





## The winemaking value chain 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 INNOVI cluster

Barcelona, July 2024





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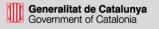
- 1. The winemaking value chain on a global scale
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- 3. Business challenges and trends





# 1. The winemaking value chain on a global scale





### The winemaking value chain

• It is the set of companies and organizations whose activities are related to the cultivation and care of the vine, the harvest, the vinification, the fermentation, the storage, the bottling and the marketing of the wines.

#### Types of organizations

#### Production, elaboration and aging of wine

#### Wine growers

 Farmers and companies that specialize in the cultivation and care of vineyards for the production of grapes.

#### Wineries

Companies dedicated to the production and elaboration of wines from harvested grapes.

#### Distributors and marketers

 Companies in charge of distributing and marketing wine products, ensuring their arrival on the market and their sale to consumers.

#### Service providers

 It includes companies related to wine tourism and groups of companies linked to wine-related culture and leisure.

#### Industrial suppliers

 Companies that provide the inputs and services necessary for the production and marketing of wines. These companies provide the necessary tools and infrastructure for wine producers to operate efficiently.







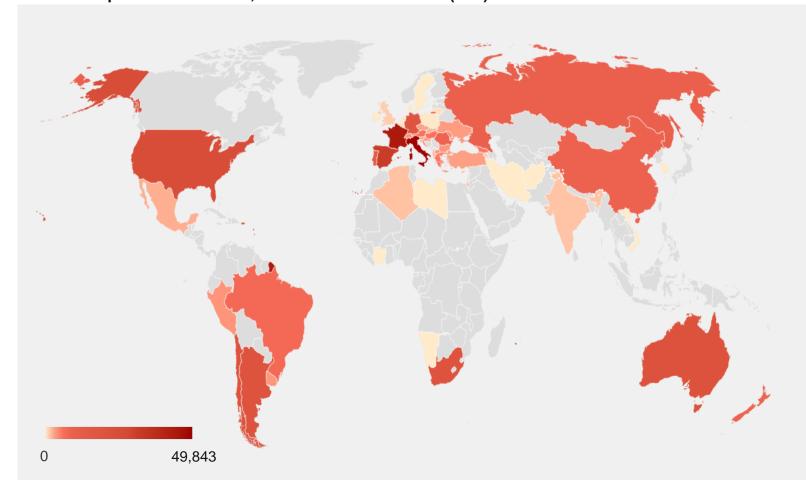
### The world wine industry

#### Highlights

- The world wine production in 2022 it is estimated at 258,000 mhl, which represents a slight decrease of 1% compared to 2021. Italy, France and Spain are the main producing countries.
- The world consumption of wine in 2022 it is estimated at 232,000 mhl, which represents a decrease of 2,000 mhl compared to 2021. The USA, France and Italy are the main consumer countries.
- The world area of vineyards seems to have stabilized since 2017. It is estimated at 7.3 mha in 2022, a figure slightly lower than in 2021 (▼0.4%).
- The wine exports by 2022 have been severely affected by high inflation and disruptions to the global supply chain. This has resulted in a lower overall volume of wine exported at a much higher average price (▲15% compared to 2021).



#### World wine production in 2022, thousands of hectoliters (mhl)



Source: ACCIÓ from the International Organization of Vine and Wine (OIV), 2024

## 3 EU countries concentrate more than 50% of world wine production

The **world wine production** is characterized by its strong instability, characteristic of a product that is severely affected by weather conditions.

## World wine production, thousands of hl 350,000 300,000 250,000 200,000 150,000 100,000 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022

#### The main world wine producers, 2022

	Italy	49,843 thousand hl   19.3%
	France	45,616 thousand hl   17.7%
	Spain	35,703 thousand hl   13.8%
	United States	22,385 thousand hI   8.7%
*	Australia	13,070 thousand hI   5.1%
*	Chile	12,443 thousand hI   4.8%
*	Argentina	11,451 thousand hI   4.4%
	South Africa	10,337 thousand hI   4.0%
	Germany	8,940 thousand hl   3.5%
	Portugal	6,848 thousand hl   2.7%



