

March 2024. Sector snapshot

The food retail industry in Catalonia

The food retail industry in Catalonia

ACCIÓ

Government of Catalonia



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Carried out by

Strategy and Competitive Intelligence Unit of ACCIÓ

ACCIÓ Business Strategy Unit

Eurecat

Collaboration

Food Retail Cluster of Catalonia

Barcelona, March 2024

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1. The food retail industry on a global scale



The food retail industry

- The food retail industry encompasses all companies that are responsible for the manufacture, distribution and retail sale of food and beverages for home consumption.

Types of organizations

Food processing

- Companies that undertake the transformation of products that come from the primary sector and other suppliers of ingredients and additives to products ready for distribution to wholesale companies or directly to retailers.

Final channel

- Final channel companies are those that sell, either physically or online, directly to the end customer to consume the food at home.
- The final channel includes hypermarkets, supermarkets, specialty stores, convenience stores and online retailing.

Distribution

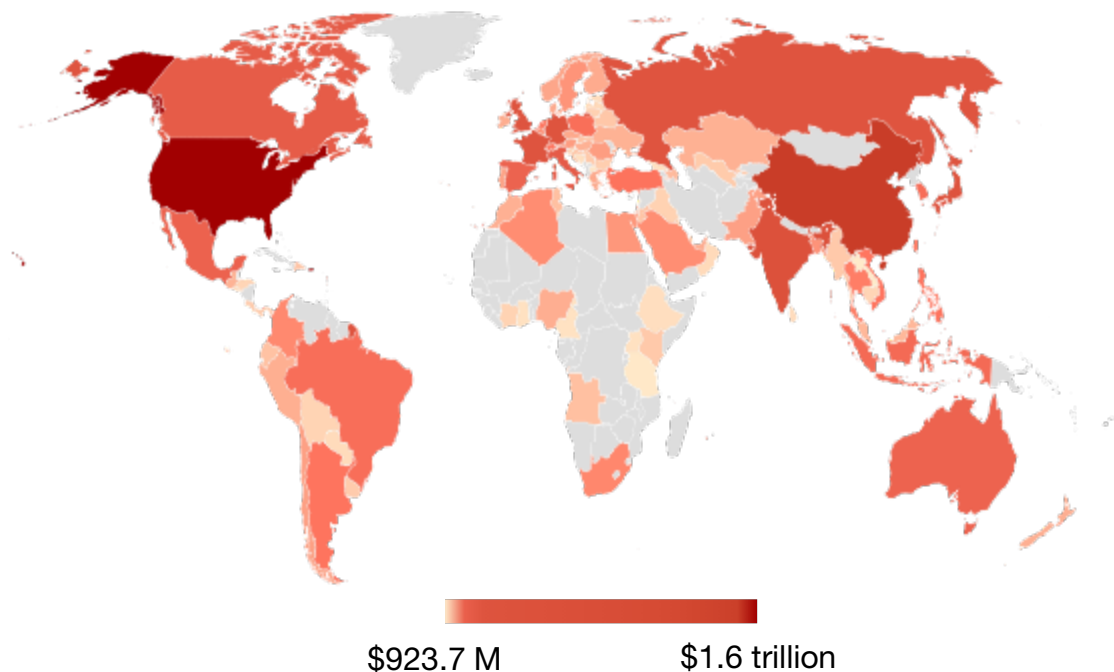
- Companies that enable the transport, storage and distribution of products made by food processing companies to the final consumption channel.





Asia-Pacific, the region with the most food retail sales

Spain is the twelfth-ranked region in the world for sales of the food retail industry globally. Asia-Pacific is the first region for sales, followed by North America and Western Europe.

Sales of the food retail industry, 2022



Top 15 countries by sales, 2022

- | | |
|---|--|
|  1 United States \$1.6 trillion |  9 Italy \$161.416 billion |
|  2 China \$1.4 trillion |  10 Canada \$160.334 billion |
|  3 India \$473.244 billion |  11 Mexico \$123.974 billion |
|  4 Japan \$283.480 billion |  12 Spain \$87.154 billion |
|  5 Germany \$251.823 billion |  13 Australia \$115.971 billion |
|  6 France \$244.463 billion |  14 Indonesia \$91.330 billion |
|  7 United Kingdom \$230.819 billion |  15 South Korea \$80.305 billion |
|  8 Russia \$216.323 billion | |

Notes: Companies classified as "grocery retailers" have been considered

Source: ACCIÓ, based on Euromonitor, 2023

Mercadona among the top 30 companies in the food retail industry globally

Top 30 food retail companies in the world by percentage of sales, 2022

1		Walmart Inc	11		Rewe Group	21		E Leclerc
2		Costco Wholesale Corp	12		Tesco PLC	22		Auchan Group SA
3		Schwarz Beteiligungs GmbH	13		Edeka Zentrale AG & Co KG	23		Magnet PAO
4		Carrefour SA	14		Publix Super Markets Inc	24		Casino Guichard-Perrachon SA
5		Kroger Co	15		AEON Group	25		Coles Group Ltd
6		Aldi Group	16		Woolworths Group Ltd	26		Mercadona SA
7		Seven & I Holdings Co Ltd	17		Internationale Spar Centrale BV	27		J Sainsbury PLC
8		Target Corp	18		X5 Retail Group NV	28		George Weston Ltd
9		Royal Ahold Delhaize NV	19		HE Butt Grocery Co	29		Jerónimo Martins SGPS SA
10		Albertsons Cos Inc	20		ITM Entreprises SA	30		Asda Stores Ltd

Notes: Companies classified as "grocery retailers" have been considered

Source: ACCIÓ, based on Euromonitor, 2023

Fem avui l'empresa del demà

FDI in food and beverages reaches €120 billion in the five-year period 2019-2023

The **volume of FDI in the food and beverage industry** totaled €119,473 billion in the five-year period 2019-2023, with a total of 2.978 projects that have employed 447.766 people. Spain is the fourth destination worldwide in receiving this FDI.

Food and beverage FDI in the world, 2019-2023

2,978 projects ▼ 11.1% (2014-2018)

€195.5 billion in investment

▼ 11.8% (2014-2018)

447.766 jobs

▼ 14.6% (2014-2018)

Countries of origin by projects

-  1 United States | 475 projects
-  2 Germany | 346 projects
-  3 Switzerland | 207 projects
-  4 Netherlands | 192 projects
-  5 United Kingdom | 179 projects

Destination countries by projects

-  1 United States | 381 projects
-  2 United Kingdom | 202 projects
-  3 Germany | 168 projects
-  4 Spain | 136 projects
-  5 France | 127 projects

The 25 top investing companies in the period 2019-2023



Notes: Projects in the "food & beverages" sector between 2019 and 2023 have been considered.

