

EU

Expression of Interest Submitted for Research Programme

'UnderGround' is an expression of interest for a Network of Excellence on Transportation and Facilities submitted further to a research and technological development call for bids launched within the 6th Framework Programme. UnderGround is a core group of around ten members among which research and education organisations as well as engineering consultancies. The members are: the Belgian Building Research Institute (BBRI), STUVA (Germany), CUR/COB (Netherlands), TNO (Netherlands), DMT (Germany), INERIS (Institut National de l'Environnement Industriel et des Risques, France), BRE (UK), Arsenal (Austria), University of Greenwich (UK), Cowi (Denmark), MottMcDonald (UK), Geoconsult (Austria), and Holland Railconsult (Netherlands). There are also about 40 supporting partners like the Technical Research Centre of Finland (VTT), SINTEF (Norway), CETU (Centre d'Etudes des Tunnels, France), etc.

The aim of UnderGround is to establish an international scientific reference point that would lead to underground transportation and facilities, which are competitive in construction, highly performing in operation, environmental-friendly and respective and safe for the people and society. UnderGround is focused on road and rail tunnels, metro lines, underground logistic systems and other underground facilities (car parks, commercial and cultural structures, etc.).

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World Digest of Tunnels Under Planning

Italy. The region of Lombardy and Ferrovie Nord Milano have signed an agreement to build the Castellanza tunnel in Varese province, consisting in transferring below ground 6 km of tracks on the Malpensa Express line. This scheme requires a double tunnel under the Olona river at a depth of 28 m. The project will cost around €53 million. Completion is hoped for 2005. Visit www.tunnelbuilder.com, it/33.

United States. The city of Atlanta wants to build part of the 12.9 km-long Nancy Creek tunnel, awarded to Obayashi, near Johnson Ferry Road in the Dunwoody area to reduce sewage overflows, which is an ongoing problem since the 1980s. City officials have been working on plans for the tunnel but are encountering fierce opposition from many area residents. Atlanta needs the permission of 42 DeKalb home owners to build the tunnel, which would be 3.65 m in diameter and lie anywhere from 33 m to 91 m underneath their homes. Some of them said they are considering taking their battle against the \$131.5 million project to court. The tunnel would begin just east of the Chattahoochee river near I-75 and run underneath parts of Atlanta. It would end in DeKalb's Dunwoody area. The project was approved by Atlanta officials in July, but work has not yet begun. The DeKalb portion of the tunnel would begin in early 2004. Visit www.tunnelbuilder.com, us/60.

World Digest of Bids

France. Restricted invitation to tender, deadline 18th October, 2002 for safety works in the French part of the Somport tunnel (speed limitation systems, supply and installation of

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cinemometers, optic fibre, etc.). Visit <http://ted.eur-op.eu.int/udl?request=Seek-Deliver&language=en&docid=152880-2002>, OJ S 194, or contact DDE des Pyrénées-Atlantiques, Pau, tel. +33 559808600.

Spain. Open call for bids, deadline 11th November, 2002 for work control and supervision of the emergency rescue gallery of the 1.8 km Collabós tunnel on road C-26 between Vall de Bianya and Sant Joan de les Abadesses. Visit <http://ted.eur-op.eu.int/udl?request=Seek-Deliver&language=en&docid=149905-2002>, OJ S 190, or contact GISA, Barcelona, fax +34 934300124. E-mail dlh@gisa.es. Read E-News Weekly # 26.

World Digest of Contract Awards

Spain. Spanish premier José María Aznar laid down on 1st October the first stone of the access highway to the port of Castellón, a 11.5 km-long project requiring an investment of €74.5 million. The project has been awarded to Dragados and FCC and will take 30 months to complete. Entering the north area of the harbour, there will be a 500 m cut-and-cover tunnel. Visit www.mfom.es

World Digest of Ongoing Tunnelling

France. Socatop (Société de Construction de l'Autoroute de Traversée de l'Ouest Parisien), a consortium of Vinci, Colas, Eiffage and Jean Lefebvre which is building the A86 highway tunnel west of Paris, has announced they would reinforce surface controls further to complaints from local residents in Vaucresson who reported vibrations in their homes coming from the subsoil, blaming the TBM excavating some 50 metres underneath. Socatop has reassured the inhabitants stating that the geological strata through which the TBM is currently driving do not feature any risks to homes directly above. Moreover, no surface subsidence has been observed. Last week, local residents complained about substantial vibrations and cracks appeared on their homes. Visit www.a86ouest.com and www.tunnelbuilder.com, fr/21.