50.8%

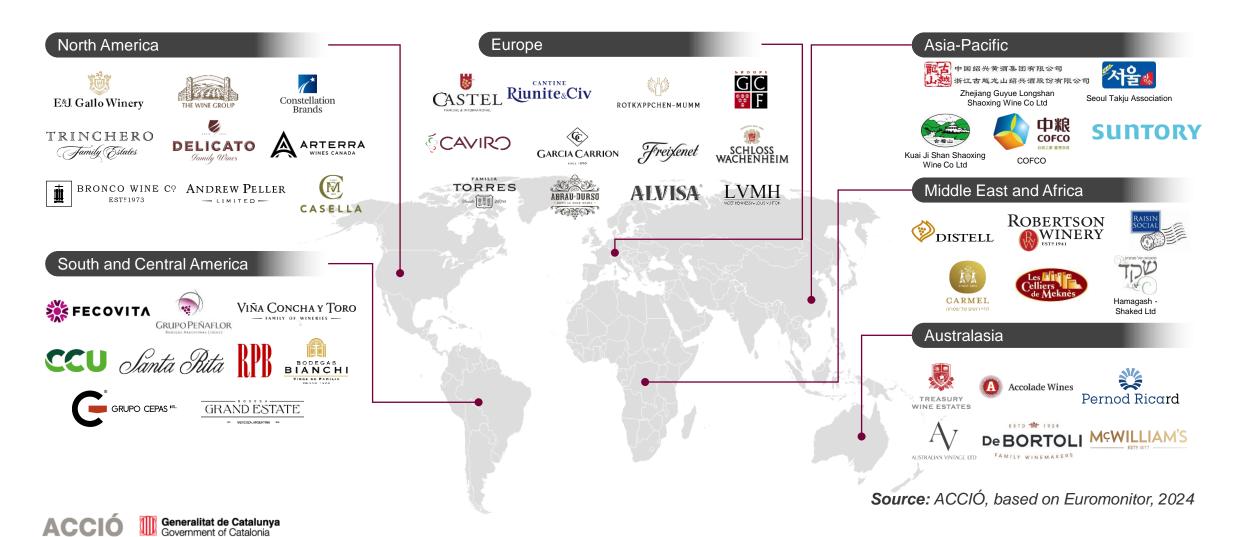




Source: ACCIÓ, based on OIV, 2024

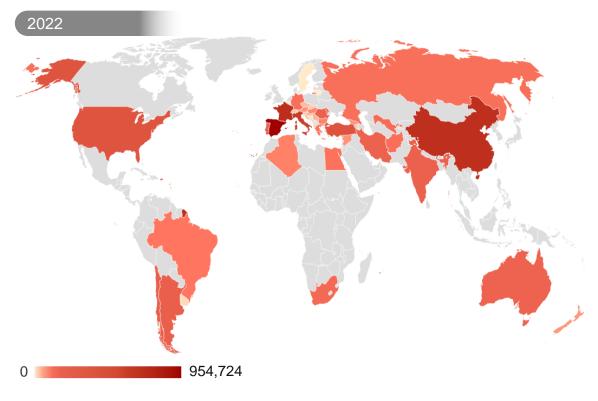
## Companies with the largest share of the wine market by geographic region

Catalonia o Trade O Investment



## Spain is the country with the largest area dedicated to the cultivation of vines

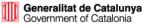
The world area of vineyards has been 7,254,512 hectares in 2022, with Spain (13.2%), France (11.0%), China (10.8%) and Italy (9.9%) occupying the first positions. Between the years 2013 and 2022, in any case, it has been reduced by 2.6%.



Main countries by dedicated area, 2022			Productivity by country, 2022
	Spain	954,724 ha   13.2%	37.4 hl/ha
	France	795,286 ha   11.0%	57.4 hl/ha
**	China	784,750 ha   10.8%	5.3 hl/ha
	Italy	718,198 ha   9.9%	69.4 hl/ha
C*	Turkey	410,000 ha   5.7%	1.5 hl/ha
	United States	390,000 ha   5.4%	57.4 hl/ha
*	Argentina	207,047 ha   2.9%	55.3 hl/ha
*	Chile	195,860 ha   2.7%	63.5 hl/ha
	Portugal	190,981 ha   2.6%	35.9 hl/ha
	Romania	187,934 ha   2.6%	20.2 hl/ha
			,

Source: ACCIÓ, based on OIV, 2024





#### Countries of interest for the wine value chain

The United States is a world leader in the R&D of new grape varieties, growing techniques, and winemaking. Pioneer in the use of new technologies for wine marketing, such as digital marketing and online sales. Portugal is focused on the promotion of wine culture and the protection of DOs. There has been an increase in the investment in wine tourism and sustainability.

