

# Mammoth green project in the desert

King Abdullah Financial District, Riyadh, Saudi Arabia

One of the world's largest economic centers is currently being built in Riyadh – the King Abdullah Financial District (KAJD). It is also the largest project in the world seeking green building accreditation. The new district has an area of 1.6 million square meters and will be home to 34 high-rise complexes, all of which have been nominated for LEED Gold certification. The KAJD is expected to be completed in 2015. In this interview, Mohammed Abdul Kareem, Head of Sales Geberit for Saudi Arabia, discusses the challenges posed by a project of this scale.



↑ Expected to be one of the world's largest financial centers – the King Abdullah Financial District in Riyadh.



↑ 34 high-rise complexes are being built in the KAJD, with LEED certification planned throughout.

The King Abdullah Financial District, Riyadh (KSA)  
 Owners: Al Ra'idah Investment Company, Riyadh (KSA)  
 Supervision Consultants: Omrania & Associates, Riyadh (KSA)  
 Architects for the master plan: Henning Larsen Middle East, Riyadh (KSA)  
 Completed: 2015  
 Building contractors/sanitary engineers/plumbers: Saudi Binladin Group, El Seif Engineering Contracting Co., Riyadh (KSA)

**Geberit know-how**  
 Actuator plates Bolero, Sigma20 and Sigma50  
 Lavatory taps type 185  
 Electronic WC and urinal flush controls  
 Duofix elements for WCs with Sigma concealed cisterns 12 cm  
 Duofix elements for bidets  
 Duofix elements for urinals  
 Kombifix elements for WCs with Sigma concealed cisterns 8 cm

Green building: nominated for LEED Gold certification



Mohammed Abdul Kareem has been heading up the four-man Geberit sales team in the Kingdom of Saudi Arabia for the past year.

Mr. Kareem, the planning of the King Abdullah Financial District got underway in 2006. The ambitious project is expected to be completed in 2015. What makes this mammoth undertaking so unique?

In terms of its size, sustainability requirements, technical challenges and role as a new financial center, the KAJD is the first project of its kind in the Middle East. The project involves the construction of 34 high-rise complexes on an area of 1.6 million square meters. It will feature 900,000 square meters of office space, apartments for 12,000 residents as well as 62,000 parking spaces. Hotels, metro stations and mosques are also being built. 44,000 new jobs are to be created. As a result, the KAJD will not only be the largest financial center in the Middle East, but also one of the world's largest economic centers. With this new district, Saudi Arabia is aiming to further strengthen its status as a financial center and create jobs for the Saudi Arabian population in the financial, investment and economic sectors.

Who is responsible for building the district?

The KAJD is owned by Al Ra'idah Investment Company. The Danish architecture firm Henning Larsen Architects won the international competition for the master plan. Omrania & Associates, Archi-

ecture Engineering Consultants from Riyadh support the implementation of the project as supervision consultants. The individual buildings were designed by renowned architects. The metro station, for example, was designed by Zaha Hadid.

Can you describe the urban development concept?

The master plan covers an urban area that not only includes financial institutions, but also recreational areas, shops, restaurants, hotels, conference centers and sports facilities. The center of the district lies along the Wadi Hanifa and is evocative of an oasis. A landscaped promenade, the wadi and five striking buildings in the center form the heart of the district, helping it to stand out against the Riyadh skyline.

People get around differently in the KAJD. Can you tell us a little more about this?

In terms of public transport, a monorail system developed especially for the KAJD is currently being built and will connect the various areas of the district. Furthermore, all buildings and monorail stations are linked together by air-conditioned footbridges. This makes it possible to reach all buildings on foot, which for Riyadh with its extremely hot temperatures is quite extraordinary indeed. An energy-neutral





↑ Putting the finishing touches to the conference center.

↓ The Danish architecture firm Henning Larsen Architects designed the master plan for the mammoth project.



↑ The buildings in the KAFD are expected to be completed by 2015.

**solar system provides the energy for the air-conditioned footbridges.**

The new district is nominated for LEED Gold certification. What measures were taken to meet the requirements of the environmental label? **To ensure the sustainable nature of the project, numerous measures were taken that conform to LEED guidelines. For example, only high-quality, durable materials from the local region that only have to be transported short distances are used. The optimized building proportions result in a lowering of the temperature in the entire district by six to eight degrees Celsius (around 10 to 14 degrees Fahrenheit). The vegetation, the cooling water features in the cityscape and the use of light facade materials which absorb sunlight also help to reduce the temperature. The facades are also equipped with sophisticated shading systems that prevent the buildings from heating up and putting a strain on the air-conditioning systems. Solar cells are**

**integrated into the facades and installed on all roofs. The footbridges and the public transportation system aim to help reduce car traffic.**

What special challenges do the climatic conditions pose in terms of meeting the LEED standards? **The greatest challenge is of course the heat and the resulting cooling of the buildings. All the buildings in the KAFD therefore feature district cooling. Water is cooled down at a central location and delivered to the individual buildings over an insulated underground supply network in order to cool down the air. District cooling is another important element of sustainable economic and urban development. It is a superior alternative to conventional air-conditioning systems as it reduces carbon dioxide emissions, energy consumption and costs. District cooling results in 50 percent less energy consumption and therefore less CO<sub>2</sub> emissions. Up to 30 percent of the potential cold water output can also be held in reserve so that fluctuations**

**in seasonal demand can be easily compensated for.**

Geberit is one of the leading suppliers for the KAFD project. Why was Geberit given the nod and which products are being installed in order to meet the LEED standards? **The Global 100 Index – an internationally recognized annual ranking of the world's most sustainable corporations compiled by Corporate Knights – added Geberit to its list of the 100 most sustainable companies in the world. No other company from the sanitary industry made the list. This was one of the main reasons why the owners opted for our company. The careful use of water is also one of the key aspects when it comes to LEED certification. Geberit's special strength is the water efficiency of its electronic WC and urinal flush controls and its electronic lavatory taps. Our products contribute ten percent or, to put it another way, ten points towards the certification results achieved by the buildings in the KAFD. This is no mean feat.**

Were there any technical peculiarities that had to be considered?

**In our region, mechanical pressure flushing valves are standard on WCs, even in public areas. However, the problem with this is that there is often insufficient water pressure in the pipes. We convinced the owners that we can always guarantee the optimal flush volume with our cisterns and installation systems. By choosing these products, other essential aspects such as improved hygiene and the water-saving dual flush crucial for LEED certification are also taken care of at the same time. There were also stringent fire safety requirements. The fact that Geberit is the only provider of installation systems that feature a fire resistance of 120 minutes helped us to win over the owners in this area as well. ←**