

PANERAI



时间与空间

向伽利略致敬

TIME AND SPACE

A TRIBUTE TO GALILEO GALILEI

## TIME AND SPACE: A TRIBUTE TO GALILEO GALILEI

Officine Panerai has chosen Shanghai for the only international staging of **“Time and Space: a Tribute to Galileo Galilei”**, the exhibition in which Officine Panerai puts a range of the most important watches and instruments from its own historical and contemporary collections on display. The show, taking place at the Shanghai Sculpture Space from 19<sup>th</sup> to 31<sup>st</sup> May 2011, culminates with the exhibition of the “astronomical” triptych made by Officine Panerai as a tribute to Galileo Galilei, on the occasion of the 400<sup>th</sup> anniversary of his first celestial observations.

Having premiered in Florence in September 2010, the exhibition comes to Shanghai in a version enriched by the Officine Panerai 2011 collections, and explores three stages. The first is that of history, which uses select pieces from the Panerai Museum to trace the development and establishment of the Panerai brand, from its roots as a Florentine workshop to preferred supplier of precision instruments to the Italian Navy, designed to equip men who performed legendary feats, particularly during the Second World War.

The second stage covers the brand’s international fame following its acquisition by the Richemont group in 1997: a large room displays the most symbolic timepieces of the 14 years in which Officine Panerai renewed the former glory of its iconic watches, the Luminors and Radiomirs, quickly developing a complete range of movements designed and produced in-house in its Neuchâtel factory. This section also features some watches from the latest Officine Panerai collection, including models with the new hand-wound mechanical P.3000 calibre and the Luminor Submersible 1950 3 Days Automatic Bronzo – 47 mm.

The third stage is a tribute to Galileo Galilei, the genius to whom Officine Panerai, celebrating its shared Tuscan origins and love for science and innovation, has dedicated an “astronomical” triptych, formed from three exceptionally complicated models: L’Astronomo (Luminor 1950 Equation of Time Tourbillon Titanio – 50 mm), Lo Scienziato (Radiomir Tourbillon GMT Ceramica – 48 mm) and the planetarium clock Panerai Jupiterium.



## GALILEO IN CHINA

(By Professor Paolo Galluzzi – Director of the Galileo Museum in Florence, Italy)



Thanks to the successful mediation of the Society of Jesus<sup>1</sup> missionaries, engaged in the evangelisation of the populations of India and China as of the early seventeenth century, Galileo's sensational celestial discoveries using the telescope spread to the eastern continent with incredible speed. In China, in particular, great efforts were made by the Jesuit missionaries in diffusing the most advanced acquisitions of European science, with special attention to astronomy.

It comes as no surprise that the Jesuit missionaries travelling to China frequently included priests with considerable scientific knowledge, especially in the field of astronomy and mathematics. Besides Matteo Ricci (Lì Madòu), who was the first to sense the strong support that the most advanced astronomic knowledge of the western world could offer the evangelisation mission, countless other priests were major players in this efficient process of transferring scientific learning, active mainly in Beijing (where the Jesuits set up a finely equipped observatory)

and in Nanking. Among other things, Ricci also brought a mechanical watch to China, a device hitherto unknown and which provoked the emperor's great astonishment.

Matteo Ricci died in 1610, the same year in which Galileo announced his extraordinary discoveries thanks to the telescope in his *Sidereus Nuncius*. In the years that immediately followed, the fathers provided scholars and Chinese governors with precise information on the structure of the heliocentric system as outlined by Copernicus. The idea that the Sun was the centre of the universe, while the Earth spun on its own axis, at the same time moving along a huge orbit around the great light source, was not well received in China, however. In fact, it was fiercely rejected for a long time. Because of this strong opposition, and a result of Galileo's condemnation by the Church in 1633, the Jesuit priests abandoned Copernicus, siding with the "mixed" system proposed by Tycho Brahe. According to the Danish astronomer, the Earth remained immobile in a central position while the Sun moved around it, pulling all the other planets along their heliocentric orbits.