Source: ACCIÓ, based on fDi Markets, 2023

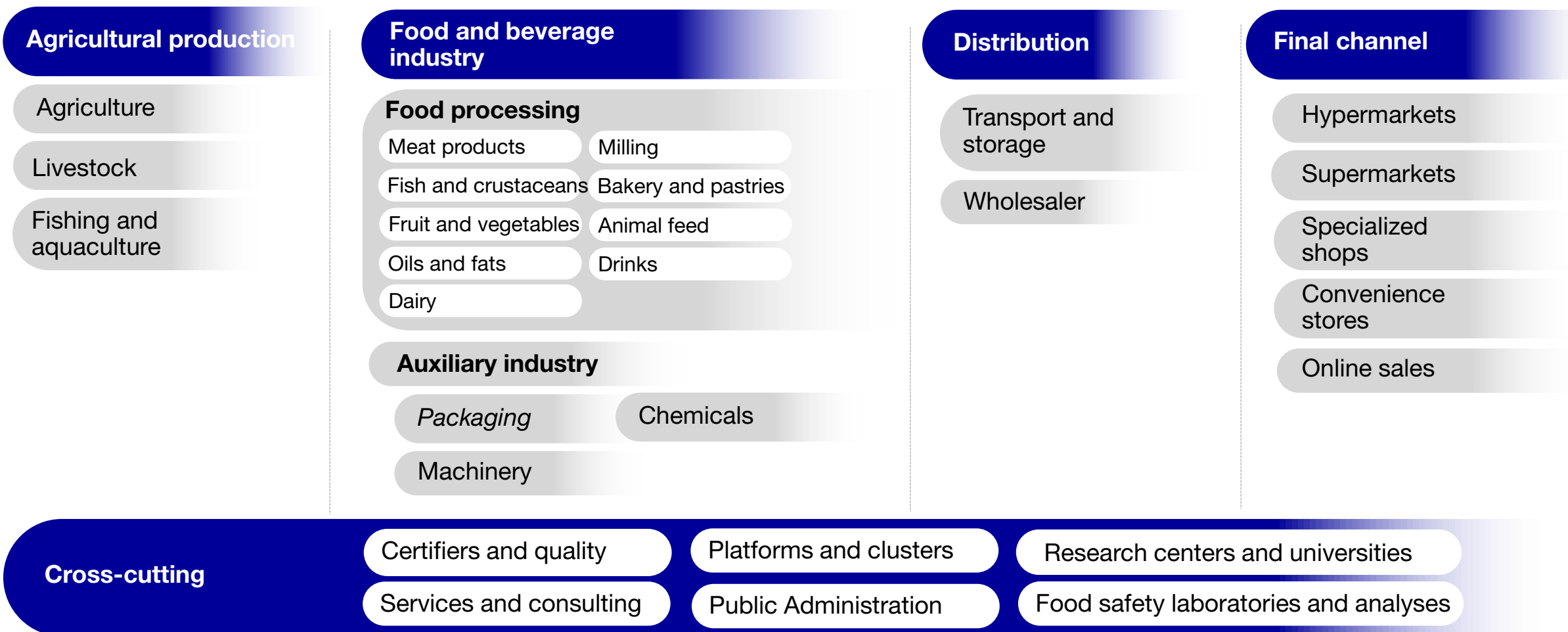
Countries of interest for the food retail industry



2. The food retail industry in Catalonia

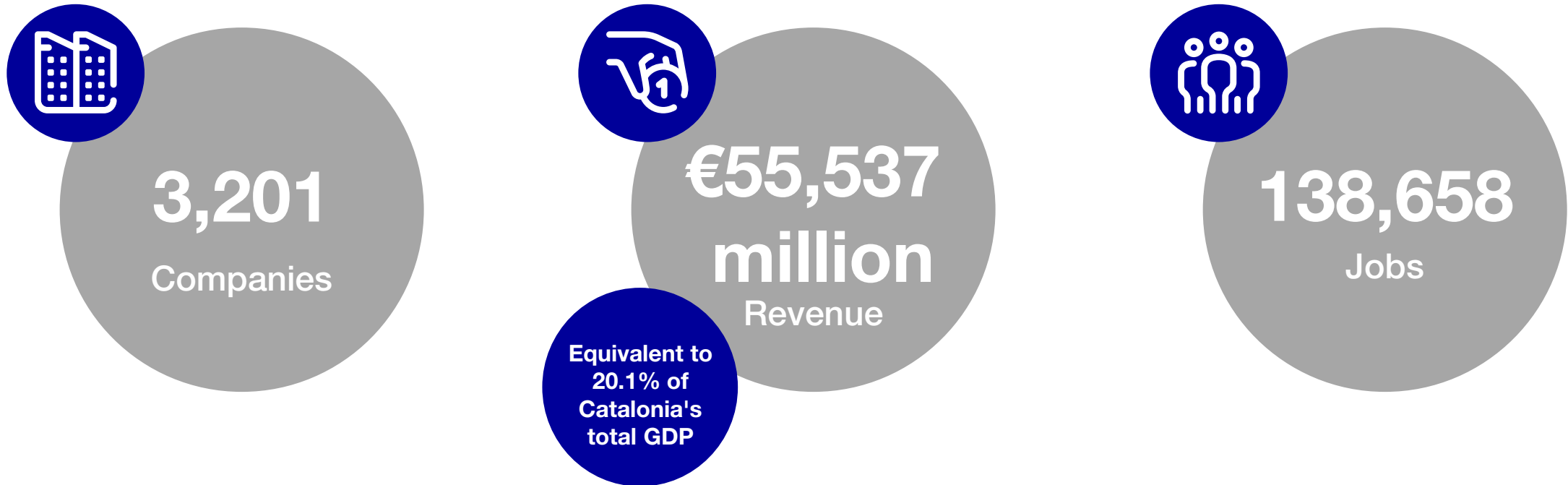


Food retail industry value chain



Note: In gray, the sectors analyzed in the mapping. **Source:** ACCIÓ

Key data of the food retail industry in Catalonia



Note: Economic data from the last year available, mostly 2022. Note: The mapping of food retail has been carried out based on CNAEs related to food and companies from other ACCIÓ reports and directories. Only companies with a turnover of more than €2 million per year have been considered. The economic data of the companies are calculated ad hoc based on their link with the sector. Source: ACCIÓ

