



ITALY

ARSENALE, THE SECRET VENICE

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Venice, the State Archives, Salvatore Alongi, a member of staff at the archive, searches for representations of the Arsenale among the Napoleonic maps stored in the Sala Regina Margherita.

Arsenale, the secret Venice

Considered the world's first factory, it introduced standardized mass production systems long before Henry Ford

- ▶ The Venice Arsenale is over 800 years old: the first official document mentioning the Arsenale dates back to 1220.
- ▶ Well ahead of its time in introducing the production line system, it is considered the world's very first factory.
- ▶ Including those employed indirectly, the total workforce could number 10 thousand people and the facility was able to produce three large ships a day.
- ▶ Its naval fleets – an entire ready-to-assemble fleet existed – were key in the Battle of Lepanto.
- ▶ The raw materials arrived from the forests of Trentino (timber) and the Po Valley Plain (hemp for ropes and cords).

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Venice, two warehouses in the northern part of the Arsenale serve as the venue for a party during the carnival period.



Venice, view of the city from the east. Centre bottom, the Darsena Nuovissima and the eastern entrance to the Arsenale with the tower of the Porta Nuova.



The Somadida Nature Reserve (Auronzo di Cadore, Belluno), forestry guard Stefano Azzalini cuts down a fir tree damaged by a violent gust of wind at the end of 2018. From this forest the Venice Arsenal sourced its beech and fir for constructing the main masts of the ships. Cadore fell under the rule of the Republic in 1420. The timber was transported to the Arsenal on rafts on the River Piave.



Venice, La Festa della Sensa (the Feast of the Ascension) on 2 June, Venetians aboard the Bucintaur take part in the Marriage of the Sea ceremony, an ancient ritual more than a thousand years-old that symbolizes Venice's maritime dominion. The Bucintaur – the state barge of the Doges – was built and stored in the Arsenale, and captained by the Admiral of the Arsenale. Its oarsmen were all workers from Arsenale.

In Venice the Arsenale is not just a magical space from another era. For centuries it was the most important and protected of sites. In a city without walls, even today it is the only place surrounded by high ramparts. Why? What is this monument hiding? When tourists stroll through the boatyards at the Art Biennale, they are unaware that they are, in fact, visiting the world's first ever large industrial factory. The Venice Arsenale was the world's first modern production facility, effectively anticipating the Ford model from the 1900s in its use of assembly lines, the division of labour, mass production and quality control.

That factory has already passed the symbolic milestone of 800 years – it was, in fact, created many decades earlier but the first official document that mentions the site is dated 1220 – and few know its real story. The Arsenale is linked to the most florid period of the Republic of Venice: four centuries between the 1300s and the 1600s during which the Republic, which possessed a secret naval fleet (disassembled but ready for use), conquered the routes of northern Europe and stood up to the Ottomans in the Mediterranean (the Arsenale played a determining role in the Battle of Lepanto in 1571).

Spanning a vast area of almost 50 hectares, the Arsenale, which is mentioned by Dante in *The Divine Comedy*, employed between two and four thousand people, a figure that reached ten thousand if including indirect employees. If required, it could produce three large ships a day. The site included warehouses, weapons deposits and boatyards for both commercial and naval vessels.

But its story reaches far beyond Venice: the Grande Arsenale, which was more like a state within a state, stretched all the way to the oak woods of Montello, in the province of Treviso, and to Somadida in Cadore, where the timber was collected from tall trees for the construction of the ships, and the plains of Emilia in the Bologna area where hemp was grown for use in ropes and caulking. All of which was transported to Venice via waterways.



Venice, the Rio della Tana and the tower of St. Peter and St. Paul in the southeastern corner of the Arsenale. The ropes and cords at the Arsenale were called “de la Tana”; Tana is the locality on the Black Sea from where Venetians imported the hemp for making the ropes.



