

Aviation facilities



Robust experience in industry, *infrastructure and buildings*

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WSP is renowned for its aviation facilities experience, including:

- Plants, manufacturing and assembly lines
- Maintenance, repair and overhaul hangars (MRO)
- Paint hangars
- Military infrastructures

In light of our long-standing experience, we approach every project with an in-depth understanding of global concerns, while considering the multicultural challenges of an international and competitive industry.

As one of the world's leading engineering professional services consulting firms, WSP's strong project management skills and advanced technical expertise enable us to easily contribute to global aviation projects.

We offer our expertise across the globe ensuring a consistent approach from project conception to completion.

Services

Design / Project Management / Environmental, Health and Safety / Cost Control and Schedule Monitoring / Multi-Criteria Risk Analysis / Construction Management, Commissioning and Handover

Meeting Your Business Needs

Specialized Services

Master planning
Land sizing and traffic infrastructure needs
Liaising/coordination with airport management (landside/airside)
Process flows and layout, integration over sites and into buildings
Key utilities requirements
Time scale program and milestone identification
Dialog with authorities and utility providers
Multi-criteria risk analysis of projects
Coordination of all specialized sub-contractors for design
Procurement strategy for services and construction works
Assistance up to completion
Design and construction management
Tools engineering and interface management
Flight path and obstruction zoning analysis

Facilities

Cargo centres
Paint hangars
Maintenance hangars
Production units
Specialist engine testing facilities
Fixed-base operator facilities
Final assembly lines

Value Add

We understand what “Infrastructure, Buildings and Industry” means.
We define and generate a product that meets your needs.
We know where risk lays and how to anticipate it.
We keep in mind the value of your project, and how to bring genuine savings.
We are dedicated to our local communities and propelled by international brainpower.

Recent International Projects

04

05



NETHERLANDS – Lelystat:
Fokker 100 Paint Hangar for QAPS SATYS
(ex STTS)

BULGARIA – Plovdiv:
Production plant

FRANCE:
Numerous projects for Airbus, Safran,
Latécoère, Satys, Air France INdustrie, Fedex

MOROCCO – Casablanca:
A320 Paint hangar

Qatar & UAE:

A380 Engineering & Maintenance centre - Emirates Airlines, Dubai
Composite aerostructure manufacturing plant - Al Ain, UAE
Presidential Flight - Maintenance Hangar - Abu Dhabi, UAE
Etihad Aircraft - Maintenance Hangar - Abu Dhabi, UAE
Base Camps at Ras Laffan Gas liquefaction complex - Qatar
Labs & supporting facilities - China Petroleum - UAE
Paint Hall - Dubai, UAE

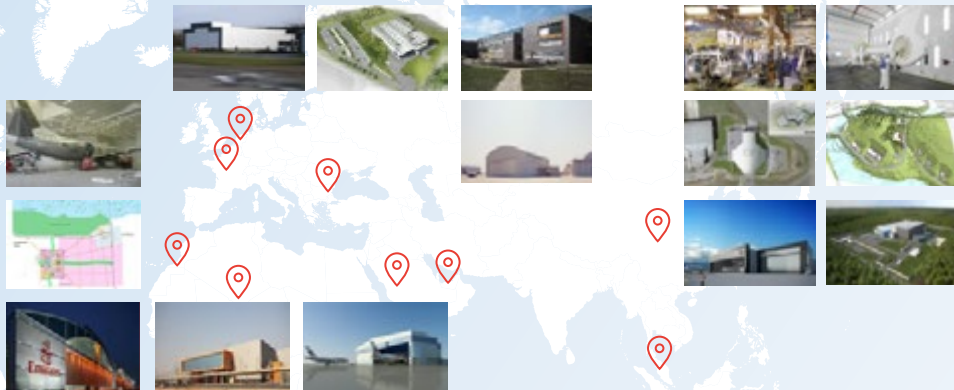
SAUDI ARABIA – Riyadh:

F15 & Awacs - Conversion Project
CHINA

Beijing: Paint hangar A330

MALAYSIA – Kuala Lumpur:
SAE Maintenance & painting centre

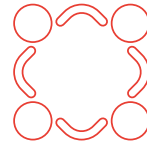
MALAYSIA – Sendayan:
Safran Landing Systems – Carbon
brakes plant



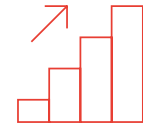
Added Value

Digital Delivery

Our teams use the technology and work processes associated with BIM for the collaborative design of buildings, infrastructure elements and even cities. All project information is contained within one 3D computer model that is shared among stakeholders. The model can contain all the physical and functional characteristics of a project, including structure, geometry, aesthetics, materials, systems and dynamic performance. A 3D model becomes 4D if a time component is added, and 5D when cost-related information is included.



