural.com.br	Marília	São Paulo	SE
CAFFEEX	● https://CAFFEEX.COM	Piracicaba	São Paulo	SE
Commotech	https://commotech.com.br/pt/ home	Piracicaba	São Paulo	SE
AgriMeta	https://agrimeta.com.br	Ribeirão Preto	São Paulo	SE
JV Biotec	● https://jvbiotec.com.br	Ribeirão Preto	São Paulo	SE
Agross	● https://agross.com.br	São Bernardo do Campo	São Paulo	SE

Agtech	Sites	City	State	Region
CompreGados	● https://compregados.com.br	São José do Rio Preto	São Paulo	SE
Distribuitor	● https://distribuitor.com.br	São José do Rio Preto	São Paulo	SE
Fazenda Aberta	● https://fazendaaberta.com.br	São José do Rio Preto	São Paulo	SE
Agricativo	<ul> <li>https://gust.com/companies/ agricativo</li> </ul>	São Paulo	São Paulo	SE
AGRIPAD	● https://www.agripad.com.br/	São Paulo	São Paulo	SE
Agrishare	• https://agrishare.com.br	São Paulo	São Paulo	SE
Agrobooks	● https://agrobooks.com.br	São Paulo	São Paulo	SE
AGROFY	• https://www.agrofy.com.br/	São Paulo	São Paulo	SE
aTábua	<ul> <li>https://linkedin.com/company/ atabuaclub/</li> </ul>	São Paulo	São Paulo	SE
B4 Waste	• https://b4waste.com.br	São Paulo	São Paulo	SE
Baskets	• https://baskets.com.br	São Paulo	São Paulo	SE
Boi na Linha	• https://boinalinha.org	São Paulo	São Paulo	SE
BPSS	● https://bpss.com.br	São Paulo	São Paulo	SE
Caiena	● https://caiena.agr.br	São Paulo	São Paulo	SE
CargoX	● https://cargox.com.br	São Paulo	São Paulo	SE
CBC Agronegocios	https://cbcagronegocios.com.br	São Paulo	São Paulo	SE
Clicampo	● https://clicampo.com.br	São Paulo	São Paulo	SE
Cotabest	• https://cotabest.com.br	São Paulo	São Paulo	SE
Edafo Pec	• https://edafopec.com	São Paulo	São Paulo	SE
Evino	● https://evino.com.br	São Paulo	São Paulo	SE
Finpec	● https://finpec.agr.br	São Paulo	São Paulo	SE
Frutas Exoticas Brasileiras	<ul> <li>https://frutasexoticasbrasilei- ras.com.br</li> </ul>	São Paulo	São Paulo	SE
Frutas na Mesa	• https://frutasnamesa.com.br	São Paulo	São Paulo	SE
Fungo de Quintal	https://fungodequintal.com.br	São Paulo	São Paulo	SE
Instaagro	https://instaagro.com	São Paulo	São Paulo	SE
Natue	https://natue.com.br	São Paulo	São Paulo	SE
Netfoods	https://netfoods.com.br	São Paulo	São Paulo	SE
OpenSolo	● https://opensolo.com	São Paulo	São Paulo	SE

