

## La Seine Musicale sets sail in Boulogne-Billancourt (France)

By Marc Quiquerez

La Seine Musicale, a brand-new music center set on Ile Seguin in Boulogne-Billancourt, just west of Paris, celebrated its opening on April 22nd 2017.

### Project background and timeline

The project was initiated in 2011 by the “Conseil Départemental des Hauts-de-Seine”, the local administrative division covering the western inner suburbs of Paris. As we reported in the August, 2013 newsletter, the client decided to develop the project through a Private Financing Initiative (PFI), a rather unusual procedure in France for a cultural building. The selection process involved three groups led by the major construction companies in France, teaming up with high profile architects and design specialists. It concluded with the selection of the proposal developed by Shigeru Ban Architects Europe and Jean de Gastines Architects and their design team. The team was assembled and organized by global construction firm Bouygues Bâtiment IDF. Construction broke ground in July 2014 and the building was handed over to the client and operator in January 2017.

Throughout the competition and project, Nagata Acoustics served as acoustical consultant in the design team for room acoustics of the music rooms. Paris-based Lamoureux Acoustics provided acoustical consulting services for sound isolation and noise control. Theater consulting services were provided by dUCKS Scéno, from Lyon (France).

### An insular stage on a musical river

When approaching the building, one is immediately startled by its unique silhouette. Borrowing from the imposing scale of a cruise ship as well as the light and dynamic profile of a sail boat, La Seine Musicale stretches along more than 320 meters and offers its two flanks to the views of Boulogne to the North and the hills of Meudon to the South. It follows on from the urban planning concept established by Ateliers Jean Nouvel in 2010. It is also inspired by the industrial history of the island, which was the site of Renault car factory for more than half a century. Over a site of 2.5 hectares, the building develops a built surface area of 36,500 square meters.



Figure 1: Audience approach

As visitors set foot on the island, they are greeted by an ample public square overlooked by a massive LED screen. To its left, a wide staircase leads up to a landscaped garden of more than 7,000 square meters crowning the building. To its right, a monumental glazed gate leads to the inner street crossing the building on its North side and serving the different spaces and functions of the building.

Laid at the downstream end of the island as a beacon, the main visual symbol of the building is without doubt the 1,150-seat Auditorium. Nested in a woven structure of wood and glass, the transparent egg-like shape reveals to the outside the iridescent green of the mosaic covering the shell of the hall. On the inside, the audience foyer running around the shell offers panoramic views to the river and the garden. On the upstream side of the egg, a magnificent sail covered by 800 square meters of solar panels follows the sun to provide energy to the building and shadows to the foyer.

### The design of the Auditorium

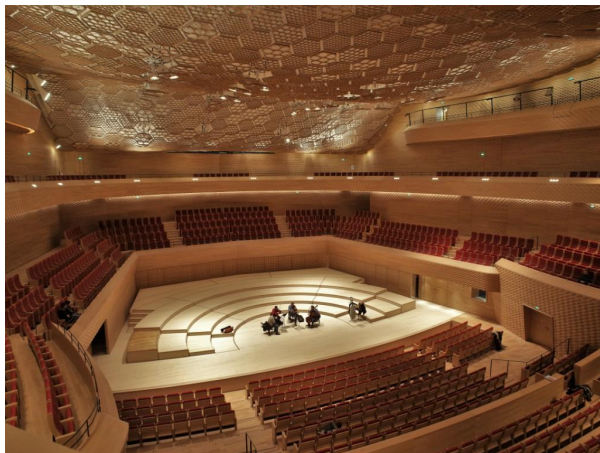


Figure 2: Auditorium - view from balcony



Figure 3: Auditorium - view from choir

From the onset of the design, the clear goal set by the team was to create an intimate and warm concert experience, emphasizing the proximity of audience and performers. Drawing inspiration from vineyard designs, the audience layout naturally developed in a surround-type hall. The main floor rises with a steep rake in distinct blocks delimited by terrace walls providing essential early reflections to the listeners. A first ring of seating connects to the rear of the main floor and wraps around the stage. Above, a narrow balcony creates a second ring of seating, and contributes to providing useful early reflections to the audience and the stage.

