GEOCONSULT

Selected References: Railways

No.	Title of Contract, Location	Brief Description of the project	Client, person to be contacted, adress, telephone number	Commencement of services	Completion of services	Total fee Geoconsult (in €)	Total construction costs (in €)	Services
1	BA3045 Tunnel Refurbishment, Karawankentunnel Railstunnel, 2nd Tube, tunnel safety Austria/Slovenia	Single tube rail tunnel, km 53,635 (Austria) km 637+,265 (Slovenia), length: 7.975,8m, (Station to border Rosenbach - station Jesenice) open track Austria: km 48 + 338,246 - km 49 + 262,00 (924 m) open track Slovenia: km 631 + 208,670 - km 633 + 662,700 (2454 m)	ÖBB Infra GB Projekte Neu-/Ausbau Walter von der Vogelweideplatz 1 9020 Klagenfurt, Austria Dipl.-Ing. Gerald Zwittnig T: +43 (463) 93000-3122 F: +43 (463) 93000-3119 M: +43 (664) 967 4966 gerald.zwittnig@oebb.at	09/2018	09/2021	713 690	~ 130.000.000	Civil design (track, tunnel, buildings preparatory works for 2nd tube, tunnel safety concept): Re-design to single track, reconstruction of track base, tunnel refurbischment, excavation of 7 caverns. Design for approval EisbahnG §31, design for approval temporary and permanent water discharge, Health & Safetyplan, Document for service works, conept for service works, tunnel safety concept, geomechanical design, VEXAT Sub-project "portal building, wastewatertank, fire-fighting-tank" in BIM
2	Blue Line Jerusalem, City Centre Underground Section, Israel	Part of the 20 km LRT Blue Line connecting Ramot in the north to Malha and Gilo in the south; length of Underground Section 2 km, double track running tunnels constructed by NATM, 3 underground stations – Bar Ilan station (cut & cover), Tzfanya and Mea Shearim stations (mined) Geology: dolomite, dolomitic limestone and limestone of variable degree of weathering, karstic phenomena	JTMT - Jerusalem Transportation Masterplan Team Jaffo Street 97, Kllal Tower 91280 Jerusalem Zion Matalon T: +972 (2) 633 1063 F: +972 (2) 629 9888 zionm@jtmt.gov.il	08/2017	ongoing	2 379 000	180 000 000	Preliminary, Basic and Detailed Design, Optional: site investigation supervision, tender documents for construction tender, tender process assistance, construction supervision
3	Tunnel adaptation Schafbergbahn, SKGB Tunnel Enlargement – track construction, Km 5+500.00 – km 5+800.00, Salzburg, Austria	single-track light railway (track width: 760 mm rack railway), total length: 300 m The tunnel Schafbergbahn must be adapted to the new requirements of the tunnel safety (TUSI). Scan and measuring for the Tunnel (Geodata), optimization for track system.	SKGB Salzkammergutbahn GmbH (Salzburg AG) Markt 35 5360 St. Wolfgang, Austria Dipl.-Ing. Bernhard Reithofer Engineering - Bautechnik (Salzburg AG) T: +43 (662) 8884-2065, F: +43 (662) 8884-170-2065 Ml: +43 (676) 868 22065 bernhard.reithofer@salzburg-ag.at	10/2016	ongoing	6.279,52 (Scanner) 14.884,31 (TUSI)	n.a.	Preparation of tunnel safety, tender and detailed design incl. Documents
4	New Railway Line Project, Section Tupul – Imphal, Tunnel No.12 Manipu, India	11.55km long tunnel with 9.74km mined tunnel, 1.16km cut& cover and .65km ramp, single track tunnel with approximate excavation cross section area of 66.8-71.2 m2 also has 3 access/construction adits of approximate length of 1300/1235/350m and excavation cross section of 47.9-59.6 m2 . There would be a safety tunnel of 9.35km. Maximum overburden above the tunnel is 800m.	Northeast Frontier Railway Office of the General Manager (Const.) Northeast Frontier Railway Maligaon, 781011 Guwahati (Assam), India Mr. S.C.Rajak The Chief Engineer/Con-V T: +91/(0)361-2676074	12/2015	12/2019 (48 months)	3 656 464	785 683 018	Detailed Design, 3D Monitoring, Geotechnical Investigation and Construction Supervision
5	Brenner Base Tunnel, Lot Mules 2-3, Technical Assistance for Bid Preparation, Italy	Railway base tunnel; Construction lot in Italy between Isarco river crossing and border to Austria; single track twin tube railway tunnel with double-track section, emergency station, rescue tunnel, access tunnel, exploratory and drainage tunnel; total length of construction lot approx. 22 km; excavation exploratory tunnel (TBM) and main railway tunnel (NATM, TBM)	Consorcio SIS Scpa - SACYR Construccion S.A. - INC S.p.A. - SIPAL SpA Via Invorio 24/A 10146 Torino, Italy Vladi Biesuz T: +39/(0)11 7176-222 F: +39/(0)11 7176-397 M: +39/(0)335 564 0284 v.biesuz@incgeco.it	10/2015	01/2016	45 064	~ 1.000.000.000	Consultancy support to conctractor with bid preparation: geological-geotechnical risk assessment, TBM selection, re-use and management of excavation materials
6	New Railway Line Project, Tunnel No.1 - 5, from Bairabi - Sairang, Mizoram, India	5 tunnels, length varying from 118 m to 1733 m, total tunnel length is 2.688 km; with approximate excavation cross section of 58.5 - 67.5 m^2. Overburden above the tunnel is 12 m - 270 m above the crown level.	Northeast Frontier Railway, Maligaon, Guwahati-781011, India A. K. Yadav, Chief Engineer T: +91/(0)361-2570789	09/2015	09//2017 (24 months)	1 586 262	313 628 517	Detail Design and construction supervision