Despite having taken sides against the Copernican vision, the Jesuits nonetheless continued to promote the telescope and the celestial discoveries of Galileo in China. In 1626 in Beijing a picture of the Galilean telescope was presented for the first time in an engraving that accompanied the treatise in Chinese (Yuan Ching Shuo: the far-seeing optic glass) by father Johann Adam Schall (Thang-Jo-Wang), who explained

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<sup>1</sup> The Society of Jesus is a religious order belonging to the Catholic Church, and was founded in the XIV<sup>th</sup> century by Saint Ignatius of Loyola. The members of the Society of Jesus, or Jesuits, through their presence and activity all over the world, have played a fundamental role in transmitting, diffusing and exchanging knowledge among the most diverse civilizations in the centuries to come.

the optical principles that allowed for the magnification of objects observed through the lenses of this recently invented instrument.

Before then, in 1615, another Jesuit priest, father Emanuel Diaz (Yang Ma-No), had introduced Galileo's celestial discoveries in his treatise, also in Chinese, illustrating the structure of the Earth's sphere. In his work, father Diaz mentioned the phases of Venus, the discovery of four satellites around Jupiter and the oblong shape of Saturn, of which he even provided an image.

The first model of a Galilean telescope was brought to China in 1634 by another Jesuit, Johann Schreck, or Terrentius (Têng Yü Han), which he presented to the emperor as a gift. Terrentius, who was in direct contact with Galileo and Kepler, made a considerable contribution to the spread of information throughout China on Europe's most advanced astronomic research. From this viewpoint, the 1640 publication of the first history of western astronomy in Chinese by the abovementioned father Adam Schall, which presented the activities and achievements of Galileo (Chia-Li-Lüeh), Tycho Brahe (Ti-Ku), Copernicus (Ko-Pai-Ni) and Kepler (Kho-Pai-Erh) to the public of China, takes on major significance. Another Galilean celestial discovery, this time of sunspots, was divulged in 1628 by Father Terrentius in his treatise in Chinese on the dimensions of the celestial vault (Tshê Thien Yo Shuo). However, the Jesuit did fail to mention that this phenomenon was already known in China 1,200 years before it was discovered in the western world.



## A TRIBUTE TO GALILEO GALILEI

### Galileo Galilei and Officine Panerai

The sky, the earth, the sea and instruments for measuring time. Galileo Galilei and Officine Panerai are linked by an interweaving of astronomy, optics and precision mechanics, tools and methods for navigation. This connection started in Florence, the city that for a long time was home to Galileo, who came here for the first time in 1574. At the time he was just ten years old and lived with his family in what is now Piazza de' Mozzi, just a short walk from Ponte alle Grazie where, almost 280 years later, Giovanni Panerai was to open the city's first watch workshop.

Galileo then came back to Florence in 1610 when, after a period of teaching and research at Padua University, he had become a scientist of consolidated fame, attested by the nomination of "mathematician and philosopher of the Granducato of Tuscany" from Cosimo de' Medici. His notoriety was due above all to his invention of the Telescope and discoveries made with this instrument.

In January 1610 Galileo observed the motion of Jupiter's satellites, which he christened the Medicean Planets and whose existence represented empirical proof of extraordinary importance supporting the Copernicus' heliocentric theory. This observation was made possible thanks to new lenses ground in Florence, where expert artisans worked, whose art was once again put to good use centuries after by the Panerai workshops.

Thanks to his celestial observations, Galileo also tackled a challenge that held enormous importance in that period: calculation of longitude at sea. He proposed a method that made use of the regular motion of Jupiter's satellites as a clock in the sky. His method was theoretically exact but complex to put into practice, due to the difficulties encountered in stable observation of the sky from a ship rocked by waves. Another century and a half was to pass before the invention of the marine chronometer brought a final solution to these problems. When talking about measuring time, we must not forget the fundamental contribution made by Galileo. This Tuscan genius in fact was the author of the law of isochronism of the pendulum, which opened up a new direction in time-keeping. Galileo applied a counter device that used the constancy of pendulum swings also for development of a way to calculate longitude. The method did not give the hoped-for results, but this system was to spark the birth of modern watch-making.