Chile is investing in the R&D of new grape varieties adapted to its climate and soil, and is betting on innovation in winemaking, such as the use of sustainable techniques and the development of new wine styles.

Argentina focuses on improving the quality and promotion of its products. It is developing new grape varieties and production techniques to adapt to changes in the market and has increased its investment in sustainability.

France seeks to maintain its leadership position in the international market, protecting its DOPs and promoting its products. It bets on innovation in the fields of viticulture, oenology and marketing.

Spain seeks to improve the quality and promotion of its products. It invests in R&D of new grape varieties adapted to its climate and soil, in innovation in winemaking and in the use of sustainable techniques.

South Africa focuses on increasing its presence in international markets, focusing on improving the quality and promotion of its products. It is committed to innovation in winemaking and the use of sustainable techniques.

Italy focuses on promoting the diversity and quality of its wines through investment in marketing and promotion. It is developing new production and viticulture techniques and is committed to sustainability.

Australia focuses on promoting quality, innovation and sustainability. It has increased investment in R&D to improve wine quality, while developing new production and viticulture techniques.





**▼36,5%** (2014-2018)

## USA is the country that invests the most in the winemaking value chain in 2019 and 2023

The **volume of FDI in the wine value chain** has exceeded €150 million in the five-year period 2019-2023. A total of 22 projects have been executed, generating 1,109 jobs, with Spain as the third investing country on a global scale (by number of projects executed).





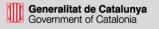


Note: Subsector projects in the "wineries" industry have been considered

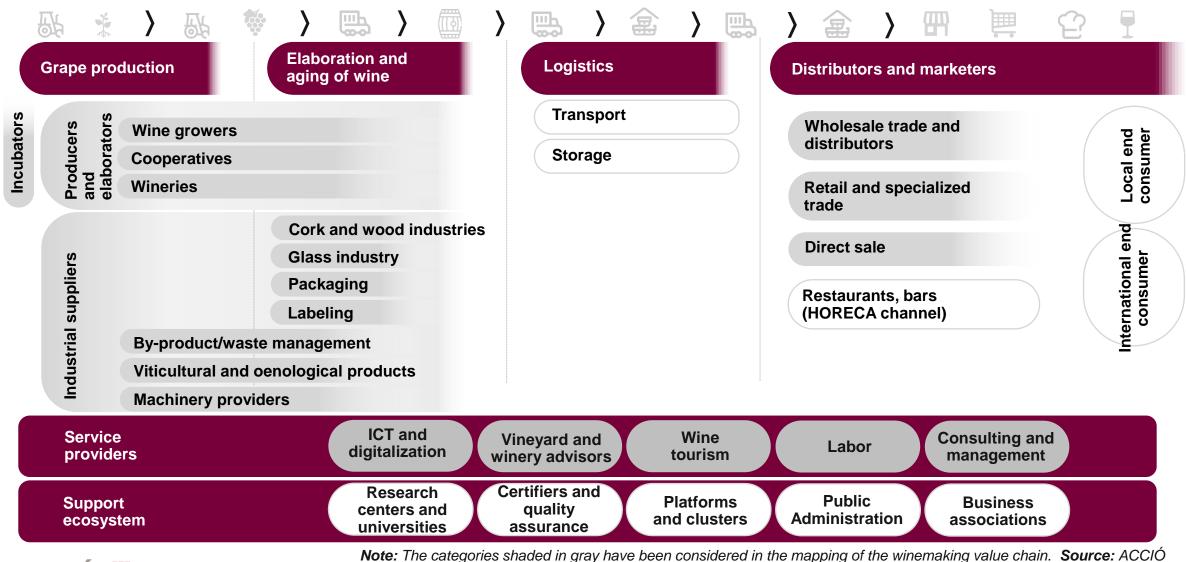
Source: ACCIÓ, based on fDi Markets, 2024