Selected References: Railways

No.	Title of Contract, Location	Brief Description of the project	Client, person to be contacted, adress, telephone number	Commencement of services	Completion of services	Total fee Geoconsult (in €)	Total construction costs (in €)	Services
7	Master design and railway equipment Koralmtunnel Graz – Klagenfurt, Section Deutschlandsberg - St. Andrä, KAT equipment and Tunnel chain Granitztal (BTA KAT + TGKT), Styria/Carinthia, Austria	Koralmtunnel: km 40+834 – km 73+800, total length: 32,966 km double tube, single track railway tunnel (clear cross section: ~ 45,5 m²) with cross adits: each 500m approx. 1,0km long emergency stop in Tunnelcenter and 2 ventilation shafts/ventilation buildings (Paierdorf and Leibenfeld). Tunnel chain Granitztal: km 75+725 – km 82+100, total length: 6.375 km double tube, single track railway tunnel (clear cross section: ~ 41,65 m²), cross adits: each 500 m	ÖBB Infrastruktur AG Projektleitung Koralmbahn Steiermark 3 Europaplatz 2/II 8020 Graz, Austria Tel.: +43/(316) 93000-6139 Fax: +43/(316) 93000-6131 Dipl.-Ing. Dr. techn. Helmut Steiner T: +43/(316) 93000-6120 M: +43/(664) 967 4962 E-mail: helmut.steiner2@oebb.at	07/2015	2024	749.000 Koralmtunnel 150.000 TK Granitztal	~ 450.000.000	Project Management: Project coordination, logistics, cost estimate, risk management, information for a assessment, maintenance and RAMS, site coordination after health & safety coordination for design and construction (BauKG for KAT and TKGT) Tender design and detailed design, traffic engineering Railway (review of embankment), slab track
8	Semmering Basistunnel New, Construction Lot SBT 1.1, Tunnel Gloggnitz, Austria	Two single-track railway tunnels; Length: approx. 7.3 km each, excavation cross section: 70m²; max. overburden: 700 m; 16 cross-passages; 17 grouting caverns; Intermediate access Göstritz: 2 Nos. 250 m deep blind shafts (dia: approx. 8 m); access tunnel to shaft head: length approx. 1 km, cross section: 60 m²; shaft head cavern: length: 370 m, cross section: 150 m² NATM tunnel construction with a total of 6 tunnel headings (2 from portal and 4 from intermediate access); extensive slope stabilisation measures (shotcrete, anchors, soil nails, bored piles) at portal for the access tunnel (fault zone and seismic area – "Schlaglstörung"); ground improvement and grouting measures (water ingress prediction: 200l/s) in the area of "Auetal"; pipe roof sections at the portals; Geology: greywacke (phyllites, quartzites, shist)	ÖBB-Infrastruktur AG GB Projekte Neu-/Ausbau ÖBB-Infrastruktur AG - Projektleitung Semmering (PLSE) Griesgasse 11/I, 8020 Graz, Austria Dipl.-Ing. Gerhard Gobiet T: +43 (316) 93000-6130 M: +43 (664) 841 7966 gerhard.gobiet@oebb.at Dipl.-Ing. Dieter Haas T:+43/(0) 664 8842 59 29 M: +43/(0)664 841 71 37 dieter.haas@oebb.at	05/2015	05/2025	6 000 000	456 600 000	Construction Supervision
9	New Railway Line Project, Section Jiribam – Tupul, Tunnel No.1 - 9, Km 0.0/97.974 - Km 8.656/106.63 Manipu, India	9 tunnels, length varying from 220 m to 1770 m, total tunnel length is 6.43km; includes single track, double track and platform tunnels with approx. excavation cross section of 58.5 - 67.5 m² for single track tunnels , 120m² for twin track tunnels and 195 - 208 m² for platform tunnel. Overburden above the tunnels is 13 m - 240 m above the crown level.	Northeast Frontier Railway N.F. Railway Officer Rest House Mairangkhom, Near Kalimai Mandir, Imphal, Manipur, Pin Code - 795001 India Mr. Yogesh Verma Dy. Chief Engineer/Con-2/Imphal T: +91/(0)385-2442835	02/2015	02/2017 (24 months)	1 381 251	1 349 655 618	Detailed Design, 3D Monitoring, Geotechnical investigation and Construction Supervision
10	Koralmbahn Graz - Klagenfurt, St. Andrä - Aich, Lot 50.4 Tunnelchain Granitztal, km 75 + 725 bis km 82+100, Carinthia, Austria	2 x single track railway tunnel, total length: 6.375 m, length of section: 9,7 km Tunnels Deutsch-Grutschen, length: 2.600 m, Tunnel Langer Berg, length: 2.900 m in bored tunnel. Einhausung Granitztal, length: approx. 600 m in cut & cover 1 railway bridge über die Lavant, length: approx. 15 m, 2 roads flyover, open cut: approx. 300 m, NATM, max. overburden: 160m	ÖBB-Infrastruktur AG Geschäftsbereich Projekte Neu-/Ausbau Projektleitung Koralmbahn 2 Walther v.d. Vogelweideplatz 1/I 9020 Klagenfurt, Austria T: +43 (463) 93000-3112 Projektleitung: DI Gerald Zwittnig T.: +43/(0)463 / 93000-3122 gerald.zwittnig@oebb.at Projektkoordination: DI Markus Höhndorf T.: +43/(0)463/ 93000-3117 markus.hoehndorf@oebb.at	11/2014	04/2020	1 700 000	140 000 000	construction management
11	VDE 8.1 ABS Nürnberg - Ebensfeld, Burgbergtunnel, Germany	Lot 17 North (km 23,950 - 32,402) Construction of a dual-rail-tunnel next to an existing historic dual-lane tunnel under full operation. Mined cross section: 123 m². Length: 307 m, portal structures open cut: 6 m length each, maximum overburden: 37,5 m. Construction method: cut & cover and NATM Geology: "mittlerer Burgsandstein" (sandstone with clay inclusions). Two 30m-rail bridges. 2 anchored retaining walls (bored pile) l=30 und l=80m, app. 11m high.	DB Projektbau GmbH Regionalbereich Südost; Großprojekt VDE 8 ABS Nürnberg-Ebensfeld Großer Brockhaus 5 04103 Leipzig, Germany Dipl.-Ing. Ralph Grager Regionalbereich Südost; Großprojekt VDE 8.1.1 ABS Nürnberg-Ebensfeld und S-Bahn Nürnberg-Forchheim Äußere Cramer-Klett-Str. 3 90489 Nürnberg, Germany T.:+49/911 219 5111 F: +49/911 219 49441 ralph.grager@deutschebahn.com	05/2014	11/2018	438 404	16 300 000	Site supervision, geological documentation during construction

