

Siemens constructing driverless subway in Riyadh

- **Order value for Siemens approximately 1.5 billion euros**
- **Siemens supplying turnkey system and integrating rolling stock, signaling technology and electrification for two of the six lines**
- **Biggest rail engineering order from the region**

Siemens is supplying a complete turnkey system for two driverless subway lines in the Saudi-Arabian capital Riyadh. With a population of five million, the fast growing city, which previously relied primarily on diesel buses for its urban transit needs, intends the investment as a step towards modernization of the traffic infrastructure. The order for Siemens covers subway rolling stock, as well as electrification systems and signaling technology for driverless operation. Siemens is also responsible for system integration across the 63 kilometers making up the lines. Siemens was awarded the order by the High Commission for Urban Development (ArRiyadh Development Authority), with its share worth a total of some 1.5 billion euros (2.1 billion US-dollars), as part of a consortium with the US company Bechtel and the local construction outfits Almbani and Consolidated Contractors Company. The total order value for the consortium is approximately 7.5 billion euros (10 billion US-dollars).

With six lines and a total route length of 175 kilometers, Riyadh is planning the world's largest subway project. Riyadh's infrastructure investment is intended to ameliorate the urban transit problems of a city growing at a dramatic pace which has seen the population double to more than five million since 1990.

Siemens is equipping Lines 1 and 2 of the six-line system. Siemens will deliver a total of 74 Inspiro-type metro vehicles, The aluminum-bodied trains are designed to

run on standard-gauge track at a top speed of 90 km/h. The 2 and 4-car trains have been designed with the region's particular climate in mind. One such feature is a higher capacity air conditioning system, capable of delivering sufficient cooling power to ensure the wellbeing of passengers even in extreme heat. In addition, the bogies, traction drive, brakes and doors have been fitted with special seals and filters in order to reduce the ingress of sand.

The signaling and train control technology ensures that especially during rush-hour periods trains can operate at 90-second intervals, an operating frequency that enables the system to handle 21,000 passengers per hour. The two lines will be equipped with a Siemens-supplied, WLAN-based control system for driverless and conductorless train operation. Automatic train control, radio transmission and 31 electronic interlockings are also being installed. Siemens is also fitting out the operations control center for both lines, from where the routes will be directed and monitored. The contract also covers training in the use of the new technology.

Siemens is also responsible for the lines' power supply systems. The electrical energy generated by the trains when the brakes are applied will be fed back into the metro system's power supply and thus made available for all other electrical loads. The electrical equipment will also include emergency power facilities with diesel generators and uninterruptible power supplies (UPS).

Siemens is a leading supplier of turnkey systems complete with rolling stock, signaling technology and electrification. For example, Siemens is currently installing metro lines in Rennes (France) and in Delhi (India), as well as a tram system in Doha, the capital city of Qatar. Fully automatic driverless lines are already in operation in Algiers (Algeria), Santo Domingo (Dominican Republic) and Rennes.

With its sustainable technologies, Siemens' Infrastructure & Cities Sector contributes to the long-term improvement of the quality of life of people in urban centers of population. This is exemplified by the turnkey subway lines in Riyadh, for which various units are pooling their expertise, in order to optimize mobility for the city's inhabitants, make more efficient use of energy and cut CO₂ emissions.

Contact for journalists:

Siemens AG, Media Relations

Stefan Wagner, Telephone +49 89 636 632041

E-mail: sw.wagner@siemens.com

Press pictures and further information on the topic: www.siemens.com/press/riyadh

Follow us on Twitter: www.twitter.com/siemens_press

The Siemens **Infrastructure & Cities Sector (Munich, Germany)**, with approximately 90,000 employees, focuses on sustainable technologies for metropolitan areas and their infrastructures. Its offering includes products, systems and solutions for intelligent traffic management, rail-bound transportation, smart grids, power distribution, energy efficient buildings, and safety and security. The Sector comprises the divisions Building Technologies, Low and Medium Voltage, Mobility and Logistics, Rail Systems and Smart Grid. For more information, visit www.siemens.com/infrastructure-cities