# 2. The winemaking value chain in Catalonia



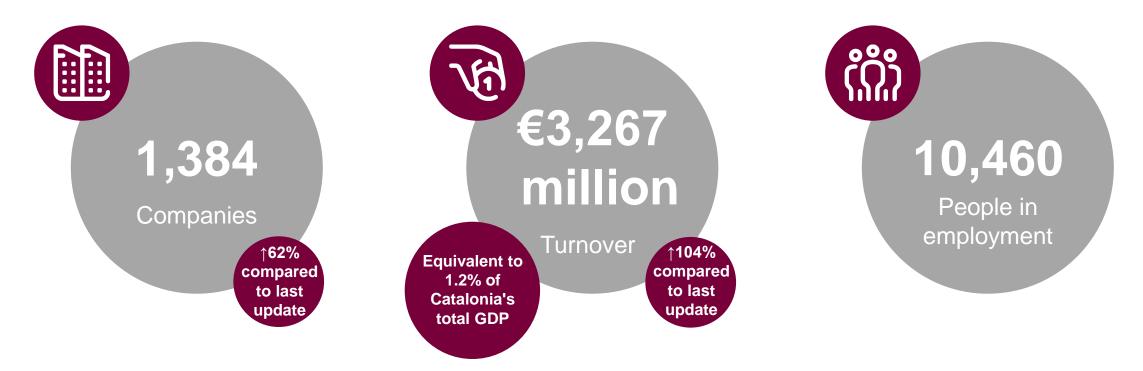


## Winemaking Value Chain



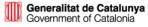


## Key data of the winemaking value chain in Catalonia (I)



**Note:** The mapping of the winemaking value chain has been carried out from companies selected from the following CNAE groups; 0121, 1102, 1103 and 1104; companies from the following ACCIÓ reports are also included; food machinery, circular economy, oil, logistics, packaging (related to wines), previous strategic update of the wine value chain, ACCIÓ directories, Catalonia Industry Suppliers and Partners and auxiliaries of the Innovi de Catalunya cluster; companies that have more than one classification were considered only once. **Note:** It should be noted that, with respect to the previous edition, the new categories of Industrial suppliers, Transversal Services and Distribution and marketing of wine have been considered. **Note:** Economic data from the last year available, mostly 2022. **Source:** ACCIÓ





## Key data of the winemaking value chain in Catalonia (II)

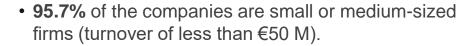
	Number of companies 2023	Volume of business 2022 (€M)	People in employment 2022
Production and elaboration	1,195 (86.3%)	2,924 (89.5%)	9,663 (92.4%)
Incubators	7 (0.5%)	7 (0.2%)	95 (0.9%)
Producers and elaborators	911 (65.8%)	2,291 (70.1%)	7,534 (71.2%)
Wine growing companies	87	62	399
Cooperatives	72	160	471
Wineries	651	2,066	6,473
Self-employed developer with DO	101	3	101
Industrial suppliers	277 (20.0%)	626 (19.2%)	2,124 (20.3%)
Machinery supplier	86	167	686
Packaging	56	122	324
Labeling	28	62	373
Wine and organic products	56	9	25
Cork and wood industries	19	157	420
By-product/waste management	21	12	44
Glass industry	11	97	252
Cross-industry services	115 (8.3%)	21 (0.6%)	144 (1.4%)
Distributors and marketers	74 (5.4%)	321 (9.9%)	653 (6.2%)
TOTAL	1,384	3,267	10,460

**Note:** Economic data from the last year available, mostly 2022. Note: Natural persons producing grapes are not counted. **Source:** ACCIÓ



#### Characteristics of the value chain in Catalonia

#### 1,384 companies





- **81.2**% of the companies were founded more than 10 years ago.
- 49.5% of the companies are exporters and 35.4% are regular exporters.
- 4.8% of the companies are foreign affiliates.

#### Revenue: €3,267



- Equivalent to 1.2% of Catalonia's total GDP in 2022.
- Large companies (4.3% of the total number of companies) invoice 56.4% of the value chain total turnover.

#### **Territorial distribution**



- 55.6% of the companies are located in the area of Barcelona.
- 61.4% of the total turnover and 63.1% of the total number of people employed in the value chain come from companies in the province of Barcelona.
- Alt Penedès, Priorat, Barcelonès, Vallès Occidental and Baix Llobregat are the regions with the most companies related to the winemaking value chain.