Collaboration



Productivity



Innovation



Durability

***Build better by the deadline
with controlled costs***

Airbus Group Headquarters

*Campus 3
Blagnac, France*

The Airbus Group mandated us to build their main headquarters and create a campus to group the Presidency and the function supports (finance and human resources). On a five hectare land, the campus includes the headquarter (HQ) and Integrated Support Function (ISF), all organized into five sections:

06

- Common and specific areas
- Offices spaces
- Presidency and general management
- An external parking lot with a capacity of 300 and a 50-place basement car park, maintenance, technical and furniture premises
- A restaurant and well-being facility

07



Services

MEP and Structure EPCM scope /
Infrastructure Works Management /
BREEAM Certification «Excellent» for
the Headquarter / BREEAM Certification
«Very Good» for the Restaurant

Schedule
2013-2016

Site
20,000 sqm



Safran Additive Manufacturing Campus

France

WSP was in charge of the construction of a new additive manufacturing centre for Safran, reconciling research and production features, ensuring scalability and high adaptability, as well as bringing safety and ergonomics for users.

Services

Technical assistance with strategic planning, tenders as part of a design & build, design & supervision / Technical and functional feasibility study in coordination with users / Architectural and technical programming / Project management / Energy optimization / Design of process utilities / Engineering structure, electricity, CVC, fluids, infrastructure, VRD / Environmental engineering / Project economy

Office space
2,500 sqm

Schedule
2018

Research & Production Platform
8,000 sqm

Final Assembly Plant

Toulouse, France

- 08 Our relationship with Airbus started 15 years ago with the extensive role of project management, master plan development, plant iterative design, procurement support, construction management and assistance on commissioning this 200,000 sqm, 2 Billions AED equivalent project which was completed in under three years.
- 09

Services

Project Management and Coordination / Master Plan Development and Global Design / Technical Design, Supervision and Expertise / Procurement Assistance / Construction Management / Detailed Design and Shop Drawings Approval and Coordination / Cost Control and Time Schedule Control / Site Management and Global Project Coordination



Site
220 ha

Buildings
200,000 sqm



Aeronautical Plant

***Grand Paris First
Industrial Operation
France***

For Airbus Helicopter new production and composite parts R&D centre in Paris, we led the overall project management, established dialog on ergonomics with end users to define the flows, managing the “process vs building” interactions and liaising with Authorities, leading to the large-scale master plan now shared and approved by all stakeholders. We are also responsible for overall Engineering, Procurement and Construction management until project completion.

Services

Overall Project Management / Leader of the Project Design Team / Demolition, Removal of Asbestos, Civil, Structural, Electrical, HVAC, Cranes and Process Utilities / Assistance to Process Layout / Process—Buildings Interfaces Management / Environmental Permitting / Assistance to Contracting Strategy and Procurement Management / Construction Works Management and Coordination / Financial Management, Schedule Control

