



Ayodhya Airport

Bridging culture and connectivity, the airport sets a benchmark for Tier-2 cities.

In the heart of India, the newly unveiled Maharishi Valmiki International Airport in Ayodhya, Uttar Pradesh, is not just a transportation hub – it is a living testament to the nation's cultural richness. In a departure from minimalism, it fosters a revival of local artistry with a harmonious integration of the old and the new. The Ayodhya airport weaves a narrative of empowerment for the region and with its GRIHA four-star certification stands testament to India's commitment to sustainable practices. Inspired by the Nagara style of temple architecture, it is specifically designed to enhance the visitor experience.

This transformative project was meticulously designed and implemented by Sthapati, a New Delhi and Lucknow-based architectural practice renowned for its prowess in airport design and heritage conservation. With a track record of successfully restoring significant sites across India, including airports in Leh, Jodhpur and Jammu, it brings unparalleled expertise to Ayodhya.

"We largely used BIM in the design process to integrate the intricacies of architectural design in the building with structural and MEP designs and specifications," shares Harsh Varshneya, Director and Principal Architect, Sthapati.

Learnings from healthcare projects and airport terminals went into the design of Ayodhya airport. "The same philosophy has been adopted by us in our designs across various projects, including Ayodhya Airport. Smoother passenger movement, efficient retail planning for greater passenger experience, lesser queuing times and faster frisking arrangements all add to improving passenger comfort. These were major considerations in the design of the Ayodhya Airport, which has been successfully built in a record period of 18-24 months."

Elaborating upon other elements, besides Hanuman Garhi's *shikhar*, Nageshwarnath and Chaturbhuj

temples for Nagara style architecture and the Ram Ki Paidi ghat skyline and stairs that went into the Ayodhya airport, Varshneya says, "The most predominant feature apart from the *shikhars* are the 'Toran Dwars'. These intricately adorned entrances portray mythological references, creating a symbolic connection to the region's rich heritage. These main entrances into the terminal building introduce the passengers to the grandeur and spiritual experience in Ayodhya while arriving and departing."

Elements of Ayodhya city and the Sarayu River have also been incorporated into the design. "Departing from the conventional glass box architecture, each facet of the airport, from its towering roof to the intricate columns, has a historical and spiritual significance," says Varshneya.

Regarding some of the artistic elements, he adds, "At the main entrance, a grand *shikhar*



Harsh Varshneya,
Director and Principal
Architect, Sthapati.



adorned with brass is reminiscent of the Sarayu Ghat skyline. Mega columns supporting the terminal roof symbolise the Kandas of the *Ramayana*. The Toran dwaras at eye level captivate onlookers as they stroll by and the airport portrays symbolic murals and artwork from the *Ramayana*. At the terminal building, the bow and arrow mural symbolises courage to confront untruth while hexagonal light particles embody the triumph of truth. These intricately adorned entrances create a symbolic connection to the region's rich heritage. From arrivals to skylights, artworks depict the timeless tale of

FACT FILE

Projects: Maharishi Valmiki International Airport

Location: Ayodhya, Uttar Pradesh

Year of completion: 2024

Construction cost: ₹2.5 billion

Total area: 336.59 acre

Developer: Airports Authority of India

Design and architecture: Sthapati Associates

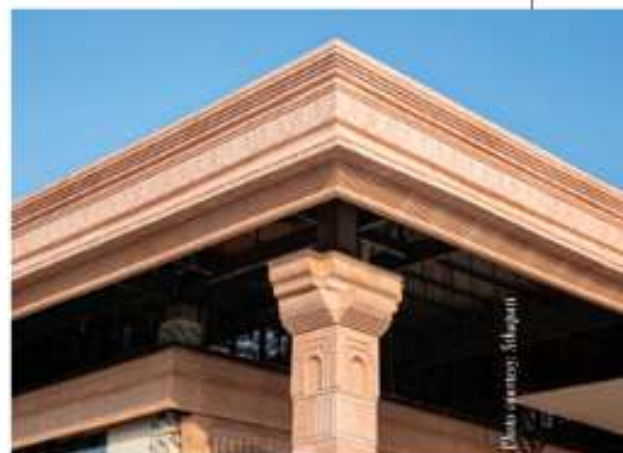
Contractor: SK Integrated/KD Constructions

Equipment: Johnson, Siemens

Technology: Valtect

Material suppliers: (Cement, steel, etc) Jindal, Tata, St Gabain, Johnson

various projects in India and globally has been that each project should follow the three Cs: Culture, Climate and Context. This framework ensured that every design decision was grounded in the heritage of Ayodhya, sensitive to the local climate and mindful of the broader context of the project. By keeping the importance of this historic city at the forefront, we navigated through the complexities of religious diversity, political sensitivities and the emotional connection the people have with Ayodhya. This allowed us to create a modern airport building that not only meets the practical needs of



Transcending traditional airport designs and in a departure from conventional glass box architecture, intricately adorned entrances introduce passengers to the grandeur of Ayodhya both while arriving as well as departing.

