

## Germany

### Putzmeister Markets New Shotcrete Jumbo

German manufacturer Putzmeister presented its Wetkret WKM 133 shotcrete jumbo at IUT Live in Sargans last week. Utilizing the best available technology, the new machine guarantees rapid and precise placement of concrete at up to 30 cu m/h. Its powerful extending projection arm can be unfolded inside a 4 m x 4 m tunnel, and has a maximum vertical reach of 13 m. The Wetkret WKM 133 is fitted with the innovative DADOS system, which continuously records the amount of concrete and additives used, and produces a time-based summary at the end of each cycle. These details are stored on a memory card for transfer to a suitable PC or laptop. This allows precise monitoring of several parameters, such as pumping performance, reach, additive dosing, and wear part condition. For more details, visit [www.putzmeister.de](http://www.putzmeister.de) or e-mail [KronenbergJ@pmw.de](mailto:KronenbergJ@pmw.de)

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### Compressed Air for Tunnels

Right from project start-up, BME offers support to help avoid unnecessary cost and stress. Because every jobsite has different demands concerning environmental quality and energy resources, BME delivers a variety of economical and efficient concepts. These can be standard solutions from manufacturing partners, or BME-made solutions such as the Frantz Extra FORMEL TI, a concept for compressed air supply in tunnel construction. This offers centralized and decentralized compressor units, and breathable air and lock systems of all sizes and configurations. Together with its manufacturing partners, BME can guarantee global support, having exported machinery and parts on a daily basis to places as diverse as Switzerland, Thailand, Nigeria, Panama, Libya and Ghana. The company also produces a range of equipment for compaction, mobile concrete mixing and pumping, hauling, drilling, and earth moving, in addition to compressed air production.

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## World Digest of Tunnels Under Planning

**Canada-United States.** Canadian prime minister, Jean Chrétien, and Ontario premier, Ernie Eves, have announced in a joint federal/provincial commitment that \$300 million will be spent to improve the flow of truck traffic approaching the Windsor-Detroit border, the busiest in North America and key corridor for Canada's export trade. One idea is to add a second span to the Ambassador Bridge. The other is a proposal to convert twin rail tunnels that run under the river into a truck corridor and build another rail tunnel. Read E-News Weekly # 33.

**China.** The Hong Kong SAR government is studying a proposal submitted by the Mass Transit Railway Corporation to construct the Island South Railway Line, instead of the controversial Route 7 in Southern District. The proposed line would start at MTR Sheung Wan Station and pass Cyberport and Wah Fu Estate. From Wah Fu Estate, two spur lines would be constructed. The first spur line would provide connection to Aberdeen, Wong Chuk Hang and Ocean Park. The second spur line would terminate at South Horizons on Ap Lei Chau. A total of seven stations are planned. The new line would be a medium size railway system to cut the overall

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development cost. It is not decided whether the rail line would be constructed above or below ground. Environmentalists support a railway system in the district instead of the proposed Route 7 highway, citing pollution and obstruction of the coastline. The government plans to confirm its decision in October 2002. Visit [www.mtr.com.hk/eng/homepage/index.html](http://www.mtr.com.hk/eng/homepage/index.html)



**China.** The Hong Kong government has invited the Kowloon-Canton Railway Corporation (KCRC) to proceed with detailed planning and design of the Kowloon Southern Link (KSL). The rail project, recommended in the government's Railway Development Strategy 2000 (RDS-2000), will extend West Rail from Nam Cheong Station to Hung Hom via West Kowloon and Tsim Sha Tsui. RDS-2000 sets a target completion date between 2008 and 2013. When the KSL completes, the West Rail will take over the

Tsim Sha Tsui Extension currently being constructed, and both East Rail and West Rail will terminate at Hung Hom with cross-platform interchanges provided.

The proposed KSL will run along the eastern side of the Tung Chung Line, diverge at West Kowloon to go underneath Canton Road, and then join with the East Tsim Sha Tsui Station at Salisbury Road. The project will provide two new stations at West Kowloon and underneath Canton Road, which will be connected by pedestrian links to MTR Kowloon Station and MTR Tsim Sha Tsui Station respectively. Construction work is scheduled to start in mid-2004 for completion at the end of 2008 or early 2009. The project is expected to create about 3,000 job opportunities at its construction peak in the next few years and is estimated to cost HK\$9.2 billion (in 2000 prices). Visit [www.kcrc.com/eng/service](http://www.kcrc.com/eng/service)

**Colombia.** Plans to build a metro in Bogota are still on hold due to political and financial considerations. Economic development fund Fonade contracted US firm Louis Berger Group and UK-based investment bank NM Rothschild to provide technical, legal and financial consulting services to structure a concession for the first line of the Bogota metro in 1999. However, the Colombian government decided not to move ahead immediately with plans to develop the first line, and so it has not progressed with the consulting team's proposals on possible approaches to metro concessions.

