



*Garbellotto*

L'ARTE DEL BOTTAIO®



Since 1775



**Artisan Intelligent**

# Intelligent Artisanship at the service of our Experience

One of the oldest trades in the world is linking up with the most innovative technologies, so that we can lighten the workload of our master coopers and let them concentrate on craftsmanship, selecting the best wood and the most important steps in the production process.

Every single detail is essential to build casks and barriques used to refine great Italian and international wine, beer, vinegar and spirits.









## Our wood guaranteed by Botti & Barriques NIR®

The wood we normally use at present is oak, that we purchase directly from the best European forests in France, Slavonia and Germany, where our experts choose only the best wood.

Only the best **FSC®** and **PEFC** certified fine-grain timber, without faults such as knots, sapwood, cracks, etc., will be naturally seasoned outdoors for three to five years in our 87,000m<sup>2</sup> yard. Our new Sacile facilities on the edge of the Cansiglio and Piancavallo Forests are exposed to pure mountain air that provides perfect seasoning.

*Casks and barriques are constructed with carefully selected wood that is analysed to give the required aroma to wine.*

*To know the origin of the wood is not enough: the growth of trees, like other plants, depends on micro climatic variables such as more or less humidity and the composition of the soil, rather than the hill's exposure to the sun.*

For this reason, together with the Oenology and Food Technology Department of the **Università degli Studi di Udine**, we have achieved the patented Botti & Barriques NIR® whereby each stave is infrared scanned (NIR) and its characteristics analysed, so as to have all the information an X-ray would give.

In this way we have identified four aromatic categories: **Structure, Sweet, Spice, Equilibrium.**

**Structure:** identifies the structural feature, i.e. wood characterised by high tannin and ellagitannin content. The wine acquires structure and body and the colour settles.

**Sweet:** identifies the sweet feature, i.e. wood characterised by high vanillin and furfural content. The wine acquires hints of sweet aroma.

**Spice:** identifies the spice feature, i.e. wood characterised by high lactone and eugenol content. The wine acquires spicy hints.

**Equilibrium:** identifies the fact that there is no dominant character. The wine takes on a flavour which is a mixture of those mentioned above, and the wood feels well-balanced.

**Botti e Barriques NIR® also allows us to recognise and discard staves with a green aroma.**

*Thanks to this patent we have created a real wood library, where we catalogue oak with different aromatic concentrations in the natural seasoning process, from the most delicate and sweet, to the most robust and intense, so that we can make casks and barriques that yield exactly what is required by the winery.*



## Our toasting process and DTS® Digital Toasting System

Toasting is the process that **enhances the flavours of the wood**, catalysing those already present and developing them positively. Until now this process was carried out by placing the cask or barrique over a brazier fed with pieces of oak. The wood evolves these aromas according to toasting temperatures, which must be in the range of 170/180/200 degrees centigrade, depending on whether you seek lighter or heavier aromas of vanilla, liquorice, chocolate, or tobacco smoke.

**If the temperature and internal exposure of the staves is not homogeneous and controlled, the casks or barriques have undefined aromas.**

Staves not heated enough will develop negative, bitter aromas; staves heated too much risk catching fire.

For this reason, we created **DTS®**, which can manage heat levels so that they **are constant over the entire surface of the wood.**













# Casks

We make round and oval casks of 10 to 500 hl and over, in standard sizes or in sizes specifically requested by our clients. **The staves are curved "full thickness"**, which means they are homogeneous throughout their length (head and belly).

This particular curvature is used to obtain casks **statically more solid**, because the staves have full thickness particularly where the strain is greater; from the wine-making point of view they are **more durable**, because there is more wood yielding aromatic substances; renewable, because over the years it is possible to remove 5-8 mm of the internal thickness to revive aromatic exchange.

**Ample rational hoops** made of top quality galvanised, phosphate-coated iron, complete construction of the casks.

The interior of each cask is lightly shaved to facilitate cleaning in the winery, whereas the exterior is planed and sanded.

