



KING KHALED HOSPITAL EXTENSION



Concept & Location

Riyadh is the capital city of the Kingdom of Saudi Arabia and home to 5.2 Million people. With a diverse population comprising Saudi Nationals and expat workers, as well as increasing population of senior citizens, the Healthcare industry in KSA stands at \$ 10 Billion and is earmarked for substantial investments and upgrades in the near future.

Riyadh boasts of an extensive network of public and private hospitals, and quality healthcare infrastructure that is expanding to cope with the burgeoning demand.

The King Saud University was established in 1957, by H.H. King Fahd bin Abdulaziz Al Saud and dedicated to his father, King Abdulaziz Al Saud. The University comprised of three colleges: The College of Sciences, the College of Business (now the College of Public Administration) and the College of Pharmacy. Eventually, the university expanded to include College of Agriculture, College of Medicine, Arabic Language Institute, College of Dentistry and the College of Applied Medical Science among others.

Healthcare education remained an area of focus for the university, who also felt the need to create a world class hospital on campus, catering to the healthcare needs of Riyadh, equipped with the latest equipment and talented medical personnel, to deliver modern healthcare to KSA.

In 1982, a dedicated university hospital was opened and was named King Khalid University Hospital. This facility is an 800

bed facility with all general and subspecialty medical services. It contains a special outpatient building, more than 20 operating rooms, and a fully equipped and staffed laboratory, radiology, and pharmacy services in addition to all other supporting services.

The hospital provides primary, secondary care services for Saudi patients from Northern Riyadh area. It also provides tertiary care services to all Saudi citizens on referral bases. All care is free of charge for eligible Saudi patients including medications.

Since 1982, the hospital has become synonymous with high quality medical diagnostics and treatment, and has become among the top hospitals in the country. Thirty years after its founding however, the Saud University recognised the need to initiate an expansion effort, to increase the number of operating theatres as well as the hospital beds which were proving to be in short supply.

In 2009, ABV Rock was invited to undertake the construction of the expansion to the King Khalid University Hospital. The new extension would encompass an 85,000 sq. meter building, consisting of 2 basements, a ground floor, 5 upper floors, a roof and upper roof area. The new hospital would be a 570 beds hospital with 32 operation rooms.

Due to its strong history and experience with healthcare projects all across Europe and Asia, DSE were invited to undertake the MEP works for the site. DSE's strong management and engineering skills have proven to be invaluable in progressing the expansion towards scheduled completion, and is a major milestone in the company's healthcare projects portfolio.



Scope of Work & Innovation

DSE installed the following systems on site:

- District Cooling Systems
- Chilled Water Pumps
- Medium Voltage Switch Gear & Transformers
- L.V Switch gear & Control panels
- Booster and Circulation Pumps
- Air Handling Units, FAHU, FCU and VAV systems
- Lighting, Emergency Lighting and Lighting Control Systems
- Earthing & Lightning Systems
- Central battery System, Access Control System and Dimming System
- Fire Alarm System
- Fire fighting pumps & Fire fighting system (featuring FM-200 fire fighting system) and district fire water systems
- Public Address, SCADA and Building Management (BMS) Systems
- UPS and Generator back emergency power supply system

In the first phase, (completed over 18 months), DSE was able to deliver complete MEP solutions to the site. In the next phase, DSE is undertaking complete integration of medical equipment data into the digital data and electrical systems, which is essential for electrical load calculations and for HVAC heat dissipation's calculations.

DSE led the co-ordination efforts between the main contractors and consultants to obtain basic medical equipments' information. DSE's Mechanical and Engineering teams also worked on expediting the approvals of recommendations and submissions, based on their decades of experience with healthcare projects.

An independent third party committee was setup by the university to assess the progress and quality of work demonstrated by the various teams on site. DSE's work was adjudged to be stellar and a vindication of the company's professional approach.

The King Khaled Hospital project has proven to be a vital asset in KSA's healthcare sector and a showcase of DSE's healthcare engineering services.