Agtech	Sites	City	State	Region
Qisar	● https://qisar.com.br	São Paulo	São Paulo	SE
Smartagro	https://smartagro.com.br	São Paulo	São Paulo	SE
Supermercado Now	● https://supermercadonow.com	São Paulo	São Paulo	SE
Vida Em Grãos	● https://vidaemgraos.com.br	São Paulo	São Paulo	SE
Yes We Grow	● https://yeswegrow.com.br	São Paulo	São Paulo	SE
Orgânicos da Vila	● https://organicosdavila.com.br	Suzano	São Paulo	SE
FUGA PRAS COLINAS CONSULTORIA EM TECNOLOGIA LTDA	https://loja.fugaprascolinas. com.br/?utm_source=goo- glead&utm_campaign=pesqui- sa&utm_content=fuga&gclid=- Cj0KCQjwy4KqBhD0ARIsAEbCt- 6g3XSkxnLPLWdVVEeqwBMoS- B1QJdamzSmrZVdqtPMZOpfu- K71hStqwaAim9EALw_wcB	Tapiraí	São Paulo	SE
EVA AGRICULTURA URBANA	https://eva-au.com/	Curitiba	Paraná	S
OSalim	● https://osalim.com.br	Curitiba	Paraná	S
Supercampo	● https://supercampo.com	Curitiba	Paraná	S
Nobis	https://nobisapp.com.br/site/ lp/index.php	Japira	Paraná	S
farmsbrazilian.com		Londrina	Paraná	S
Mercado Agro	● https://omercadoagro.com.br	Londrina	Paraná	S
AgPay	<ul> <li>https://agpay.com.br(site- nãoencontrado)</li> </ul>	Cachoeira do S	Rio Grande do Sul	S
INSUMO FACIL INTERMEDIACAO DE SERVICOS AGRICOLAS LTDA	https://www.linkedin.com/ company/insumo-f%C3%A1cil/ about/	Monte alegre dos Campos	Rio Grande do Sul	S
Agricon Business	https://agriconbusiness.com	Porto Alegre	Rio Grande do Sul	S
Campear	https://campear.com	Porto Alegre	Rio Grande do Sul	S
Central do Boi	https://centraldoboi.com.br	Porto Alegre	Rio Grande do Sul	S
Somos PMP	https://somospmp.com.br	Porto Alegre	Rio Grande do Sul	S
GestFair	https://gestfair.com.br	Santa Maria	Rio Grande do Sul	S

Directory of Agtechs in the Segment After the Farm

Agtech	Sites	City	State	Region
Safra Grãos	https://safragraos.com/	Santo Antônio da Patrulha	Rio Grande do Sul	S
Safragrãos	https://safragraos.com	Santo Antônio da Patrulha	Rio Grande do Sul	S
Raeasy	<ul> <li>https://linkedin.com/company/ raeasy</li> </ul>	Campo Alegre	Santa Catarina	S
Biomercado	<ul> <li>https://biomercadobrasil.com.</li> <li>br</li> </ul>	Palhoça	Santa Catarina	S
INBENTA BRASIL CONSULTORIA E TECNOLOGIA LTDA.	https://inbenta.com/pt	Porto Alegre	Santa Catarina	S

# AF - Online grocery

Agtech	Sites	City	State	Region
Dindix	https://dindix.com.br	Salvador	Bahia	NE
QTM Healthtech	https://qtmhealthtech.com.br	São Luís	Maranhão	NE
Cachaça Samanaú	<ul> <li>https://cachacasamanau.com.</li> <li>br</li> </ul>	Natal	Rio Grande do N	NE
Encantos da Floresta Com, Imp e Exp de Produtos Naturais Ltda	https://encantosdafloresta.     com.br/	Rio Branco	Acre	N
MARIA COSMÉTICA NATURAL	• https://enfloranatural.com.br/	Rio Branco	Acre	N
eMercado	https://emercadoapp.com	Manaus	Amazonas	N
Flor de Jambu	• https://flordejambu.com	Belém	Pará	N
Da Roça Pra Porta	<ul> <li>https://darocapraportaempo- rio.com.br</li> </ul>	Belo Horizonte	Minas Gerais	SE
Laszlo Aromatologia	● https://emporiolaszlo.com.br	Belo Horizonte	Minas Gerais	SE
Suub	● https://fb.com/suub.me	Belo Horizonte	Minas Gerais	SE
Kuke	● https://kuke.com.br	Rio de Janeiro	Rio de Janeiro	SE
Orgânicos in Box	https://organicosinbox.com.br	Rio de Janeiro	Rio de Janeiro	SE
Nutrir Orgânicos	● https://nutrir.agr.br	Botucatu	São Paulo	SE
Super Opa	● https://superopa.com	Campinas	São Paulo	SE
Local Alimentos	<ul> <li>https://www.linkedin.com/ company/local-alimentos/</li> </ul>	Ribeirão Preto	São Paulo	SE