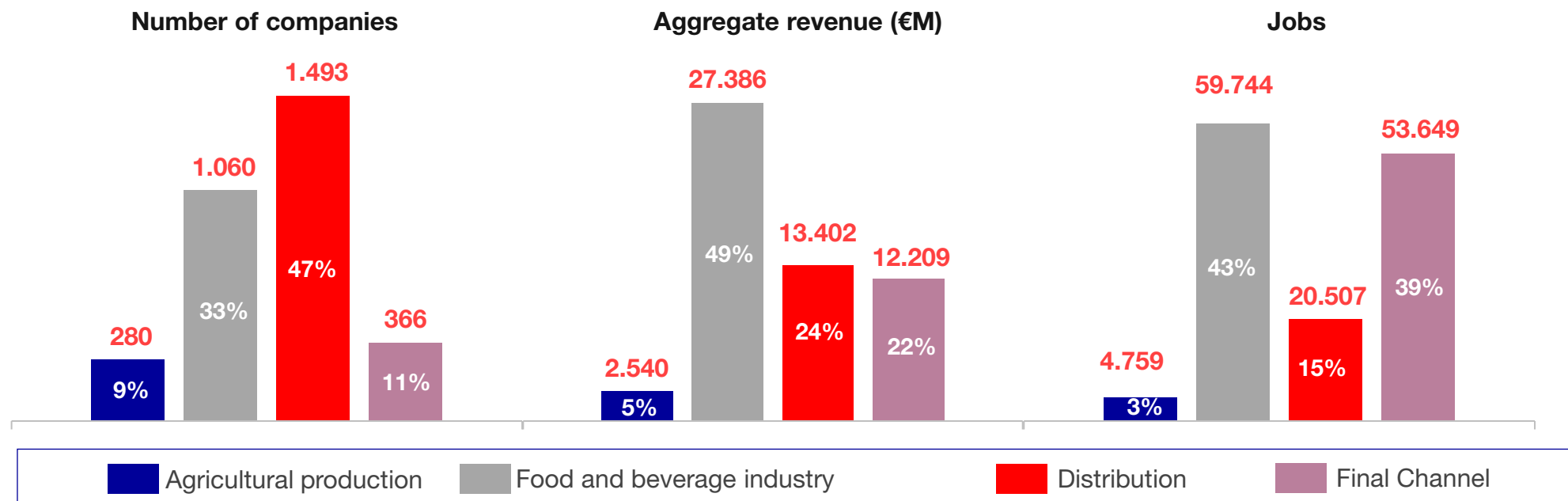
Distribution of the economic data of the food retail industry by stage of the value chain

3,201 companies

Turnover:
€55,537 million

138,658
jobs

With **33%** of companies, the food and beverage industry accounts for **49%** of the total turnover.



Source: ACCIÓ

Breakdown of the economic data of the food retail industry

14

	Number of companies 2023	Revenue 2022 (M€)	Jobs 2022
Agricultural production	280 (8.8 %)	2,540 (4.6 %)	4,759 (3.4 %)
Agriculture	52	570	1,683
Livestock	220	1,947	2,946
Fishing and aquaculture	8	23	130
Food and beverage industry	1,060 (33.2 %)	27,386 (49.3 %)	59,744 (43.1 %)
Food processing	742	23,304	48,475
Meat products	207	7,675	17,722
Fish and crustaceans	13	58	293
Fruit and vegetables	27	501	1,484
Oils and fats	32	1,815	1,247
Dairy	25	1,012	1,819
Milling	16	724	622
Bakery and pastries	86	1,079	5,385
Animal feed	63	2,393	1,609
Drinks	105	2,986	5,481
Others	168	5,062	12,803
Auxiliary industry	318	4,082	11,269
Distribution	1,493 (46.7 %)	13,402 (24.1 %)	20,507 (14.8 %)
Final Channel	366 (11.4 %)	12,209 (22.0 %)	53,649 (38.7 %)
TOTAL	3,201	55,537	138,658

Note: All segments include companies with a turnover of €2M or more. **Source:** ACCIÓ

Key data of the food retail industry in Catalonia

3,201 companies



- **91.7%** of the companies are small or medium-sized firms (less than €50 M in revenue).
- **82.7%** of the companies were founded more than 10 years ago.
- **57.3%** of the companies are exporters and **42.9%** are regular exporters.
- **7.6%** of the companies are foreign affiliates.

Revenue: €55,537 million



- The turnover is equivalent to **20.1%** of Catalonia's total GDP.
- Large companies (**8.3%** of the total number of companies) invoice **74.2%** of the industry's total turnover.

Territorial distribution



- **61.7%** of the companies are located in the area of **Barcelona**.
- **69.4%** of the total revenue and **72.1%** of the total number of people employed in the industry come from companies in the province of Barcelona.
- The counties of **Barcelonès, Vallès Occidental, Baix Llobregat, Segrià and Osona** are the ones with the most companies related to the food retail industry.

138,658 employees



- **94.7%** work in consolidated companies (10 years or more).
- **63.3%** work in large firms (more than 50 employees).

Food retail industry value chain: agricultural production, industry and distribution

Agricultural production



Food and beverage industry



Distribution



Note: partial representation with the aim of illustrating the suppliers of the value chain of the food retail industry in Catalonia, although there may be other companies that have not been included in the study. **Note:** each company has been assigned to a main category of the value chain. **Source:** ACCIÓ

Startups in the food retail industry value chain

Startups

Food and beverage industry



nora

XOCOLATING

gozerowaste

SORBO'S

Distribution and end customer

Glovo!

refruiting

heura®

:Degusta Box

INCAPTO



Note: partial representation with the aim of illustrating the suppliers of the value chain of the food retail industry in Catalonia, although there may be other companies that have not been included in the study. **Source:** ACCIÓ.

