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*L'ingénierie
acoustique et vibratoire
depuis 1975*

Railway Stations and Airports

LASA : Acoustic and Vibration Engineering since 1975



4.9

million euros
revenue in 2024

5000

clients
trusting us since 1975

25

software tools
developed in-house by LASA



OPQIBI qualifications
Professional Qualification Organization for Engineering, Construction and Industry

10

sites
Paris – Lyon – Bordeaux – Marseille
Rennes – Nantes – Toulouse – Annecy
Antilles – Guyane

6

partners
all actively involved in the firm



90

sound level meters
vibration analyzers, single or multichanne

20

noise and vibration sources
omnidirectional, directional, standalone,
low frequencies, shock machines

Understanding
of architectural and client requirement

Feasibility
of solutions

Optimization
of proposed solutions

Satisfaction
of our clients

50
team members
experts and passionate about their craft

10 000
completed projects

New Terminal 1 – Lyon-Saint-Exupéry Airport (69)

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Completion : 2012 – 2019

Cost of works : €180 million

Architects : Rogers Stirk Harbour / Chabannes

Description : Construction of a new passenger terminal (8 million passengers/year), including a 10,000 m² “wait and shop” area with retail, restaurants, and relaxation spaces. The study focused on internal acoustics of the halls and central space, including evaluation of public address speech intelligibility using RASTI analysis.

LASA’s scope : Technical consultancy during both design and construction phases, 3D acoustic modelling for reverberation control and speech intelligibility optimisation, and preparation of the acoustic specification report (including partition sizing).

Terminal 2 Extension - Lyon Airport (Vinci) – Lyon (69)

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Completion : 2025 - 2027

Architect : WSP

Description : Design and build project for the extension, refurbishment, and energy performance improvement of Terminal 2. The project includes the creation of international-standard waiting and retail areas.

LASA's scope : Initial assessment of vibration and noise conditions, and monitoring of acoustically relevant construction works during project execution.

MP1 Terminal – Marseille Provence Airport (Phase 1) – Marignane (13)

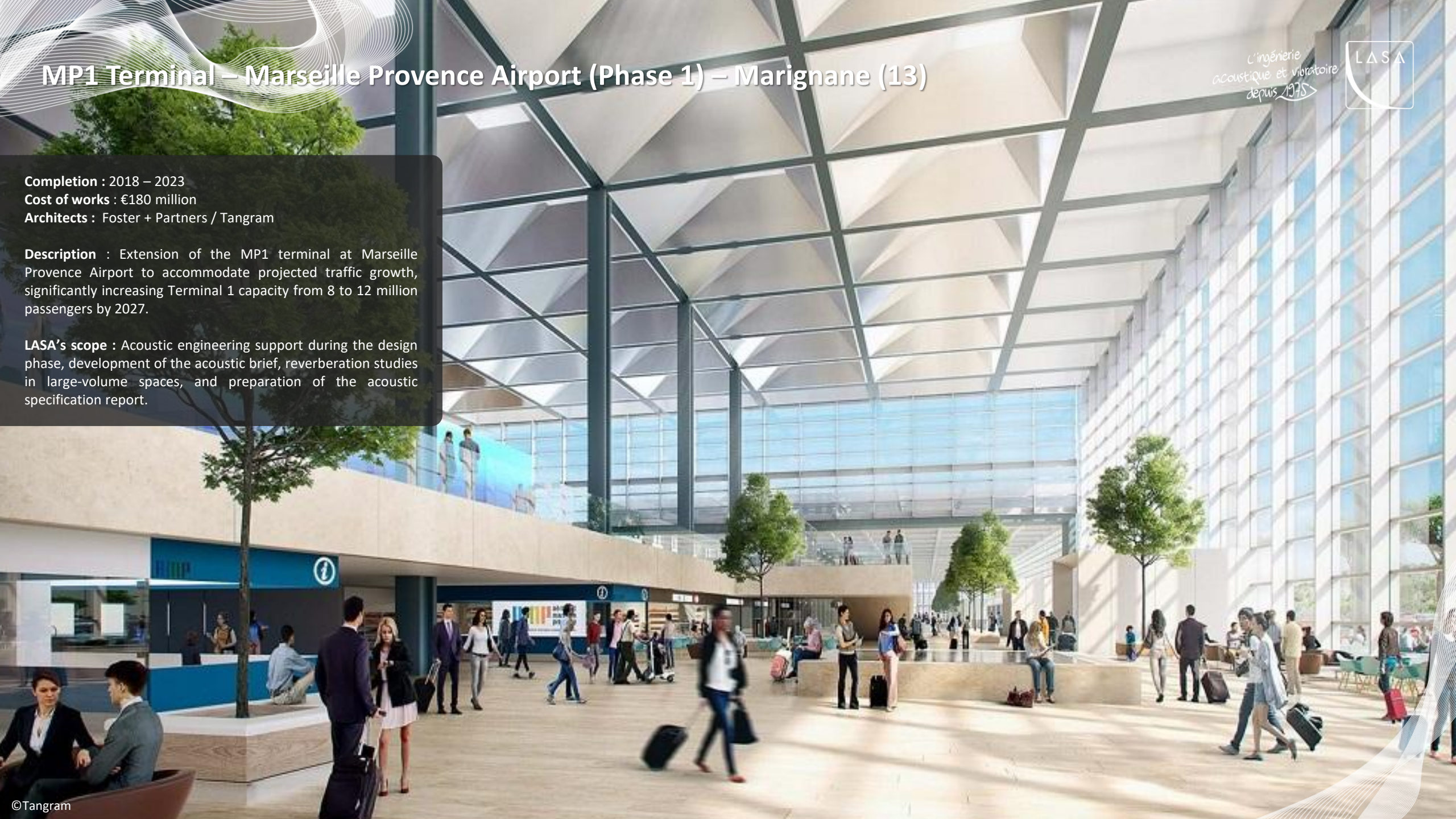
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Completion : 2018 – 2023
Cost of works : €180 million
Architects : Foster + Partners / Tangram