Agtech	Sites	City	State	Region
ATábua Artesanal	● https://atabua.com.br	São Paulo	São Paulo	SE
Atlantikos	• https://atlantikos.com.br	São Paulo	São Paulo	SE
Da Mata	• https://damata.bio	São Paulo	São Paulo	SE
deBetti	● https://debetti.com.br	São Paulo	São Paulo	SE
Floki	• https://flokitech.com	São Paulo	São Paulo	SE
Flower Club	https://flowerclub.com. br/?gclid=Cj0KCQjw7uSkBhD- GARIsAMCZNJsfr_GknvHDT- 31FYoDvZ0Ay0DTjAFjyxQYfL- I0R8lu8KHEEwGDEwUIaAi- P0EALw_wcB	São Paulo	São Paulo	SE
Frexco	● https://frexco.com.br	São Paulo	São Paulo	SE
Fruta Imperfeita	• https://frutaimperfeita.com.br	São Paulo	São Paulo	SE
Go Green	<ul> <li>https://gogreenhortifruti.com.</li> <li>br</li> </ul>	São Paulo	São Paulo	SE
Gooxxy	● https://gooxxy.com	São Paulo	São Paulo	SE
GreensMarket	https://greens.market	São Paulo	São Paulo	SE
Home Refill	• https://homerefill.com.br	São Paulo	São Paulo	SE
lçougue	• https://icougue.com	São Paulo	São Paulo	SE
Infineat	• https://infineat.com.br	São Paulo	São Paulo	SE
Kotaki	• https://kotaki.digital	São Paulo	São Paulo	SE
m.eat	• https://meatapp.com.br	São Paulo	São Paulo	SE
Mara	• https://mara.com.br	São Paulo	São Paulo	SE
Mercado Diferente	<ul> <li>https://mercadodiferente.com.</li> <li>br</li> </ul>	São Paulo	São Paulo	SE
Minnis	https://minnis.com.br	São Paulo	São Paulo	SE
Natural Meat	• https://naturalmeat.com.br	São Paulo	São Paulo	SE
Ndays	https://ndays.com.br	São Paulo	São Paulo	SE
Neovita Foods Ingredientes Online	<ul> <li>https://ingredientesonline. com.br</li> </ul>	São Paulo	São Paulo	SE
Praso	● https://praso.com.br	São Paulo	São Paulo	SE
Raiar Organicos	● https://raiarorganicos.com.br	São Paulo	São Paulo	SE
Raizs	● https://raizs.com.br	São Paulo	São Paulo	SE
Restin	https://restin.com.br	São Paulo	São Paulo	SE
Bertolin	● https://chacarabertolin.com.br	Colombo	Paraná	S

Directory of Agtechs in the Segment After the Farm

Agtech	Sites	City	State	Region
Fru-Fruta	https://frufruta.com.br	Curitiba	Paraná	S
Themarket	• https://themarket.com.br	Curitiba	Paraná	S
Divina Castanha	• https://divinacastanha.com.br	Maringá	Paraná	S
Pura	https://puraalimentos.com.br	Lajeado	Rio Grande do Sul	S
Fresh Organicos	https://freshorganicos.com.br	Porto Alegre	Rio Grande do Sul	S
Shoppr	https://shoppr.com.br	Porto Alegre	Rio Grande do Sul	S
Zaply	https://zaply.com.br	Porto Alegre	Rio Grande do Sul	S
UpPoints	https://uppoints.com	Florianópolis	Santa Catarina	S
Sumá	https://appsuma.com.br/	Penha	Santa Catarina	S

### AF - Urban farming: plant factory and new ways of farming

Agtech	Sites	City	State	Region
Be Green	● https://begreen.com.br	Belo Horizonte	Minas Gerais	SE
Brota Company	https://brotacompany.com.br	Rio de Janeiro	Rio de Janeiro	SE
Nucleário	• https://nucleario.com/pt	Rio de Janeiro	Rio de Janeiro	SE
Eacea Soluções em Cultivo Protegido	https://eacea.com.br	Cunha	São Paulo	SE
Homegrown	● https://hgcultivo.com/	Indaiatuba	São Paulo	SE
Instituto Cidade Jardim	<ul> <li>https://institutocidadejardim. com.br</li> </ul>	ltu	São Paulo	SE
Ecojardim	<ul> <li>https://ecojardimfranquias. com.br</li> </ul>	Porto Ferreira	São Paulo	SE
Ecra Engenharia e DogGrama	<ul> <li>https://ecrasustentabilidadeur- bana.com.br;DogGrama.com.br</li> </ul>	Santo André	São Paulo	SE
EKINOVA	● https://EKINOVA.COM.BR	São Caetano do S	São Paulo	SE
100% Livre	https://cemporcentolivre.com	São Paulo	São Paulo	SE
Aguapé Horta Urbana	https://aguapefazendaurbana. com.br	São Paulo	São Paulo	SE
Babilônia	https://babilonia.co	São Paulo	São Paulo	SE

