



# ACOUSTICS OF PERFORMANCE HALLS



# SUMMARY

Operas

ARENAS

SMAC

Choreographic centres

Theatres

Cultural Centers

Cinemas

Sports Palace - Stadiums

# GAMBA GROUP

Groupe GAMBA specialises in the acoustics of artistic and cultural buildings. For us, acoustics are an essential parameter for immersion in the artistic work.

The acoustics of the hall underline and increase the emotion felt by the spectator.

Whether it's for live performance without sound or amplified music, we know the constraints of venues and the people who work there.

[WWW.GAMBA.FR](http://WWW.GAMBA.FR)

contact@gamba.fr  
+33 562 243 676

## MORE THAN ACOUSTICS AND VIBRATION

6

### LOCATIONS

Our teams are as close as possible to you with agencies in Toulouse, Paris, Lyon, Nantes, Rodez, Marseille and Rio de Janeiro...

60

### EMPLOYEES

More than 60 employees spread across the country

5

### QUALIFICATIONS

Our quality approach places our customers at the centre of our concerns and aims at the coherence and efficiency of our organisation.

4

### EXPERTISE

Design office  
Formation  
R&D  
Software



# OPERAS

A detailed illustration of a grand opera house interior. The foreground is filled with rows of plush, red upholstered seats facing a stage. The stage is covered in a red carpet and is framed by a large, ornate archway. Above the stage, a large, multi-tiered chandelier hangs from the ceiling, casting a warm glow. The walls are decorated with intricate carvings and arched windows, some of which are illuminated by wall sconces. The overall atmosphere is one of elegance and grandeur.





# OPÉRA DE NICE

The management of the Nice Opera entrusted GAMBÀ with the acoustic study of the creation of a removable orchestral shell to be positioned on the opera stage. The objective was to make the possible optimizations and avoid any significant acoustic defects in its design. This shell must be designed to adapt to the acoustics of the room while allowing easy handling (assembly, disassembly and storage).

MOA : Ville de Nice

Year : 2013

Capacity : 1073 places



# OPÉRA DE MARSEILLE

Rehabilitation of 2 buildings located at 3 and 5 rue Molière to accommodate various premises of the Municipal Opera of Marseille. Creation of a rehearsal room for the opera choir, integration of a music library, relocation of the administration offices and ticket office.

Team: ATELIER MIRA mandataire, CET, ICES, CERCO, APD, GAXOTTE, SOLEAM, Groupe GAMBA.

Works excluding tax: €2,350,000

Year: 2024





# THE ARENAS

**« The acoustics are not visible but they are essential. Humans cannot look at images without sound, at some point their mind turns away. »**

Yann Galliot, technical director of the FUTUROSCOPE Arena.



“ *Controlled acoustics.*  
Scenography news

”

## ARKEA ARENA

Project: Design, Construction, Operation and Maintenance for a 10000-seat ARENA type theatre / sports hall in Floirac. This project includes the ticket office, bars, performance hall, management premises (artists, administration, technical staff).

Mission: Co-contracting project management

MOA: SENSO

Team: Rudy Ricciotti leader, LAGARDERE (Concessionaire), DV Construction, Groupe GAMBA, APIA, JP MAS, Bouygues Energies & Services, ECCTA, Franck Boutté.

Works excluding tax: €56,340,000

Year: 2018

Capacity: 10000 seats



“

*In sports, clearly, she is superb,  
It's really a mini-stadium.*

”

Yann Galliot, technical director of the FUTUROSCOPE Arena.

## ARENA FUTUROSCOPE OF POITIERS

The FUTUROSCOPE ARENA is a place dedicated to what English speakers call "entertainment". The versatility of this hall allows it to host cultural events such as music, concerts, shows but also sporting events.