Description : Extension of the MP1 terminal at Marseille Provence Airport to accommodate projected traffic growth, significantly increasing Terminal 1 capacity from 8 to 12 million passengers by 2027.

LASA's scope : Acoustic engineering support during the design phase, development of the acoustic brief, reverberation studies in large-volume spaces, and preparation of the acoustic specification report.



MP1 Terminal – Marseille Provence Airport (Phase 1) – Marignane (13)

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Completion : 2018 – 2023
Cost of works : €180 million
Architects : Foster + Partners / Tangram

Description : Extension of the MP1 terminal at Marseille Provence Airport to accommodate projected traffic growth, significantly increasing Terminal 1 capacity from 8 to 12 million passengers by 2027.

LASA's scope : Acoustic engineering support during the design phase, development of the acoustic brief, reverberation studies in large-volume spaces, and preparation of the acoustic specification report.



Acajou Project – Bordeaux Airport – Mérignac (33)

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Completion : 2024 - 2026
Cost of works : €12 million
Architect : AMELLER DUBOIS

Description : Extension of the Iberian pier at Bordeaux-Mérignac Airport, including restructuring of the border control (Police aux Frontières) facilities.

LASA's scope : Acoustic engineering design and construction-phase supervision for the project, including public address (PA) system design for public areas, under subcontract to the architect.

Lille-Lesquin Airport Terminal – Lille (59)

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Completion : 2019 - 2023
Architect : ENIA Architectes

Description : Rehabilitation and expansion of the passenger terminal, designed for projected demand through 2039.

LASA's scope : Technical assistance to the design team during both design and construction phases, 3D acoustic modelling to optimise internal acoustics (reverberation control) in terminal halls, and assessment of public address speech intelligibility.

Lille-Lesquin Airport Terminal – Lille (59)

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Completion : 2019 - 2023
Architect : ENIA Architectes

Description : Rehabilitation and expansion of the passenger terminal, designed for projected demand through 2039.

LASA's scope : Technical assistance to the design team during both design and construction phases, 3D acoustic modelling to optimise internal acoustics (reverberation control) in terminal halls, and assessment of public address speech intelligibility.

Las Américas Airport – Santo Domingo – Dominican Republic

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Completion : 2018 - 2019

Architect : DICONFO

Description : Rehabilitation of the central atrium at Las Américas Airport, including the creation of a new cargo terminal and an office building.

LASA's scope : Acoustic engineering consultancy for the design team during the design phase, initial acoustic assessment, 3D numerical modelling for internal acoustic prediction, and preparation of the acoustic specification report.

Grand Paris Express Line 15 – Vitry Centre Station – Vitry-sur-Seine (94)

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Completion : 2017 - 2025
Architects : King Kong / Systra

Description : Construction of a three-level underground station with the Vitry Centre surface structure. Platforms located 25 meters below ground, designed to handle 50,000 passengers per day. Large passenger circulation volumes with a "cave-like" architectural concept.

LASA's scope : Detailed design studies (execution phase) for public address and safety (SSI) sound systems in passenger areas, 3D acoustic modelling of the entire station, loudspeaker system design studies, and mapping of acoustic performance criteria.



Grand Paris Express Line 15 – Les Ardoines Station – Vitry-sur-Seine (94)

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Completion : 2017 - 2025

Architects : Valode et Pistre / Systra

Description : Construction of a three-level underground station with the Les Ardoines surface structure. Platforms located 28 meters below ground, designed to handle 95,000 passengers per day. Large-volume passenger circulation spaces.

LASA's scope : Detailed design (execution phase) studies for public address and fire safety (SSI) sound systems in passenger areas, 3D acoustic modelling of the entire station, loudspeaker system studies, and performance mapping (coverage, STI, etc.).