Selected References: Railways

No.	Title of Contract, Location	Brief Description of the project	Client, person to be contacted, adress, telephone number	Commencement of services	Completion of services	Total fee Geoconsult (in €)	Total construction costs (in €)	Services
12	New Railway Line Project, Section Jiribam – Tupul, Tunnel No.10, Manipu, India	Rehabilitation and reconstruction of 3,1 km long single track railway tunnel which suffered severe damages & collapses from first construction stage	Northern Railway CAO/Constructions Office Headquarters Office, Kashmere Gate Delhi - 110 006 India R. K. Gupta T: +91/(0)11-2386	01/2014	07/2016	1.028.329 (81.599.700 INR)	n.a.	Redesign and realignment of tunnel Preperation of tender documents. Assistance during construction
13	HSR Graz- Klagenfurt, Section Deutschlandsberg- St. Andrä, Koralmtunnel KAT 3 km 61+000 bis km 75+135; Water rights monitoring Carinthia, Austria	Railway tunnel, length 32.8 km, with high overburden; exploratory shaft, 128 m deep and two tunnels, both 8 km long. Water rights monitoring during the construction of the lot Deutschlandsberg – St. Andrä (km 61+000 bis 75+135).	ÖBB Infrastruktur AG Geschäftsbereich Neu- und Ausbau Projektleitung Koralmbahn 1 Europaplatz 2 / 2. Stock, 8020 Graz, Österreich Mag. Manfred Stadlober T: +43/(0)316 93000-6117 F: +43/(0)316 93000-6119 M: +43/(0)664 286 6300 manfred.stadlober@oebb.at	12/2013	2019	434 484	n.a.	Monthly measurements of flow rate, water level, electrical conductivity, temperature and pH value at springs, monitoring wells, lakes and rivers. River flow rates done using the salt dilution method or a flow meter. Read out and analysis of diverse automatic data samplers. Continuous sampling at some measuring points to ascertain the qualitative parameters
14	HSR Graz- Klagenfurt, Section Deutschlandsberg- St. Andrä, Koralmtunnel Kat 3 km 61+000 bis km 75+135; geological - hydrogeological documentation Carinthia, Austria	Twin tube railway tunnel, construction methods: conventional and TBM, sections constructed in Cut & Cover, total lot length: approx. 14.1 km Excavation in hard rock sections: 2,800 m conventional (63 m²), 3,200 m conventional widening of existing exploratory tunnel (20 m²), 7,500 m hard rock sections with TBM advance (Ø 9,9 m), 15 cross passages (45 m²) Excavation in soft rock: 650 m conventional (66 m²), 4,680 m conventional widening of the existing exploratory tunnel (33 m²), 4,400 TBM advance with EPB-TBM (modes open/closed, □ 9,9 m), 11 cross passages (45 m²). Cut & Cover section with depth of construction pit up to 14 m, hydrochemical monitoring GSA Specialties: tunnel with high overburden up to 1,200 m, advance through a 200 m long fault zone with 150 m overburden, up to 120 m overburden at soft rock sections, length of single advance sections up to 12 km from portal area	ÖBB Infrastruktur AG Geschäftsbereich Neu- und Ausbau Projektleitung Koralmbahn 1 Europaplatz 2 / 2. Stock, 8020 Graz, Austria Mag. Manfred Stadlober T: +43/(0)316 93000-6117 F: +43/(0)316 93000-6119 M: +43/(0)664 286 6300 manfred.stadlober@oebb.at	11/2013	09/2020	849.490	n.a.	Engineering geological documentation, geotechnical consulting, hydrogeological documentation and consulting, hydrochemical analysis and supervisation of watercourse protection facilities, on-site rock mechanic analysis (cerchar-abrasivity and point-load-test)
15	HSR Graz- Klagenfurt, Section Deutschlandsberg-St. Andrä, Koralmtunnel Lot KAT3, Austria	twin tube railway tunnel, southern tube, length: 10,5 km, northern tube, length: 12,8 km, (tunnel driving) tunnel by cyclic drive: ~ 11 km and Tunnel by continous drive (TVM): 12 km, south tube, length: 10,5 km, (tunnel driving) tunnel by cyclic drive: ~ 10,4 km, 300 m cut & cover, 22 cross adits, cross section: ~ 77 m²	ÖBB Infrastruktur AG - Geschäftsbereich Neu- und Ausbau, Projektleitung Koralmbahn 3 Griesgasse 11/II 8020 Graz, Austria Dipl.-Ing. Andreas Kiesling T: +43/(0)316/93000-6653 andreas.kiesling@oebb.at	05/2013	2023	4 864 934	297 100 000	construction supervision (technical and contractual) on behalf of the owner
16	Reconstruction Alter Kaiser Wilhelm Tunnel, Cochem, Rhineland-Palatinate, Germany	Upgrading of an existing double-track railway tunnel into single-track operation, closing gap of 8 cross adits between the Old and New Kaiser Wilhelm Tunnel; vault removal, invert excavation and installing of new inner concrete lining, length of tunnel: 4.205 m, in cut & cover method: 8.5 m; clear cross-sectional area above level of rail: ~ 39 m²	SUBTERRA a.s. Erneuerung Alter Kaiser Wilhelm Tunnel Koželužská 2246/5 CZ 180 00 Praha 8 – Libeò info@subterra.cz Kontaktperson: Hr. Dipl.-Ing. Jiri Patzak T: +420 244 063-152 M: +49 (175) 702 4493 M: +420 (602) 506 817 F: +420 (257) 923 311 jpatzak@subterra.cz	02/2013	08/2017	~ 550.000 (Detailed design) ~ 455.000 (Design Coordinator)	~ 60.000.000	detailed design of reconstruction, design coordinator
17	Undertunnelling of the Sarmiento Railway - Sub-Phase I, Award of the Consulting Services for the Revision of the Civil Works and Equipment, Buenos Aires, Argentina	Replacement of an existing urban railway line of 32 km in length , with 15 stations, by an underground system, composed by a 12 m2 track tunnel to be constructed with an EPB shield, and underground stations to be constructed with the cut & cover method, without interruption of the operation.	JV "IATASA - Consular S.A. - Atec S.A. - Latinoconsult S.A. Union Transitoria de Empresas", Av. Julio A Roca 6º Piso, (C1067ABO) Caba Argentina T: +54 11 4343 9636	04/2012	12/2012	~ 86.500.-	~ 2.285.000	Consulting, analysis, revision and approval of basic and detail design, approval of the Documentation associated to the Civil and Electromechanical Project

GEOCONSULT

Selected References: Railways

No.	Title of Contract, Location	Brief Description of the project	Client, person to be contacted, adress, telephone number	Commencement of services	Completion of services	Total fee Geoconsult (in €)	Total construction costs (in €)	Services
18	HSR Munich - Verona, Brenner Base Tunnel, AP 100, Lot H33 Rescue Tunnel Tulfes and Pilot Tunnel Ahrental, Austria	NATM Rescue tunnel (length: approx. 8,7 km) running parallel to the existing bypass tunnel Innsbruck with cross passages (interval: approx. 335 m); NATM connecting tunnels from the bypass tunnel Innsbruck towards running tunnels of the Brenner Base tunnel (Geometry: double track HSR cross section, equipped as a single track railway tunnel and separated from the „rescue tunnel“ with a R/C partition wall); TBM dewatering / pilot tunnel (service tunnel) between multi purpose facilities (MFS) Innsbruck and St. Jodok (length: approx. 14 km, Dia.: approx. 7,5 m, gradient: 6,7 ‰). Design for new landfill site Ampass Nord and extension of existing landfill site Ahrental	Galleria di base del Brennero - Brenner Basistunnel BBT-SE Amraser Straße 8, 6020 Innsbruck, Austria Dipl.-Ing. Michael Knapp T: +43 (512) 4030-355 M: +43 (664) 821 6700 michael.knapp@bbt-se.com	03/2012	2019	3 641 320	380.000.000,-- (estimated)	Tender design, detail design, provision of geotechnical engineer on site
19	HSR Graz- Klagenfurt, Section Deutschlandsberg-St. Andrä, Lot Ventilation Structure Paierdorf, Carinthia, Austria	Excavation of bench and invert of existing exploratory tunnel l = 87,6 m in South Tunnel, southern tube, extention of North tunnel to the TBM cavern l = 100 m, ventilation tunnel l = 93 m, 14° inclination, implementation of inner lining for existing shaft Paierdorf (depth: ~ 117 m), remedial of tunnel lining in the area of the Lavanttalfaultzone, Excavation in soft ground (silt, sand and gravel) and soft rock (siltstone) in difficult and variable geotechnical and hydrogeological conditions	ÖBB-Infrastruktur AG Geschäftsbereich Neu- und Ausbau Europaplatz 2 / 1. Stock 8020 Graz, Austria Dipl.-Ing. Dietmar Schubel (PL Koralmbahn 3) T: +43/(0)316 93000-6650 F: +43/(0)316 93000-6683 M: +43/(0) 664 617 6027 dietmar.schubel@oebb.at	03/2012	06/2013	147 451	n.a.	Geological and hydrogeological documentation, consulting, compilation and evaluation of geotechnical monitoring measurements
20	Fast Railway Link (FRL) Tel Aviv - Jerusalem (A1 Line) Sections B and C, Israel	Single track twin tube railway tunnels; excavated by TBM; cross passages every 250 m; Section B/Tunnel 1: 3.5 km long, 9.00 m int. dia, EPB TBM; Section C/Tunnel 3: 11.6 km long, 8.90 m int. dia, 2 double shield TBMs	Israel Railways Ltd. P.O. Box 18085, 61180 Tel Aviv, Israel Mr. Carmel Sturlesi T: +972 3 693 7872	2011	ongoing	700.000 (506.832)	Section B: 116 Million; Section C: 370 Million	Checking / review of Detailed Design; Supreme Supervision & Consulting during construction - Review / checking of Contractor´s Detailed Design - Supreme supervision during construction - Consulting during construction related to TBM operation, design changes, non-conformances etc.
21	New Railway Line Vienna - Salzburg – St.Pölten, Tunnel Pummersdorf, Austria	Two track railway tunnel, length 3485 m, TBM excavation under shallow overburden (max. 22 m) in Molasse basin sediments, silt stone to sandstones	Wayss & Freytag Ingenieurbau AG, Bereich Tunnelbau Eschborner Landstraße 130-132 60489 Frankfurt a. Main, Germany Dipl.-Ing. Christian Korndörfer T: +49/(0) 69 7929-443 F: +49/(0) 69 7929-491 M: +49/(0)172 8376474 christian.korndoerfer@wf-ib.de	05/2011	2011	9 700	n.a.	Geotechnical consulting for tendering of the contractor
22	High speed train Wendlingen – Ulm, PA 2.1, Albvorlandtunnel, site supervision (km 25,200 to 40,065 incl. "Kleine Wendlinger Kurve" and "Güterzuganbindung"; Stuttgart, Germany	Construction of a 25,160 km long new sectiojn of the high speed track Stuttgart - Ulm including 2 singletrack railwaytunnels (8,176km) in open cut and mined. Includes cavern, tunnel in open cut "PWC-Anlage" 253m, road and rail bridges. Major tunnels excavated by TBM, sections in NATM.	DB Projekt Stuttgart-Ulm GmbH Räpplenstraße 17 70191 Stuttgart, Germany Hr. Jens Hallfeldt, T: +49/(0)711 93319-212	03/2011	ongoing	3 236 499	~ 800.000.000	Checker tender design and documents, tender evaluation tunnels, groundwater monitoring, site supervision
23	Tel Aviv LRT, Green Line, Israel	LRT line, total length 35 km, Central section 4 km tunnels and 5 underground stations, two single track running tunnels, 6.50 m internal diameter, cross passages every 250 m; construction methods: running tunnels NATM/TBM options, stations cut & cover.	Levy & Shtark Engineering Consultants	03/2011	12/2017	604 000	n.a.	Preliminary and Final (tender) design for underground structures