Agtech	Sites	City	State	Region
Fazenda Cubo	https://fazendacubo.com.br	São Paulo	São Paulo	SE
Fazenda Urbana	https://fazendaurbana.com.br	São Paulo	São Paulo	SE
Pink Farms	● https://pinkfarms.com.br	São Paulo	São Paulo	SE
Favo	https://favotecnologia.com.br	Curitiba	Paraná	S
Growpower	https://produtos.growpower. com.br	Curitiba	Paraná	S
Vasos Autoirrigáveis Raiz	https://vasosraiz.com.br	Novo Hamburgo	Rio Grande do Sul	S
Semente Urbana	• https://sementeurbana.com	Schroeder	Santa Catarina	S

## **AF - Online restaurants and Meal Kits**

Agtech	Sites	City	State	Region
Empório Semente do Bem	https://sementedobem.net.br	Aracaju	Sergipe	NE
LANCHE BEM	https://lanchebem.com	Palmas	Tocantins	N
Almoço Grátis	• https://almocogratis.com.br	Vitória	Espírito Santo	SE
ATW Foods	• https://atwdelivery.com.br	Vitória	Espírito Santo	SE
RobinFood	● https://robinfood.com.br	Juiz de Fora	Minas Gerais	SE
12 Mais	https://linkedin.com/com- pany/86009192/admin/	Rio de Janeiro	Rio de Janeiro	SE
Chefsclub	https://chefsclub.com.br	Rio de Janeiro	Rio de Janeiro	SE
Mima	https://jornadamima.com.br	Rio de Janeiro	Rio de Janeiro	SE
Beergo	● https://beergo.app	Volta Redonda	Rio de Janeiro	SE
Appedidos	• https://appedidos.com.br	Araçatuba	São Paulo	SE
ifood	● https://ifood.com.br	Osasco	São Paulo	SE
Urban Farmacy	• https://urbanfarmcy.com.br	Роа	São Paulo	SE
Alfred Delivery	• https://alfreddelivery.com	Ribeirão Preto	São Paulo	SE
Dupan	● https://dupan.com.br/	Ribeirão Preto	São Paulo	SE
Fit Fat Refeições	<ul> <li>https://instagram.com/fitfatre- feicoes/</li> </ul>	Ribeirão Preto	São Paulo	SE
Grassy Café	https://instagram.com/gras- sycaffe/	Ribeirão Preto	São Paulo	SE

Agtech	Sites	City	State	Region
Matchfood	● https://hebora.com.br	Ribeirão Preto	São Paulo	SE
du local	● https://app.dulocal.eco	São Carlos	São Paulo	SE
Beleaf	● https://beleaf.com.br	São Paulo	São Paulo	SE
Casa Da Coxinha Vegana	https://casadacoxinhavegana. com.br	São Paulo	São Paulo	SE
Cheap Food	• https://cheapfoodapp.com.br	São Paulo	São Paulo	SE
Cheftime	• https://cheftime.com.br	São Paulo	São Paulo	SE
Food to Save	• https://foodtosave.com.br	São Paulo	São Paulo	SE
Green Station	• https://greenstation.com.br	São Paulo	São Paulo	SE
Gym Chef	• https://gymchef.com.br	São Paulo	São Paulo	SE
lechefbrasil	• https://lechefbr.com	São Paulo	São Paulo	SE
Legurmê	● https://legurme.com.br	São Paulo	São Paulo	SE
Liv Up	● https://livup.com.br	São Paulo	São Paulo	SE
Luccofit	● https://luccofit.com.br	São Paulo	São Paulo	SE
Mandala Comidas Especiais	<ul> <li>https://mandalacomidas.com.</li> <li>br</li> </ul>	São Paulo	São Paulo	SE
Papila	https://papilapoke.com.br/ menu	São Paulo	São Paulo	SE
Ponto Verde	<ul> <li>https://pontoverdeorganicos. com.br/</li> </ul>	São Paulo	São Paulo	SE
Refood	● https://refood.app.br	São Paulo	São Paulo	SE
Simple&Co	● https://wearesimple.co	São Paulo	São Paulo	SE
Vipfood	● https://vipfood.com.br	São Paulo	São Paulo	SE
Nóz Fit	• https://nozfit.com.br	Curitiba	Paraná	S
Allps Alimentos Saudáveis	● https://allps.com.br	Caxias do S	Rio Grande do Sul	S
Delivery Much	https://deliverymuch.com.br	Santa Maria	Rio Grande do Sul	S
Amo Delivery	https://amo.delivery	Chapecó	Santa Catarina	S
OhBeer!	https://ohbeerapp.com	Florianópolis	Santa Catarina	S