Grand Paris Express Line 15 – Les Ardoines Station – Vitry-sur-Seine (94)

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Completion : 2017 - 2025

Architects : Valode et Pistre / Systra

Description : Construction of a three-level underground station with the Les Ardoines surface structure. Platforms located 28 meters below ground, designed to handle 95,000 passengers per day. Large-volume passenger circulation spaces.

LASA's scope : Detailed design (execution phase) studies for public address and fire safety (SSI) sound systems in passenger areas, 3D acoustic modelling of the entire station, loudspeaker system studies, and performance mapping (coverage, STI, etc.).

Grand Paris Express Line 15 – Val-de-Fontenay Station – Fontenay-sous-Bois (94)



Completion : 2021 - 2030

Architects : 'AS / Willmotte / Viguiier / FBCC / BIG / LA-BA / Ar-Thème

Description : Design-and-build project covering sections WS/ES/WN/EN of Metro Line 15 of the Grand Paris Express, including approximately 40 km of tunnels, 20 stations, a maintenance and control center (CER), ancillary structures, and associated real estate developments.

LASA's scope : Bid-phase support to the consortium for acoustic and vibration studies, including station acoustics and public address systems, technical equipment noise assessment, modelling, and vibration studies for both construction and operational phases.



Grand Paris Express Line 15 – Bobigny - Pablo Picasso Station – Bobigny (93)

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Completion : 2021 - 2030

Architects : 'AS / Willmotte / Viguiet / FBCC / BIG / LA-BA / Ar-Thème

Description : Design-and-build of sections WS/ES/WN/EN of Metro Line 15 of the Grand Paris Express, including approximately 40 km of tunnels, 20 stations, a maintenance and control center (CER), ancillary structures, and associated real estate developments.

LASA's scope : Bid-phase support to the consortium for acoustic and vibration studies, including station acoustics and public address systems, technical equipment noise assessment, modelling, and vibration studies for both construction and operational phases.



Grand Paris Express Line 16 – Aulnay Station – Aulnay-sous-Bois (93)

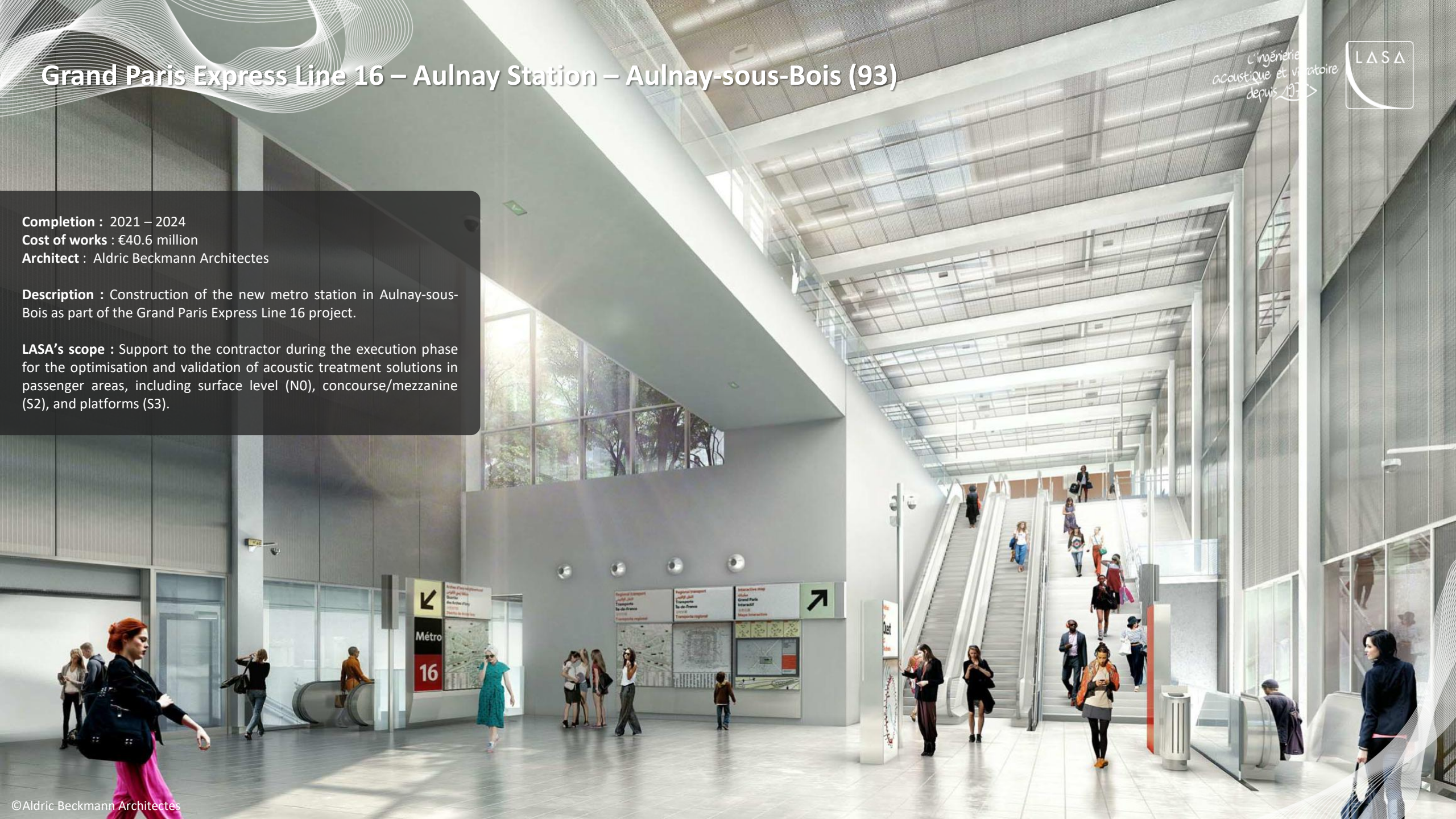
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Completion : 2021 – 2024
Cost of works : €40.6 million
Architect : Aldric Beckmann Architectes

