



## HERRENKNECHT Press Information.

April 3, 2013

### **FAST AND SAFE THROUGH WUXI.**

**Eight tunnel boring machines from Herrenknecht excavated almost 16 kilometers of tunnel in only 20 months, crossing beneath the emerging metropolis of Wuxi. The machines mastered challenging tunnelling stretches with small overburdens. The last breakthrough, for the time being, was celebrated on March 3, 2013. The first two metro lines in the 3000 year old town on Taihu Lake near Shanghai are expected to start operation in 2014. A total of 5 metro lines are planned.**

**Wuxi, China / Schwanau, Germany April 3, 2013.** A total of 8 Earth Pressure Balance Shields (Ø 6,370 – 6,390mm) from Herrenknecht have tunnelled through the underground since July 2011 to construct the first two metro lines in the 4-million strong metropolis of Wuxi in the east of China. For the construction of Wuxi's first two metro lines, they excavated a total of almost 16 kilometers.

On March 3, they completed their mission with the final breakthrough of the S-730 tunnel boring machine. With top performances of more than 33 meters a day and 164 meters a week, the TBM made its way through the ground excavating a diameter of 6.39 meters. Thus, 2,508 meters of tunnel for metro line 2 were built in only 10 months.

Before that the machines also mastered challenging tasks when constructing the metro tunnels for line 1. The S-663, a compact Earth Pressure Balance Shield with a diameter of 6.37 meters, drove only a few meters beneath residential and commercial buildings. On December 7, 2012, the machine achieved final breakthrough. Right at the start of tunnelling, on May 24, only 7 meters of soil were above the machine, and the distance to the foundation pillars of the building above were only 3.7 meters. Therefore, the ground, consisting of strongly aquiferous clay, was treated with a special ground-freezing method. Following a smooth start, the machine quickly crossed beneath the building.

Wuxi with its more than four million inhabitants, situated in the east of China near Shanghai, is investing a great deal in the construction and extension of efficient public transport systems. At least 5 metro lines are to cross the city in future. The two metro lines 1 and 2 with a total length of 58.5 kilometers are expected to start operation by the end of 2014. Line 1 will cross the city from north to south, and line 2 from east to west. Herrenknecht received orders for 5 EPB Shields for the construction of line 1, and orders for 3 machines were placed for the construction of line 2. The machines were assembled by the local branch Herrenknecht (Wuxi) Tunnelling Equipment Co., Ltd.

China's economic growth and the increasing urbanization have led to a high demand for efficient underground traffic and supply infrastructures. Chinese tunnel engineers have completed a total of 400 kilometers of metro tunnels safely and quickly using Herrenknecht technology since the first project in Beijing in 2000. Around 100 further kilometers are currently under construction.

## Wuxi Metro Line 1 and Line 2

### Machine data

Machine type: 8 x EPB Shields  
Diameter: 6,370 – 6,390mm  
Installed power: 600 – 675kW

### Project data

Tunnel length, total: 15.66km  
Geology: Wuxi Clay

### Client:

Wuxi Metro Group Co., Ltd

### Customers:

Shanghai Mechanized Construction Co. Ltd.; Shanghai Baoye Construction; China Railway 14th Bureau Group Co. Ltd.; China Railway 19th Bureau Group Co. Ltd.; China Railway 1st Group Co. Ltd. (CREC); Wuxi HongYuan Construction Group Co. Ltd., China Railway Tunnel Group 3 Bureau

## **Herrenknecht AG**

*As the only company worldwide, Herrenknecht AG delivers tunnel boring machines for all ground conditions and in all diameters – ranging from 0.10 to 19 meters. The Herrenknecht product range includes tailor-made machines for transport tunnels, supply and disposal tunnels and additional equipment and service packages. Furthermore, Herrenknecht manufactures drilling rigs for vertical and inclined shafts as well as deep drilling rigs. In the year 2011, the Herrenknecht Group achieved a total operating performance of 1,104 million euros. Since the formation of the company in 1977, Herrenknecht machines have excavated a total of 2,300 kilometers of tunnel in the large diameter range of more than 4.20 meters. Around 850 Herrenknecht Utility Tunnelling Machines are in operation around the world constructing or installing water and wastewater systems, gas and oil pipelines, as well as conduits for electricity, the Internet and telephone lines. The Herrenknecht Group employs around 5,000 members of staff worldwide, among them 200 trainees. With 77 subsidiaries and associated companies working in related fields in Germany and abroad, Herrenknecht provides a comprehensive range of services close to the respective project and customer.*