

Infrastructure & Cities Sector Rail Systems Division

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Fully automatic VAL metro system goes operational in Uijeongbu, South Korea

A fully automatic VAL metro system has been inaugurated in the South Korean city of Uijeongbu. Driverless passenger services commenced yesterday. The mass transit system was constructed as a turnkey Private Public Partnership project (PPP) by a Korean consortium made up of six partners led by GS Engineering & Construction Corporation. Siemens supplied the automatic train control system (ATC) and equipped the operations control center (OCC) and depot as well as manufacturing 15 two-unit, rubber-tired VAL 208 vehicles. The customer is Uijeongbu Light Rail Transit (LRT) Co., Ltd.

The city of Uijeongbu is situated about 20 kilometers north of South Korea's capital, Seoul. Since 1995, the population has increased by 38 per cent and is expected to grow by another 28 per cent to 500,000 by 2020. In order to cope with this growth, Uijeongbu decided to develop a Light Rail Transit (LRT) system, also called the "U line". An eleven-kilometer long elevated railway line has been built under the PPP linking the eastern Uijeongbu to the city center. At Hoeryong station, passengers can change from the U line to the Seoul metro system, thus providing commuters with a fast, reliable and eco-friendly connection to their workplaces in the capital.

The VAL system serves 15 stations and will transport 3,400 passengers per hour in each direction during peak periods. It is anticipated that peak period ridership volumes will rise to 6,400 an hour in each direction by 2040. Some 32 million passengers are expected to use the system annually, with forecasts predicting this figure to rise to 55 million over the next twenty years. The system will be operated 20 hours a day, with twin units running every 205 seconds at peak times. The line will be run by the PPP consortium for the next 30 years.

VAL fully automatic metro system

VAL is a rail-based, fully automatic and driverless light rail system especially tailored to the needs of linkups to megacities' main metro systems or as the backbone of public mass transit systems in small or medium-sized cities. The system boasts short headways (under one minute), speeds of up to 80 kilometers per hour as well as fast acceleration and short braking phases. Being rubber-tired, the VAL system is particularly good at coping with inclines and is significantly quieter than other rail systems in tight curve radii. It enables fast starting and precision stops in stations. Green technologies, such as energy recovery during braking operations, considerably reduce energy consumption.

Train services are controlled and secured by an automatic monitoring and operations control system that independently regulates the required safety distances and allows very short headways, making it ideal for crowded cities. Monitoring is carried out from the operations control center using video cameras in the stations, along the line and in the passenger compartment. The control center can react flexibly to sudden surges in passenger numbers and quickly deploy additional trains.

Siemens VAL systems operate at Charles de Gaulle and Orly airports in Paris as well as at O'Hare Airport in Chicago. The company's automatic rail systems have also been received with enthusiasm by metro users in the French cities of Lille, Rennes and Toulouse, as well as in Taipei on the island of Taiwan and in Turin (Italy).

Photos for this press release are available at the following link:

www.siemens.com/railsystems-pictures/VAL-Uijeongbu

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