Description : Construction of the new metro station in Aulnay-sous-Bois as part of the Grand Paris Express Line 16 project.

LASA's scope : Support to the contractor during the execution phase for the optimisation and validation of acoustic treatment solutions in passenger areas, including surface level (N0), concourse/mezzanine (S2), and platforms (S3).



Grand Paris Express Line 15– Nogent-Le Perreux Station – Le-Perreux-sur-Marne (94)

Ingénierie
acoustique et vibratoire
depuis 1978



Completion : 2021 - 2030

Architects : 'AS / Willmotte / Viguier / FBCC / BIG / LA-BA / Ar-Thème

Description : Design-and-build of sections WS/ES/WN/EN of Metro Line 15 of the Grand Paris Express, comprising approximately 40 km of tunnels, 20 stations, a maintenance and control center (CER), ancillary structures, and associated real estate developments.

LASA's scope : Bid-phase support to the consortium for acoustic and vibration studies, including station acoustics and public address systems, technical equipment noise assessment, numerical modelling, and vibration studies for both construction and operational phases.

Grand Paris Express Line 15 – Rosny Bois-Perrier Station – Rosny-sous-Bois (93)

L'ingénierie
acoustique et vibratoire
depuis 1978



Completion : 2021 - 2030

Architects : 'AS / Willmotte / Viguier / FBCC / BIG / LA-BA / Ar-Thème

Detailed description : Design-and-build of sections WS/ES/WN/EN of Metro Line 15 of the Grand Paris Express, comprising approximately 40 km of tunnels, 20 stations, a maintenance and control center (CER), ancillary structures, and associated real estate developments.

LASA's scope : Bid-phase support to the consortium for acoustic and vibration studies, including station acoustics and public address systems, technical equipment noise assessment, numerical modelling, and vibration studies for both construction and operational phases.

Grand Paris Express Line 15 – Bondy Station – Bondy (93)

L'ingénierie
acoustique et vibratoire
depuis 1978



Completion : 2021 - 2030

Architects : 'AS / Willmotte / Viguiet / FBCC / BIG / LA-BA / Ar-Thème

Description : Design-and-build of sections WS/ES/WN/EN of Metro Line 15 of the Grand Paris Express, comprising approximately 40 km of tunnels, 20 stations, a maintenance and control center (CER), ancillary structures, and associated real estate developments.

LASA's scope : Bid-phase support to the consortium for acoustic and vibration studies, including station acoustics and public address systems, technical equipment noise assessment, numerical modelling, and vibration studies for both construction and operational phases.



Grand Paris Express Line 15 – Champigny Centre Station – Champigny-sur-Marne (94)