**Both ends of the cask are bent with a double arch (dam principle), the only way to guarantee a perfectly watertight container.**

This double curving is needed for casks of 15 hl and over because otherwise the ends would deform, causing warping and irreparable leakage.

All casks are then controlled and tested at **controlled pressure and temperature to verify perfect seal and precise capacity.**

The production process ends with the application of natural varnish and, if required, the head of the staves are painted in the traditional way with red paint.

**INDUSTRY 4.0 TECHNOLOGY CAN BE APPLIED**

## Accessories

### Standard accessories:

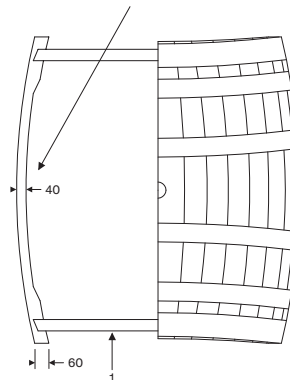
- wooden front door in a single wide stave;
- stainless steel front valve inserted above the front door. Diameter to requirements;
- wine taster inserted in the centre of the front-head;
- silicone or glass airlock bung-hole plug;
- pair of damp-proof wooden cask supports.

### Available on demand:

- 18/8 AISI 304 stainless steel door;
- silicon gasket for the wooden front door;
- drainage unit entirely in 18/8 AISI 304 stainless steel;
- 18/10 AISI 316 stainless steel top closing system;
- temperature control system.
- drainage valve 30mm.

### COMPETITOR'S STAVE

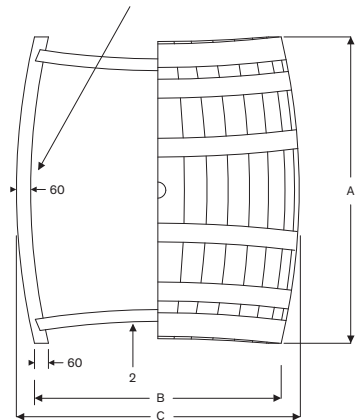
Stave with different thickness



- 1 Flat heads
- 2 Double arch curved head

### GARBELLOTTO STAVE

Curved stave with full thickness



- A Stave maximum external length
- B Minimum external diameter
- C Maximum external diameter















# Barriques and Tonneaux

As barriques and tonneaux are continuously evolving, we have extended our selection of wood and now purchase oak throughout France, not only in the central massif, but also just outside Paris, at Fontainebleau, where Napoleon hunted deer. We have added a specific Italian line of 550 and 750 litre tonneaux in 40mm thick split oak to our 225 litre barriques and 300 and 500 litre tonneaux in 30mm split oak.

The staves are curved by means of direct heat with our exclusive **DTS® - Digital Toasting System**, a method that controls heating digitally so that the entire interior is kept at the same temperature, eliminating thermal shock.

After heat curving comes the toasting process, controlled and guaranteed by **DTS®** to give aromatic variations that penetrate the wood deeply, exalting its aromatic content, pre-selected with **NIR®** technology.

**A number of toasting versions are available: light at 180°, medium at 185°, medium-plus at 190° and strong at 210°.**

## Origins of fine grain Oak

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- France: Allier, Nevers, Fontainebleau, Limousin, Vosges;
- Slavonia;
- America: Missouri and Pennsylvania.

**Special selections of wood for particular ageing: Acacia, Cherry, Chestnut, Ash, etc.**

## Capacity and dimensions

CAPACITY	DIMENSIONS	
	Staves	Ø
Litres	mm	
225	950	690
300	1,000	780
500	1,100	950
550	1,100	1,000
750	1,200	1,100











Since 1775

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# Two centuries of history preserved by our master coopers

1 Family

8 Generations

80 Master Coopers

87.000 square meters of naturally seasoned timber

More than 100.000 hl of barrels and bariques a year

3 Guinness

5 continents proudly served

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**G. & P. Garbellotto S.p.A.**



## Since 1775

The Garbellotto story began in 1775 when Giuseppe Garbellotto opened a carpenter's workshop, where he also produced wine casks and barrels. He eventually passed the firm on to his son Pietro, and nephew Augusto Emilio.