Selected References: Railways

No.	Title of Contract, Location	Brief Description of the project	Client, person to be contacted, adress, telephone number	Commencement of services	Completion of services	Total fee Geoconsult (in €)	Total construction costs (in €)	Services
24	New BG Railway Line, Udhampur-Srinagar-Baramulla, Section Dharam-Quazigund T-74R, km 134 & km 145, India	Railway tunnel in connection with Construction of Dharam-Qazigund Section, length: 11 km, cross section: ~ 55 – 68 m^2, NATM Method	Leighton Contractors (India) Private Limited 8th floor, Vatika City Point MG Road Gurgaon 122002, India T: +91/(0)124 4958-200 F: +91/(0)124 4958-201 Anuj Kumar Singh F: +91/(0)12 4495 8201 M: +91/(0)88 0049 3818 Anuj.Singh@leighton.co.in	03/2011	04/2011	48 773	122 733 836	Tender Consultancy
25	Tel Aviv LRT, Red Line, Running Tunnels Israel	LRT line, total length 22 km, 8,5 km underground, two single track running tunnels, 6.50 m internal diameter; excavation in sandy soils under groundwater using 8 shielded TBMs; pre-cast segmental lining; cross passages every 250 m	NTA – Metropolitan Mass Transit System 53 Yigal Alon Street, IL 617891 Tel Aviv, Israel Yehuda Dugach, Divison Manager Engineering Tel.: +972 (3) 724 3152, YehudaD@nta.co.il	02/2011	06/2018	848 000	1.290.000.000 (civil works, status 2016)	Preliminary and tender design incl. preparation of tender documents for design & build contracts, construction permits
26	HSR Graz- Klagenfurt, Section Deutschlandsberg-St. Andrä, Koralmtunnel Lot KAT2, Austria	Double tube single track system, with a length of 19,7 and 17,5 km. cross adits every 500 m, ventilation buildings and emergency stop, high overburden: up to 1.250 m in various rock mass conditions varying form hard rock to soft soil conditions and major fault zones, Excavation by 2 Double-Shied TBMs: outside Ø 9,8 m, NATM: cross section ~80 m^2; Diameter: 9,1m	ÖBB-Infrastruktur AG Europaplatz 2/I.Stock, 8020 Graz, Austria DI Erhard Katzianer Geschäftsbereich Projekte Neu-/Ausbau Projektleitung Koralmbahn 3 T: +43 316 93000 6687 F: +43 316 93000 6169 M: +43 664 6174723 Erhard.Katzianer@oebb.at www.oebb.at/infrastruktur	11/2010	2019	2 747 341	~ 580.000.000	Construction Management,design coordination according BauKG
27	Stuttgart 21, Wendligen-Ulm, PA 2.5a1, Reconstruction Mainstation Ulm, Germany	Reconstruction of rails of the main railway station of Ulm. 100 construction stages under operation, length: 8,5 km, 83 switches, EM/communication, civil structures	Deutsche Bahn AG Beschaffung TEC 5 Räpplenstr. 17, 70191 Stuttgart, Germany Dr. Stefan Kielbassa T:+49 (711) 93319-230	11/2010	03/2019	418 400	n.a.	Construction supervision, checking of tender documents
28	Stuttgart 21, Wendligen-Ulm, PA 2.5a1, Reconstruction Mainstation Ulm, Germany	Reconstruction of rails of a major railway station. 100 construction stages of running traffic, length: 8,5 km, 83 switches, EM/communication, civil structures	Deutsche Bahn AG Beschaffung TEC 5 Räpplenstr. 17, 70191 Stuttgart, Germany Dr. Stefan Kielbassa T:+49 (711) 93319-230	11/2010	03/2019	418 400	n.a.	Checking of tender documents, construction supervision
29	Cityrailway Karlsruhe, Germany (so called "combined solution")	Double track cityrailway tunnel, underground stations in cut & cover (south axis), length: 967 m Station Marktplatz: Length: 113 m, width: ~ 32 m, depth of excavation: ~ 16 m Station Ettlinger Tor: Length: 119 m, width: ~ 31 m, depth of excavation: ~ 18 m Station Kongresszentrum: Length: 104 m, width: ~ 25 m, depth of excavation: ~ 11 m Triangle junction: Length: 70 m, width: ~ 60 m, depth of excavation: ~ 16 m Tunnel Mühlburger Tor: Length: 79 m, width: ~ 12 m, depth of excavation: ~ 11 m Station Design	ARGE Stadtbahntunnel Federführung BeMo Tunnelling GmbH, Niederlassung West, Wahrbrink 10, 59368 Werne, Germany T: + 49/(0)2389 95390-0 F: + 49/(0)2389 95390-99 nlw@bemo.net Baustelle Stadtbahntunnel Karlsruhe, Abt. Tiefbau Kaiserstr. 72 – 74, 76132 Karlsruhe, Germany Dipl.-Ing. Andreas Diefenbach T: + 49/ (0)721 59 84 10-384 F: + 49/(0)721 598 410-58 andreas.diefenbach@arge-stadtbahntunnel.de	10/2010	2018	~ 1.500.000	295 000 000	detailed design for construction of civil works (temporary and permanent works design)