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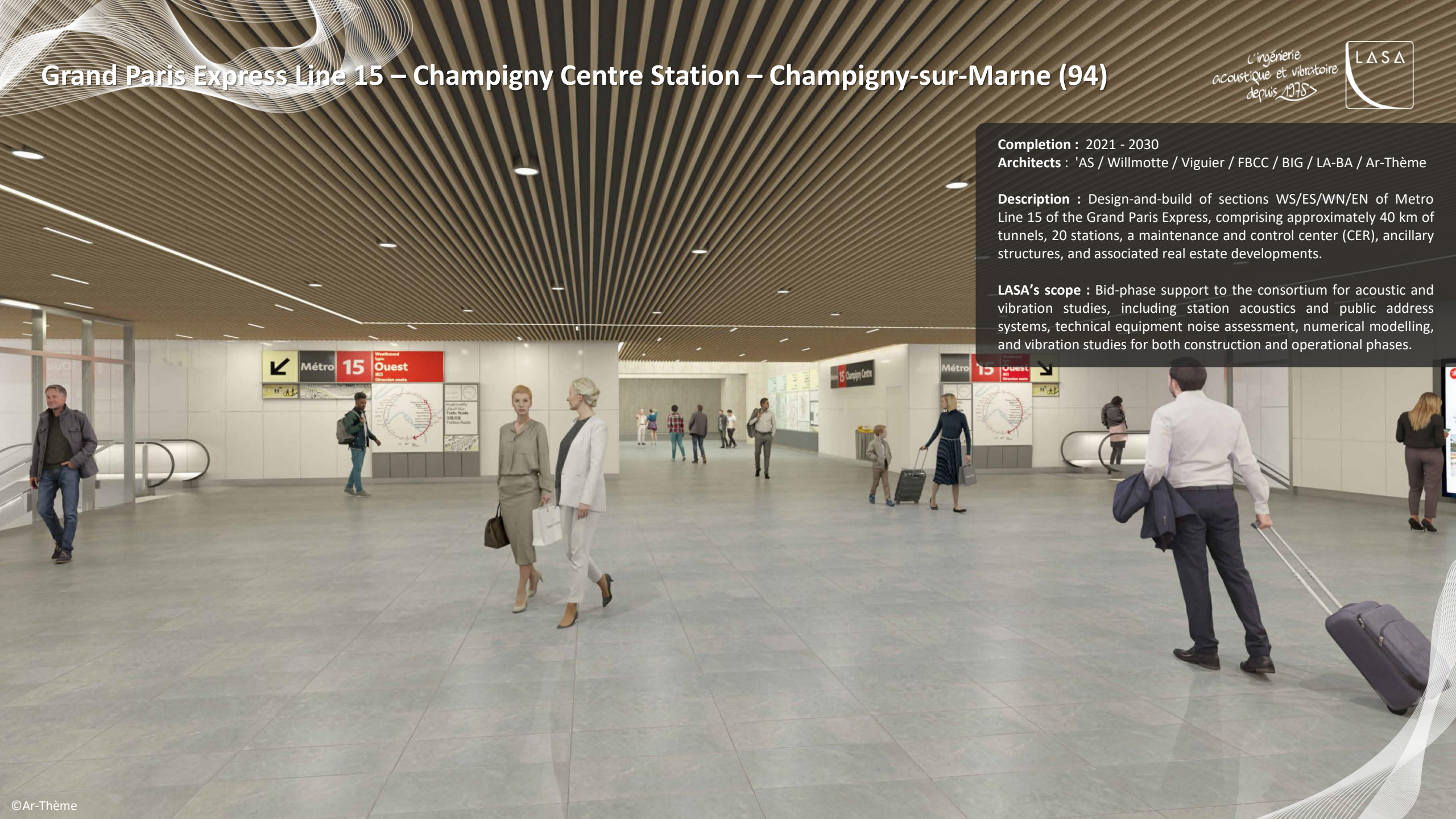


Completion : 2021 - 2030

Architects : 'AS / Willmotte / Viguier / FBCC / BIG / LA-BA / Ar-Thème

Description : Design-and-build of sections WS/ES/WN/EN of Metro Line 15 of the Grand Paris Express, comprising approximately 40 km of tunnels, 20 stations, a maintenance and control center (CER), ancillary structures, and associated real estate developments.

LASA's scope : Bid-phase support to the consortium for acoustic and vibration studies, including station acoustics and public address systems, technical equipment noise assessment, numerical modelling, and vibration studies for both construction and operational phases.



Marengo Multimodal Hub – Halle des Mobilités – Toulouse (31)

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La Fleuriste

Completion : 2023 – 2028
Cost of works : €65 million
Architects : BIG / A+ Architecture

Description : Multimodal transport interchange integrating rail, metro, bus, cycling, and pedestrian flows, with adjacent mixed-use spaces.

LASA's scope : Full acoustic and vibration engineering consultancy as part of the project management team, covering design, construction, and commissioning phases, including initial vibration assessment and detailed vibration studies.

« La Factory » – Tramway Maintenance and Depot Centre – Lyon 7 (69)

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Completion : 2023 - 2023

Cost of works : €70.6 million

Architect : AIA Architectes

Description : Maintenance and storage facility for 48 trams (expandable to 66) in a dense urban environment. The project includes maintenance workshops, washing facilities, office spaces, and an independent 4,000 m² craft/industrial hub. Low-carbon design with timber structure.

LASA's scope : Acoustic and vibration engineering support to the design team. Bid-phase studies including acoustic and vibration concept design, reverberation control in workshops, and mitigation of operational noise impact on the surrounding urban environment. Non-awarded project.

Gare du Nord 2024 – Paris (75)

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Completion : 2019 - 2024
Cost of works : €600 million
Architects : Valode et Pistre / AREP

Description : Transformation of Gare du Nord to improve service capacity and passenger flow, including new departure and arrival terminals, pedestrian bridges, and additional services such as retail spaces, co-working areas, an event hall, a library, sports facilities, and restaurants.

LASA's scope : Initial acoustic measurements, 3D modelling, and studies of public address systems in both historic and new large-volume halls to improve speech intelligibility. STI (Speech Transmission Index) and SPL (Sound Pressure Level) mapping, preliminary sizing of the sound system, and design plans for loudspeaker distribution.