Agtech	Sites	City	State	Region
Amaztrace	● https://ywy-trace.webflow.io	Macapá	Amapá	N
Amazon Doors	● https://amazon-doors.com	Manaus	Amazonas	N
Artsoft Informática	https://artsoft-informatica-e- -consultoria.business.site/	Vitória	Espírito Santo	SE
SCL Rota	https://sclrota.com.br	Belo Horizonte	Minas Gerais	SE
Safe Trace	• https://safetrace.com.br	Itajubá	Minas Gerais	SE
Smart Timber	<ul> <li>https://linkedin.com/company/ smart-timber/</li> </ul>	Lavras	Minas Gerais	SE
DEMETRIA	<ul> <li>https://demetria.ag/pt/home- -page-pt/</li> </ul>	Varginha	Minas Gerais	SE
Brasil Beef Quality - BBQ	https://bbq-br.com	Piracicaba	São Paulo	SE
Aurratech	• https://aurratech.com.br	Santo André	São Paulo	SE
EATTAE RASTREABILIDADE	● https://eattae.com.br	São Paulo	São Paulo	SE
EATTAE TRANSFORMAÇÃO DIGITAL DO AGRONEGOCIO	● https://eattae.com.br/	São Paulo	São Paulo	SE
InQuímica	https://inquimica.wordpress. com	São Paulo	São Paulo	SE
Suflex	● https://suflex.com.br	São Paulo	São Paulo	SE
Veg Oxi MP	● https://vegoxi.com.br	São Paulo	São Paulo	SE
Ecotrace Solutions	https://ecotrace.info	Vinhedo	São Paulo	SE
DataMatte	https://datamatte.com.br	São Mateus do S	Paraná	S
Hyperfarm	https://hyperfarm.com.br	Canoas	Rio Grande do Sul	S
Alvap	● https://alvap.com.br	Lajeado	Rio Grande do Sul	S
Agtrace	● https://agtrace.ag	Florianópolis	Santa Catarina	S
Paripassu	● https://paripassu.com.br	Florianópolis	Santa Catarina	S
Rsui	● https://rsui.com.br/	Florianópolis	Santa Catarina	S

# AF - Food safety and traceability

#### AF - Food stores and services autonomous management system

Agtech	Sites	City	State	Region
Yooga	● https://yooga.com.br	Vitória	Espírito Santo	SE
Zaitt	https://zaitt.com.br	Vitória	Espírito Santo	SE
Cliente Fiel	• https://appclientefiel.com.br	Belo Horizonte	Minas Gerais	SE
iZap Softworks	● https://izap.com.br	Belo Horizonte	Minas Gerais	SE
Food Freedom	• https://foodfreedom.com.br	Macaé	Rio de Janeiro	SE
Киррі	https://kuppi.com.br/nosso- -produto	Rio de Janeiro	Rio de Janeiro	SE
Moonwalk	• https://moonwalk.com.br/br	Rio de Janeiro	Rio de Janeiro	SE
Smart Menu	https://smenu.com.br	Campinas	São Paulo	SE
5mart	• https://5mart.com.br	Ribeirão Preto	São Paulo	SE
Sistema Pallas	● https://sistemapallas.com.br	Sao Jose dos Campos	São Paulo	SE
Alyment	https://alymente.com.br	São Paulo	São Paulo	SE
Aravita	https://aravita.com	São Paulo	São Paulo	SE
Epadoca	• https://epadoca.com	São Paulo	São Paulo	SE
Feira Mix	• https://feiramix.com	São Paulo	São Paulo	SE
Get In App	• https://getinapp.com.br	São Paulo	São Paulo	SE
Linked	• https://linkedgourmet.com.br	São Paulo	São Paulo	SE
Luckro	• https://luckro.com	São Paulo	São Paulo	SE
Mangos	• https://mangos.com.br	São Paulo	São Paulo	SE
Menyoo	● https://menyoo.me     ●	São Paulo	São Paulo	SE
OZ Technologies	• https://oztechnology.com.br	São Paulo	São Paulo	SE
Pantore	• https://pantore.com.br	São Paulo	São Paulo	SE
PONTAL TECH	https://pontaltech.com.br/	São Paulo	São Paulo	SE
ShelfPix	• https://shelfpix.com.br	São Paulo	São Paulo	SE
Tagme	• https://landing.tagme.com.br	São Paulo	São Paulo	SE
Territorio da Carne	<ul> <li>https://oterritoriodacarne. com.br</li> </ul>	São Paulo	São Paulo	SE
Visio.IO	● https://visio.ai     ●	São Paulo	São Paulo	SE
VocêQpad	• https://voceqpad.com.br	São Paulo	São Paulo	SE
DriveTrue Delivery	https://drivetrue.com.br	Sorocaba	São Paulo	SE