**Germany.** A majority of 55% of the Karlsruhe inhabitants have voted on 22<sup>nd</sup> September in favour of a proposal submitted to referendum by the city to transfer underground the tramway below Kaiserstrasse, the main artery, and to create two levels of traffic in the parallel Kriegsstrasse, one for the tramway at grade and a second for car traffic underground.

**Italy.** A 213 m tunnel will be built in Saltusio near Merano to realign the national road in Val Passiria between Hotel Quellenhof and sport facilities. This will cost €3.4 million.

**Norway.** Statens Vegvesen, the Norwegian road administration, is planning the 590 m Vika tunnel in Nord-Trøndelag county. It is a single tube that will be excavated using drill-and-blast. Bids are expected to be invited in the first quarter of 2003. The cost is valued at €4 million.

**United Kingdom.** Deputy prime minister John Prescott has ordered on 20<sup>th</sup> September a public inquiry into controversial plans to build a second road tunnel under the river Tyne. Tyne and Wear Passenger Transport Authority (TWPTA) has backed calls for another route under the river to cut delays at the existing tunnel which was built more than 30 years ago. If plans go ahead to build a second link – funded by £140 million of private sector cash – capacity would increase from 35,000 vehicles a day now to 76,000 vehicles a day. Read E-News Weekly # 35. Visit [www.tyneandwearmetro.co.uk](http://www.tyneandwearmetro.co.uk) and [www.tunnelbuilder.com](http://www.tunnelbuilder.com), uk/36.

**United States.** The Appalachian Regional Commission (ARC), charged by Congress to build roads to open the mountain region to economic progress, plans to spend \$6.8 billion over the next 20 years to build 805 km of modern roads into the most isolated areas of Appalachia. Thirteen states will contribute an additional \$2 billion to the effort. A new road will go straight through the heart of Pine Mountain (eastern Kentucky) creating one of the longest vehicle tunnels in the United States. The

ARC has agreed to help fund a \$188 million 2.9 km-long tunnel. It would be one of the three longest vehicle tunnels in the US, and the longest two-lane tunnel in the nation. The tunnel is needed to replace the current road across the 997 m mountain.

**United States.** The US Department of Transportation has awarded Utah \$10.9 million for the Gateway Intermodal Bus Terminal in Salt Lake City and for a tunnel at Salt Lake International Airport. At the airport, \$7 million will be used to construct a tunnel allowing access to a new concourse.

## World Digest of Bids

**France.** Negotiated contract, deadline 28<sup>th</sup> October, 2002 for engineering services dealing with the studies and installation of equipment in the tunnels around Nice on the highway operated by ESCOTA. Visit <http://ted.eur-op.eu.int/udl?request=Seek-Deliver&language=en&docid=146991-2002>, OJ S 186, or contact ESCOTA, fax +33 492974022. Read E-News # 2 & 3.

**Malta.** Call for tenders CT 252/2002 for construction of a service tunnel for electrical high tension cables at Kirkop Industrial Estate - Malta Development Corporation. Deadline 24<sup>th</sup> October, 2002. Tender documents are obtainable on application from the Department of Contracts, Notre Dame Ravelin, Floriana, tel. +356 21220212, Ext. 128.

## World Digest of Contract Awards

**France.** Control of blasting, shotcreting and concreting works of the 750 m 120 sq m Condamine tunnel has been awarded to CETE Méditerranée for €155,000. Construction of this single bore, located 6 km to Nice, is to start next month for completion in two and a half years. The contractors are Campenon Bernard Méditerranée, Eiffage TP, Carillion BTP Nicoletti, Tunzini Industrie, SNEF Côte d'Azur, Jean Graniou SA and Eurovia Méditerranée.

**Greece.** French Ambassador in Athens Jean-Maurice Ripert said that French construction firm Bouygues, contractor of the Thessaloniki metro, informed him that most of the problems concerning the financing of the project have been resolved. Minister of Macedonia Thrace Giorgos Paschalidis insisted the government will construct the metro. A €755 million contract for a 20-year concession was signed in February 1999 with Thessaloniki Metro, the winning consortium led by Bouygues also including Bombardier, Systra and Via GTI. However, the project has made little progress since then. It consists of a 9.3 km line serving 14 underground stations. Visit [www.tunnelbuilder.com](http://www.tunnelbuilder.com), gr/13.

**Spain.** The joint venture FCC-Corporación CAN-NEC, which won the concession to build the Pamplona-Logroño highway, has signed its contract. Work will commence in November on the first two sections, Zizur-Puente la Reina and the Puente la Reina bypass. The Zizur-Puente la Reina section includes the twin El Perdón tunnels, 1,350 m in length. Each tunnel will be equipped with a longitudinal ventilation system composed of ten reversible fans. Visit [www.cfnavarra.es/obraspublicas](http://www.cfnavarra.es/obraspublicas) and [www.tunnelbuilder.com](http://www.tunnelbuilder.com), es/84.