Gare du Nord 2024 – Paris (75)

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Completion : 2019 - 2024
Cost of works : €600 million
Architects : Valode et Pistre / AREP

Description : Transformation of Gare du Nord to improve service capacity and passenger flow, including new departure and arrival terminals, pedestrian bridges, and additional services such as retail spaces, co-working areas, an event hall, a library, sports facilities, and restaurants.

LASA's scope : Initial acoustic measurements, 3D modelling, and studies of public address systems in both historic and new large-volume halls to improve speech intelligibility. STI (Speech Transmission Index) and SPL (Sound Pressure Level) mapping, preliminary sizing of the sound system, and design plans for loudspeaker distribution.

Lyon Part-Dieu Station - Operational Hub (COE) – Lyon (69)

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Completion : 2019 - 2021

Architect : Archi Graphi

Description : Creation of a temporary Operational Hub (COE) within the RIR building at Lyon Part-Dieu station. The project includes coordination with works for the construction of Track L (Voie L) and associated railway infrastructure.

LASA's scope : On-site acoustic and vibration measurement campaign and analysis, assessment of potential disturbances caused by works in an occupied railway environment and by railway-induced vibrations, and evaluation of mitigation solutions.



Lyon Part-Dieu Station – Fire Safety Public Address System (SSI) - Lyon (69)

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Completion : 2022 - 2022

Architect : AREP

Description : Testing and validation of the fire safety public address (SSI) sound system in Section 1 of the northern hall of the Béraudier concourse and gallery project at Lyon Part-Dieu station (Lyon 3rd district).

LASA's scope : Acoustic measurement campaign to validate the emergency public address system, including sound mapping, coverage uniformity, and speech intelligibility (STIPA) assessment. Technical support for system tuning and adjustments.

Gare du Sud – Nice (06)

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Completion : 2015 – 2018

Cost of works : €66 million

Architect : Reichen & Robert

Description : Renovation of the former Gare du Sud, a listed historic monument, into a mixed-use development including student housing and residences (11,810 m²), a 9-screen multiplex cinema (4,150 m²), retail spaces (10,025 m²), a covered market hall (1,685 m²), and a sports facility (1,350 m²), among other uses.

LASA's scope : Full acoustic engineering services as design consultant and construction-phase supervisor, covering both design development and site supervision.

Gare du Sud – Nice (06)

