



PRINCE SALMAN SCIENCE OASIS



Concept & Location

The Prince Salman Oasis for Science is a non-profit, independently financed project supervised by the Riyadh Charitable Foundation for Science, headed by His Royal Highness Prince Salman bin Abdulaziz, Governor of Riyadh region. The oasis shares space with the King Abdulaziz City for Science and Technology, in a strategic location in Riyadh, KSA's largest city. The aim behind the project is to support public education and dissemination of scientific culture in KSA society.

The Prince Salman Science Oasis will house scientific exhibits which will stimulate self-learning as well as support various educational activities to complement the scientific spirit among students.

Resembling an artificially "built landscape", the science oasis stretches underneath a light roof structure, providing access to the wadi formally located on the spot. An ample square serves as entrée to the complex whose rectangular shape is prescribed by the shopping mall in the southwest and the different buildings of the science centre situated in the northeast. Within these limiting structures, the oasis' exhibition spaces and three-dimensional cinema are freely assembled, thus preserving the original course of the wadi and turning nature into a key point of interest. Retracing the existing topography of the terrain, terraces and green areas interlaced with occasional water pools are aligned like pearls on a string.

The obvious and characteristic trademark of the science oasis is its undulating roof, which seems to hover in the air like a flying carpet. The meshed structure supported by numerous tree-like pillars allows for the unrestricted positioning and extension of exhibition boxes on the one hand, as well as for the expansion of the sculptural roof in independent construction stages. While the technical aspects of the roof construction emphasize its singularity and diversity regarding its surroundings, the sloping, organic shape harmonizes with the prevailing landscape.

Technically, the oasis itself can be considered an exhibit regarding the provision of natural ventilation and the solar energy generation. These special features of the oasis as "working machine" are clearly displayed by the solar chimney power plant, as well as a funnel-shaped rain water collector and the solar panels, all of which are integrated into the roof structure. Nevertheless, the natural beauty of the landscape is an important design element. Aside from demonstrating trend-setting technology, maintaining and emphasizing the site's natural quality constitutes the second column of the design concept.

To deliver this complex and prestigious project, the clients invited Drake & Scull Construction's KSA Subsidiary, International Centre for Contracting Company (ICC) to assume complete responsibility of the civil works portion of construction. ICC's 4 decades of experience and expertise with KSA conditions enabled brisk progress on site and the Prince Salman Science Oasis launched as per schedule.



Scope of Work & Innovation

The Prince Salman Science Oasis project site is situated within the compound of the massive King Abdul Aziz city for science and technology (KACST) in its North - Western corner, occupying an area of around 200,000 square meters.

The Prince Salam Science Oasis' main objective is to inculcate an interest in engineering sciences for visitors. To do this, the centre houses seven permanent exhibitions, patterned on the basic elements. These include Air and Space, Earth, Water, Life, Energy -1, Energy -2 and Technology. ICC undertook the build and installations of each of the exhibits.

Each of the permanent exhibitions is housed in Cubes that measure approximately 21x21 m. Besides the permanent exhibitions, the campus also hosts lecture rooms and auditorium located in the main 3 storey administrative building and an optional spherical building that will serve as a landmark for the main entrance.

ICC also worked on the functional buildings, the administrative building and the optional sphere which were covered by a steel roof linking the building complex and provided a wide air conditioned sheltered space between the different buildings.

The massive steel roof covered an area of approximately 13,000m². A unique aspect of the roof and is the 80m high 'Solar Chimney' (Power Station) which perfectly encapsulates the utilization of ecological energy concepts for the future.

Another major work undertaken by ICC was the construction and installation of the main roof. The roof was triangular in shape, measuring 94m x 196m with a varying height between 16m at the edges to about 14.5m in the centre.

The roof was divided into three segments by movement joints along two axis to allow for thermal expansion. One of these segments had a provision to allow the solar chimney to pierce through.

ICC also setup a multi-purpose Auditorium in the shape of a sphere, located at the Eastern edge of the main roof. The Auditorium had a diameter of approximately 30m and was divided into two structural parts - a steel frame and a reinforced concrete shell.

Another main feature constructed by ICC was the Impact & Issues Gallery, located in the internal space below the roof. This too was created in the shape of a sphere, similar to the Auditorium, with a diameter of approximately 9m. The gallery was designed to function as a general reference area.

Finally, ICC also undertook the responsibilities of installing the external works on the site. These included the exterior furnishing, installation of exterior pavements, surfacing, exterior vegetation area and horticulture.

ICC's civil construction skills and DSC's strong project management capabilities enabled the Prince Salman Science Oasis project to march towards its completion. The project is a major milestone for DSC, in its largest market and became a prominent landmark of Riyadh's skyline after launch.