#### 10,460 employees



- **5.4%** work in young companies (10 years or less).
- **40.5**% work in micro or small businesses (fewer than 50 employees).

ACCIÓ Generalitat de Catalunya
Government of Catalonia

Source: ACCIÓ. Note: Economic data from the last year available, mostly 2022

## Nurseries, producers and processors in the winemaking value chain in Catalonia (I)

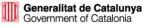


Incubators, winegrowers and wineries (66%)



**Note:** sample of companies by turnover; this is a partial representation with the aim of illustrating the suppliers of the value chain of the winemaking value chain in Catalonia. **Source:** ACCIÓ





## Nurseries, producers and processors in the wine value chain in Catalonia (II)

#### Cork and wood industries













By-product/waste



#### **Glass industry**











#### **Packaging**











## Wine and organic products























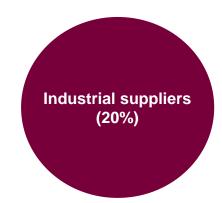
#### **Machinery supplier**













#### Labeling



















**Note:** sample of companies by turnover; this is a partial representation with the aim of illustrating the suppliers of the winemaking value chain in Catalonia. Source: ACCIÓ





### Distributors related to wine value chain in Catalonia



















































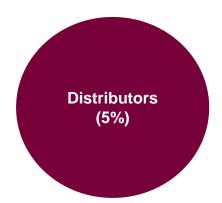








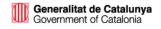






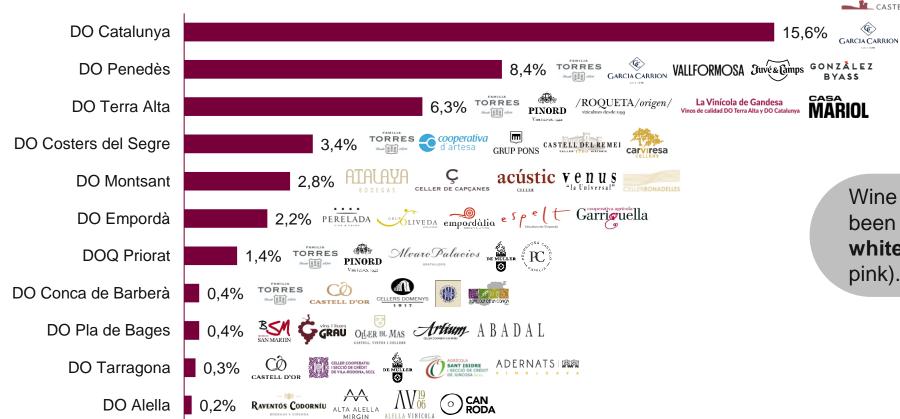
**Note:** sample of companies by turnover; this is a partial representation with the aim of illustrating the suppliers of the winemaking value chain in Catalonia. **Source:** ACCIÓ





## The Catalan DOs have a joint market share in consumed volume of 41.5%

In 2020, Catalan wines with DO gather a combined market share in volume of bottles consumed of 41.5%. This is an increase of 0.3 points compared to 2019 and almost 14 points compared to 2010. DO Catalunya (15.6%), closely followed by DO Penedès (8.4%) and DO Terra Alta (6.3%) are the three most consumed Catalan DOs.



Wine production in Catalonia has been **2,819,951** hl In 2022 (**74% white** wine, 21% black and 5% pink).





## 19 Catalan wines, recognized for their quality and excellence



The distinction of Qualified Estate Wine (VFQ in Catalan) is the highest recognition that Catalan wine can receive from the Government of the Generalitat. It is a tool to increase the prestige of Catalan wine and the value chain as a whole, while improving its positioning in key markets around the world. This prestigious label is the highest exponent of the wine value chain and its territory.







#### Wine tourism in Catalonia

Wine tourism initiatives of the DOs





mon†sant









Tourism initiatives of the administrations

CATALUNYA









































Of the total companies in the mapping, 33% of the companies carry out activities related to wine tourism.



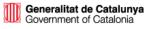
Catalan tourism agency wine tourism experiences: Directory of wineries



#### Josep Roca - Sommelier and co-owner of El Celler de Can Roca

The World's 50 Best Restaurants awards Josep Roca with the title of Best Sommelier in the World (Beronia World's Best Sommelier Award).