Mission: Subcontracting project management of the architect

MOA: DEPARTMENT OF VIENNE/NGE CONCESSIONS

Team: Cardinal Edifice mandataire, SAS Patriarche architecte conception, Guintoli, Atelin Du Moulin, MAS EA, Artelia, Jaillet Rouby, CTE, Essor Group, Personnel, FMD, NGE, Lagardère sport, Futuroscope Congrès, Bluerock Sports & Entertainment, Groupe GAMBA

Works excluding tax: €40,000,000

Year: 2022

Capacity: 6000 seats





# CONTEMPORARY MUSIC ROOMS

**«The acoustic qualities are remarkable.»**

*Gilles JUMAIRE, founding partner of the Halles de la  
CARTOUCHERIE.*



# SMAC CINEMA AND MUSIC SCHOOL ST GIRONS

Construction of a central cultural facility for the Couserans in the commune of Saint-Girons. The cultural centre will bring together 3 entities: 1 performance hall with a capacity of 500 standing places, 1 music school (4 small practice rooms, and 1 large room, 1 contemporary music room, music training room and 1 percussion room) and 1 cinema with three projection rooms (79, 102 and 180 seats respectively).

Mission: Complete project management in co-contracting

Project manager: ComCom Couserans-Pyrénées

Team: KING KONG, TPF Ingénierie, Ducks scéno, Groupe GAMBA

Works: €7,870,000

Year: Under construction

Capacity: 500 seats



Crédit photo : Atelier d'architecture King Kong



# HALLES DE LA CARTOUCHERIE – SHOW ROOM "LA CABANE"

Rehabilitation of the Halle de la Cartoucherie in Toulouse as a Third Place shared between culture, work and leisure. The project includes the construction of a performance hall (800 seats) in an extension of the Halle, and the rehabilitation of the hall including a youth hostel, a wellness and sports area, a climbing gym, a coworking space, a space dedicated to culture, art and gastronomy.

The hut benefits from a modular configuration with a principle of retractable bleachers that allows a total capacity of 758 seats or 444 seats in a seated configuration. It has the originality of being located above a coworking space and below an apartment building. The objective was therefore to create a highly insulated setting while guaranteeing a balanced reverberation.

MOA: SAS DU TIERS LIEU

Team: COMPAGNIE, OECO, Terrel, CEERCE, HOECO, Groupe GAMBA

Works : 16 000 000,00 €

Year : 2024

Capacity: 800 seats



Crédit photo : Groupe GAMBA



Crédit photo : Les Halles de la Cartoucherie



Crédit photo : Manon Gardelle et Le Metronum



## SMAC THE METRONUM IN TOULOUSE

Construction of an SMAC-labeled concert hall in Toulouse, with a capacity of 500 seats, three public rehearsal studios, and meeting rooms.

Mission: Project management subcontracted on behalf of the engineering firm Pialot Escande.

MOA: OPPIDEA

Team: COMPAGNIE, OECO, Terrel, CEERCE, HOECO, Groupe GAMBA

Year: 2014

Capacity: 500 seats



# CHOREOGRAPHIC CENTERS

**Acoustics is a major issue.  
In a cultural project, it shapes the very  
identity of the place.**

*Chloé Bodart, Architect and Founder and Partner at Compagnie Architecture*





Photo/illustration : © ailleurs.studio



# NATIONAL CHOREOGRAPHIC CENTRE IN DIJON

Rehabilitation and extension of the national choreographic development centre Le Dancing in Dijon. The project includes a reception area, a creation/dissemination space and internal spaces.

Mission: Complete project management in co-contracting

MOA: City of DIJON

Team: STUDIO 1984 (Architects), TISCO Ingénierie, ATEVE Ingénierie, BET CHOULET, C2P INGENIERIE, Groupe GAMBA

Works: €3,355,000

Capacity: 150







# MANUFACTURE CDCN DE BORDEAUX

Design - construction for the rehabilitation and extension of "La Manufacture" of the National Choreographic Development Centre (CDCN) in Bordeaux. The project includes a large reception hall, a restaurant bar, a performance hall "Le Cœur de la Manufacture", 2 dance studios, an administrative centre, as well as a logistics space. Approximately 800 m<sup>2</sup> of rehabilitation and 1,400 m<sup>2</sup> of extension.

MOA: City of Bordeaux

Team: DUNE CONSTRUCTIONS, Compagnie Architecture, Colas Environnement, Otéis, Pollen, Agence Clair Obscur, Scop Ecozimut, Tereo, Intégrale de restauration, Groupe GAMBA

Works excluding tax: 7,000,000.00

Year: Under construction

Capacity: 288



# THEATRES





# ODYSSUD STAGE CAGE

Raising of the stage cage of the 1047-seat Odyssud performance hall in Blagnac. The elevation will make it possible to complete, rationalise and optimise the preparation, storage and maintenance spaces as well as the living space of the technical staff around the stage, the development of a rehearsal room and the hosting of shows bringing together a large number of participants, such as orchestral groups or dance companies.