Selected References: Railways

No.	Title of Contract, Location	Brief Description of the project	Client, person to be contacted, adress, telephone number	Commencement of services	Completion of services	Total fee Geoconsult (in €)	Total construction costs (in €)	Services
30	Stuttgart 21, Wendligen-Ulm, PA 2.5a1, Reconstruction Mainstation Ulm, Germany	Reconstruction of rails of a major railway station. 100 construction stages of running traffic, length: 8,5 km, 83 switches, EM/communication, civil structures	Deutsche Bahn AG Beschaffung TEC 5 Räpplenstr. 17, 70191 Stuttgart, Germany Dr. Stefan Kielbassa T:+49 (711) 93319-230	10/2010	08/2012	43 010	n.a.	Checking of tender documents
31	HSR Graz- Klagenfurt, Section Deutschlandsberg-St. Andrä, Koralmtunnel, Lot KAT1, Austria	Two single-track railway tunnel, total length: 2x appr. 2800 m, cross section: app. 65-80 m^2, excavation in Quaternary and Neogene, sand, small rocks solidified sand, silt and siltstone in addition about 280 m in cut & cover, shallow overburden in various rock mass conditions manly in soft soil conditions, with backhoe excavation, loosening blasting, tunneling with pipes underneath the street and ponds at shallow overburden; Diameter: 9,1m	ÖBB-Infrastruktur AG Geschäftsbereich Neu- und Ausbau Europaplatz 2 / 1. Stock 8020 Graz, Austria Dipl.-Ing. Dietmar Schubel T: +43/(0)316/93000-6650	2009	2013	354 280	99 100 000	Construction Management
32	Stuttgart 21 Wendligen-Ulm, Stuttgart Germany	New highspeed railway section between the cities Stuttgart and Ulm, more than 30 km of tunnels (partly single track, partly twin track tunnels)	Deutsche Bahn AG Räpplenstraße 17 70191 Stuttgart Germany	2009	2012	97 000	n.a.	technical support and consulting for the client (DB) in the fields of planning, cost control and project management
33	NBS Ebensfeld - Erfurt, Lot VDE 8.1, Silberbergtunnel, Ilmkreis, Thuringia, Germany	Double track railway tunnel, length approx. 7.4 km, parallel pilot tunnel/escape tunnel and 8 emergency exits with total length of 4.4 km, maximum gradient 10%, conventional tunnel driving (NATM), cross sectional area approx. 180 m^2, maximum overburden 120 m	Ing.-Büro Dipl.-Ing. H. Vössing GmbH Ingenieurbüro für Bau- und Verkehrswesen Niederlassung Erfurt Brunnenstraße 29-31 40223 Düsseldorf, Germany Ulrich Schliebe T: +49/(361)/2108926	09/2009	03/2011	360 673	220 000 000	Construction supervision and engineering geological documentation
34	High Speed Railway Leipzig/Halle, Osterberg Tunnel Saxony – Anhalt, Germany	Two single track railway tunnels, length 2.1 km each, cross sectional area approx. 90 m^2, 4 emergency exits, conventional tunnel driving (NATM) in limestone, dolomite and marl with karst structures such as dolines; continual exploration for karst features using an Atlas Copco's MWD-System (Measurement While Drilling) and microgravity measurements; core drillings done in areas of doubt	Ing.-Büro Dipl.-Ing. H. Vössing GmbH Ingenieurbüro für Bau- und Verkehrswesen Brunnenstraße 29-31, 40223 Düsseldorf Germany Detlev Siever T: +49/(0)211/9054-720	2009	2011	150 000	120 000 000	Construction supervision and engineering geological documentation of the tunnel drives
35	HSR Ebensfeld-Erfurt, Nördlicher Thüringer Wald, Brandkopftunnel and Lohmebergtunell, Ilm Kreis, Thuringia, Germany	two single-track railwaytunnel Brandkopftunnel, length: 1.493 m, Lohmebergtunnel, length: 654 m , total length of section: ~ 2,2 km, 1 rescue adit (Brandkopftunnel), mined tunnel (NATM), cross section: up to 180 m^2; Brandkopftunnel, max. overburden: 120 m Lohmebergtunnel, max. overburden: 60 m	Ing.-Büro Dipl.-Ing. H. Vössing GmbH Ingenieurbüro für Bau- und Verkehrswesen Brunnenstraße 29-31, 40223 Düsseldorf, Germany Niederlassung Erfurt Ulrich Schliebe +49/361-210 8926	2009	2011	101 600	67 000 000	construction supervision and engineering geological mapping
36	Ferrocarril Transandino, Mendoza, Argentina/Los Andes, Chile	Approx. 200 km long railway line between Mendoza and Los Andes with an approx. 52 km long tunnel	PRODEN S.A. Argentina (Empresa del Holding Corporación América Av. Rivadavia 2057, 4º piso, departamento "B" CABA, Argentina At. Ing. Carlos Bautista, T: +54 11 5174 2106	02/2008	03/2009	223.128 USD 248.000	n.a.	Variant study and geological and hydrogeological mapping for the rehabilitation of a ap-prox. 200 km long railway line, detailed geological and hydrogeological mapping along the foreseen alignment of the tunnel (approx. 35 km² in alpine terrain between 2400 and 4000 m), geological mapping for different alignments (approx. 120 km^2)
37	New Railway Conection "Corredor Bioceánico del Aconcagua", Mendoza - Los Andes, Argentina - Chile	Feasibility Study and Geological-Hydrogeological mapping and interpretation of an approx. 250 km long railway line between Mendoza and Los Andes, featuring a 52 km long Base Tunnel with more than 2000 m overburgen and additional 30 shorter tunnels, provided for a Private Developer detailed geological and hydrogeological mapping along the foreseen alignment of the tunnel (approx. 35 km² in alpine terrain between 2400 and 4000 m), geological mapping for different alignments (approx. 120 km²)	Corporacion America Honduras 5663 C1414BNE Argentina, Buenos Aires Ing. Nicolás Posse T: +54 11 4852-6271 F: +54 11 4852-6718 nicolas.posse@corporacion-america.com	01/2008	03/2009	321 500	~2.600.000.000	Feasibility study and geological and hydrogeological mapping