Food retail industry value chain: distribution

Distribution

Specialized logistics (transport and storage)



Wholesaler



Note: partial representation with the aim of illustrating the suppliers of the value chain of the food retail sector in Catalonia, although there may be other companies that have not been included in the study. **Note:** each company has been assigned to a main category of the value chain. **Source:** ACCIÓ

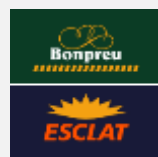
Food retail industry value chain: final channel

Final channel

Hypermarkets and supermarkets



caprabo



valvi
SUPERMERCATS



šorli

Jespac



lcampo



LARAK

SPAR

JR SUPERMERCATS

AMETLLER ORIGEN

EUROMERCAT ESCUDERO

Dia

bonArea



SOLSUPERMERCAT

varitas



plusfrèsc:



MERCADONA
SUPERMERCADOS DE CONFIANZA

Convenience stores



Llobet

DES DE 1923

Condis



Specialized shops

andreu

MACXIPA
Des de 1902



turris



TEA SHOP

MASÓ
GEN DE 1949
"PRACI DE PRESIMAT"



forne de Cabrianes
TRADICION DE PAPEROS DES DE 1880

Teri Fresc



GRUPO CONFREMAR



Pelicos SAVALL
Ca la Victòria



Online sales

Glovo



COLMADO SINGULAR *

turris

caprabo

AMETLLER ORIGEN

varitas



andreu

Llobet

Uber Eats

plusfrèsc:

KCH
FRESH MARKET

Note: partial representation with the aim of illustrating the suppliers of the value chain of the food retail industry in Catalonia, although there may be other companies that have not been included in the study. Each company has been assigned to a main category of the value chain. **Note:** The companies in the blue box are hypermarkets/supermarkets based outside Catalonia but with a significant presence in the territory. **Source:** ACCIÓ.

BonÀrea, Bonpreu and Condis: the Catalan supermarkets with the highest turnover

Final channel



In 2022, **bonÀrea and Bonpreu** posted figures higher than those achieved in 2021 and surpassed the barrier of **€2 billion** in turnover. **Condis** is positioned as the third-ranked Catalan supermarket despite the lower turnover achieved compared with 2021.



1 bonÀrea

Turnover: **€2,822 M**
560 establishments

2

Bonpreu

Turnover **2.076 billion**
204 establishments

3

Condis

Turnover: **€773 M**

4



Turnover:
€743.6 M

5



Turnover:
€453 M

6



Turnover:
€260 M

7

plusfrésc:

Turnover:
€186 M

Source: ACCIÓ, based on VIA Empresa

The best supermarkets in Spain are Catalan

Final channel



The Catalan supermarkets with the highest turnover are, moreover, those that receive the highest rating from consumers nationally. Bonpreu, Plusfresc and bonÀrea are ranked among the ten best supermarkets in the Spain, thus surpassing large chains with a presence throughout Spain such as Lidl, Aldi, Carrefour or Mercadona.

Best-rated supermarkets in Spain, 2021

	Supermarket	Customer satisfaction		Supermarket	Customer satisfaction
1	Bonpreu	85	10	Alcampo	81
2	PlusFresc	84	11	Lidl	80
3	bonÀrea	84	12	Supercor	80
4	Esclat	84	13	Ahorramás	80
5	Consum	82	14	Gadis	80
6	Aldi	82	15	Froiz	80
7	Costco	82	16	Mercadona	80
8	Alimerka	82	17	Hiper Usera	80
9	El Corte Inglés	81			

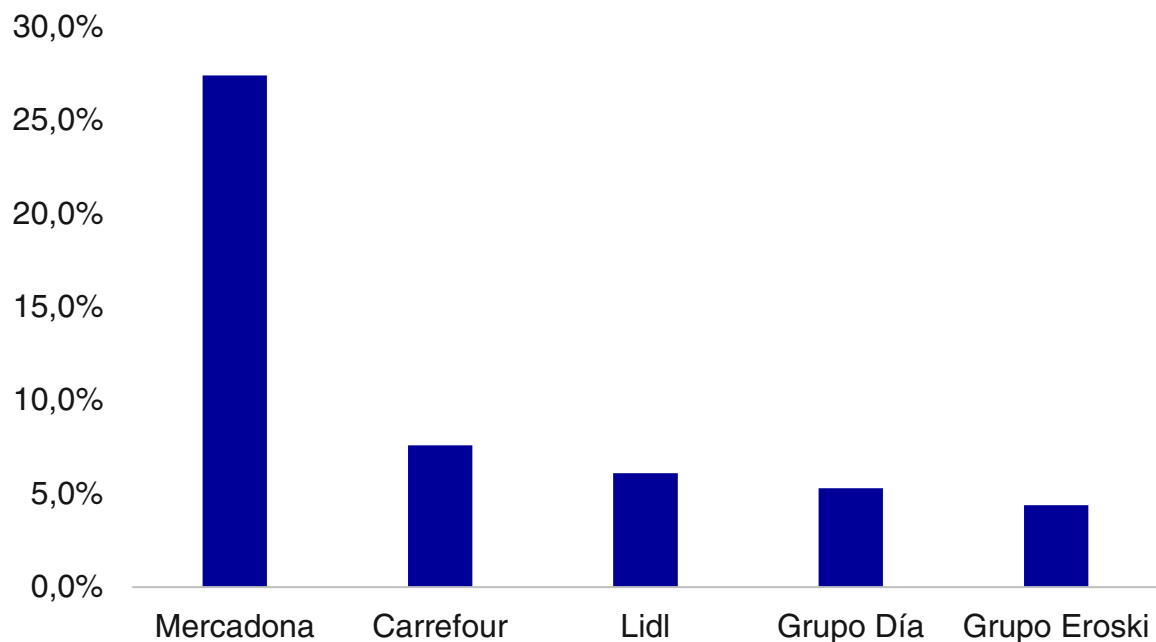
Source: ACCIÓ based on data from VIA Empresa and OCU.

Mercadona, the supermarket with the largest market share in Spain




In 2022, Mercadona is again positioned as the market leader in Spain, with a share of 27.4%. It stands out against its nearest competitors, Carrefour and Lidl. The success of the supermarket chain founded by Joan Roig is due, among other things, to the fact that it remains one of the places where the shopping basket costs the least in the country.

Market share of large supermarket chains in Spain, 2022



 **MERCADONA 27.4%**

 **7.6%**

 **6.1%**

 **5.3%**

 **4.4%**



Source: ACCIÓ, based on Statista, 2024

The food retail industry ecosystem in Catalonia

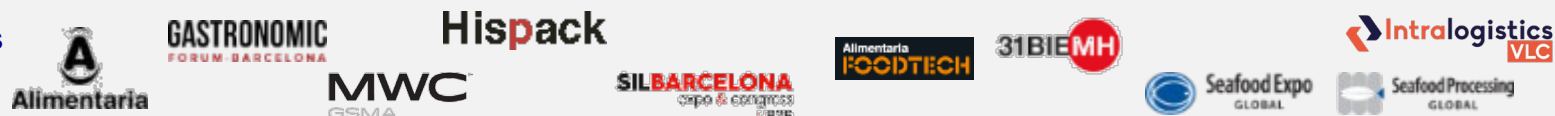
Food retail business associations



Clusters accredited by ACCIÓ



Fairs



TECNIO technology centers



Specialized centers in the food industry



Specialized centers in the wine and Cava sector



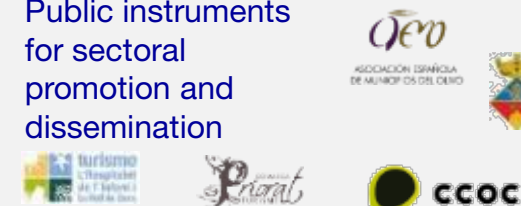
Catalan university centers that provide education and training related to the food retail industry