Business flourished throughout the 1800s, so much so that Karl of Hapsburg, the last Emperor of Austria, commissioned Garbellotto to renovate the wine cellar of his wife, Empress Zita of Bourbon-Parma.

The company prospered in its first location at San Fior, now the family residence, until World War I, when production ceased following occupation by Austrian troops. The building was converted into a military first aid post and all the archives were destroyed; only a few pieces of furniture and some documents survived.

After the war, Giobatta Garbellotto, grandfather of the current owners, transferred the company to Conegliano, where he organised it to new industrial criteria, laying the foundations for future success.

During the period between the two wars the business supplied the first cooperative wineries and sent its first exports to the colonies, but Europe was in the throes of the turmoil that led to World War II, during which the company premises were destroyed.

At the end of the war, Pietro and his father Giobatta purchased land flanking the Conegliano by-pass, and built new facilities.

In the sixties and seventies many wineries throughout Italy had to start from scratch and coopers travelled the peninsula to position, mount and test in situ products such as Biondi Santi, Bertani and Kiola medium-sized casks and large distillation vats for important groups such as Branca, Montenegro and Stock.







# OUR HISTORY

**1775**

Foundation



**1865**

First Export to China

**1903**

Supply to Imperial  
Hasburg Cellars

**1917-18**

Destruction in World War I

**1920**

Reconstruction

**1930**

Export to the colonies



**1970**

Leading Italian  
company

**1960**

Expansion to 40.000  
square meters

**1946**

Reconstruction

**1943-45**

Destruction for World War II



**1982**

Supply to Gallo Winery, the largest  
aging cellar in the world

**1990**

Expansion to 52.000  
square meters

**2005**

La Botticella

**2009**

The Experience®





# STORY



**2013**

Second Guinness World Record with the largest cask in the world  
GIULIETTA E ROMEO



**2022**  
**2023**

Zero emissions plan

**2011**  
Patent for self-locking tie rods



**2014**  
BOTTI & BARRIQUES NIR® patent



**2022**

Third Guinness World Record with the largest cask in the world



**2010**

First Guinness World Record with the largest cask in the world  
MAGNIFICA

**2016**  
DTS® patent



**2020**

Vat 4.0 patent



Purchase of new sawmill in Slavonia

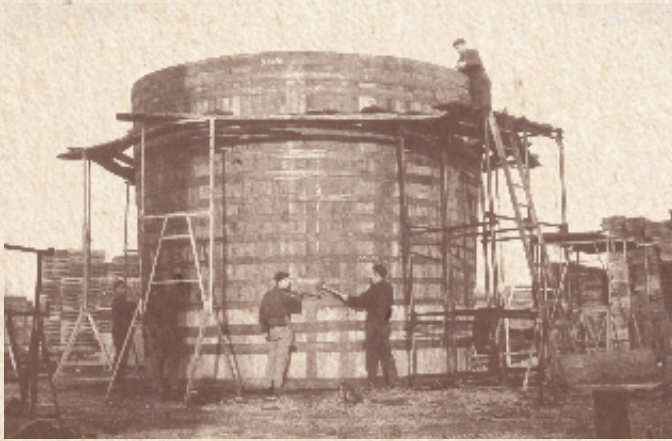
**2018**



**2019**  
**2020**

New plant







## Since 1775

The company still had a prevalently artisan connotation, but Pietro's preoccupation was the purchase of timber. He stepped up his journeys in Europe, where he selected the best oak timber, to be sawn in-house at Conegliano. At this point he had decided to add a sawmill to his cooper's business and sell the wood whose aroma was not suitable for wine. In this way, he was able to purchase large lots of oak timber at bargain prices, reducing his costs and keeping quality high, earning his products the definition of the Rolls Royce of barrels and taking his company to a leading position in Italy.

His business would be mentioned in several books, including by Mario Soldati and Giovanni Comisso, and a visit to the facilities became a must for the students of many Oenology Schools.