Selected References: Railways

No.	Title of Contract, Location	Brief Description of the project	Client, person to be contacted, adress, telephone number	Commencement of services	Completion of services	Total fee Geoconsult (in €)	Total construction costs (in €)	Services
38	High Speed Railway Ebensfeld - Erfurt, BA 3320 Ilmenau, Tragberg Tunnel, Thuringia, Germany	Two track railway tunnel, length 500 m, conventional tunnel driving (NATM) with shallow overburden (max. 36 m) in volcanic rocks and clay and silt stone	Ing.-Büro Dipl.-Ing. H. Vössing GmbH Engineering office for civil engineering, building construction and traffic projects Brunnenstraße 29-31 40223 Düsseldorf, Germany Dipl.-Ing. Dieter Stephan T:+49/(211) 9054-722	2008	2009	50 000	n.a.	Construction supervision and engineering geological documentation
39	Northern Rail, Tunnel No.1, India	Construction of 1.80 Kms long tunnel on realign path and carrying out reprofiling work in balance length of existing Tunnel No. 1 including blanketing, earthwork & construction of side drain etc. in zone E-2 between Tunnel No. 1 Katra end to Road Over Bridge, Sambal on Udhampur – Katra section in connection with Udhampur-Srinagar-Baramulla-Rail- Link Project, Cross section: 63 m^2, NATM	Northern Railway CAO/Constructions Office Headquarters Office, Kashmere Gate Delhi - 110 006, India R. K. Gupta T: +91(0)11/2386	08/2007	2013	1 470 000	84 155 700 000	detail design for remedial measures
40	HSR Munich - Verona, Brenner Base Tunnel – Pilot Tunnel Tyrol, Austria	56 km long twin-tube railway tunnel, emergency tunnels, multi-function junctions, access tunnels and water diversion tunnel	Brenner Basistunnel BBT SE Grabenweg 3 6020 Innsbruck, Austria DI Heimo Krassnitzer T: +43 (512) 4030	2007	2010	48 364	n.a.	Taking accompanying geotechnical measurements (inclinometer) during the construction of the pilot civil works & tunnel in the Innsbruck Gorge
41	HSR Munich - Verona Northern Access Corridor, Section Kundl/Radfeld - Baumkirchen Lot H4-3 Tirol / Austria	New railway network with construction of civil works using traditional and specialized tunnelling and building methods; total lot length 2.6 km, length of rehabilitated and shifted line 2.0 km, maximum depth of the open cuts 17.5 m, approx. 750 m of pressure tunnelling us-ing extensive jet grouting enclosure in soft ground (fluvial deposits), cross-sectional area approx. 127 m^2; tunnelling under existing infrastructures,; very shallow overburden (minimum 3 m), groundwater level 2 m under the surface	ÖBB Infrastruktur Aktiengesellschaft Geschäftsbereich Unterinntal Karl-Kapferer Str. 5 6020 Innsbruck, Austria Mag. Christoph Sedlacek T: +43 (664) 8140076	2007	2008	503 700	104 000 000	Engineering geological documentation and consulting during the pressure tunnel drive
42	HSR Vienna - Salzburg Section Lainzer Tunnel Lot LT33 "Hofjagdstrasse" Vienna, Austria	railroadtunnel, double track, length of section: ~ 3,5 km, 5 emergency exits; emergency tunnel, accessible by emergency vehicles, shafts, construction method: NATM excavation cross section: 116 bis 137 m² overburden: 26 - 113 m; half of construction lot under high - density area	ÖBB Infrastructure AG - Business area Engineering Services OE Tunnelling Sparkassaplatz 6, 1150 Vienna, Austria Ing. Peter Ullrich T: +43/(1)/93000-45701 M: +43/(0)664 8217 084 peter.ullrich2@oebb.at	11/2006	08/2011	1 800 000	85 000 000	construction supervision
43	HSR Lahore - Rawalpindi Pakistan	feasibility study for a new high speed bullet train (250-300 Km/h) on double track between Lahore to Rawalpindi total length of section: 290 km	Pakistan Railways Headoffice Lahore Pakistan Mr. Aziz Ahmad T: +92/(42)/920-1625	2006	2009	40 000	n.a.	feasibility study, ground expertise, route selection analysis of different alternatives, geological & geotechnical investigations, hydrology, initial environmental examination traffic survey, economic & financial analysis
44	HSR Munich - Verona Northern Access Corridor, Section Kundl/Radfeld - Baumkirchen Tunnel Fritzens, Lot H7 Tirol / Austria	New railway network with construction of civil works using traditional and specialized tun-nelling and building methods; total lot length 5.3 km; open cut approx. 1 km; cut & cover under pressure, approx. 2.4 km; trenched and overland lines approx. 1.5 km; approx. 430 m of pressure tunnelling using extensive jet grouting enclosure in soft ground (fluvial and glacial deposits), cross sectional area approx. 125 m^2; tunnelling under existing infra-structures; very shallow overburden of 5-6m; groundwater level 2m under the surface	ÖBB Infrastruktur Aktiengesellschaft Geschäftsbereich Unterinntal Karl-Kapferer Str. 5 6020 Innsbruck, Austria Mag. Christoph Sedlacek T: +43 (664) 8140076	2006	2008	593 400	187 000 000	Engineering geological documentation and consulting during the pressure tunnelling and cut & cover drives

Selected References: Railways

No.	Title of Contract, Location	Brief Description of the project	Client, person to be contacted, adress, telephone number	Commencement of services	Completion of services	Total fee Geoconsult (in €)	Total construction costs (in €)	Services
45	Nouvelle Liaison Ferroviaire Lyon - Torino France / Italy	railway tunnel system total length of section: ~ 70 km Tunnel de Base, length: ~ 53 km, double tube single track system, excavation by TBM, outer dia: ~ 10 m Viadukt Val Cheniscia, length: ~ 1.000 m Tunnel de Bussoleno, length: ~ 12 km 4 access tunnels, crossway every 400 m excavation cross section: 80 m² very high overburden (up to 2.200 m)	Lyon Turin Ferroviaire SAS 1091 avenue de la Boisse F-73026 Chambery France Mrs. Pascale Gassan pascale.gassan@ltf-sas.com T: +33/(479)/685650/64	04/2005	11/2007	1 400 000	~ 7.600.000.000 (est.)	preliminary design environmental impact study tender design (Italian part)
46	HSR Munich - Verona Northern Access Corridor, Section Kundl/Radfeld - Baumkirchen Tunnel Fritzens, Lot H7 Tirol / Austria	Double track railway tunnel, Total length of construction lot: approx. 5.3 km, Tunnel length of mined tunnel with jet grouting and compressed air: 430 m, Tunnel in top-down construction with roof slab and piles under compressed air: 2.410 m, excavation by NATM, cut & cover: 1.130 m, Trough structures: 594 m, Emergency shafts in C&C: 7 structures, Railway bridges: 5 structures, Various relocations of roads for construction, and new road constructions, noice protection walls	ÖBB Infrastruktur Aktiengesellschaft Bau Geschäftsbereich Unterinntal Industriestr. 1 6134 Vomp, Austria Dipl.-Ing. Dr. Arnold Fink T: +43/(0)512/93000 8621-503 F: +43/(0)512/93000 8621-111 M: +43/(0)664 5080 316 arnold.fink@oebb.at	02/2005	06/2011	4 940 000	187 000 000	site supervision contract management
47	HSR Munich - Verona Brenner Base Tunnel Austria / Italy	Railway tunnel - twin tube single track system, emergency tunnel, 3 multipurpose facilities (MFS), access tunnels and dewatering/pilot tunnel, caverns Total length of tunnel: ~ 62.7 km incl. bypass tunnel main tunnel: ~ 55 km each tube Cross section: 64 - 67 m² (NATM), 97 m² (MFS), 79 m² (TBM), TBM-drive: Ø 10 m maximum overburden: ~1.850 m, average overburden: ~ 870 m dewatering/pilot tunnel (TBM/NATM): Total length: ~ 56.3 km, cross section: 30 m², external diameter TBM-drive: Ø 6.10 m 11,5 km access tunnel (NATM), cross section: 72 - 110 m², 2 Caverns: cross section: 230 m² each, Volume: 46.000 m³ each Bridge: ~ 40 m; Bridge construction on the slope: 2 x ~ 50 m	Brenner Basistunnel BBT SE Grabenweg 3 6020 Innsbruck, Austria Dr. Walter Eckbauer T: +43/(0)512/4030-0	12/2004	04/2009	3 611 790	~ 9.700.000.000 (est.)	Preliminary design, management of project, planning of structures (Austr. part), maintenance concept, geomechanical concept (Austr. part), safety and health protection plan, document management system (DMS) --- Environmental impact investigations and technical planning in the Innsbruck Portal area: planning of 3 investigation campaigns (drillings, trenching, geophysics, inclinometer meas-urements); geological, hydrogeological and engineering geological mapping; mass movements mapping; planning and execution of a water-rights monitoring programme in and around the City of Innsbruck; long-term pumping tests to simulate ground water drawdown; construction of an instationary groundwater model; compilation of environmental impact, water-rights, railway law and technical tunnel reports for the Innsbruck Portal area, contribution to and compilation of environmental impact, water-rights, railway law and technical tunnel reports for the whole tunnel works
48	Railway Line, Tel Aviv - Jerusalem, Binyanei HaUma Rail Station, Israel	Terminal station on the future high-speed railway Tel Aviv to Jerusalem near Binyanei HaUma Convention Center adjacent to the Jerusalem Central Bus Station and the Jerusalem Red Line LRT. The station will be mostly underground, 60–80 m deep with 4 levels. The station's total floor area is 26,000 m² and the length of the platforms is 300m. Concourse and Ventilation Tunnels, length: 180 m, cross section: 28 - 150 m^2, Construction method: NATM. The station is set to serve as a shelter in case of a conventional, biological or chemical attack, being able to provide refuge for 5,000 people.	YSS Yaron Shimoni Shacham Consulting Engineers Ltd. Hamasger 38 St., P.O.Box 57047 Tel Aviv 61570, Israel T: +972 (3) 537 4844 F: +972 (3) 537 4065 Mail: office@yss.co.il Eng. Dani Shacham, CEO Mail: shacham@yss.co.il	03/2004	2018	80 000	93 500 000	Review and Approval of detail design, tender and ventilation concept