Site
18 ha

Schedule
2012-2015

Buildings
67,000 sqm

Safran Aircraft Engines

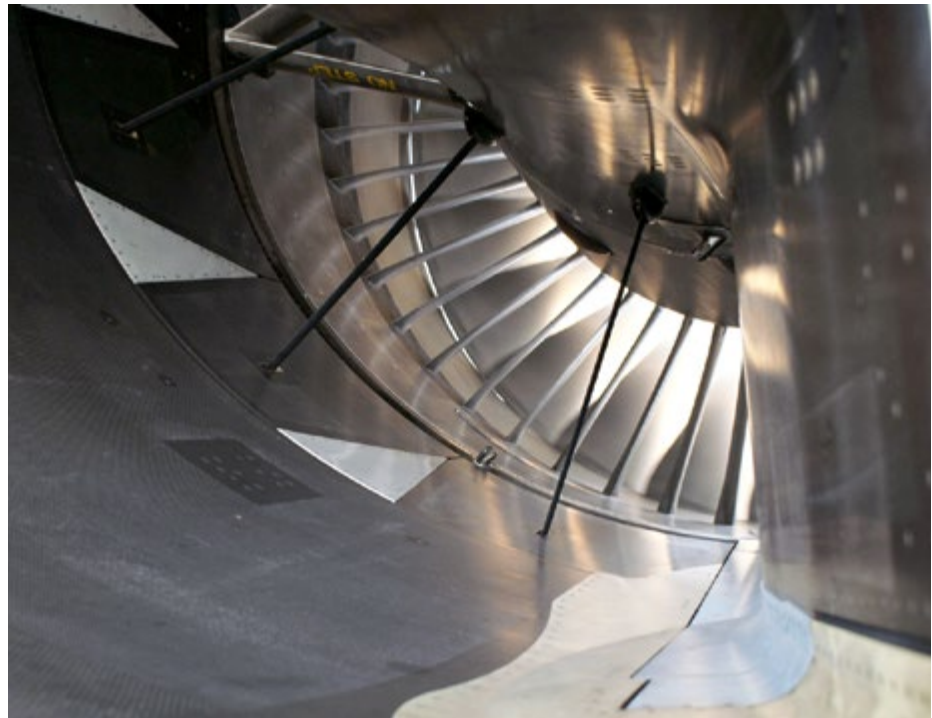
Gennevilliers and Evry-Corbeil Sites Modernization France

WSP was in charge of the rehabilitation of the Gennevilliers plant along with the creation of an experimental foundry. The modernization of the Evry-Corbeil site included:

- An «urban» recombination of the site
- The refitting of site access, networks and external areas
- The modernization and up-to-standard setting of working areas and offices
- The construction of a new main office building, featuring a strong architectural image
- A rationalization and renovation of administrative offices
- The improvement of the working conditions in production areas

Services

Project Management /Engineering, Procurement, Construction Management (EPCM) Consultant



Gennevilliers Site
35,000 sqm

Evry Site
130,000 sqm

Schedule
**2012-2015 /
2006-2008**



Aircraft Paint Hangars

*Blagnac, France &
Dubai, United Arab Emirates*

Mandated by SATYS and then SATYS - Airbus Group, WSP acted as Project Manager for these two-phased projects. Our EPCM scope included infrastructure (taxiways, networks, etc.), buildings, and tools (docks, aerial platforms, etc.).

Services

Main Contractor of the Architectural and Engineering Team / Technical, Structural and Infrastructure Works Engineering / Works Management / Construction Coordination and Schedule Management / Environmental Permits / Design and Management of Painting Equipment: Docks, Suspended Platforms / Handling Facilities Engineering / FFF Coordination

Building for
SATYS
8,100 sqm

Schedule
2016-2019

SATYS-Airbus
Group
2,000 sqm

Schedule
2019-2020

New Multifunction Building

France



12

13

The client houses the activities related to its helicopters in three buildings. The first one is destined for destruction. The second one must later be renovated to house the new company restaurant. Activities related to helicopters will be located in the new building, with a logistics area and an office area upstairs.

Services

Feasibility Studies / Bridge Cranes / Consumption Study in kWh and CO₂ emissions, energy savings impacts options

Site

10,000 sqm



Aircraft Paint Hangars

Worldwide

WSP acted as Global Project Manager for SATYS (ex STTS) – Airbus supplier and the Airbus Group. Our EPCM scope included infrastructure (taxiways, networks, etc.), buildings, and tools (docks, aerial platforms, etc.). We also provided technical assistance to the Owner on conceptual design, client reporting, and technical review. Projects were located in Europe, Africa, Middle East, and Asia.

Services

Main Contractor of the Architectural and Engineering Team / Technical, Structural and Infrastructure Works Engineering / Works Management / Construction Coordination and Schedule Management / Environmental Permits / Design and Management of Painting Equipment: Docks, Suspended Platforms / Handling Facilities Engineering / FFF Coordination

Building for
SATYS

9,643 sqm

Schedule

2008-2010

Building for
Airbus Group

8,000 sqm

Schedule

2014-2015

Manufacturing Plant

Composite Aerostructure Manufacturing Plant Al Ain

United Arab Emirates

14
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Mubadala entrusted our team with the program, conceptual design and project management consultancy (PMC) of Strata composite aero-structures plant project in 2008. This fast-track project was completed within a year on the edge of Al Ain airport and gave us the opportunity to leverage our consultancy skills with locally learnt lessons. Strata phase 1 and its ongoing extension where we have performed a similar role, also allowed us to become familiar with the Development Master Plan of Al Ain aerospace cluster.