The renowned Michelin Guide for the first time (2023) presents the award for Best Sommelier which once again goes to Josep Roca, adding this to the list of awards that recognize the prestige of El Celler de Can Roca.



## Catalan ecosystem of the winemaking value chain

Business associations wines and sparkling wine

accredited by







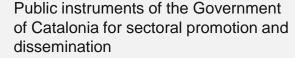






































Clusters

**ACCIÓ** 









Specialized centers in the wine and sparkling wine











**EUROINNOVA** 

Certification bodies

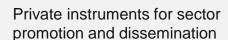




















**Technology centers** and research groups













GTS











Research Groups

#### Catalan university centers that provide food-related training



Universitat

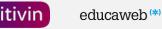
Abat Oliba CEU











**V** ESAH

Specific winemaking training







**FOMENTFORMACIÓ** 





















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



## International business opportunities in the wine and sparkling wine value chain





Recommender of international business opportunities.

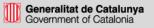




**Source:** ACCIÓ, based on the 2023 global map of international business opportunities

# 3. Business challenges and trends







**Sustainability** and adaptation to climate change





Innovation and healthy food







**Digitalization** 



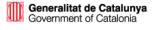












## Sustainability and adaptation to climate change

#### **Sustainable production**

In the winemaking value chain, it means cultivating grapes in an environmentally respectful manner, minimizing the use of chemicals, and adopting agricultural practices that care for the soil and water resources. This not only preserves product quality but also responds to the growing demand from consumers for wines that reflect ethical and environmentally friendly values.

The trend toward **sustainability** challenges this paradigm by emphasizing quality over quantity and environmental stewardship over immediate benefits.

#### Water consumption

Wineries are adopting innovative measures to optimize water usage at all stages of production. The implementation of rainwater collection systems, the reuse of treated wastewater, and the adoption of more efficient irrigation technologies are some of the successful strategies being applied.

An integrated approach toward **water sustainability** is promoted in the Catalan winemaking value chain.

#### Packaging Optimization

One of the main strategies is the **reduction in size and weight of traditional bottles**, which not only decreases the amount of materials used but also **reduces transportation and storage costs**.

Additionally, there is innovation in packaging typology, exploring alternatives such as cans, boxes, and bottles with more compact and ergonomic formats.

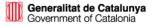
Ultimately, strategies for **bottle reuse** are being analyzed to **promote sustainability and circular economy in the winemaking value chain.** 











## Innovation and healthy food

#### **Healthier wines**

The intersection between technology and healthy wines is evident on several fronts, allowing for the development of wines with lower alcohol content (or none at all). From the use of moderate winemaking techniques that preserve the healthful compounds present in grapes to cutting-edge technology monitoring the fermentation process to ensure the preservation of natural antioxidants like polyphenols, technology is enhancing the healthful aspects of wines."

#### Innovation in flavors

The trend of flavor innovation in wines is **redefining the wine experience** by offering an exciting variety of wine-infused beverages that incorporate fresh and vibrant fruity flavors.

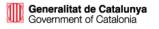
From exotic combinations like mango and passion fruit to timeless classics like strawberry and pineapple, these flavored wines invite palates to explore a world of captivating and refreshing tastes.

This trend reflects the growing demand for innovative and creative consumer options, as well as the wine industry's willingness to adapt to changing consumer preferences.









#### **Premiumization**

In Catalonia, known for its rich winemaking tradition and diversity of native grape varieties, this trend translates into a **greater appreciation** for premium wines that stand out for their distinctive character and unique origin. From the elegant reds of Priorat to the refined sparkling wines of the Penedès region, consumers are seeking wines that not only offer exceptional taste but also have a history and tradition rooted in the Catalan territory.

#### **Organic wines**

The production of organic food or organic farming is an environmentally sustainable production system that seeks to respect the planet, as well as the health and well-being of consumers.

In this sense, organic foods are natural products without insecticides, herbicides, fertilizers, chemicals and that have not been genetically modified; having been controlled throughout their entire production, processing, packaging and marketing process.

## Digitalization (I)

#### Internet of things

In the value chain of agriculture, various devices can be remotely controlled in real time, such as covers, tractors, pumps, weather stations, and computers.