Public instruments of the Government of Catalonia for sectoral promotion and dissemination



Public instruments for sectoral promotion and dissemination

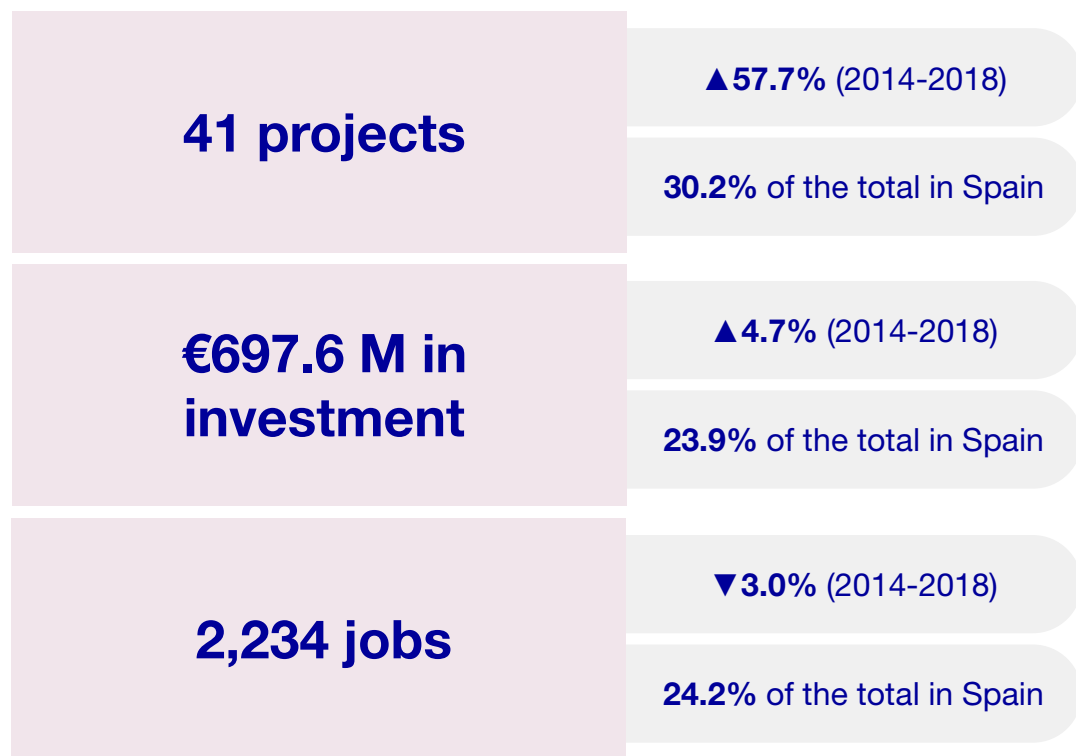


Private instruments for sectoral promotion and dissemination













Note: Partial representation with the aim of illustrating the ecosystem of the food retail sector in Catalonia. **Source:** ACCIÓ

Catalonia records €700 M of FDI in food and beverages between 2019 and 2023



Countries of origin by projects, 2019-2023

- | | |
|--|---|
|  1 Germany 11 projects |  6 Italy 2 projects |
|  2 France 6 projects |  7 Argentina 1 project |
|  3 Belgium 5 projects |  8 Greece 1 project |
|  4 United States 4 projects |  9 Iceland 1 project |
|  5 Switzerland 3 projects |  10 Ireland 1 project |

The 20 top investing companies in the period 2019-2023



Notes: Projects in the "food & beverages" sector between 2019 and 2023 have been considered.

Source: ACCIÓ, based on fDi Markets, 2024

Catalonia is the 5th-ranked region in the EU in terms of the number of FDI projects in food and beverages

In the 2019-2023 five-year period, Catalonia occupied a noteworthy position in the European Union for FDI in food and beverages. It's the **fifth-ranked region as regards the number of projects**, the **eighth-ranked for invested capital** and the **fifth-ranked for jobs created**.