Italy. Work has resumed after a three-year hold-up on the 2 km Variante di Tors on national road 335 between Rigolato and Forni Avoltri in Veneto region. Construction was stopped to redesign the project, in particular the 1.4 km tunnel. The portal has been modified and the first 100 metres slightly deviated to avoid a friable rock area. The contractor is Vidoni SpA based in Udine. The scheme will cost €11 million. Entry in service is programmed for 2004 after a 2.5 year assignment.

Portugal. The Portuguese government is trying to convince the European Commission to sort out the environmental dispute and to get financing for the Odelouca dam project. The EU funding, which would cover 75% of the cost (€50 out of €66 million), is currently frozen. Construction began in October last year, just a few days after the EU warned it considered the project as environmentally illegal. The project requires a tunnel to connect the Odelouca dam and the existing Funcho dam. Visit www.tunnelbuilder.com, pt/18.

Taiwan. Two tunnels on the Taipei-Kaohsiung high speed railway have been holed through last month. The Tsaochiao tunnel (457 m) broke through on 18th September. It is part of contract C230 commissioned to Hyundai/Chung Lin/Zen Pacific. The Yuanlin 2 tunnel (245 m) holed through on 21st September. It is part of contract C260 built by a joint venture of Bilfinger Berger and Continental Construction (Taiwan).

Basically nearly 14% of the route will run in tunnels. There are tunnels on contracts C210, C215, C220, C230, C240, C250 and C260. Work started on 1st April, 2000 on contracts C210, C215, C220 and C260.

The general topography of C210, 11,280 km in length, includes mountains, terraces and a flat alluvial plain, with the Tarlienoken river flowing through it. The site ranges in elevation above sea level from 7

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42/2002

Contract	Contractors	Tunnel names	Length (m)	Construction method and status
C210	Obayashi / Fu Tsu Construction	Hueilung Linkou	2,158 6,456	NATM NATM
C215	Obayashi / Fu Tsu Construction	Taoyuan 1 Taoyuan 2 Taoyuan 2A Taoyuan 2B Taoyuan 3 Taoyuan station Hukou	486 783 225 180 747 2,228 4,292	NATM, breakthrough 2 nd Aug, 2002 NATM Cut-and-cover Cut-and-cover NATM, breakthrough 19 th Oct, 2001 Cut-and-cover NATM
C220	Daiho / Chiu Tai / Kou Kai Construction	Mount Litou Hsincheng 2nd Freeway underpass Chiashui Paosan 1 Paosan 1A Paosan 1B Paosan 2 Paosan 3 Paosan 4 Paosan 4A Paosan 5	624 302 790 121 404 120 135 361 244 245 210 314	NATM, breakthrough 12 th June 2002 NATM, breakthrough 29 th Sept, 2001 NATM NATM, breakthrough 15 th May, 2001 NATM NATM, breakthrough 16 th Aug, 2002 NATM NATM, breakthrough 11 th Dec, 2002 NATM NATM, breakthrough 11 th Sept, 2001 Cut-and-cover NATM, breakthrough 4 th June, 2002
C230	Hyundai / Chung Lin / Zen Pacific	Hsinmiao Toufen 1 Toufen 2 Toufen 3 Toufen 4 Tsaochiao 1 Tsaochiao 2 Houlung	1,445 1,245 1,942 240 534 236 457 1,232	NATM, breakthrough 8 th June, 2002 NATM, breakthrough 20 th May, 2002 NATM Cut-and-cover NATM, breakthrough 14 th Feb, 2002 NATM NATM, breakthrough 18 th Feb, 2002 NATM, breakthrough 22 nd May, 2002
C240	Hyundai / Chung Lin	Miaoli Hsihu 1 Hsihu 2 Hsihu 3 Tunghsiao 1 Tunghsiao 2 Tunghsiao 3 Tunghsiao 4 Tunghsiao 5 Tunghsiao 6 Yuanli	3,060 191 1,029 735 560 204 141 215 520 425 321	NATM NATM, breakthrough 16 th July, 2002 NATM, breakthrough 20 th Aug, 2002 NATM, breakthrough 11 th April, 2002 NATM, breakthrough 23 rd Nov, 2001 NATM, breakthrough 17 th Aug, 2001 NATM, breakthrough 12 th Dec, 2001 NATM, breakthrough 5 th Feb, 2002 NATM NATM, breakthrough 5 th April, 2002 NATM, breakthrough 17 th Oct, 2001
C250	Hochtief / Pan Asia Corp. / Ballast Nedam	Shenkang	739	Cut-and-cover
C260	Bilfinger Berger / Continental Construction	Changhua 1 Changhua 2 Mount Pagua Yuanlin 1 Yuanlin 2 Yuanlin 3 Yuanlin 4	721 372 7,360 180 245 185 298	NATM, breakthrough 27 th June, 2002 NATM NATM, breakthrough 29 th Aug, 2002 NATM, breakthrough 9 th May, 2002 NATM, breakthrough 21 st Sept, 2002 NATM NATM
TOTAL		48 tunnels	46,257	42 NATM, 6 cut-and-cover, 27 holed through