IoT solutions collect data from sensors and incorporate data visualization and control systems, in this way aspects such as temperature, light, and soil humidity in the vineyard can be controlled.

In this sense, IoT allows monitoring the conditions of the crop and the infrastructure remotely, which helps to reduce time in the field, physical effort, and resources used, allowing farmers to have greater control of the crops.





#### **Satellite images**

The application of satellite images to the winemaking value chain represents a powerful digitization trend that is transforming the way vineyards are managed and wine is produced.

Producers can efficiently monitor large extensions of vineyards, identify problematic areas such as water stress or plant diseases, and take preventive or corrective measures in a well-timed manner.

In addition, the information collected through these images can be used to **optimize resource management**, such as irrigation and the application of fertilizers, thus maximizing the quality and yield of the harvest.



#### **Artificial Intelligence**

Al is applied in different ways to the winemaking value chain:

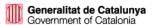
Vineyard management and cultivation: Al modernizes and optimizes wine production by analyzing sensor data and conditions, detects diseases, pests and imbalances, allowing for timely responses.

Wine making: It analyzes data related to the grape and its properties, improving the aroma and taste of the wine by discovering patterns and optimizing the making.

**Market reach**: It allows to anticipate demand, manage inventory and optimize the supply chain, reducing costs and ensuring efficient distribution.







## Digitalization (II)

#### Robotics

There has been **significant growth in the development of agricultural robots** for a wide range of applications. Spraying, soil sampling, exploration, and logistics are areas with potential applications for robotics, especially for high-value crops such as vineyards.

Agricultural robotics brings great benefits related to improving the well-being of field staff, reducing the need for field supervision, improving pest detection thanks to artificial vision, reducing losses due to poor handling, etc.

#### **Traceability**

Traceability is the tool that allows us to know all the elements involved in the production of a product and all the production phases it goes through.

It allows the consumer to have complete and reliable information about the production process, to base their purchase decision, as well as to avoid imitation wines and illegal trades. Blockchain data identification and tracking technology helps to secure this data, as well as quality seals such as: recyclable, local, natural, organic, etc.

#### Electronic tags

The **digitization trend** in the winemaking value chain is enhanced by the adoption of **electronic labels** for products.

These labels, which incorporate digital technology, allow for more efficient and dynamic management of information related to wines. From details about harvest and production to pairing recommendations and expert ratings, electronic labels offer an interactive experience to the consumer.

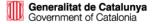
This innovation not only improves the consumer experience, but also **provides producers with a powerful tool to differentiate and promote their products** in an increasingly competitive and digitized market.











## Companies interviewed within the framework of the study

#### Challenge



**Covid**es faced the challenge of innovating its wine product offering and assessing market acceptance for new varieties and lines. Uncertainty about the reception of these new products represented a financial and strategic risk.



Wine fermentation, an essential process in production, generates large amounts of carbon dioxide (CO2), a greenhouse gas that contributes to climate change. The **Torres family**, committed to sustainability and environmental protection, was looking for a way to reduce its carbon footprint.



**Vallformosa** was facing a challenge in today's market. Consumers are increasingly looking for convenient, portable and sustainable options to enjoy their favorite beverages. Additionally, there is a growing demand for products that align with an active and outdoor lifestyle, where glass bottles may not be practical or allowed.

#### Solution

The company implemented an Experimental Cellar, a bold approach that allowed them to develop and release small quantities of new products, such as vermouth and various varieties of wine. This strategy allowed them to test market acceptance in a controlled manner before full-scale production.

The Torres Family designed an innovative system that captures the released CO2, purifies it and stores it for later use, instead of releasing it into the atmosphere. They have managed to reduce the environmental impact and found a way to reuse a by-product of their wine production process, proving that sustainability and efficiency can go hand in hand in the wine industry.

Vallformosa launched Imperfect 00, a line of wines and sparkling wines in can format. This innovative format is lightweight, easy to transport, cools quickly and is completely recyclable. Also, cans are perfect for occasions when glass bottles aren't practical. It has demonstrated its commitment to sustainability and innovation, as it is an ecological and vegan product.

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Source: ACCIÓ based on interviews

## Thank you!

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https://catalonia.com/key-industries-technologies/food-beverage-incatalonia