5th-ranked region in number of projects

(▲2, 2014-2018) **4.6%** of the EU total



8th-ranked region in terms of invested capital

(▲2, 2014-2018) **3.3%** of the EU total



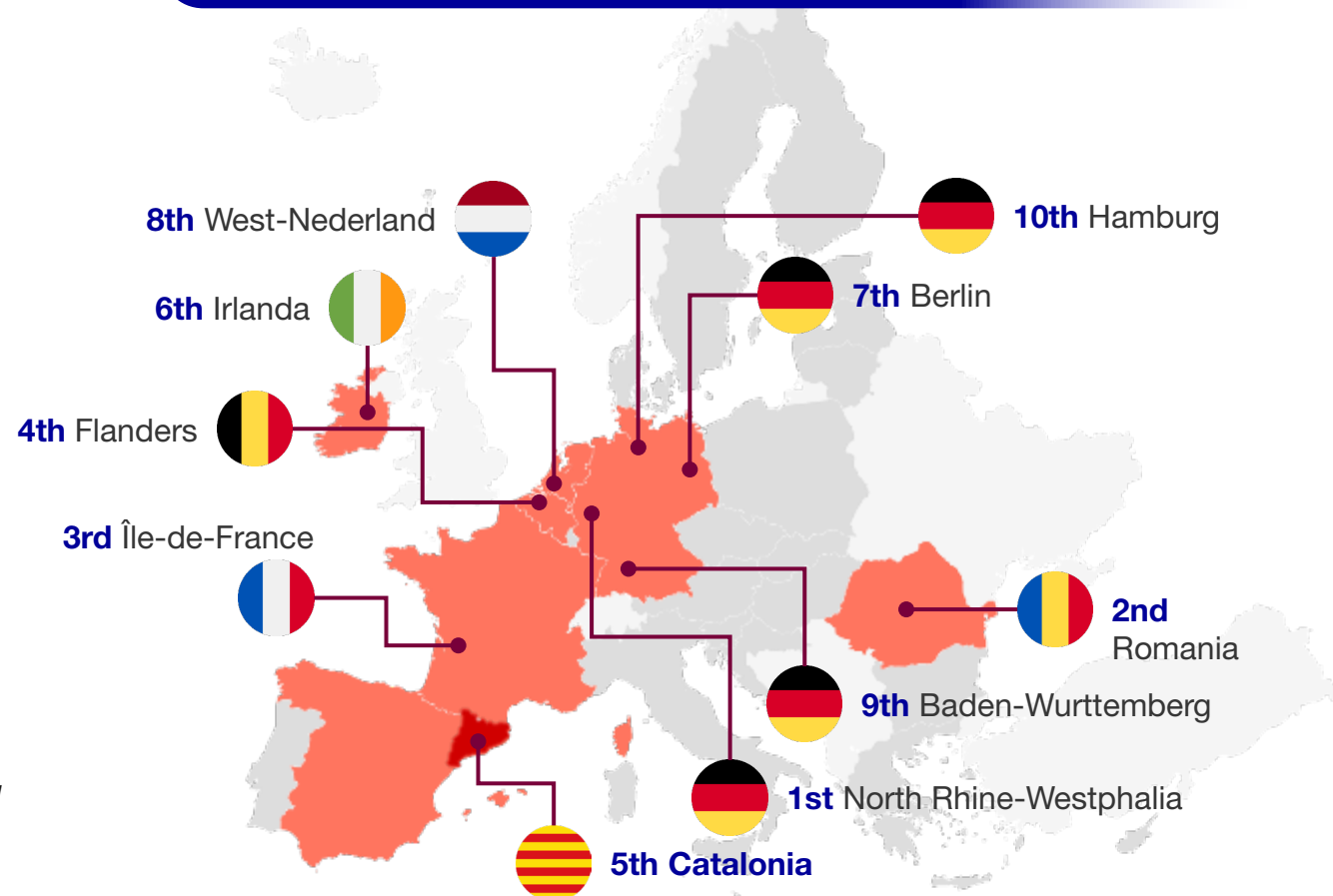
5th region in jobs generated

(▲2, 2014-2018) **3.1%** of the EU total

Notes: Projects in the "food & beverages" sector between 2019 and 2023 have been considered.

Source: ACCIÓ, based on fDi Markets, 2024

FDI in the EU (by projects), 2019-2023



Success stories from the food retail industry

Challenge

Solution



Currently, 1/3 of the food produced in the world is thrown away. When food is thrown away, all the resources that have been used to produce, transport and store it are also wasted: water, soil and energy.

Grup Ametller Origen applies a comprehensive management in waste prevention, which is applied throughout its value chain, in addition to the launching of awareness campaigns to give visibility to this problem with the aim of reducing food waste.



Significant volumes of data are generated every day as shoppers browse and purchase products both online and in physical stores. This data is vital for the marketing department that is responsible for analyzing customer behavior and creating effective campaigns. The right systems and tools need to be in place to process the data efficiently and deliver valuable insights.

Grup Bonpreu acquired the necessary tools and capabilities to internally and independently manage its own data, enabling faster analysis of information that will help create more effective personalized marketing campaigns.

3. Business challenges, trends and opportunities



Consumer trends

Responsible consumption



Sustainability is already a central part of retail business strategy. Consumers' perception of a brand's sustainability efforts is an increasingly important factor in the purchase decision process.

Healthy and conscious consumption



Continuous search for well-being without sacrificing quality or taste. Consumption of food supplements such as vitamin C, omega 3 and zinc increases among older age groups.

Convenience consumption



Due to the ripple effect of the economic slowdown and rising inflation, many consumers are looking for deals and promotional prices, and there is more interest in private label and distribution. In addition, there is a marked trend towards convenience consumption in local and nearby establishments and the consumption of prepared food.

Innovation and shopping experience



The laboratory kitchen with the launch of new Premium products, the search for novelty, constant innovation, design, packaging, store location and in-store experience is a marked consumer trend.

Market trends

SUSTAINABILITY AND ADAPTATION TO CLIMATE CHANGE



Organic food: natural products without insecticides, herbicides, fertilizers, chemicals.



Alternative protein: expand the food supply of these new foods, with an enriched nutritional profile and good organoleptic properties.



Reducing and eliminating food waste: from increasing self-sufficiency incorporation of new techniques (blockchain, photonics) + food upcycling.



Reduction of plastic and packaging.



Local food from Km 0: return to proximity to reduce the impact of transport costs and obtain fresher and quality food → Change of model to local productive systems and smaller distribution.



Optimized crops: crops that save resources, such as hydroponic crops or vertical crops and crops adapted to climate change.

CONVENIENCE



Omnichannel: the consumer experience must be complete and satisfying regardless of the channel.



Proximity: trend towards shopping in local establishments.



Private brand: due to inflation and the increase in prices, the consumer opts for the private brand.



Ready meals: lack of time and convenience increases the consumption of ready meals.

HEALTHY FOOD



Products without sugar, salt or additives



Healthy/functional products, natural or with added components (probiotics, prebiotics, proteins, fiber, etc.).



Clean label: the consumer wants to know the ingredients included in the product clearly.



Products aimed at the elderly to live longer and better.

DIGITALIZATION OF THE DISTRIBUTION SYSTEM AND STORES



Generative AI: Application throughout the value chain.



Automation: Robotics for the replenishment of items on shelves and automation of logistics warehouses.

Market trends: sustainability and adaptation to climate change

SUSTAINABILITY AND ADAPTATION TO CLIMATE CHANGE

Organic food: natural products without insecticides, herbicides, fertilizers or chemicals.

biograssfed

100% pasto ecológico

Use of uncontaminated water, pastures and fodder without agrochemicals or transgenics. Offer 100% grass-fed organic beef.

Alternative protein: expand the food supply of these new foods, with an enriched nutritional profile and good organoleptic properties.

Heura®

Wide range of 100% vegetable products.

Reduction and elimination of food waste

: from increasing self-sufficiency + incorporation of new techniques (blockchain, photonics) + food upcycling.

TALKUAL

Offers seasonal fruit and vegetable boxes delivered to your home that do not meet the visual appearance requirements of large supermarkets.

Reduction of plastic and packaging.

bonArea

In its logistics system, it uses a reusable box made of 100% recyclable plastic and has a useful life of 10 years.

Local food from Km 0: change of model to local productive systems and smaller distribution.



Online distribution platform for local food products that brings together small producers. Joint management of logistics and distribution.

Optimized crops and adaptation to climate change that save resources

GROOTS

Groots Hydroponics specializes in vertical cultivation and in a controlled environment: more production per square meter, water recirculation systems, parameter control, etc.

