# The Guggenheim Museum Bilbao building

"...the greatest building of our time". – Philip Johnson, architect

"It's the best building of the 20th century" – HRH King Juan Carlos I

The Guggenheim Museum Bilbao, work of the American architect Frank O. Gehry, is a magnificent example of the most groundbreaking architecture to have come out of the 20th century. With its 24,000m2, of which 11,000m2 are dedicated to exhibition space, this architectural landmark of audacious layout and innovating design acts as a seductive backdrop for the art exhibited within its walls.

The building is clearly recognisable for its twisted, curving lines and series of interconnecting volumes, some of which are limestone-coated orthogonal shapes while others of a more organic volumetry are clad in a metallic titanium skin. These volumes are linked by glass curtain walls for remarkable transparency throughout.

Owing to their mathematical complexity, the sinuous stone, glass and titanium curves were designed with the aid of computers. The limestone was chosen for different reasons including its colour, a perfect match for the sandstone facade of Deusto University. The glass walls are mounted on complex metal structures, the making of which was possible thanks to technological advances. The glass used in the Guggenheim Museum Bilbao is treated to protect the interior against heat and radiation while letting light stream into the entire building. The titanium panels hugging large parts of the building like "fish scales" are half-a-millimetre thick. The attractive rough finish is an effect sought by the architect for a more tactile, beautiful aspect.

The true heart of the Museum is the atrium, measuring over 50 metres in height, flooded with light thanks to its enormous windows, and serving as a place of arrival, orientation and relaxation for the visitor. The Guggenheim Museum Bilbao exhibition space is distributed over three levels, with a total of 20 galleries, some of classic proportions, others of an unusual irregularity, and yet another designed for the exhibition of large-sized artworks. Non-exhibition areas include the auditorium (seating 300), a restaurant, 2 cafes and a store and bookshop.

As a whole, Gehry's design creates a spectacular and enormously visible structure acting as a sculptural backdrop for La Salve Bridge, the estuary, the buildings in the centre of Bilbao and the slopes of Mount Artxanda.

## The surrounding area

The Guggenheim Museum Bilbao connects the estuary to the city's classical district, or "Ensanche". Directly accessed from the historical and shopping areas, the building is surrounded by a series of attractive walkways and squares giving shape to the neighbourhood of Amandoibarra, recently remodelled and integrated to the city having surmounted its industrial past.

The Museum can be approached from different directions by visitors on foot, either from the Ensanche or from the new promenade running along the estuary banks.

The main entrance stands in a direct line with the Calle Iparraguirre, one of the principle arteries running diagonally through Bilbao from the door of the Museum to the city centre. Having arrived to the Museum square, visitors make their way down a broad stairway leading them into the Museum foyer. Although a descending stairway is not a normal feature on institutional buildings – they usually lead upwards for the purposes of greater solemnity – here it is not only the perfect solution for overcoming the difference in height between the estuary and the Ensanche but permits a spectacular building nevertheless no higher than the constructions surrounding it.

The entrance located to the rear of the building, on the estuary side, more suited for use by groups or schoolchildren, also leads to the foyer, with its cloakroom, information, lockers and Museum entrance. Once inside the Museum, visitors discover that the space beneath the complex external architectural forms is set around the atrium to help them find their way during the visit.

## Inside the Museum

The Auditorium, restaurant, store and bookshop and administration block can all be accessed either from the Museum square or from inside the building, meaning that they can operate independently of the Museum opening hours and function as an active part of city life.

Once through the foyer and inside the exhibition space itself, visitors find themselves in the atrium, with its enormous glass walls offering excellent views of the estuary and surrounding hills. The atrium is one of the most characteristic features of Gehry's design. Calculations have been made to the effect that its enormous height is more than one-and-a-half times the famous spiral designed by Frank Lloyd Wright for the Solomon R. Guggenheim Museum in New York. Inundated by light from the "metallic flower" on the roof, the atrium serves as a place of meeting and reference while housing the enormous installations specifically conceived for the Museum.

The three floors of galleries standing around this central atrium are interconnected by a system of curved walkways suspended from the ceiling, glass lifts and stairs.

