

# French overtures

Acoustically designed to revive the experience for audiences, France's new concert auditoria achieve higher levels of acoustic excellence

January 2013 saw the official opening of two new concert halls dedicated to symphonic music in France. This was particularly significant in a country where symphony halls are rare and drama theatre tends to culturally dominate the performing arts world. Only four French cities were previously equipped with purpose-designed symphony halls, and only half of them were considered to be acoustically successful by musicians, music lovers and critics.

In the northern city of Lille, the old Palais du Nouveau Siècle was built in the 1970s as a large conference venue. It included a large plenary room – with a seat-count approaching 2,000 – which was used as a rehearsal and concert venue by the Orchestre National de Lille. Despite

numerous corrections and modifications to the stage environment, the acoustics were always found to be inappropriate – both for the audience and the musicians on stage. The main problems were the insufficient ceiling height and the fan-shaped geometry, which was far too wide.

Rather than renovating this fundamentally problematic room, it was decided that a completely new hall was required. The result is the new Auditorium du Nouveau Siècle, an 1,800-seat room built within the shell of the old one. Two new parallel sidewalls were constructed, reducing the average width from 38 to 29m and there are now two levels of side balconies, of which the soffits provide the essential – and previously non-existent – early lateral reflections. The old ceiling, which was acoustically shaped for speech rather than music, was dismantled and replaced by

Lille Symphony Orchestra  
inaugurates its new symphony  
hall in northern France



Bordeaux Symphony Orchestra rehearses for the first time in its new auditorium



(Above left) The new Auditorium du Nouveau Siècle can seat up to 1'800 people (Above right) Two levels of side balconies provide crucial lateral reflections in the new symphony hall in Lille

tones and the great clarity of the acoustics, both for the audience and for those on stage. The music critics in attendance unanimously agreed, praising the acoustic achievement of the French-sounding symphony hall.

#### Obstacles overcome

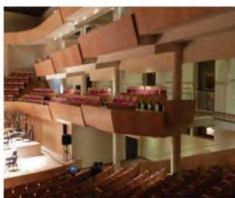
As the famous French conductor Jean-Claude Casadesu would say, the two new auditoria are their orchestras' new musical instruments. The acoustic characteristics of the new spaces contribute to shape their new signature sounds.

Interestingly, neither project originated from a political decision made in favour of investing in culture and music. Approval was

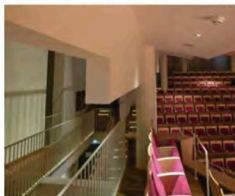
only achieved after years of perseverance on the part of the orchestras and their subscribers. In the meantime, the orchestras were forced to play in acoustically inadequate spaces – initially planned as temporary solutions – which gradually discouraged their music-loving audience.

Both projects were built on very tight budgets: €14m (US\$18.6m) in Lille and €28m (US\$37.3m) in Bordeaux. This didn't hinder the success of either auditoria however. They are each huge acoustic successes acclaimed by orchestras and audiences alike. ■

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(Above and below) The view from the choir balcony shows the intimacy of the space, while the floating side balconies – with integrated reflectors – enhance resonance volume and early reflections



a coffered ceiling set more than 2m higher than the older one. The French architect Pierre Louis Carlier, in collaboration with Kahle Acoustics, imagined and further developed this concept until its completion this year.

The first concert in the new auditorium welcomed international soloist Vadim Repin in Shostakovich's first violin concerto. He praised the new venue as being one of the best concert halls in Europe. Since then, the orchestra and its chief conductor Jean Claude Casadesu have been continuously delighted with the acoustics of their new home.

#### City centrepiece

In Bordeaux, a new auditorium designed in collaboration with Michel Pétuaud-Létang (4A Architectes, Bordeaux) and Michel Cova (Ducks Scéno) has opened as the new home of the Orchestre National Bordeaux Aquitaine.

Situated in the heart of the historical city centre, the site had to accommodate a seven-storey parking facility underneath and three levels of luxury apartments on top of the auditorium to help finance the project. In addition to an evident sound insulation challenge, the superposition created a very large constraint for the design of the concert hall, as the ceiling height could not exceed 16m. In order to develop sufficiently rich reverberation

and obtain the required acoustic volume for 1,440 seats, extra reverberant space was created behind the three levels of side balconies. While the very wide side volumes thus help to envelop the reverberation, the floating balconies restrain the room width and provide efficient early lateral reflections.

Specifically designed curved shapes were developed for the undersides of the balconies as optimised reflectors. The concave surfaces are precisely calculated to concentrate the sound they receive in a focal point well above the audience and then spread it to the entire width of the parterre floor. This type of controlled acoustic diffusion is a first in concert hall design.

The auditorium in Bordeaux is also designed to create a strong feeling of intimacy and sees the audience in close proximity to the musicians. With the farthest row of seats being fewer than 24m away from the stage, the audience literally surrounds the orchestra on all sides and the conductor is situated in the centre of the room. The result is a perfect hybrid of the traditional vineyard and shoebox shapes.

The first concert in the recently named Henri Dutilleux auditorium was directed by Austrian conductor Hans Graf and welcomed French cellist Anne Gastinel in *Tout un monde lointain*, a piece by Henri Dutilleux. Both guest artists were very enthusiastic about the richness of

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Selected projects opened in 2013