Venice, members of Venice Rugby Club train on the pitch in Bacini (within the walls of the Arsenale complex).



Venice Lido, Alberto Bergamo on the premises of his company Master Sails adjusts the sails of one of his clients. Repairing sails is an ancient tradition in the lagoon, an art that was handed down from one generation to the next within the walls of the Arsenale.



Venice, the Doge's Palace, Sala del Maggior Consiglio: members of the corporation of military workers employed at the Arsenale were entrusted with tasks such as guarding the Doge's Palace and sessions of the Maggior Consiglio (Great Council).



Venice, the Darsena Vecchia at the Arsenale (probably built in the second half of the 12th century) with, from right, four buildings: a former boatyard, the water entrance to the "House of the Bucentaur" (rebuilt in the 19th century), a wet dock (16th century) and an original boatyard.



Venice, Rear Admiral Andrea Romani, Commander of the Arsenale, congratulates Lieutenant Manuela Buonocore during the graduation ceremony at the Institute of Military and Maritime Studies inside the Arsenale. The Marina occupies around 40% of the Arsenale, including the expanses of water in its docks.



Venice, the Festa della Sensa (Feast of the Ascension) on 2 June: many rowing boats gather along St. Mark's canal, traditionally led by the workers of the Arsenale, to accompany the procession of the Bucentaur. They are headed towards the Marriage of the Sea ceremony, in front of the Church of San Nicolò al Lido, an ancient ritual, which is more than a thousand years old, symbolizing Venice's maritime dominion. The Bucentaur, the state barge of the Doges, was constructed and stored within the Arsenale and captained by the Admiral of the Arsenale. Its oarsmen consisted exclusively of workers from the Arsenale.



Venice, firemen during a drill in Rio de Ca' Foscari: in Venice the first firemen were members of the corporation of military workers employed by the Arsenale, who were entrusted the task of extinguishing fires in Venice and around the lagoon.

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Venice, visitors to the Art Biennale inside the Arsenale.



Battaglia Terme (Padua), on the Vigenzone Canal Maurizio Ulliana rows a caorlina belonging to the Circolo Remiero El Bisato. In the past, this and other canals were used for transporting trunks of oak, hemp for rope making and fabric for sails to the Arsenale in Venice.



Venice, the Doge's Palace, tourists look at la Sala dello Scrutinio. Behind them is the painting of *The Battle of Lepanto* by Andrea Michieli, also known as "Vicentino" (1595-1605). The warships built at the Arsenale proved essential in defeating the Ottomans.



Auronzo di Cadore (Belluno), Christian Monti of Monti Industria Legnami examines trunks of red fir as they are stacked using an overhead crane. The trunks originate from nearby forests. Venetians sourced red firs in this area for the construction of ships' masts.



Venice, The Naval History Museum, a detail of the plan of the Arsenale from 1798 created by the abbot Museo Maffioletti.



Venice, during the carnival some masked revellers stand in front of the entrance to the Arsenale in the Campo de l'Arsenal.



Venice, Mauro Bastianini, a CNR-ISMAR researcher uses radiometers at the European Commission's Joint Research Centre on the "Acqua Alta" research platform installed 15km off the coast in 1970 belonging to the Institute of Marine Science (ISMAR-CNR), which has its headquarters at the Arsenale. The purpose is to monitor the marine and meteorological conditions of the area.



Belluno, view of the city from the Piave River: the rafts transported timber directly to the Arsenale following the course of the river. The Venetian rafts take their name from this tradition. In the photo, at the bottom on the right of the river, is the church of San Nicolò, patron saint of the Piave barges.



Venice, the Museo Correr, at the carnival two youngsters take photos in the museum. On the right, the painting by Vittore Carpaccio *Portrait of the Doge Leonardo Loredan*, 1501-1505, oil and tempera on wood. Leonardo Loredan, 75th Doge of Venice, made a notable contribution to the renovation and extension of the Arsenale.



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