Four centuries after Galileo's celestial observations, Officine Panerai paid tribute to this Tuscan genius with the creation of three instruments that are evidence of its high level of technical excellence, heir to the great Florentine and Galileo tradition: **L'Astronomo** (Luminor 1950 Equation of Time Tourbillon Titanio – 50 mm), **Lo Scienziato** (Radiomir Tourbillon GMT Ceramica – 48 mm) and the **Jupiterium Panerai**.

## Panerai Jupiterium



The Panerai Jupiterium is a planetarium-clock with perpetual calendar that, depending on the geocentric point of view, shows the positions of the Sun, Moon and Jupiter with the so-called Medicean planets, namely the planet's four main satellites, observed for the first time by Galileo Galilei in 1610 thanks to his invention the telescope and today known as Io, Europa, Ganymede and Callisto.

Based on the terrestrial observation point, the Panerai Jupiterium has the Earth at the centre of the blue sphere and the other celestial bodies move around it. This scenario is enclosed in a glass box, 75 cm wide and 86 cm tall, resting on a Mahogany wood base into which the clock itself is set together with the complex gear train that powers the planetarium.

Inside the glass, a transparent globe represents the heavenly skies, made up of two semi spheres that depict the austral and boreal hemispheres, joined by a fine band that symbolises the earthly equator, onto which are engraved the 12 signs of the zodiac. The semi spheres are studded with the constellations, the stars picked out in Super-LumiNova® so that they shine at the night like real ones. The night sky is mobile to represent the way the stars seem to move to an observer on the Earth and makes one revolution every 23 hours and 56 minutes, in other words a sidereal day.

Powered by a movement that is regulated by that of the clock, all the heavenly bodies apart from the Earth, rotate inside the blue sphere, completing their orbits in real time: the Moon rotates around the Earth in 27.32 days; the Sun completes one circuit in 365.26 days; Jupiter moves around the Sun in 11.87 years, while its satellites complete their orbits in 1.8 (Io), 3.6 (Europa), 7.2 (Callisto) and 16.7 days (Ganymede).

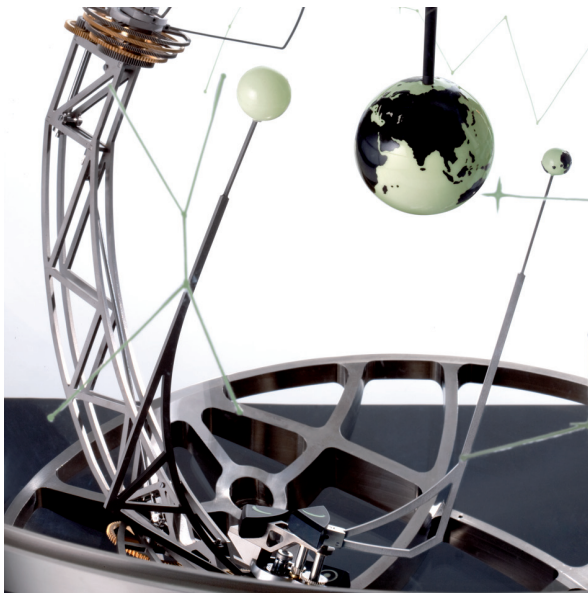
At the base of the complex system of staffs and counterweights that balance and support the planets, there is a circular sector with four little windows showing the perpetual calendar: day, date, month and year. This perpetual calendar will require no correction until 2100, one of those years that, although in theory a leap year, will actually not have the extra day, in this way allowing the tiny discrepancies of the Gregorian calendar to be corrected.

Underneath the sphere, on the Mahogany wood base, there is the clock dial. In typical Panerai style, this has a black base, with long stick hour markers and two large Arabic numerals at 12 and 6 o'clock, as highly luminescent as the hands. In addition to the hours, minutes and seconds, the dial also shows am/pm and remaining power reserve; this manual-wound clock in fact has an autonomy of 40 days.