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Completion : 2015 – 2018

Cost of works : €66 million

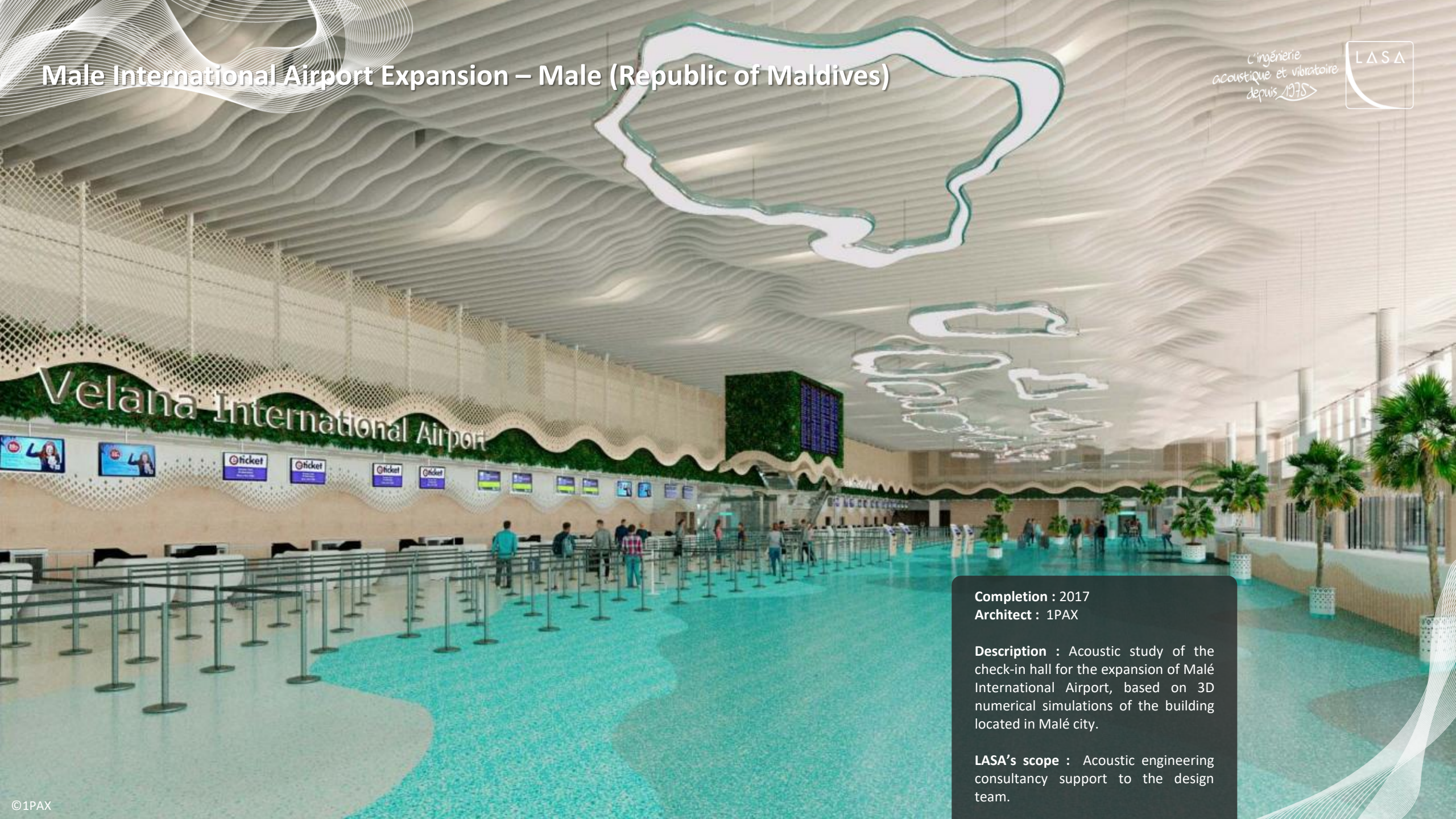
Architect : Reichen & Robert

Description : Renovation of the former Gare du Sud, a listed historic monument, into a mixed-use development including student housing and residences (11,810 m²), a 9-screen multiplex cinema (4,150 m²), retail spaces (10,025 m²), a covered market hall (1,685 m²), and a sports facility (1,350 m²), among other uses.

LASA's scope : Full acoustic engineering services as design consultant and construction-phase supervisor, covering both design development and site supervision.

Male International Airport Expansion – Male (Republic of Maldives)

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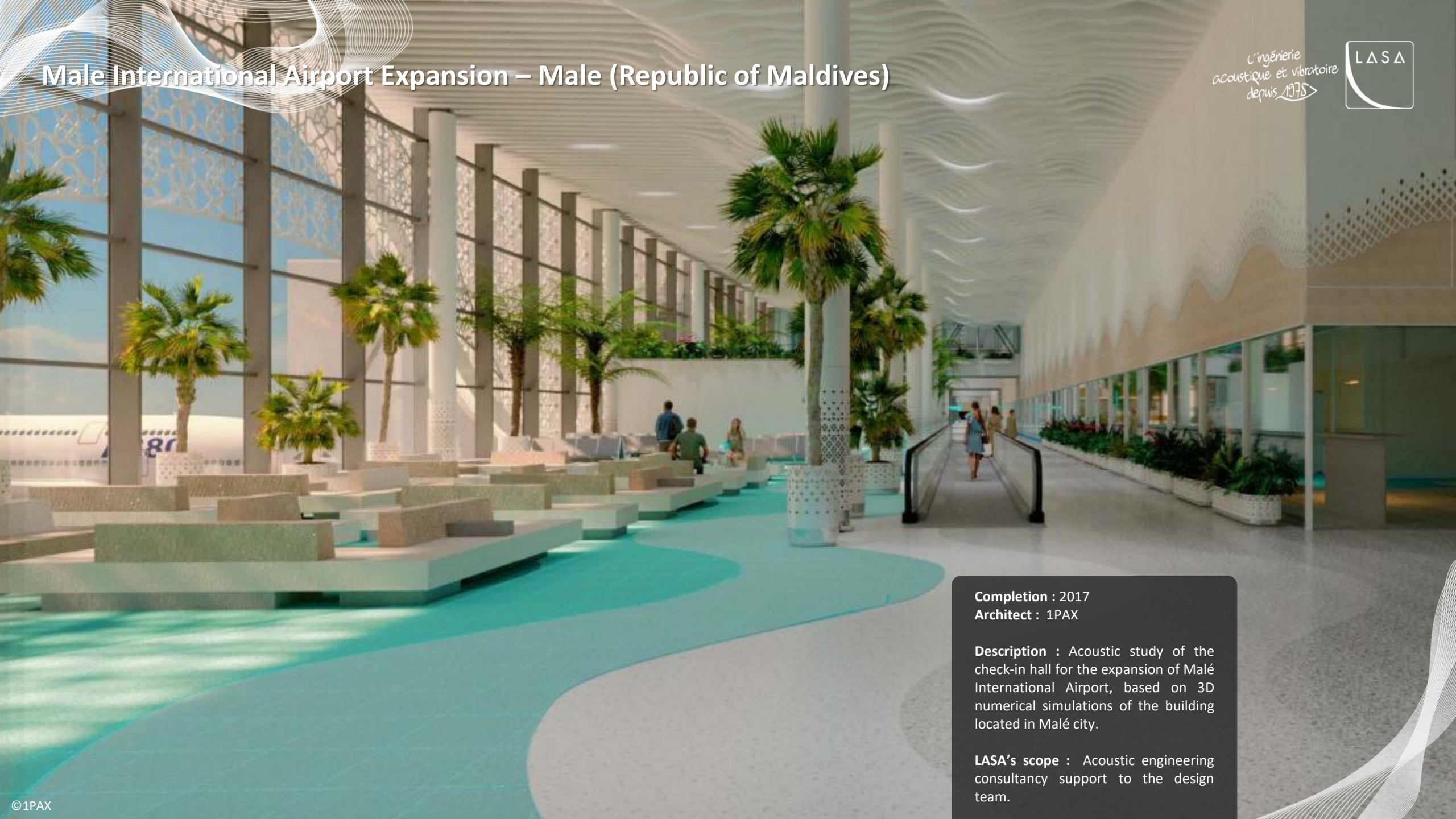
Completion : 2017
Architect : 1PAX