The timber trade was fundamental in saving the business in the early 80s, the years of the oil crisis, when consumers changed their drinking tastes, preferring young wines to aged ones, which greatly stressed the industry.

However, recovery was quick: in the USA the Gallo family was preparing to build one of the biggest wine-aging facilities in the world, with 712 x 166 hl vats. This huge order carried business through for a few years and the coopers were happy to light their fires and wield their hammers again.

Pietro, who had already received a knighthood, was named Grand Officer of the Order of Merit of the Republic.

He passed away in 2011 at the age of 88, having already placed the business in his sons' hands.

The company developed in these years, when *La Botticella*®, the link between casks and oak barrels, was successfully launched onto the market, together with *The Experience*®, a 1,000 litre, self-emptying vat, ideal for fermenting small batches of grapes. The latest generation of Garbellotto coopers have had the satisfaction of two mentions in the Guinness Book of Records for the biggest barrels in the world.

The Large Capacity Division was inaugurated in 2011, where the company's patented self-locking plate is used for the economical manufacture of large containers that can be assembled in situ.

This division enabled the supply of forty 400 hL vats, eighty 800 hL vats, forty 1,200 hL vats and a 2,700 hL Hercules vat to Acetum group.



Since 1775

In 2013, acknowledging its restricted capacity for research, the company began to cooperate with **Udine University**, working with professors Zironi and Battistutta, a collaboration still active today. This gave rise to patenting **Botti & Barriques NIR®** for aromatic selection and the **Digital Toasting System®** for digital control of toasting, to release ever more delicate, homogeneous nuances.

Given that its business is founded on timber, particularly oak wood, for some years now the company has been **FSC®** and **PEFC** certified.

Whereas relationships in France were consolidated with several suppliers of oak timber, Croatia issued a law that prohibits the sale of fresh Slavonian Oak to companies outside the country's borders.

To guarantee its supplies, Garbellotto acquired a 27,000m<sup>2</sup> sawmill in Slavonia, with a State concession to fell oak trees. This branch would soon become the cutting and splitting centre for all Garbellotto's timber, as it could take advantage of the 'Baltic-Adriatic corridor' to collect not only local Slavonian oak, but also oak timber from French and German forests.

Such re-organisation made it possible to build new premises, concentrating on the production of oak barrels and casks with wood selected in the forest by our own experts. In 2019 new facilities based on the 4.0 industrial plan and designed to the lean criteria of "**Artisan Intelligence**" were opened.

The Industry 4.0 plan allows for hyper-amortisation and has led to our **digitally controlled vats** (patent N. 102020000012844), a wooden vat with automatic temperature control that is eligible for tax benefits.



G. & P. Garbellotto S.p.A.  
garbellotto.com





# Vats

We make 10 hl to 250 hl truncated cone vats for vinification, storage and ageing of wine, spirits and vinegar, and on demand can provide vats with a capacity of 2,500 hl or over. We use the direct heat method known as 'Bombè' to slightly curve our vats. This helps the hoops to stay perfectly tightened. Unless otherwise specified, the 'Bombè' process is followed by **DTS®** digital toasting.

The construction process is completed by fitting hoops in prime quality, hot galvanised and phosphate-coated iron over the staves. The interior of each vat is lightly planed to facilitate cleaning in the winery, whereas the exterior is planed and then sanded.

All our vats are tested at controlled pressure and temperature to verify perfect seal and precise capacity.

The process is completed by applying natural, breathable varnish and the appropriate accessories according to the type of vat: for fermentation, storage/ageing, or industrial uses.

## **DIGITALLY CONTROLLED VATS**

**We have patented a wooden vat that manages fermentation through an app and is eligible for 4.0 hyper amortisation.**

## Accessories

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### **Standard accessories:**

- stainless steel, outward opening door fitted close to or flush with the bottom of the vat;
- 18/10 AISI 316 stainless steel convex top cover with central filling funnel;
- stainless steel partial discharge valve and full discharge unit, complete with required measuring valve and connection;
- suitable wooden supports, measuring 30 cm from the ground;
- steel ladder rest;
- inox wine taster.