Selected References: Railways

No.	Title of Contract, Location	Brief Description of the project	Client, person to be contacted, adress, telephone number	Commencement of services	Completion of services	Total fee Geoconsult (in €)	Total construction costs (in €)	Services
49	Pir Panjal Railway Tunnel T80, Jammu & Kashmir, India	Single track railway tunnel with accessible concomitant route in difficult geotechnical conditions (approx. 2 km of soil, up to 1 km of overburden in the central area with rock bursts, karst structures accompanied by water inflow) total length: 10.960 m, cross section: 70 – 95 m² overburden: 5 – 1.100 m, access tunnel: 55 m construstion method: NATM	IRCON International Ltd. (A. Govt. of India undertaking) Ministry of Railways Plot No. C-4, District Centre, Saket, 110 017 New Dehli, India Mr. Anand Prakash T: +91/095 9675 8578 T: +91/01912100205 T: +91/0191 2484 859/812	01/2004	08/2013	13 644 550	161 935 251	Tender design and documents, detailed design, construction supervision Engineering geological mapping; analysis and planning for further ground investigations
50	HSR Koralmbahn Graz – Klagenfurt, Section Feldkirchen - Wettmannstätten C&C-Tunnel Weitendorf Object FW12, Styria, Austria	Double track Railway-tunnel cut & cover rectangular cross-section, total length = 1.275 m New Highspeed Railway Line with Bridges and C&C Sections Double track railway tunnel comprising a 475 m long trough structure and 800 m long cut & cover tunnel (crossing below the A2 motorway) Trough structure: 475 m. Tunnel length: 800 m cut and cover Tunnel, open cut shotcrete walls with soil nails, anchored sheet pile cut off walls, secant pile wall (maximum excavation depth 16 m) app. 60m Length with more than 15 m depth	ÖBB - Infrastructur Bau AG ES - Brückenbau und konstruktiver Ingenieurbau Vivenotgasse 10, 1120 Vienna, Austria Dipl.-Ing. Iris Vock Project Manager T: +43/(0)1 93000-45908 F: +43/(0)1 93000-45995 E-mail: iris.vock@oebb.at	2004	2010	49 546	16.500.000	Accredited checker Tender and detail design: Checking of preliminary design, tender documents and tender design as well as detaild project.
51	New Metro Rail City Project Contract 27/03 Perth / Australia	inner city works for southern suburbs railway, 800m twin tube bored tunnel (EPB shield machine), 1.5km cut & cover tunnel, 2 underground stations: c&c, top down method	Leighton Kumagai JV 1 Altona Street WA 6005 West Perth Australia Mr. Robert Wallwork T: +61(8)9327-6376	2004	2007	2 200 000	275.492.000 ('s$ 420.000.000)	design of ground treatment including deep soil mixing and jet grouting detail design of compensation grouting underneath buildings including auxiliary shaft detail design of groundwater control system including dewatering and recharging wells detail design of the TBM launching shaft consulting related to bored tunnelling under live railway station geotechnical interpretative report ground settlement analysis and damage assessment building protection measures instrumentation and monitoring risk assessments
52	HSR Koralmbahn, Section Wettmannstätten - St. Andrä, flyover Zeierlingerstraße Object WA10, Styria, Austria	Double lane road bridge as arch bridge across double track Railway, Span L=32 m in the course of New Highspeed Railway with Bridges and Railwaytunnels mined and C&C Bridge Type: Steel Arch Suspension Bridge Decklength: app. 33,20 m – concrete slab suspended at crossbeams HEM 240, embedded in concrete Arch Span: 30,28 m – Steel Arch Steel-Arch Structural Analysis according to Theory II.Order; Calculation with Finite-Element-Methods	ÖBB - Infrastructur Bau AG ES - Brückenbau und konstruktiver Ingenieurbau Vivenotgasse 10, 1120 Wien Tel.+43/1 93000-75913 E-mail: markus.vill@bau.oebb.at Dipl.-Ing. Dr.techn. Markus Vill Project Manager	12/2003	12/2010	51 547	~ 1.500.000	Feasibility Study, preliminary design, design for approval by the authorities, tender design, detailed project
53	Lowari Railway Tunnel Chitral, Pakistan	8.5 km long railway tunnel, 2 road tunnels (total length approx. 1.4 km), approx. 14 km of access roads in very difficult terrain including construction of several bridges, retaining walls and measures against rock fall and avalanches. Data for tunnel: excavation cross section: 43 – 100 m² overburden: up to 1250 m, construction method: NATM	National Highway Authority 27 Mauve Area, G-9/1 Islamabad, Pakistan T: +92/(51) 9260 417 F: +92/(51) 9260 417 info@nha.gov.pk Zulfiqar Ali Janjua (R) General Manager (LTP), Lt. Col. T: +92/(51) 9032 618 F: +92/(51) 9106 245 M: +92/(333) 563 9622 zajanjua62@gmail.com ltpnha@gmailcom	05/2003	ongoing	14 000 000	180 000 000	Preliminary Design, environmental impact study, tender design and documents, detailed design, construction supervision --- Engineering geological documentation of the tunnel drives, overland corridors and founda-tions; assessment of the rock fall and avalanche hazards; search for dumping area of tunnel muck