Description : Acoustic study of the check-in hall for the expansion of Malé International Airport, based on 3D numerical simulations of the building located in Malé city.

LASA's scope : Acoustic engineering consultancy support to the design team.

Male International Airport Expansion – Male (Republic of Maldives)

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Completion : 2017

Architect : 1PAX

Description : Acoustic study of the check-in hall for the expansion of Malé International Airport, based on 3D numerical simulations of the building located in Malé city.

LASA's scope : Acoustic engineering consultancy support to the design team.

Roland Garros Airport Expansion – Saint-Denis – Réunion (97)

Completion : 2018 - 2018
Architect : ENIA Architectes

Description : West and south terminal extensions and partial refurbishment of the passenger terminal at Roland Garros Airport, Réunion Island.

LASA's scope : Full design-phase acoustic consultancy as a subcontractor during the competition (bid) phase. Non-awarded project.

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Roland Garros Airport Expansion – Saint-Denis – Réunion (97)

Completion : 2018 - 2018
Architect : ENIA Architectes

Description : West and south terminal extensions and partial refurbishment of the passenger terminal at Roland Garros Airport, Réunion Island.

LASA's scope : Full design-phase acoustic consultancy as a subcontractor during the competition (bid) phase. Non-awarded project.

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Montpellier Odysseum High-Speed Rail Station – Montpellier

Completion : 2014 - 2014
Architect : Fosters + Partners

Description : Construction of the new Montpellier Odysseum TGV (high-speed rail) station.

LASA's scope : 3D acoustic modelling of the station and optimisation of proposed acoustic treatments during the PPP bid phase. Non-awarded project.

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New Doha International Airport – Doha (Qatar)

Completion : 2004 - 2012

Architect : ADPI

Description : Construction of a new airport in Doha.

LASA's scope : Acoustic consultancy support to the design team during both design and construction phases, including façade sound insulation studies, 3D acoustic modelling of internal spaces, and on-site acoustic measurements.

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New Doha International Airport – Doha (Qatar)

Completion : 2004 - 2012

Architect : ADPI

Description : Construction of a new airport in Doha.

LASA's scope : Acoustic consultancy support to the design team during both design and construction phases, including façade sound insulation studies, 3D acoustic modelling of internal spaces, and on-site acoustic measurements.

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RTE Aerial Works Service – Avignon Provence Airport (84)

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Completion : 2015 – 2018
Cost of works : €16 million
Architect : Cardete & Huet

Description : Aviation and office buildings housing pilots and maintenance services for helicopters used for works on the RTE electrical transmission network.

LASA's scope : Acoustic design consultancy for both indoor and outdoor site areas, including on-site measurements and 3D acoustic modelling of helicopter noise impact on the project and surrounding environment.

Grand Paris Express Line 18 – Paris (75)

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Completion : 2024 - 2030

Architect : Groupement ICARE

Description : Construction of Metro Line 18 (Versailles–Orly), comprising approximately 35 km of track, including 13 km of elevated sections. The project includes 7 underground stations, 3 elevated stations, a maintenance and rolling stock depot (SNI/SMR) in Palaiseau, and 24 service structures (ventilation shafts, etc.).

LASA's scope : Assistant to the client (AMO) acting as an independent "second review" body for the verification of noise and vibration studies during the operational phase. LASA acted as a subcontractor to SYSTRA.



Grand Paris Express Line 15 South – Val-de-Marne (94)

Completion : 2016 - 2016
Architects : ANMA/ Valode & Pistre/ Richez/ King Kong

Description : Construction of the southern section of Metro Line 15 of the Grand Paris Express, forming part of the orbital metro network around Paris.

LASA's scope : Bid-phase support to the contractor consortium, in partnership with engineering consultancy Lombardi, for the preparation of the technical submission related to "acoustic and vibration impact and management of external construction sites" within the civil engineering works for Line 15 South.