to 270 m. The areas surrounding the portals at both ends of the Hueilung tunnel and the area to the north of it are densely populated.

Contract C215 is 40.5 km-long. The works include approximately 6,300 m of bored tunnels, among which the 4,292 m Hukou tunnel which is the third longest. At the northern end, the alignment passes through a heavily industrialised area. Taoyuan Airport is located within the general area of this contract. At Taoyuan Station the alignment will run underground to allow for future development and



the interfacing with the proposed railway connecting Taipei to the Airport. Contract C220 (17.8 km) requires the construction of eleven relatively short bored tunnels with a combined total length of 3,600 m and one cut-and-cover tunnel. The alignment traverses hilly areas and alluvial plains ranging in elevation from 30 to 140 m above sea level and includes crossings of the Fengshan and Touchen rivers.

Construction of contract C230, C240 and C250 commenced on 1st May, 2000. C230 has a route length of 23.4 km. The noteworthy components are the seven tunnels, with a total length of about 7,100 metres. The topography of the area is mainly hilly, with an elevation ranging between 20 to 130 m above sea level.

Contract C240 totals 20.8 km and necessitates to drive the 3,000 m-long Miaoli tunnel and a number of short tunnels. The topography of the land within the area of the contract is generally hilly ranging in elevation between 35 to 140 m above sea level.

Within Contract C250 (39.8 km) is the building of the unique Shengkang cut-and-cover tunnel while the 36.6 km Contract C260 totals 9,300 m of

tunnel including the 7.3 km Paghuashan (Mount Pagua) tunnel, the longest of all on the Taipei-Kaohsiung HSR project. Read E-News Weekly # 39. Visit www.thsrc.com.tw/emain/main.asp and www.hsr.gov.tw

United States. The TBM excavating the Brushy Creek wastewater tunnel in Texas for the Lower Colorado River Authority is a Lovat fully shielded soft rock machine. The liner will be 2.1 m Hobas centrifugally cast fiberglass pipes. The contractor is the KM&M joint venture, consisting of the Kassouf Company (Cleveland, Ohio), Mole Constructors Inc. (Solon, Ohio), and Murray Hill Construction (Twinsburg, Ohio). Paul Marshall of Mole is the joint venture's president. Other major contractors include Crux (grouting) and Benitez Construction, Inc. of Pflugerville, Texas for trucking, open cut utilities and miscellaneous work. Excavation of the main shaft started on 17th July, 2002. Tunnelling started on 18th September, 2002. As of 4th October, 2002 the TBM had advanced approximately 160 metres. Visit www.tunnelbuilder.com, us/78 and www.lovat.com

Companies

South Korea. Daewoo Engineering & Construction has finally succeeded in overtaking the perennial market leader Hyundai Engineering and Construction. Daewoo posted a backlog of 11.28 trillion won at the end of June, well ahead of the 9.97 trillion won for Hyundai. The backlog, which is the remaining value of contracts in progress, is often used in the construction industry as the yardstick for calculating turnover and profitability. This is the first time since the 1960s that any domestic contractor is outperforming Hyundai, taking over the top market position. Visit www.dwconst.co.kr/english/e_main.htm and www.hdec.co.kr/eng