CONVENIENCE

Omnichannel: the consumer experience must be complete and satisfying regardless of the channel.



Application for Catalan mobile devices to manage the shopping experience and request a turn at establishments.

Proximity: trend in purchasing in local establishments.

Physical establishments have regained importance, and with new mobility habits and lifestyles, the consumption of convenience and proximity is gaining importance.

Private brand: due to inflation and the increase in prices, the consumer opts for the private brand.



Aldi has 88 stores in Catalonia and continues to drive its expansion in Catalonia with a new store.

Ready meals: lack of time and convenience increases the consumption of ready meals.



The name Yatekomo has become a generic word for this type of food product. Some of the keys to success are adaptation to the local taste, the communication campaign, trust in the *Gallina Blanca* brand, being and on the go product at an affordable price and having a clean packaging.

Market trends: healthy food

HEALTHY FOOD

Products without sugar, salt or additives.



MIRÓ has presented the project *Low Sugar* which aims to identify the best substances for replacing sugars that provide similar organoleptic properties. These studies will be carried out with the collaboration of the EURECAT technology center.

Healthy/functional products, natural or with added components (probiotics, prebiotics, proteins, fiber, etc.).



Consortium created by FRUSELVA, Ingredàlia, the University of Barcelona and the University of the Balearic Islands for the prevention of childhood obesity through the FARO-i project.

Clean label: the consumer wants to know the ingredients included in the product clearly.

LIQUATS

Yosoy seeks to promote a healthier and more transparent diet through clear, simple and understandable labels, without artificial additives and with a short list of ingredients.

Products aimed at the elderly:
To live longer and better.



The company Gastrogust Cuinats i Mafrica, together with Eurecat, has collaborated in the 5-PROTEG project, which has developed three fifth-range dishes based on meat protein, which provide added nutritional value particularly suitable for the elderly segment of the population in good health.

Source: ACCIÓ

Market trends: digitalization of the distribution systems and stores

DIGITALIZATION OF THE DISTRIBUTION SYSTEM AND STORES

Generative AI:

Application throughout the value chain.



Aldi has developed 'Sabrosas Sobras' (Tasty Left-overs), a Generative Artificial Intelligence technological solution to help promote the use of food among consumers by creating recipes and thus reduce food waste.

Automation: Robotics for the replenishment of items on shelves and automation of logistics warehouses.



Automation is one of the cornerstones of the group's commercial strategy. In total, the logistics city works with around 8,500 dry products, 4,580 of which are automated (54%).

Technologies involved in the food retail industry

DIGITAL SOCIETY

- IoT and sensors
- Big Data + AI
- DLT/Blockchain
- Cybersecurity
- Connectivity
- Photonics/Quantics
- New Spaces
- E-commerce

HEALTH

- Functional food
- Omics

GREEN TRANSFORMATION

- Agritech
- Blue Economy
- Nature-Based Solutions
- Water cycle technologies
- Foodtech
- Bio Economy
- Recycling and recovery

INDUSTRIAL RESILIENCE

- Robots/Cobots
- Additive manufacturing
- Simulation
- Automation
- Drones
- Chemical recycling
- Sustainable materials
- Frontier materials

The technologies involved in the food retail industry are divided according to the main 4 axes of the ACCIÓ technological trends dashboard as follows:



Production

Agritech

Use of technology in the world of agriculture to improve performance and efficiency. Agriculture is adopting technology such as big data, the IoT and AI to make crop predictions or the early detection of anomalies in crops or livestock, among other applications.

Foodtech

Explore how to leverage technological advances to improve efficiency and sustainability in the design, production, choice, delivery and enjoyment of food.

Blue Economy

The "blue economy" refers to the development of oceanic economic activities in an integrated and sustainable way. For example, <https://www.meditmin.com/> is a startup that has developed an organic fertilizer from seawater.

Bio Economy

It is production based on knowledge and the use of biological resources and the flow of organic waste in a sustainable manner. The aim is to protect the environment, avoid the overexploitation of natural resources, enhance biodiversity and promote sustainable development and circularity.

Nature-Based Solutions

Solutions inspired by nature that provide environmental, social and economic benefits. These solutions will increasingly use digital technologies to provide mitigation and adaptation solutions to climate change.

Recycling and recovery

The goal is that when a product reaches the end of its life, its materials remain within the economy whenever possible. For example, organic matter from food that can no longer be consumed can be used to make organic fertilizers.

Water cycle technologies

Water cycle technologies include reuse, which recovers water from various sources, treats it and reuses it for various uses such as agriculture and irrigation.

Food processing

Distribution

Final channel



IoT and sensors

The *Internet of Things* is the digital interconnection of objects that allows you to have comprehensive control over the state of the object in accordance with the analysis of collected data. In the agri-food world it is used, for example, to collect soil moisture data in agriculture, to sensorize the processing chain, to secure the cold chain in distribution, or as smart labels on the products that arrive at the restaurant.

Big Data + AI

Big data and AI draw on data obtained by the IoT and sensors, as well as other databases to perform specific data analysis and processing that help, for example, to make order predictions to optimize product supply.

DLT/Blockchain

Distributed Ledger Technologies (DLT) is an umbrella term that groups together technologies that store, distribute and facilitate the exchange of value between users. In the food chain, they can help guarantee the origin and traceability of food.

Cybersecurity

Cyber security is based on the digital protection of companies, people and systems against digital attacks. In the agri-food system, it helps to prevent process interruptions due to external causes or to prevent the theft of data from a restaurant chain, for example.

Connectivity

Connectivity allows different devices to connect and exchange information in real time. This connectivity enables automatic generation of orders based on demand (or demand prediction) and production accordingly. It also allows the monitoring of food processing machinery to carry out predictive and preventive maintenance, among other applications.

Photonics/Quantics

Photonics is the science that studies the creation, control and detection of photons and their interactions with matter. For example, [SixSense](#) detects contaminants in food using photonics.

New Spaces

New Spaces are the new models of space systems that are more flexible and have lower production costs, such as nanosatellites and microsatellites. [Sateliot](#) offers IoT connectivity with low-orbit satellites to provide coverage for precision agriculture.

E-commerce

E-commerce not only helps the final channel sell its product to the public, but also helps the rest of the links in the chain

Source: ACCIÓ.



Production

Food processing

Distribution

Final channel

Robots/Cobots

Robots and cobots are used in repetitive activities within restaurants or in the dining room to assist with customer service tasks.

Additive manufacturing

Additive manufacturing is being used to produce custom parts and machinery, and to print food from fresh ingredients.