Mission: Subcontracting project management of the architect

MOA: City of BLAGNAC

Team: FLINT, Terrell, Betem, Vidal CEC, Changement à Vue, Ogeba, Groupe GAMBA

Works excluding tax: €6,650,000.00

Year: 2026

Capacity: 1047 seats

“The acoustic work on the stage house was essential to adapt to new uses.”

Emmanuel SOULIE, Project Manager, GAMBA Group.



Credit photo: FLINT Architectes





Crédit photo : Agence d'architectures Nicolas C. Guillot

“

*The internal acoustics will be taken care of to give the hall its full architectural and acoustic identity, sober and efficient.*

”

Olivier SERVONNAT, GAMBA Group

## THÉÂTRE LORETTE

Halfway between Saint-Étienne and Lyon, the town of Lorette will have a theatre with a capacity of 550 seats, making it possible to host multiple live art shows (theatre, one-man/woman-show, dance, comedy, gospel) as well as jazz concerts.

Mission: Complete project management in co-contracting

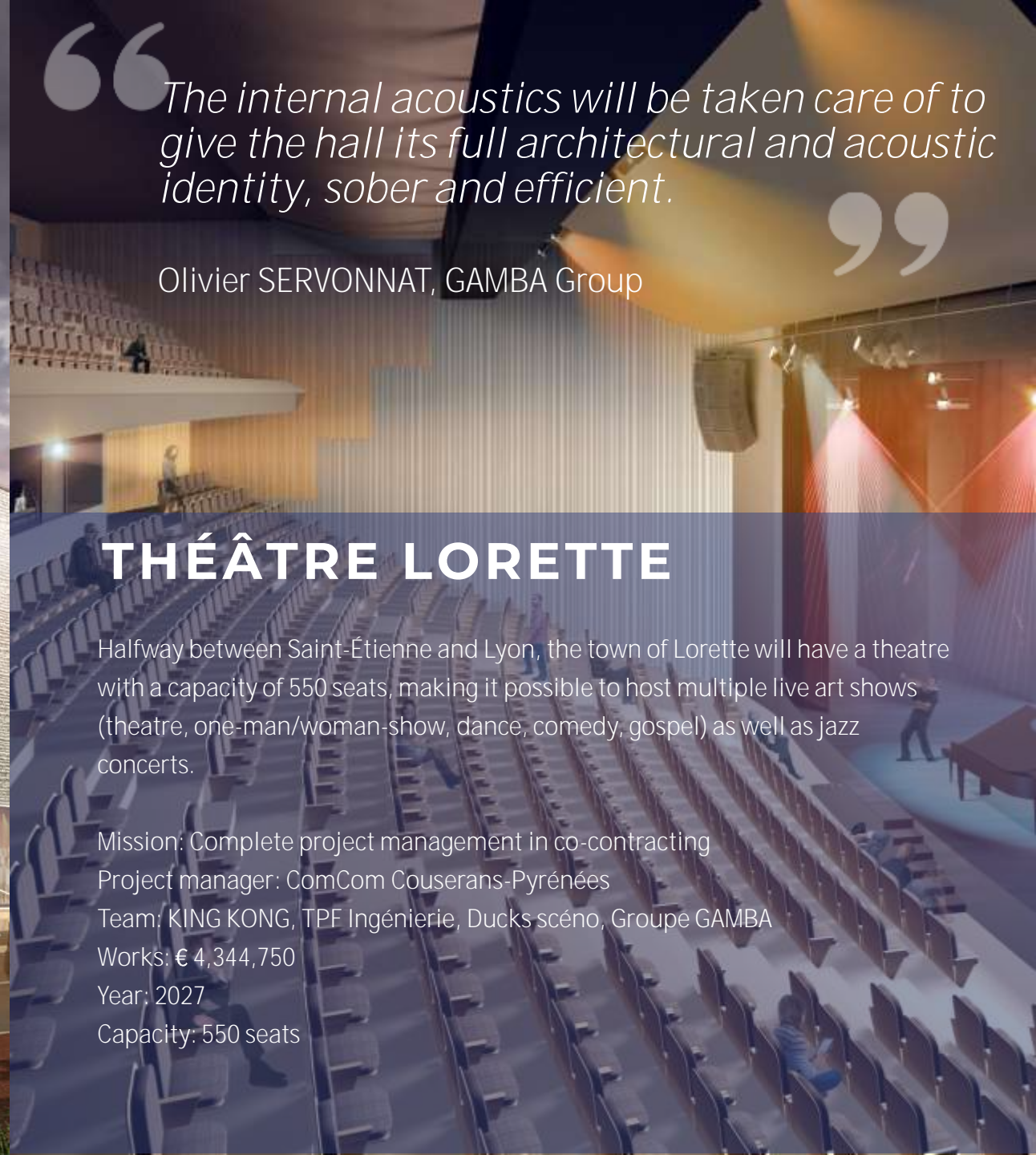
Project manager: ComCom Couserans-Pyrénées