Upon entering the hall, one is welcomed by the warmth of honey-colored wood lining the walls in alternating wavy stripes, creating different visual rhythms along the walls and providing the sound scattering irregularities contributing to the warmth of sound. As the eyes sweep the hall, they meet the curves of the seats with their red velvet cylindrical cushions inspired by the paper tubes that have become one of the signatures of Shigeru Ban's designs. But one of the most breathtaking sights remains the 1,000 suspended wooden hexagons. They encircle cuts of paper tubes of various sizes, and project their shadows upon the immaculately white curves of the ceiling above. The unusual waves of this massive acoustical ceiling were carefully studied, as well as other detailed geometrical features of the hall, with the help of our proprietary 3D simulation software as well as acoustical testing of a

1:20 scale physical model. The combination of these tools allowed us to analyze the distribution of early sound reflections in the hall and to prevent the occurrence of detrimental echoes on the stage and in the audience.

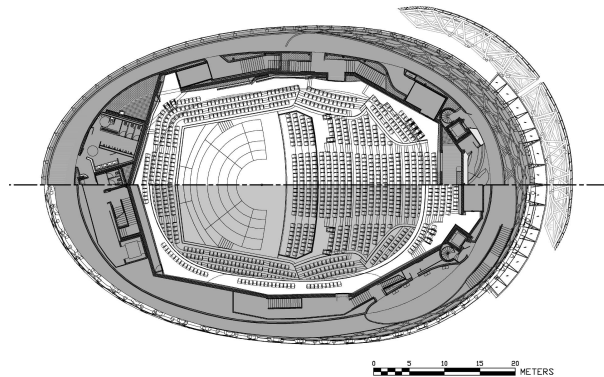


Figure 4: Auditorium Plan

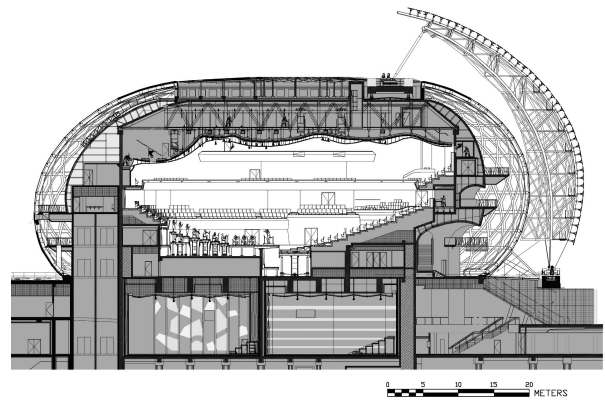


Figure 5: Auditorium Section

Designed to accommodate a full-size orchestra, the stage is equipped with 29 motorized risers for orchestra and choir. The hall also features an orchestra pit and 3 movable catwalks which can be lowered from the ceiling to create additional lighting positions. A collection of retractable acoustical curtains in the walls and movable catwalks offer acoustical variability for programs with amplified sound.

### Other facilities

Under the Auditorium, and in direct connection with the stage, the resident ensemble Insula Orchestra will find rehearsal rooms for individual, sectional and full orchestra practice, as well as administrative offices.

In close proximity, a collection of music rooms of various sizes (including one suitable for full orchestra and one dance studio) will be available as rental for rehearsals and recordings.

The larger hall in the facility, “La Grande Seine”, immediately exposes the underside of its seating tiers to the inner street and main foyer. Concealed under the roof garden and dedicated to large scale events and concerts with sound amplification, it can accommodate seated audience of 4,000 people, and up to 6,000 people with standing audience. Its fan-shape design with steep rakes ensures a sense of proximity to the stage, while the curved layout emphasizes the sense of communion and sharing.

Directly facing the entrance plaza, the Maîtrise des Hauts-de-Seine, official children choir of Paris National Opera, will benefit from more than 10 practice and teaching rooms, including a large rehearsal room which can accommodate up to 500 singers and staged rehearsals.

Shops and cafes opened to a promenade along the river bank.

### Inaugural week and evening, symbols of the project’s ambitions and promises

Following the opening ceremony, the inaugural concert in the Auditorium was performed by La Seine Musicale resident ensemble, Insula Orchestra, conducted by music director and founder Maestro Laurence Equilbey, accom-

panied by four solo singers, Accentus choir and pianist B. Chamayou. The 90-minute concert featured pieces by W.A. Mozart, C. M. von Weber and L. van Beethoven. It offered a wonderful display of the acoustical qualities that the client and design team had set as our goal, with a rich, warm and clear sound, beautifully balancing instrumental ensemble and voices.

We are very proud to have taken part in this exciting and ambitious project which, after the new Auditorium of Radio France in late 2014 and Philharmonie de Paris in early 2015, offers yet another unique musical destination for music lovers in Paris, its region and beyond.

The URL for La Seine Musicale: <http://www.laseinemusicale.com>