Simulation

Simulation is a tool that can help evaluate different scenarios both from production in the field to design and control of manufacturing processes, as well as in distribution and in the final channel. The involvement of other data collection and processing technologies is necessary.

Automation

Automation draws on other technologies, such as robotics, drones, IoT, AI or big data to, for example, help automate crop sowing and assist in packaging processes in food processing, in logistics warehouses and in self-service in restaurants.

Drones

Drones and autonomous vehicles are being used, for example, in the fumigation of fields, in the movement of products in industry and in the final delivery of the product

Chemical recycling

Chemical recycling makes it possible to convert plastic into chemical products from the breakdown of macromolecules. Recycling is part of the entire value chain of the food retail industry since plastic waste is generated in all links.

Sustainable materials

Sustainable materials refer to biopolymers and substitutes for the fossil components of different materials, to materials with little impact on Critical Raw Materials, and to the replacement of materials and components, in different applications, by others that are less toxic or polluting. They are being incorporated throughout the chain and strongly impacting the change in packaging materials.

Frontier materials

Frontier materials are defined as “any material designed, processed or synthesized to offer improved functionality or to exhibit properties compared with conventional materials for a given application in a specific industry.” For example, the project [Bio2Coat](#) that develops a functional edible coating that resists grape deterioration.



HEALTH

Production

Food processing

Distribution

Final channel

Functional food

Food design for specific purposes based on knowledge of molecular properties, the activity of functional groups, molecular geometry and electronic structure, as well as information on analogous molecules.

Omics

The omic sciences are a set of disciplines related to biochemistry and molecular biology through which a deep knowledge, in analytical terms, of the characteristics and global content of a biological sample can be achieved. For example, omic technologies offer an invaluable option for detecting the authenticity and integrity of food.

Main business challenges and opportunities for Catalan companies in the food retail industry: market and consumption



MARKET AND CONSUMPTION

MAIN STRATEGIC CHALLENGES

- Lack of staff at all links in the chain and lack of specialized staff.
- Difference in habits among final consumers due to generational differences between, for example, "baby boomers" and generation Z.
- Retaining end customer loyalty.
- Increase in costs of raw materials and production.
- Barrier to entry by large distributors who prioritize white branding.
- Proliferation of copied products and very similar concepts that hinder innovation as the return on investment falls.
- Price gap between the primary sector and industry.
- Maintain the freshness and organoleptic profile of processed products.
- It is very difficult to do the neuromarketing of the last mile.
- Micro-segmentation for personalized nutrition.
- Supply chains more resilient to supply disruptions.

MAIN OPPORTUNITIES

- Opportunity to raise people's awareness through food and to provide healthy food in stores, and pass on good practices to the consumer.
- The fact that there is a difference in consumer habits presents an opportunity to target one specific target that is not already covered. Ex: third age, focused on certain religions, etc.
- Large market waiting to be transformed industrially.
- Opportunities to develop convenience products.
- Work in an ecosystemic and open way.

Main business challenges and opportunities for Catalan companies in the food retail industry: administration⁴⁰



ADMINISTRATION

MAIN STRATEGIC CHALLENGES

- Certain urban regulations and/or legislation are sometimes detrimental to being able to produce more sustainably, (eg: installing photovoltaic panels in the countryside).
- There is a need to encourage public-private partnership.
- There is a great deal of legislation in Europe, which makes it difficult for European companies to compete on the same terms as other firms from other geographical locations.
- Promote vocational education and training.

MAIN OPPORTUNITIES

- Partnerships with public entities can facilitate skill building and training programs to develop digital skills in staff, thus addressing both the shortage of workers and the need for specific skills. These alliances can also facilitate the implementation of more accessible and effective omnichannel solutions and improve the customer experience.
- Make available public funding to help the development of new initiatives.

Main business challenges and opportunities for Catalan companies in the food retail industry >⁴¹ sustainability and climate change



SUSTAINABILITY AND CLIMATE CHANGE

MAIN STRATEGIC CHALLENGES

- The change in temperature and the lack of water make it a challenge to be able to produce in the necessary quantity and quality. There is less predictability. Costs increase.
- Promote the responsible use of plastic in certain uses.
- Avoid food waste. In the current system, the supermarket does not pay for that product it returns, so there's no incentive to reduce it.
- Local products have shorter expiration dates and this leads to an increase in logistics and pollution due to the latter.
- How can we incorporate non-returnable packaging formats into the circular economy.
- Decarbonize operations.

MAIN OPPORTUNITIES

- Facilitate strategies that link the supply of local products with the reduction of food waste, such as donations of fresh food close to expiration. This should be accompanied by the implementation of more efficient logistics systems for local products, while minimizing transport and storage time to reduce expirations and thus reduce the pollution associated with logistics.
- Development of projects aimed at adapting to climate change.
- Establish collaborations between companies in order to be able to include more circularity in their activities.
- Collaboration opportunities with sectoral organizations focused on sustainability.

Main business challenges and opportunities for Catalan companies in the food retail industry: technology and digitalization⁴²



TECHNOLOGY AND DIGITALIZATION

MAIN STRATEGIC CHALLENGES

- Recruitment and training of staff with digital profiles.
- Order aggregation platforms control most of the data in the industry.
- There is currently no aggregated consumption data that is representative of the market.
- Cyber security.
- Due to the industrialization of agriculture, differentiated production is a challenge.
- Interconnection and communication between digital systems.
- Implement omnichannel.
- Develop analytical skills.
- Modernize the systems.
- Ensure full integration of digital and physical environments.

MAIN OPPORTUNITIES


- Invest in technology to be more efficient and minimize the shortage of human resources and problems of price increases in raw materials.
- Incorporation of generative AI to improve productivity.
- Use data collected through digital platforms to better understand customer preferences and to personalize offers, which in turn can improve loyalty.
- Use data about consumer preferences to identify emerging trends and create new dishes or products that align with those preferences. Segment customers based on preferences and consumption habits to identify geographic areas with similar demand, facilitating focused expansion into new locations.
- Use insights collected from social networks and other databases on customer preferences to develop new products that meet the specific needs of consumers, thus improving their experience.
- AI applied to developing mock-ups to optimize the process of launching a product.

Thank you!

Passeig de Gràcia, 109
08008 Barcelona

accio.gencat.cat
catalonia.com

 @accio_cat
@Catalonia_TI

 [linkedin.com/company/acciocat/](https://www.linkedin.com/company/acciocat/)
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More information about the sector and related news :

<https://catalonia.com/key-industries-technologies/food-beverage-in-catalonia>