### **Special accessories on demand:**

- 18/10 AISI 316 stainless steel convex top cover with diameter 22 cm discharge pipe complete with double acting overpressure valve;
- thermal conditioning unit with mirror polished stainless steel plates, dimensions in proportion to the vat in question;
- digital or mechanical thermometer
- tubes for 'delestage';
- self-supporting stainless steel supports;
- automatic pumping over or cap punching down units;





# THE EXPERIENCE®

*The Experience*® is the result of Garbellotto's cooperation with renowned winemaker Roberto Cipresso. The name has the double meaning of the term 'experience' as a re-interpretation of fermentation in wood.

This traditional technique is used to produce must with more stable and cleaner colour and aroma due to the dual effect of micro-oxygenation combined with the exchange of natural tannins during fermentation.

It has a capacity of 1,000 litres, which helps those who do not normally use fermentation in wood to approach the method gradually.

After fermentation it can be used as an ageing tank, as it has an exchange surface similar to a 500 litre tonneau.

It has a truncated conical shape and is designed so that its height of 110cm (therefore less than its width) creates the bouyant force considered in Archimedes' principle, obstructing the upward thrust of the cap. Also available is a practical KIT to keep the cap submerged during fermentation, and an accessory to facilitate stacking the two units one on top of the other.

Besides full discharge, *The Experience*® also comes with steel supports designed for use with an automatic tipping system to empty the vessel directly into the wine press.

A special stainless steel support is used to stack the vats, even when full.



## External measurements:

Stave length: 1100mm

Maximum diameter: 1300mm

Stave and head thickness: 55mm





# LA BOTTICELLA®

This product is the result of research by our collaborators to combine the ease of use of the cask, through the **steel accessories**, with the **speed of ageing** in barriques and tonneaux.

Their construction is quick and automated; they are made from 40 mm split oak up to 55 mm quarter sawn for the largest casks. They guarantee a fast and elegant aromatic release.



## Accessories

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### Standard accessories:

- a small wooden door made from one central stave at the front end;
- stainless steel valve fixed to the door, with a choice of attachments and sizes;
- stainless steel wine-tasting spoon fixed to the centre of front end;
- damp-proof tannic or resinous wooden supports;
- silicone stopper for bung hole or, alternatively, one glass cask filler.

**On demand, stainless steel front door, 160 mm upper cover, full drainage unit or 30mm valve.**







## Cask accessories



### 18/8 AISI 304 stainless steel door

Size 24 x 46cm, easy to reach, complete with required valve. Fitted perfectly into one special central stave at the bottom end of the cask.



### Wood door with silicon gasket

Fitted into a special central stave, complete with stainless steel screw and reinforced brass nut, wooden cross piece and silicon gasket.



### Full drainage pipe in 18/8 AISI 304 stainless steel

Complete with required end valve, fitted to one central stave at the bottom of the cask.

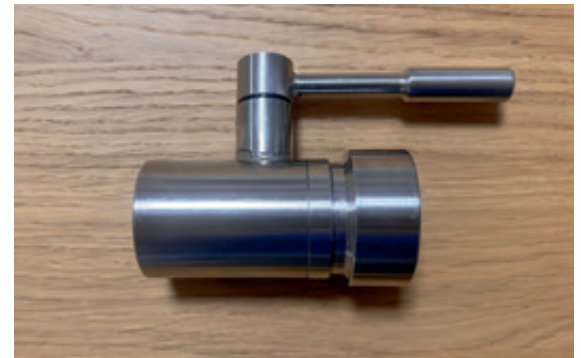


**18/10 AISI 316 stainless steel bung-hole stopper**  
16-22cm diameter, 9cm high, complete with pressure valve in steel or Moplen. Stainless steel full drainage pipe.



### 18/8 304 stainless steel door (LA BOTTICELLA®)

Size 19 x 26cm, inserted at 3 cm from the top of the staves, complete with steel valves.



**30mm AISI 304 stainless valve for complete discharge.**



### **Hand-carved engraving**

Personalized casks with our exclusive hand-carved engraving on the front end.