Team: KING KONG, TPE Ingénierie, Ducks scéno, Groupe GAMBA

Works: € 4,344,750

Year: 2027

Capacity: 550 seats





# THÉÂTRE DES VARIÉTÉS

Restoration of the Théâtre des Variétés in Béziers, a building listed in the Supplementary Inventory of Historic Monuments (800 m<sup>2</sup>) and a new construction in extension that will house the conservatory's learning spaces (1500 m<sup>2</sup>). The conservatory will include music rooms (orchestra, choral singing, rehearsal, percussion and musical formations), dance rooms and tertiary premises.

MOA: Communauté d'Agglo Béziers Méditerranée

Team: Nicolas Guillot Architecture Agency, Bost Ingénierie, GBA & Co, Architecture & Technique, GAMBA Group

Works: €7,406,745

Year: 2025

Capacity: 320 seats

“A place with acoustics reputed to be little sound reinforcement and natural acoustics, the Holy Grail of acoustics.”

Bastien Maurey, GAMBA Group,  
Responsible for room acoustics



Crédit photo : ARCHIDEV



The background image is a photograph of a large, empty theater or auditorium. The seating is tiered and consists of many rows of dark-colored seats. The stage area is visible in the distance, with various lights and equipment hanging from the ceiling. The overall lighting is dim, with some bright spots from stage lights creating a dramatic effect. The text is overlaid on the center of the image.

# *CULTURAL CENTRES* **CONSERVATORIES**



“  
*The acoustic atmosphere of each performance hall is tailored to a specific use: the theatre for voice and acoustic music; the black box for amplified music.*  
”

Yann MOLLE, Project Manager, GAMBA Group

## MAISON DE LA CULTURE BOURGES

Construction of maison de la culture de Bourges. 700-seat theatre, black box. The project also includes a large rehearsal room, two cinemas with 120 and 160 seats, a restaurant, exhibition spaces and administrative offices.

Mission: Complete project management in co-contracting

MOA: Municipality of BOURGES

Team: IVARS & BALLETT ARCHITECTES ASSOCIES – MIT, 3IA, ECI, IDF, INEVIA, ARCHITECTURE AND TECHNIQUE, CRESCENDO CONSEIL, GAMBA GROUP

Works: €25,000,000

Year: 2021

Capacity: 700 seats



# CONSERVATOIRE VILLEPARISIS

Construction of a new conservatory in Villeparisis. The project consists of attaching the new construction of the conservatory to the Jacques Prévert cultural centre, in the interest of having a shared reception hall as part of a restructuring. The extension includes a 140-seat auditorium allowing the conservatory to bring together large groups and offer an artistic program, 1 dance studio (300 m<sup>2</sup>), musical practice rooms (550 m<sup>2</sup>), individual and collective practice studios, percussion and contemporary music rooms, recording room, dressing rooms, as well as administrative premises.

Mission: Complete project management in co-contracting

MOA: Municipality of VILLEPARISIS

Team: R. IVARS & JC. BALLE, CHIAROSCURO, BETEM,  
GAMBA GROUP

Works excluding VAT: €7,779,203.00

Year: under construction

Surface : 2829 m<sup>2</sup>

“A project designed for comfort and performance: respectful of uses, with an optimized layout, carefully crafted acoustic environments, and special attention to the environment.”

Yann MOLLE, Project manager, GAMBA Group.