# PANERAI

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Most of the 1532 parts of the Panerai Jupiterium are in titanium and it has a total weight of 110 kg. It is an unprecedented article, with a level of mechanical complication that is yet further proof of the technical skill of Officine Panerai, which with this extraordinary clock-planetarium pays homage to the founder of modern science and to the man who with his laws on the pendulum blazed a trail for precision watch-making.



## OFFICINE PANERAI

Each Panerai watch is as unique as the heritage it embodies. A heritage that has its beginnings in Florence, where Giovanni Panerai, a businessman, craftsman and innovator, opened the city's first watchmaker's shop in 1860. A heritage that links every single detail of a Panerai watch to the purpose for which it was designed and made to fulfil. A tradition which has kept a close eye on the future, through ongoing research for technical excellence which is the main feature of every new Officine Panerai collection.

Combining Italian design and Swiss horological perfection, each year Officine Panerai – a company of the Richemont Group since 1997 - re-interprets its 150-year-long passion: the creation of high precision timepieces with a strong identity rooted in distinction, aesthetics and function.

## Panerai historia

### 1860

Giovanni Panerai opens a watchmaker's shop in Florence: a store which is also a workshop, not to mention the city's first watch-making school. Initially located on Ponte alle Grazie, the Orologeria Svizzera, as it was called, later moves to its current premises, inside the Palazzo Arcivescovile in Piazza San Giovanni.

### 1916

Guido Panerai registers the first of many patents to mark Panerai's long history in innovation. To meet the military requirement of the Royal Italian Navy, for which it has already been a supplier for a few years, Panerai creates Radiomir, a radium-based powder for making sighting instruments and dials luminous.

### 1936

On the eve of the Second World War, the instruments developed by Panerai for the Royal Italian Navy take on an even more strategic role. The prototype of the Radiomir watch is created for the underwater exploits of the Command of the First Submarine Corp, with many of the features which still distinguish it today: a large steel cushion-shaped case (47 mm), luminous numerals and markers, wire loop strap attachments welded to the case, a hand-wound mechanical movement, a wide water-resistant strap, long enough to be fastened over the diving suit.



### 1938 – 1949

The Radiomir watch is subjected to a series of innovations aimed at improving its performance: the new sandwich dial is made more luminous and easier to read; the strap attachments become more resistant and are made from the case itself; and the distinctive lever bridge device is invented, secured with screws to protect the crown. Thanks to these innovations which make it more resistant and watertight, the new Panerai watch becomes



the first underwater model (to depths of 200m) in the history of horology. At the same time, radioactive Radiomir is replaced by Luminor, isotope of tritium-based hydrogen, patented by Panerai for the first time in Italy in 1949.

## 1943

Officine Panerai presents the prototype of the first Panerai chronograph, the Mare Nostrum, designed for deck officers.

## 1956

Panerai develops an underwater Radiomir watch of exceptional size and solidity for the Egyptian Navy, known as the “Egyptian”, fitted with a marked bezel for calculating immersion times. In the same year, the patent is registered for the crown protecting the bridge which becomes the trademark of the Luminor models.

## 1972

Giuseppe Panerai, son of Guido, dies, and the management of the family business, along with its position as supplier to the Italian Navy still covered by military secret, is handed over to engineer Dino Zei, who creates the “Officine Panerai” trademark.

## 1993

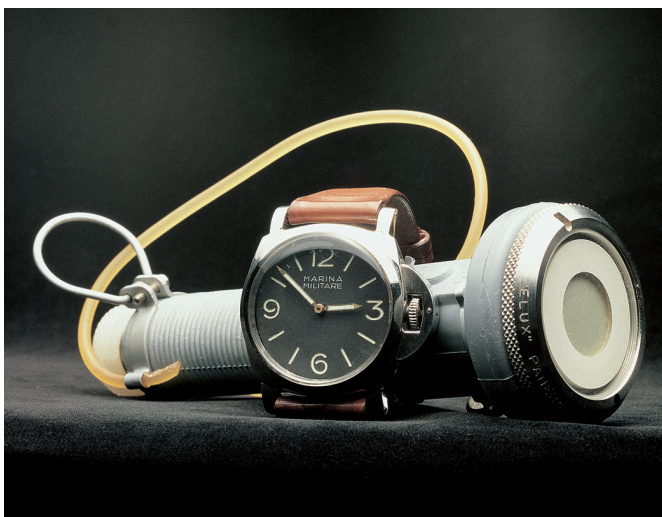
The first commercial collection by Officine Panerai: three limited edition models inspired by those created for Second World War navy commandos.