### **Laser marking**

Laser marking allows barrels, vats and casks to be customised, reproducing any logo.



### **Printing varnish**

Casks, vats and barrels can be customised, reproducing trademarks, family coats of arms or wine logos.



## Vat accessories



### 18/8 AISI 304 stainless steel door

Size 31 x 42cm, fitted at 30cm from the bottom, easy to reach, opening outwards.



### 18/10 AISI 316 stainless steel convex top cover

Dimensions 40 to 120 cm in proportion to the diameter of the vat, with central filling funnel.



### 18/8 AISI 304 stainless steel full drainage pipe

Complete with required end valve, fitted to one central stave at the bottom of the vat.



### 18/8 AISI 304 stainless steel bottom level door

Size 31 x 42cm measure, easy to reach, opening outwards.



### 18/8 AISI 304 stainless steel partial drainage unit

Complete with end valve of customer's choice.

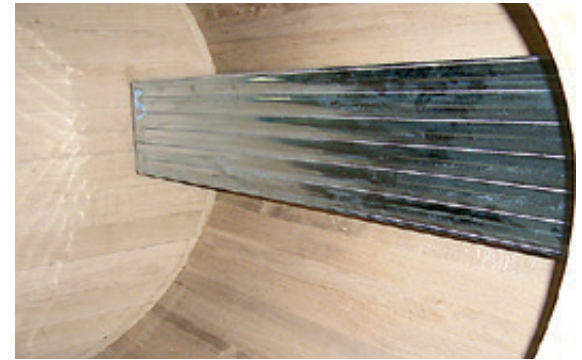


### Freestanding stainless steel support

Free-standing stainless steel supports measuring 65cm from the ground, with adjustable feet.



**Stainless steel pumping over unit**  
Pumping over system.



**Heating pipes**

Made of 18/10 AISI 316 stainless steel double welded plates and probe shaft. It can be fitted horizontally or vertically depending on the height of the vat. One plate for every 50 hl holding capacity.



**Sprayer**

Adjustable stainless steel sprayer for pumping over.



# Garbellotto Customer Service

We supply all containers with a warranty and provide an after sales service. In Italy our coopers are organised with a mobile repair unit to provide prompt service, and abroad we have a network of local after-sales service centres.

We take care of our customers not only before and during sales, but also for the entire duration of the cask. We are at customers' disposal to carry out any kind of operation, such as:

- regeneration of used casks, carried out directly in the winery (for easier operations) or in our facilities, removing 5-8mm of wood to renew the barrel;
- application of stainless steel fittings on site;
- repair of old casks: replacement of staves, hoops and the like;
- chemical analysis to check for possible contamination;
- advice on washing, limescale removal and sterilisation;
- estimation of old casks.

**Customer service is guaranteed in 5 days in your winery.**





# We are enviromentally friendly - Zero Emissions Plan

Our company can boast very low environmental impact; all our wood comes from eco-sustainable **PEFC** and **FSC**® certified forests. Only in this way can we be certain of using our forest heritage responsibly. We fell only mature trees, leaving space for young plants to grow. We pay particular attention to our production cycle, where we use state-of-the-art energy-saving machinery and photovoltaic panels. Casks and barriques are natural containers held together entirely by the pressure of the hoops, without any artificial elements.

We have also launched the “Zero Emission plan” in our headquarter in Sacile. Already today, 65% of our energy is green and self-produced; this year new photovoltaic panels were installed in addition to those already present, for a total capacity of 500,000 kW. In 2023 we will achieve energy independence by producing all our energy needs with photovoltaic panels and we will be one of the first companies in the area to be completely green and zero-emission.