Lord Rama, creating an immersive experience, transcending traditional airport designs. Four strategically placed skylights in the transit area serve as guiding beacons to enhance way-finding."

Multimodal access has also been incorporated into the design of Ayodhya Airport. "Largely as a greenfield airport, the airport terminal is designed to the highest levels to enable the disabled to swiftly and conveniently use the terminal building," elaborates Varshneya. "Flooring patterns,

materials, wayfinding and signages are extensively used to promote the usage of building by people of different walks of life. We approached this project with a thoughtful, strategic and sensitive approach and by prioritising the core values that define India on a global scale: diversity and equality."

In terms of the most challenging aspect in terms of architectural design, he adds, "Our guiding principle was to respect and honour the significance of Ayodhya within its cultural context. Our aim across

travellers, but also serves as a source of pride for the people of Ayodhya."

Embracing carbon neutrality with eco-conscious glass fibre reinforced concrete (GRC) materials, the design showcases sustainable practices in aviation. Even the intricate ornamental work, meticulously crafted in GRC replaces traditional stone facade and results in carbon emission reduction, significantly contributing to environmental sustainability. Also, the columns are made of GRC



Photo courtesy: Shreyas

Even the intricate ornamental work, meticulously crafted in glass fibre reinforced concrete (GRC), replaces traditional stone facades, resulting in substantial carbon emission reduction and showcasing sustainability.

and bolted to a steel frame to reduce weight. About 50 per cent of CO₂ emissions were reduced as a result, compared to traditional sandstone facades. "Ayodhya airport is the first project in the world to have used a sustainable material such as GRC on its facade at this scale," affirms Varshneya.

For all technology integration needs at the airport, Vallect, as a single point of contact, made the entire execution process hassle-free. "We have always focused on offering top-of-the-line yet simplified turnkey technology integration solutions for infrastructural spaces while ensuring future scalability and ease of use in businesses," says Vickey Koul, Founder, Vallect. "We deployed the flight information display system (FIDS), CCTV surveillance, audio systems, public address (PA) systems and IT infrastructure (network) as we were



**Vickey Koul,
Founder, Vallect**

the turnkey technology integration partner for Ayodhya Airport." As for challenges, he adds, "The major challenge was the timeline within which the project had to be

delivered as the airport was due for inauguration. We had to coordinate with multiple teams to ensure timely execution. We were able to deliver the project within a staggering three months while upholding the highest quality standards and delivery of complete customer satisfaction."

Given the potential threats at Ayodhya airport, deployment of advanced baggage scanners strengthen the overall security infrastructure. X-ray baggage scanners enable detection of contraband, weapons and explosives, playing a crucial role in ensuring safety of passengers, airport staff and the facility, making it an indispensable asset in preventing security incidents.

In this context, Vehant Technologies received an order for 39 machines from the Airports Authority of India (AAI), of which it has deployed seven X-Ray baggage scanners (KritiScan 6040 DV) and large-sized baggage scanners (KritiScan 100100) at the airport for a total order value of around Rs 18 million. The dual-view technology in KritiScan 100100 provides a multidimensional perspective of the object, aiding in improved detection of contraband items. **Kapil Bardeja, Co-Founder and CEO, Vehant Technologies,** said, "Unlike X-ray images that are in 2-D, CT scanners take 2-D images of the bag from multiple angles. Multiple radiation beams create a 3-D image of the bag, thus giving precise details about objects inside the bag. This will end the woes of passengers and security personnel to a great extent."

Looking ahead, the airport, with a peak-hour capacity of over 750 passengers, has been designed to further develop Ayodhya as one of the world's largest pilgrimage centres, providing seamless connectivity and making the journey

more accessible and enriching for pilgrims. Transcending its architectural and cultural dimensions, the airport serves as a catalyst for economic growth with projections indicating the creation of at least 500 jobs annually, offering tangible benefits to the local community.

As for its expansion, the airport has been conceptualised for the next 30 years.



**Kapil Bardeja,
Co-Founder and
CEO, Vehant
Technologies**

- R SRINIVASAN | CWI

Know of a landmark project? Write in at feedback@ConstructionWorld.in