Agtech	Sites	City	State	Region
Goomer	● https://goomer.com.br	Sorocaba	São Paulo	SE
Primeira Mesa	https://primeiramesa.com.br	Sorocaba	São Paulo	SE
Market4u	• https://market4u.com.br	Curitiba	Paraná	S
Vlupt	● https://vlupt.com	Curitiba	Paraná	S
Rapidito	• https://rapidito.com.br	Foz do Iguaçu	Paraná	S
SUPRA ERVAS	● https://supraervas.com.br	Maringá	Paraná	S
Kero Rango	• https://kerorango.com	Umuarama	Paraná	S
Bionicook	● https://bionicook.com	Caxias do S	Rio Grande do Sul	S
Demander	https://demander.com.br	Lajeado	Rio Grande do Sul	S
Evove	● https://evoveerp.com.br	Lajeado	Rio Grande do Sul	S
Anota Al	● https://anota.ai/home	Rio Grande	Rio Grande do Sul	S
SisFood	● https://sisfood.com.br	Santa Cruz do S	Rio Grande do Sul	S
Saipos	● https://saipos.com	São Leopoldo	Rio Grande do Sul	S
OiMenu	● https://oimenu.com.br	Araranguá	Santa Catarina	S
Payface	● https://payface.com.br	Florianópolis	Santa Catarina	S
Di Coffee	● https://dicoffee.com.br	Joinville	Santa Catarina	S

### AF - Packaging systems, Environment and Recycling

Agtech	Sites	City	State	Region
Selletiva	• https://selletiva.com.br	Fortaleza	Ceará	NE
Nexplas	<ul> <li>https://www.instagram.com/ nexplas.io/</li> </ul>	Rio Branco	Acre	Ν
Vitrum	<ul> <li>https://instagram.com/vitrum. ap/</li> </ul>	Macapá	Amapá	N
Bioplazon	• https://bioplazon.com/	Manaus	Amazonas	Ν

Agtech	Sites	City	State	Region
COMPLAZON	https://linkedin.com/in/com- p%C3%B3sitos-pl%C3%A1sti- cos-da-amaz%C3%B4nia-com- plazon-5a1385244/	Manaus	Amazonas	N
Oka bioembalagens	https://okabioembalagens. com.br	Manaus	Amazonas	N
Maifredo Embalagens	• https://maifredo.com.br	Serra	Espírito Santo	SE
Neogranel	• https://neogranel.com.br	Vila Velha	Espírito Santo	SE
NanoPack	<ul> <li>https://linkedin.com/company/ nanopack-tecnologias-em-em- balagens</li> </ul>	Ouro Branco	Minas Gerais	SE
Monitorar	https://monitorarconsultoria. com.br	Rio de Janeiro	Rio de Janeiro	SE
Zero Plastics	• https://zeroplastic.com.br	Americana	São Paulo	SE
BioSmart Nanotechnology	● https://biosmartnano.com	Araraquara	São Paulo	SE
Incubapack	• https://incubapack.com.br	Carapicuíba	São Paulo	SE
Biopolix	https://biopolix.com.br	Ribeirão Preto	São Paulo	SE
Nanox	● https://nanox.com.br	São Carlos	São Paulo	SE
Agua na Caixa	• https://aguanacaixa.com.br	São Paulo	São Paulo	SE
Boomera	• https://boomera.com.br	São Paulo	São Paulo	SE
Green Cup	• https://greencups.com.br	São Paulo	São Paulo	SE
Molecoola	● https://molecoola.eco	São Paulo	São Paulo	SE
Protectmais	https://protectmais.com	São Paulo	São Paulo	SE
Reciclapac	● https://reciclapac.com.br	São Paulo	São Paulo	SE
Camargo Embalagens	https://camargociaembalagens. com.br	Tietê	São Paulo	SE
Macpet Embalagens	https://macpet.com.br	Curitiba	Paraná	S
Ecooler	● https://ecooler.com.br	Carlos Barbosa	Rio Grande do Sul	S
BEFER AGROINDUSTRIAL & COMERCIAL LTDA	https://befer.eco.br	Porto Alegre	Rio Grande do Sul	S
Korui Ciclos De Vida	● https://korui.com.br	Florianópolis	Santa Catarina	S
Меи Соро Есо	● https://meucopoeco.com.br	Florianópolis	Santa Catarina	S