Services

Program Definition / Overall Project Management / Tender Assistance for Buildings, Infrastructure and Utilities (Civil, Structural, Mechanical, Electrical) / Detailed Design Approval / Time Schedule Control and Monitoring / Construction Works Control and Follow-Up / Assistance to the Owner for Commissioning and Acceptance



Site

150,000 sqm

Schedule

2008-2010
Phase 1

2008-2017
3 following
phases

Buildings

27,000 sqm



Maintenance Centre

Abu Dhabi, United Arab Emirates

Presidential Flight A380-capable MRO for two wide body aircraft positions, is an essential project developed under demanding site constraints and budget objectives utilizing our team based in Abu Dhabi. In this context, our scope was a global EPCM service.

Services

Project Management / Building Design Including: Program Definition, Architectural Development, Preliminary Design, Detailed Design / Building Permit Management / Tender's Management / Contractor's Final Design Approval / Cost Control and Time Schedule Management / Construction Management

Buildings

19,000 sqm

Schedule

**2010-2012
Studies**

**2013-2016
Construction**

Steel

3,200 tonnes

Multiple Military Projects

Global

16

17

WSP has been involved as project manager in multiple projects related to the design, construction, operation, development and maintenance contract of several aircraft hangars.

Services

Definition of the Client Requirements / Design, from Conceptual to Detailed Design / Management of tendering to General Contractors / PMC during construction phase





Maintenance Centre

Riyadh, Saudi Arabia

In Riyadh, we performed PMC and design roles for the refurbishment and extension of Al Salam military maintenance and aircraft painting facilities, both for F15 jets and helicopters. This is a good example of a comprehensive project from upfront definition of needs and requirements together with the client, to detailed design and construction management.

Services

Overall Project Management / Program Definition / Preliminary Design and Detailed Design / Tender Assistance for Buildings, Infrastructure and Utilities (Civil, Structure, External Works, HVAC, Electrical, Plumbing) / Cost Control and Time Schedule Control / Construction Management

Area
16,000 sqm

Schedule
2014-2016

Aprons
5,000 sqm

New Facility for Mechanical Parts

Eastern Europe



18

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The 14,000 sqm plant is designed to manufacture high-precision metal elemental parts for dynamic helicopter systems for the entire client product line. WSP was hired for delivering technical and functional program, concept design and technical assistance.

Services

Technical and Functional Program /
Concept Design / Technical Assistance

Buildings

14,000 sqm

Schedule

2020-2022



New Industrial Plant

China

This confidential project consisted of building a new industrial manufacturing plant for helicopters. WSP was hired as owner's representative for technical, schedule, cost, contract management during the various steps of the construction project.

Buildings

11,300 sqm

Schedule

2017-2019

Services

Technical and Functional Specification /
Design & Permitting Phase Follow-up /
Construction Company Selection
Assistance / Construction Follow-up &
Commissioning

Suvarnabhumi International Airport

Thai Airways Facilities Thailand

20
21 In association with A110, ACS, and EEC, WSP was selected by Thai Airways to provide project management consulting services for the design and construction of all Thai Airways facilities at the Suvarnabhumi International Airport (second Bangkok international airport).

The facilities constructed were:

- Air cargo terminal
- Air catering facility
- Aircraft maintenance facility
- Ground support equipment facility
- Operations centre
- Customer service centre

Services

Design Management / Procurement Management / Tender Support and Selection of Contractors / Construction Management / Cost Management / Contract Management / Project Control



Site
60.3 ha

Buildings
649,617 sqm

Aeronautical MRO and Paint Hangar

Kuala Lumpur, Malaysia



The project involved fast-track design and build for narrow-body aircraft maintenance and painting (two maintenance positions, one painting hall). The size of the associated workshops and offices was 4,400 sqm while the aircraft parking and hardstand area was 10,000 sqm.