But the beauty of the atrium isn't gratuitous; it plays an essential part in the Museum as a whole: this is the area from which visitors get a clear idea of the exhibition space and its 20 galleries with their different shapes and sizes. Rectangular in shape, the classic galleries can be identified from the outside by their stone cladding; some of these have higher ceilings, while others are lower and split into two floors. They all have skylights providing natural light which even reaches the ground floor of those split into two thanks to an opening in the floor of the upper level lined by a wall forming a sort of tube which, apart from channelling the light, also means extra exhibition space.

These galleries are complemented by spaces of unusual irregularity occupying a total surface of 3,300 m2. These spaces are identifiable from the exterior thanks to their titanium cladding and irregular shapes. Based on a play on volumes and perspectives, these galleries offer colossal interior spaces in which visitors nevertheless feel completely at home.

Large-format artworks are housed in a special gallery measuring 30m in width and 130m in length, with no columns and a specially prepared floor to withstand the weight of the works installed. This gallery, which, seen from the outside, stretches beneath La Salve Bridge to end in a tower appearing to embrace the structure and include it in the building, has its own entrance and a certain amount of independence.

There is close harmony between the architectural shapes and the content of each gallery. This certainly makes orientation easier within the Museum which, thanks to the central atrium and walkways, moreover permits visitors to view the exhibition areas from other perspectives.

## The construction

The choice of titanium, and the creation of a design involving fluid forms, was made possible by the state-of-the-art 3D design computer program, Catia, initially conceived for the aerospace industry to project curved surfaces with finite numerical control. The program provides the ability to engage in sculptural exploration while maintaining control of the geometry and constructability, something which was impossible with conventional 2D architectural designs.

To develop the Museum forms, Gehry started with paper and wooden models in different scales, which he gradually adapted and refined. Every point of the model's curved surface was digitally processed by the program, which developed and coordinated the construction while feeding information into a machine that sculpted an exact model of the building, thus affording the architect an interpretation of his design.

## Frank Gehry and his work

Frank O. Gehry, who founded the company Frank O. Gehry & Associates, Inc. in 1962, is considered to be one of the most important and influential architects of our time. Gehry is internationally recognised for his personal, unmistakable architecture based on new forms and materials (e.g. copper, stainless steel, zinc or titanium), and for being particularly sensitive to the surrounding cultural and visual context.

Gehry, whose work includes houses, museums, libraries, shops, auditoriums, office blocks, restaurants and public buildings, has made several projects in Europe, Japan and the USA. His most remarkable designs include: the Frances Howard Goldwyn Regional Branch Library in Los Angeles (1983/84), the "Temporary Contemporary" gallery at Los Angeles Museum of Contemporary Art (1983); Norton House in Venice, California (1984); the Winton Hotel in Wayzata, Minnesota (1986); Schnabel House in Los Angeles (1989); the Vitra International Furniture and Manufacturing Facility and Museum in Weil am Rhein, Germany (1990); the Frederick R. Weisman Art Museum at the University of Minnesota in Minneapolis (1993); the American Center in Paris (1994); and the Disney Auditorium in Los Angeles (2003).

Gehry has won the most prestigious awards existing in the field of architecture. In May 1989 he earned the highest honour in the field, the Pritzker Architecture Prize, dedicated to those who have made "significant contributions to humanity and the built environment through the art of architecture". In 1992, he received the Japanese Praemium Imperiale Award, which honours lifetime contribution to architecture. And, in September 1994, he landed the first Dorothy and Lilian Gish Prize, one of the cultural awards to carry the greatest economic amount, established to recognise people who have made an exceptional contribution to some form of the arts.

Gehry moreover holds the Wolf Prize in Art from the Wolf Foundation in Jerusalem, and the Arnold W. Brunner Memorial Prize in Architecture from the American Academy of Arts and Letters. He is a trustee of the American Academy in Rome. In 1974 he was elected to the College of Fellows of the American Institute of Architects (A.I.A.), which has also granted him over 25 national and regional awards.

Gehry's academic credentials include the Charlotte Davenport Professorship in Architecture at Yale University and the Eliot Noyes Chair at Harvard University.

Gehry, who was born in Toronto, has been living in Los Angeles since 1947. Gehry Partners, LLP, currently has its headquarters at Santa Monica, California, and employs a staff of 175.