# **Final Considerations**

The Brazilian agricultural innovation ecosystem is composed of several players, who establish relationships of competition and collaboration, forming a large network, which is cultivated from the interaction and processes of co-creation and co-development between several players. In the context of this publication, we sought to give visibility to innovation environments (hubs, incubators, accelerators, smart lab and smart farm, and technology parks) due to the authors' understanding of their importance, in order to enable the interaction between the players, culminating in the strengthening of the innovation ecosystem itself. Thus, it is worth emphasizing that the associative arrangements and established business models enable the use of external sources of knowledge, with combinations between the organizations, in a dynamic known as open innovation.

The Innovation Law, the Startups Legal Framework and the Science, Technology and Innovation Legal Framework stand out as fundamental drivers of national open innovation, strengthening the role of Scientific, Technological and Innovation Institutions (ICTs), with the facilitation of strategic partnerships with private entities. It also favors the attraction of investments, in various stages, in which entrepreneurs are strategically supported in order to transform knowledge into solutions (products/services) for Brazilian society.

Several interactions are inherent to innovation ecosystems, considering from the participation of individuals, through teams, research and development projects, programs and portfolios, and science, technology and innovation institutions (ICTs). In view of the great complexity present in these relationships, it is essential to understand the significant benefits from the actions carried out in the governance of ecosystems, implying in understanding the need to carry out actions to increase the maturity of the ecosystem itself and the attraction, or creation, of innovation environments. Thus, the maturity and strength of an innovation ecosystem is directly related to the presence of different innovation environments, creating the necessary conditions for the development of innovative ventures.

In Brazilian agribusiness, technological solutions combined with sustainable development are increasingly sought, minimizing the impact on the environment. This has motivated the emergence of agtechs or agrifoodtechs dedicated to the sustainable use of Brazilian natural wealth and biodiversity, even in the most remote regions. Such startups have significantly contributed to regional economic development, through the generation of direct and indirect employment and income, in areas often lacking job opportunities. Additionally, they provide training for local labor, fostering social inclusion and reducing economic inequalities. Also noteworthy are agtechs dedicated to connecting local producers to global markets that, through the digitization of marketing processes and the use of online platforms, facilitate access to those interested in sustainable and traceable products, diversifying and strengthening the regional economy.

In this context, Radar Agtech Brasil 2023 aimed to expand and qualify the database on agtechs and agrifoodtechs, as well as the ecosystems in which they are inserted. An active mapping was carried out, seeking several sources to complement, update and qualify the database of the 2022 edition, such as the database of contacts of the directors, the list of startups registered in acceleration programs and agtech events promoted by partners, the monitoring

of studies, the research of those selected in agtech-focused notices and the search in databases of startup ecosystems. A survey was also carried out, identifying additional agtechs.

Radar Agtech Brasil 2023 identified 1953 active Agtechs based in the national territory, 82.9% of the total mapped, concentrated mainly in the Southeast (56.9%) and South (26%) regions of the country. The federative unit with the highest number of agtechs is São Paulo, with 43.2% of the country's total. The Southeast region still holds the highest percentage of startup concentration, which remained with little decrease compared to last year. Despite the data presented, there is a slight trend of deconcentration from the Southeast, while the North region had a significant growth, from 1.5% in 2022 to 5.9% in 2023.