## World Digest of Ongoing Tunnelling

**Italy.** 'VALentina', a Lovat EPB TBM, has started excavation of metro Line 1 in Turin. The 70 m-long, 7 m-high 700-tonne machine will excavate 3.2 km between the Fermi station in Collegno up to Pozzo Strada. A second machine is due to arrive this fall for the Principi d'Acaja-Pozzo Strada section and the third will be operational in June 2003 to bore the Principi d'Acaja-Porta Nuova portion. The TBM features a thrust of 4,000 tonnes and is working according to a three-shift pattern with 15 technicians and workers in each team. During the first weeks, speeds of 23 metres a day will be attained prior to

more gentle speeds of 10-12 m a day as specified by the working plan. The TBM is expected to reach Pozzo Strada station in 14 months. Read E-News Weekly # 33. Visit [www.tunnelbuilder.com](http://www.tunnelbuilder.com), it/32. A second line is being studied, running north to south and connecting the Barriera di Milano-Madonna di Campagna area. Visit [www.satti.it](http://www.satti.it) and [www.metrotorino.it](http://www.metrotorino.it)



Picture 1: Breakthrough of the Mount Zucco tunnel.

**Italy.** A 8 m-diameter NFM TBM holed through the 2,740 m Mount Zucco rail tunnel on 23<sup>rd</sup> September, 2002 on the Treviso-Calalzo line in Veneto region, northeast of Italy after one year of work. The tunnel is located in Pieve di Cadore, north of Belluno and will permit to bypass the Busa del Cristo area near Perarolo prone to rock falls. Tunnelling proceeded from the south portal in Valle di Cadore. The tunnel has been lined with concrete segments produced in Slovenia. This TBM was first used in Italy to build the Passante Ferroviario in Milan. It will now be dismantled to be reconditioned prior to being reused on lot 5 of the Turin metro, the 2.5 km Principi d'Acaja-Porta Nuova section.

Seli and Monti, the contractors, faced difficult geological conditions consisting of thick layers of dolomites, and fragmented and friable sections subject to cave-ins. Another two tunnels – 1.7 km and 200 m in length – are still to be built between the Perarolo station and the Mount Zucco tunnel. Read E-News Weekly # 18. Visit [www.tunnelbuilder.com](http://www.tunnelbuilder.com), it/32. More from [selispa@selitunnel.it](mailto:selispa@selitunnel.it) and Piergiorgio Monti, [montispa@montispa.it](mailto:montispa@montispa.it)

**Venezuela.** 'Beatriz', a Lovat EPB TBM, has started excavating the next stretch of metro Line 1 in Valencia between Michelina and Lara, 555 m in length. A total of 370 concrete rings will be installed. Arrival in Lara is expected in 36 days at the end of October. By then, 3.6 km of tunnel will be completed. Once in Lara, there will be another 1,850 m still to go up to Cedeño to complete the underground sections within the first phase. Altogether, there will be 7.1 km of tunnel, of which 4.9 of bored 9.4 m ID double-track tunnel and 2.2 km in cut-and-cover. Typically, the stations are 135 m-long, 27 m-wide and 20 m-deep. There are also two shafts (18 m x 25 m) for the launch and exit of the TBM as well as three shafts (6 m x 15 m) for the inlet and outlet of materials. The contractors are Ghella of Italy and Sogene. The geology comprises silty and sandy clays and sandy alluvium. The water table lies at 2-8 m. The geological studies were carried out by Ingeroca and Iseca. The project was designed by Geomedata and Grupo AM. Work supervision is ensured by Electrowatts and Vepica. The concrete segments are produced in a plant nearby the worksite by the contractors. Read E-News Weekly # 33, 36 & 37. Visit [www.tunnelbuilder.com](http://www.tunnelbuilder.com), ve/12, [www.lovat.com](http://www.lovat.com) and [www.ghella.com](http://www.ghella.com). More from Alvaro E. Mantilla, e-mail [valmetro@viptel.com](mailto:valmetro@viptel.com)

## World Digest of Innovations – R & D

**Spain.** A Spanish engineering company has designed and developed a special work system for the repairing and maintenance of industrial chimneys. It consists of special suspended access platforms applicable to cooling towers, refractory brick liners and stacks in industry, and also applicable to civil engineering constructions like bridges, dams and tunnels. They are looking for an industrial partner, a know-how transfer or any kind of co-operation. Deadline to apply is 30<sup>th</sup> June, 2003. Contact Patricia Muir at the Burgundy Chamber of Commerce and Industry, [p.muir@bourgogne.cci.fr](mailto:p.muir@bourgogne.cci.fr) or [crelais@bourgogne.cci.fr](mailto:crelais@bourgogne.cci.fr)