## Certifications

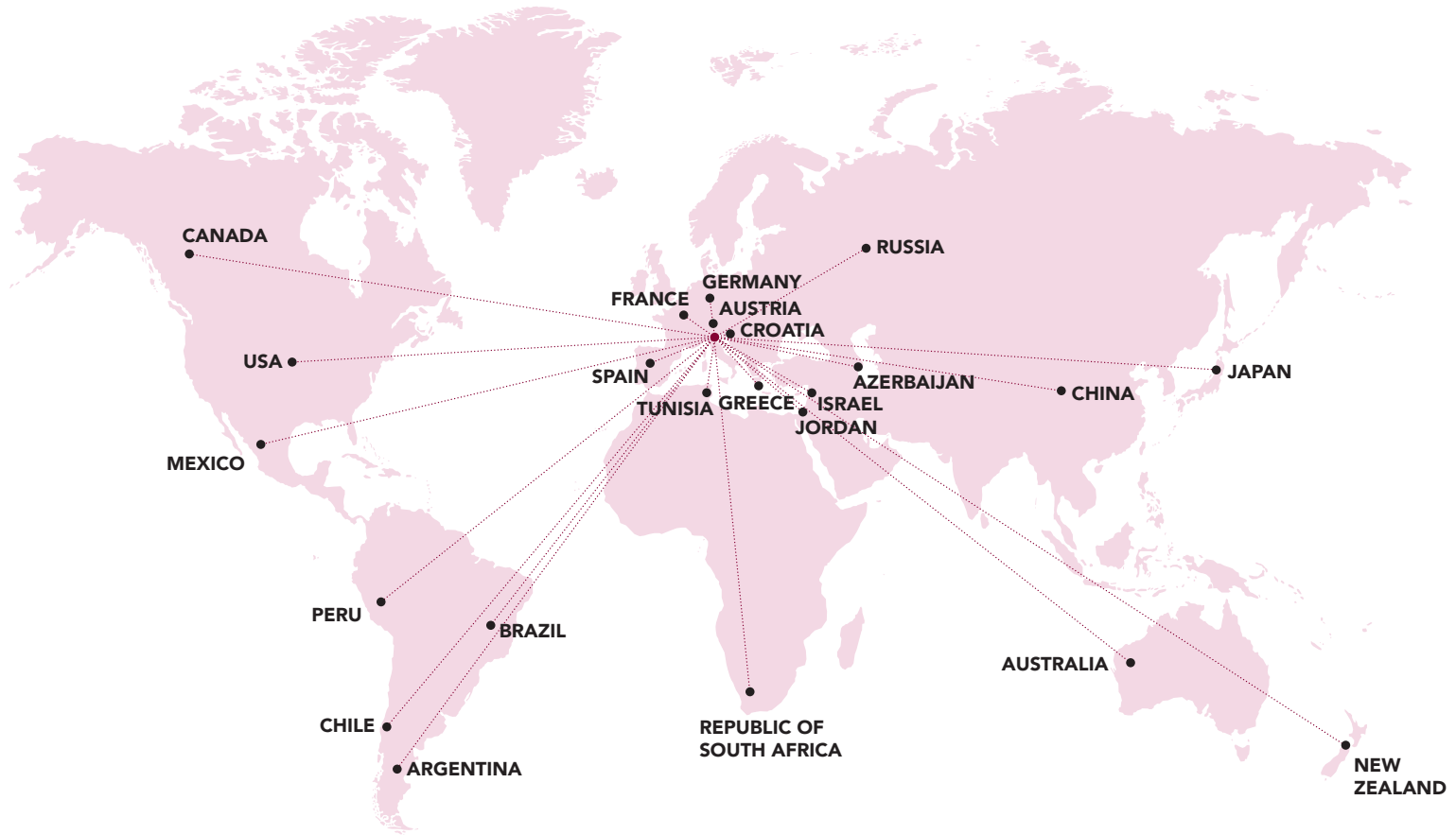


The mark of responsible forestry  
FSC® C017370

Certified products FSC® available upon request



# Customer locations



G. & P. Garbellotto S.p.A.

[info@garbellotto.it](mailto:info@garbellotto.it)  
[garbellotto@pec.it](mailto:garbellotto@pec.it)

**Production site**  
Via Longon 2, Sacile (PN) - ITA  
**Historic site**  
Conegliano (TV) - ITA



[garbellotto.com](http://garbellotto.com)