Crédit photo : IVARS & BALLE Architectes





Crédit photo : Studio Erick Salliet

# LA COMÈTE CULTURAL CENTRE IN SAINT-ÉTIENNE

Rehabilitation of the La Comète cultural emergence centre in Saint-Étienne. The project includes instrumental practice rooms, an orchestra room and percussion areas.

Mission: Complete project management in co-contracting

MOA: ST-ETIENNE City Hall

Team: D. VIGIER Architecture Agency, Atelier 131, BATISERF Ingénierie, DOMO FLUIDES, ARCHITECTURE AND TECHNIQUE, GBA&co, GAMBA Group

Works: €6,500,000

Year: 2020

Surface : 2630 m<sup>2</sup>





# CINEMAS

**«In the silence of a room or the burst of an explosion, it is acoustics that makes cinema vibrate.»**

Bastien Maurey, GAMBA Group, Responsible for room acoustics.





## CINEMA THE GRAND SCENARIO IN SAINT-PRIEST

Construction of a 4-screen cinema (726 seats) "Le Grand Scénario" in Saint-Priest in an existing building.

Mission: Project management in co-contracting phase PRO/DCE, ACT, VISA

MOA: Id Ciné

Team: ARCHITECTURE ET TECHNIQUE, Alpha BET, Buffo Ingénierie, Setec, Groupe GAMBA

Works: €2,850,000

Year: 2023

Capacity: 726 seats





## CINÉMA PÉAGE DE ROUSSILLON

Installation of a 5-screen cinema, i.e. 724 seats, in an existing building (former wine cooperative cellar) located in Péage de Roussillon.

Mission: Complete project management assistance in acoustics and vibrations

MOA: Roussillon Cinéma - Id Ciné

Team: ARCHITECTURE AND TECHNIQUE, Jérôme Buffo, Alpha, GAMBA Group

Works: €2,800,000

Year: 2023

Capacity: 724 seats





# *PALAIS DES SPORTS –* **STADIUMS**

**«Attending a match in a sports hall is an intense experience marked by the shouts of the fans, the background music and the announcements of the announcers: major acoustic challenges.»**

Bastien Maurey, GAMBA Group, Head of Room Acoustics.



# STADIUM OF TOULOUSE

The restructuring of the Toulouse Stadium aims to prepare for EURO 2016 and improve its operation. The works involve expanding capacity to 40,000 seats, modernizing access, and meeting regulatory standards to host matches and shows. The acoustic challenges concern sound system quality, diffusion homogeneity, and control of noise pollution.

Mission: Project management assistance

MOA: City of Toulouse

Team: Cardette Huet, Ferret, Ginger, Sud Etudes, Beterem, Behi, Alayrac, Inafa, Stadia Consulting, Groupe GAMBA

Works excluding tax: €42,000,000

Year: 2016

Capacity: 40,000 seats





# PALAIS DES SPORTS ANDRÉ BROUAT

Assistance to the project owner for the renewal of the comfort sound system of the Toulouse sports hall (maximum capacity of 4400 spectators). With a modernised sound system, spectators will be able to fully experience the intensity of a match between the handball players of the Phoenix, the Toulouse Féminin Handball club or the volleyball players of the Spacer's while enjoying increased hearing comfort.

MOA: City of Toulouse

Team: Groupe GAMBA

Works excluding tax: €300,000

Year: 2025

Capacity: 4400





## ARENES DU CRES

Construction of a new Le Crès **Cœur de vie**: arena (up to 800 seats), adjoining spaces (including boxes, toril, associative spaces, shops and restaurant) as well as the development of its surroundings and the forecourt. Surface areas: building 3968 m<sup>2</sup>, exterior areas of 5107 m<sup>2</sup>, 1287 m<sup>2</sup> of track, 5334 m<sup>2</sup> for the shops and restaurant.

MOA: Commune de CRES

Team: King Kong, Egis, MCG Exploitation, Groupe GAMBA


Works: €4,310,000

Year: 2025

Capacity : 800 seats



# CONTACT

 +33 562 243 676

 [contact@gamba.fr](mailto:contact@gamba.fr)

[WWW.GAMBA.FR](http://WWW.GAMBA.FR)

FOLLOW US ON LINKEDIN:



[linkedin.com/company/gamba-acoustique/](https://www.linkedin.com/company/gamba-acoustique/)