In the analysis of agtechs by federative units, there was a continuity in the top five positions since the 2019 edition - São Paulo (845), Rio Grande do Sul (194), Paraná (182), Minas Gerais (169) and Santa Catarina (132). Among the top five, the growth of Rio Grande do Sul compared to last year stands out, and the state now represents 10% of the total agro startups in Brazil, that is, from 133 agtechs in 2019 (7.8%) to 194 in 2023. In addition, the states that, in 2023, increased by at least 0.5% their proportions of mapped agtechs in relation to the total number of national startups, compared to 2022, were: Amazonas, from 4 startups (0.2% of the total agtechs in 2022) to 23 (1.2% of the total in 2023); Pará, from 15 (0.9%) in 2022 to 29 (1.5%) in 2023; Tocantins, from 8 (0.5%) to 19 (1.0%); Acre, from 0 (0.0%) to 16 (0.8%); Amapá, from 0 (0.0%) to 15 (0.7%); and Maranhão, from 1 (0.1%) to 14 (0.7%).

When analyzing the segments and categories, the technological activity of the mapped startups can be viewed, as well as the area in three segments of the chain, that is, before, inside and after the farm. This view also allows us to identify the main opportunities for insertion in the agricultural production chain. In 2023, Radar Agtech Brasil identified 331 agtechs (16.95%) working before the farm, 815 inside the farm (41.73%) and 807 agtechs after the farm (41.32%). The global analysis shows the continued importance of the foodtech sector in Brazilian agricultural entrepreneurship, with Innovative Foods and New Food Trends representing 14.2% of the total mapped startups (277 agtechs). In all editions of the study, this category obtained the main percentage share. However, once again the category showed decrease in percentage share, falling from 16.5% in 2022 to 14.2% in 2023. Therefore, other categories gained a relevant increase in the number of agtechs, meaning a better balance of participation in the various agricultural production chains.

The first five categories of last year remained at the top in 2023, with the second place being the Rural Property Management System category, which has 170 agtechs (8.7%); Systems, solutions and data integrative platform, with 146 (7.4%); Marketplaces and Platforms for trading and selling agricultural products, with 103 (5.3%); and Drones, Machinery and Equipment with 98 startups (5.1% of total agtechs).

It is also worth mentioning that sustainability was one of the themes that guided the growth of agricultural startups in 2023. There was a growth in Biodiversity of sustainability of 124.30% (from 37 to 83); in Bioenergy and renewable energy, of 34.60% (from 26 to 35); in Food safety and traceability, of 56.62% (from 13 to 21); in Biological Control and Integrated Pest Management, of 30.56% (from 36 to 45); and in Packaging, environment and recycling systems, of 12.50% (24 to 27). The data amount to a total increase of 55.15%, compared to last year, in the number of startups with sustainable technologies contained in these categories.

Each municipality and federative unit must know their innovation ecosystems, to enhance the sustainable growth of their agtechs, promoting articulation between public and private actors, in order to explore synergies.

This scenario of geographical and sectoral distribution indicates that the agtech ecosystem grows stronger based on the consolidation of the main innovation centers as startup hubs, similar to what happens with startups from other sectors and markets. The growing capillarization of agtechs in cities with smaller size or agricultural tradition is also observed.

In this edition, to validate the Agtechs Maturity Level Diagnostic Tool, it was possible to carry out a first survey, obtaining voluntary answers. However, this first diagnosis results in the analysis of a small stratum, revealing the analytical potential proposed by the tool, focused only on the analysis of the individual maturity of each respondent, in addition, incipient general analyzes.

Radar Agtech Brasil once again brings complementary quantitative and qualitative information to monitor the main movements of national agrifood innovation, understanding the dynamics of relationships in the main Brazilian innovation ecosystems and the different players involved. The purpose is to positively impact Brazilian agribusiness, strengthening and qualifying innovation ecosystems to generate wealth for Brazil, making it possible to guarantee sustainability in the main agricultural production chains.

In the next editions of Radar Agtech Brasil, different themes and dimensions inherent to innovation ecosystems may be addressed, such as: local productive arrangements; national, state and municipal public policies to support agtechs and their regulatory aspects; private relationship programs with agtechs and the internationalization of Brazilian agtechs. It is also possible to mention the possibility of deepening each of the categories in relation to technology, the market and the profile of agtechs in relation to aspects such as characteristics of founders and employees, organizational needs and stage of development; continuous content production and other actions and activities. In this perspective, Radar Agtech Brasil is open to partnerships with other institutions, aiming to continuously contribute to the development of the agtech ecosystem.

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