Buildings
12,000 sqm

Schedule
2014-2016

Services

Overall Project Management / Concept to Detailed Design for all MEP Services / Fire Protection Design / Paint Hangar Design / Permitting Coordination / Air Modeling in Paint Hangar / Site Supervision and Management for MEP Services / Commissioning

Aeronautical Component Manufacturing

Sendayan, Malaysia

22
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The project included an aircraft carbon brake manufacturing facility, including a Carbon-Carbon production unit and a Heat Sink Refurbishment Center (RFPC). The plant is designed for 300 tons – 88,000 disks annual production capacity, with 10 furnaces installed, and a capacity for extension up to 700 tons/year. For this outstanding project, we initially performed a macro-economic study, in order to help Safran / Messier Bugatti Dowty decide in which country to invest. Afterwards, we led the team that actually designed and built the plant.

Services

EPC Contract for Infrastructures, Buildings, Process, and Utilities:
Overall Project Management / Full Design from Concept to Detailed Design for Infrastructure, Process, Buildings and Civil, Electrical, Mechanical, Piping and Instrumentation / Procurement of Process Equipment and all Utilities Packages / Construction and Commissioning

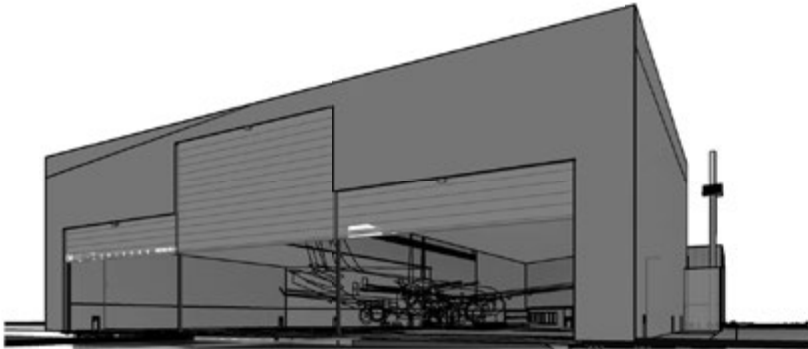


Buildings
17,000 sqm

Schedule
2011-2014

Aircraft Paint Facility

Beijing, China



Buildings

13,200 sqm

Schedule

2015-2018

WSP was mandated by the Joint Venture Hainan Group / SATYS to construct a paint hall for A350, A380 and B474.

Services

Conceptual design : Civil – Structural – MEP Services

Halifax Stanfield International Airport Combined Services Complex

Canada

24

25

Halifax International Airport Authority (HIAA) retained WSP to provide design, construction support, and management services for the new combined maintenance garage and fire hall facility for Halifax Stanfield International Airport. With a construction budget of approximately \$21M, the facility comprises maintenance bays, a vehicle wash bay, an equipment storage bay, a fire hall, and an office area.

Services

Structural Engineering / Civil Engineering / Mechanical Engineering / Electrical Engineering / Project Management



Site

6,200 sqm

Moncton International Airport

Canada



Building

3,100 sqm

WSP in collaboration with McMillan Associates Architects and Roy Consultants developed and constructed the new Airfield Operations Facility at Greater Moncton International Airport.

The facility combines the Airfield Rescue and Fire Fighting (ARFF) and Maintenance and Operations groups under one roof. The two groups will share common administrative and break spaces. The facility replaces three aging and separate buildings into one modern multifunctional facility.

Services

Project Management / Civil and Airside
Electrical Engineering / Construction
Contract Administration

Region of Waterloo International Airport

Canada

- 26 The Regional Municipality of Waterloo retained WSP to provide design, construction support, and management services for the new combined maintenance garage and fire hall facility for the Region of Waterloo International Airport. WSP delivered commissioning services for the mechanical and electrical infrastructure and systems, a building automation system, and fire and crash alarm systems. With a construction budget of approximately \$10M, the facility comprises maintenance bays, an equipment storage bay, a wash bay, a fire hall, and an office area.
- 27

Services

Structural Engineering / Civil Engineering / Mechanical Engineering / Electrical Engineering / Project Management / Landscape Architecture / Building Commissioning



Building
2,500 sqm

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As one of the largest professional services firms in the world, WSP exists to future-proof our cities and our environment. It provides strategic advisory, engineering, and design services to clients seeking sustainable solutions in the transportation, infrastructure, environment, building, energy, water, and mining sectors. Its 67,000 trusted professionals are united by the common purpose of creating positive, long-lasting impacts on the communities it serves through a culture of innovation, integrity, and inclusion.

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