## 1997

Officine Panerai is acquired by the Richemont Group (then Vendôme), which establishes a network of qualified distributors in Italy.

## 1998

Officine Panerai is launched on the international market.



**2002**

Opening of the Officine Panerai Manufacturing Facility in Neuchâtel, Switzerland.  
Opening of a Panerai Boutique in Hong Kong Prince's Building.

**2005**

International launch of the first Panerai movement, P.2002: a hand-wound calibre with GMT function and 8-day power reserve, inspired by the Angelus movement of the 1940s. Opening of a Panerai boutique in Shanghai Plaza 66 and in Beverly Hills.

**2007**

Officine Panerai presents three new calibres entirely conceived and developed in-house: P.2003, P.2004 and P.2005, with an innovative tourbillon escapement.

**2008 - 2009**

Launch of the P.9000 movements and opening of new boutiques in Beijing Yintai Business Centre, Macau One Central, Tokyo Ginza, Geneva, Madrid, New York, Buenos Aires, Beirut, Doha, Dubai. Presentation of Eilean, the Bermudian ketch built in 1936 in the legendary Fife boatyard, purchased and restored by Officine Panerai.

**2010**

Launch of the P.999 calibre and Panerai Jupiterium, a tribute to the 400th anniversary of the first celestial observations made by Tuscan genius Galileo Galilei with his telescope. Opening of a Panerai Boutique in Shanghai IFC, Hong Kong Canton Road and Taipei 101.

**2011**

Launch of the P.3000 calibre and of the first watch in bronze.

## Officine Panerai Today

The Panerai trademark is a unique combination of the brand's tradition, Italian design and fine Swiss craftsmanship. Each new model expresses authenticity, creativity and passion: values renewed year after year in the new Panerai collections and deep-rooted in Florence and in the world of sea.

Each Panerai watch is produced at the company's Manufacturing Facility in Neuchâtel, Switzerland. Officine Panerai produces, designs and develops the movements and cases for its watches in-house, with assembly carried out at the factory which is also responsible for the quality control of each and every stage of production. The company headquarters in Milan is where communication activities and product development control take place.



Panerai watches are sold exclusively through an International network of specialised authorised retailers and in Panerai boutiques that not only carry all the brand's luxury watch collections, but also offer their clientele the exclusive chance to buy limited edition products.

## Officine Panerai in Greater China

Greater China represents one of the most strategic markets for the international development of Officine Panerai. The Italian luxury watch brand made its debut in the region in 2002, with the opening of its first boutique in the Prince's Building in Hong Kong. The expansion that ensued was highly selective, in line with the brand strategy of selling its collections only in its own boutiques and in the most highly specialised watchmakers. Today Officine Panerai is present in the region with approximately 40 point of sales and 7 boutiques: two in Shanghai, one in Beijing, two in Hong Kong, one in Macau and one in Taiwan.

Even on a communications level, Officine Panerai has always paid special attention to the region of Greater China. In 2008, Beijing's Planetarium was host to the first international staging of the exhibition "Galileo's Telescope: the Instrument that Changed the World", which later travelled to The Franklin Institute of Philadelphia and the Nobel Museum of Stockholm. In 2011, it's back to China again, this time to Shanghai Sculpture Space with the first and only international stage of the exhibition "Time and Space: a Tribute to Galileo Galilei", which debuted in September 2010 in Florence, the native city of Officine Panerai.

## Boutiques Officine Panerai in Greater China

### China

Shanghai, IFC Pudong

Shanghai, Plaza 66

Beijing, Yintai Business Centre

### Hong Kong

Hong Kong, Prince's Building

Hong Kong, Canton Road

### Macau

Macau, One Central

### Taiwan

Taipei, Taipei 101