GEOCONSULT

Selected References: Railways

No.	Title of Contract, Location	Brief Description of the project	Client, person to be contacted, adress, telephone number	Commencement of services	Completion of services	Total fee Geoconsult (in €)	Total construction costs (in €)	Services
54	HSR Munich - Verona Northern Access Corridor, track system and mass spring system Austria	42 km railway section including more than 30 km tunnel section. Preliminary design, tender documents, tender evaluation and detail design for mass spring system and track system	ÖBB Infrastruktur Aktiengesellschaft Brenner Eisenbahn Gesellschaft Industriestrasse 1 6134 Vomp, Austria Dipl. Ing. Dr. Arnold Fink Dipl.Ing. Michael Saischek T: +43/512/93000/8621 503	2002	2012	3 480 000	256 000 000	preliminary design tender design and documents detailed design
55	HSR Munich - Verona Northern Access Corridor, Section Kundl/Radfeld - Baumkirchen Lot H4-3 Tyrol / Austria	New railway network with construction of civil works using traditional and specialized tunnelling and building methods; total lot length 2,6 km; length of rehabilitated and shifted line 2,0 km; maximum depth of the open cuts 17,5 m; circa 750 m of pressure tunnelling using extensive jet grouting enclosure in soft ground (fluvial deposits), cross-sectional area circa 127m^2; tunnelling under existing infrastructures; very shallow overburden (to 3 m below surface); groundwater level 2 m under the surface	ÖBB Infrastruktur Aktiengesellschaft Bau Geschäftsbereich Unterinntal Industriestr. 1 6134 Vomp, Austria Dipl.-Ing. Dr. Arnold Fink T: +43/(0)512/93000 8621-503 F: +43/(0)512/93000 8621-111 M: +43/(0)664 5080 316 arnold.fink@oebb.at	2002	06/2010	817.000,-	104 000 000	preliminary design (partly) 2006/2007 tender design and documents 2002 bis 11/2004 detailed design 05/2005 bis 06/2010
56	New Railway Construction Line Munich - Verona Brenner Northern Access Corridor, Tunnel Wiesing - Jenbach and Tunnel Stans - Terfens Lot H4, cut & cover Austria	railwaytunnel, length: 4,2 km in cut & cover method, partly in box and vault	ÖBB Infrastruktur Aktiengesellschaft Bau Geschäftsbereich Unterinntal Industriestr. 1 6134 Vomp, Austria Dipl.-Ing. Dr. Arnold Fink T: +43/(0)512/93000 8621-503 F: +43/(0)512/93000 8621-111 M: +43/(0)664 5080 316 arnold.fink@oebb.at	2002	2005	1 260 000	270 000 000	preliminary design tender design and documents detailed design
57	HSR Wien - Salzburg, Lainzer Tunnel, Lot LT33 "Wildschweintunnel" Vienna, Austria	Twin track railroad tunnel, 2870 m bored tunnel, excavated cross section upt to 110 m2, excavation from shaft Hofjagdgasse NAV11, rock tunnel and soft ground tunnel with ground water treatment within the city of Vienna, break through with LT31	ÖBB - Projektleitung Süd/Lainzer Tunnel Sparkassaplatz 6 1150 Vienna, Austria T:+43 (1) 8957769-1469 Dipl.-Ing Michael Emberger michael.emberger@oebb.at	2001	12/2012	1.128.010,29 (tender design) 1.991.538,97 (detailed design)	90 000 000	general project tender design tender evaluation detailed design
58	S16 Arlberg Motorway and railway tunnel rescue and emergency tunnel Austria	rescue and emergency tunnel system for the ~ 13 km long road and ~ 10 km long railway tunnel total length of tunnel: ~ 2800 m, cross section: gallery: 30 – 60 m², caverns: 180 m²; shafts: 150 m², shaft size: 25 – 40 m, overburden: ~ 690 m	ASFiNAG - Baumanagement GmbH former Alpenstraßen AG - Design / Building Rennweg 10 a, 6020 Innsbruck, Austria Dipl.-Ing. Otmar Alber T: +43/(0)50108-14481	10/2001	09/2008	350 109	~ 47.000.000	preliminary design tender design and preparation of tender documents detailed design
59	HSR Munich - Verona Northern Access Corridor Tunnel Stans - Terfens, Lot H6 Austria	length of construction lot: ~ 2.000 m; length of tunnel : 1.330 m; cut&cover method, Galery: 230 m Excavation pit, Length: 1.100 m with deep up to appr. 15 m, Type: shotecrete walls	ÖBB Infrastruktur Aktiengesellschaft Business area Unterinntal former Brenner Eisenbahn Gesellschaft Industriestrasse 1 6134 Vomp, Austria Dipl. Ing. Dr. Arnold Fink T: +43/(0)5242/71481	2001	2007	140 000	14 900 000	preliminary design tender design and documents detailed design
60	HSR Vienna - Salzburg Vienna Western Access Lainzer Tunnel Construction lots: 21, 22, 23, 24, 25 Austria	high speed railway section: 3,58 km * tunnel cut&cover: 970 m * tunnel open coverage type LT-west: 810 m * mined tunnel LT-22 (Bierhäuslberg): 2 single track running tunnel: 945 m / 795 m low overburden: app. 8 m cross section: 89 - 100 m²	ÖBB Infrastruktur Bau AG former HL-AG Vivenotgasse 10, 1120 Vienna Austria Dipl.-Ing. Thomas Buismann T: +43/(1)93000-45855	2000	2006	2 800 000	261 000 000	Construction management
61	HSR Taipei - Kaoshiung Construction Lot 230 Taiwan	high speed railway section 23,6 km incl. 8 tunnels - total length: 6,2 km cross section: 145 m², 7,7 km of viaducts and bridges	Hyundai-Chung Lin Joint Venture P.O.Box 58, Tonghsiao Post Office Miaoli County, Taiwan, ROC Mr. Yung Kim T: +886/(37)/783999	2000	2003	1 067 000	127 000 000	detailed design

GEOCONSULT

Selected References: Railways

No.	Title of Contract, Location	Brief Description of the project	Client, person to be contacted, adress, telephone number	Commencement of services	Completion of services	Total fee Geoconsult (in €)	Total construction costs (in €)	Services
62	HSR Taipei - Kaoshiung Construction Lot 240 Taiwan	high speed railway section 20,8 km incl. 7 tunnels - total length: 6 km cross section: 145 m², 4,1 km of viaducts and bridges	Hyundai-Chung Lin Joint Venture P.O.Box 58, Tonghsiao Post Office Miaoli County, Taiwan, ROC Mr. Yung Kim T: +886/(37)/783999	2000	2003	1 003 000	123 000 000	tender design and documents detailed design construction supervision
63	HSR Taipei - Kaoshiung Construction Lot 260 Taiwan	high speed railway - total length of lot 36,2 km 7 tunnels: 6 short tunnels - total length: 1.850 m 1 long tunnel with a length of 7.350 m cross section: 133 - 150 m², overburden: 3 - 90 m 24 km viaducts and bridges	Taiwan High Speed Rail Consortium Moh & Associates JV Bilfinger + Berger Continental Taiwan	2000	2003	257 979	460 000 000	independent checking engineer during construction
64	HSR Ebenfeld - Erfurt section Erfurt - Illmenau Tunnel Sandberg Germany	double track Railwaytunnel total length: 1300 m, mined tunnel, cross section: 120 m² overburden: up to 50 m, 1 escape gallery: length: ~103 m	ARGE Sandbergtunnel, c/o Walter Bau AG vereinigt mit Dywidag Ingenieurbau Direktion München Dywidagstraße 1 D-85609 Aschheim Deutschland Dipl.-Ing. Joachim Karg T: +49/(89)/9255-0	2000	2001	107 000	19 200 000	construction supervision geotechnics
65	HSR Graz - Klagenfurt Koralmtunnel Austria	double tube single track system, 2 x ~32,8 km. cross adits every 500 m, 2 ventilation buildings and emergency stop, pilot project, high overburden: up to 1.250 m excavation by TBM: outside Ø 9,8 m NATM: cross section ~80 m² cut&cover: east ~300m / west ~190 m	ÖBB-Infrastruktur AG Geschäftsbereich Neu- und Ausbau Europaplatz 2 / 1. Stock 8020 Graz, Austria Dipl.-Ing. Dietmar Schubel T: +43/(0)316/93000-6650	1999	2023	14 500 000	~ 1.100.000.000	pilot tunnel and main tunnel: preliminary design tender design and documents detailed design geotechnical construction supervision
66	HSR Graz - Klagenfurt Koralmtunnel, Construction Lot Exploratory tunnels and shafts system, Austria	Exploratory tunnel and shaft system for the Koralm railway tunnel project Pilot tunnel Mitterpichling (B1260): length: 2.994,7 m; cross section: ~ 45 m^2 (top heading for the future cross section of main tunnel) Pilot tunnel Paierdorf (B1258): length: 4.716,4 m; cross section: ~ 45 m^2 (top heading for the future cross section of main tunnel) Pilot shaft Paierdorf (B1259): depth: 125 m, Ø 9,0 m Pilot tunnel Leibenfeld (B1257): length: 1.719,7 m; cross section: ~ 25 m^2 - 80 m^2 Access shaft Leibenfeld: depth: 60 m, Ø 9,0 m	ÖBB-Infrastruktur AG Geschäftsbereich Neu- und Ausbau Europaplatz 2 / 1. Stock 8020 Graz, Austria Dipl.-Ing. Dietmar Schubel T: +43/(0)316/93000-6650	1999	2012	2 909 870	~ 1.100.000.000	geotechnical construction supervision, construction management
67	HSR Vienna Salzburg Section St.Pölten - Tulln Tunnel chain Perschlingtal Austria	3 railway tunnels (two tracks), total length: 7.250 km Reiserbergtunnel - 1.340 m Stierschweiffeltunnel - 3.300 m Raingrubentunnel - 2.610 m excavation by TBM: Ø: 13 m tunnels/shafts for safety reasons every 500 m shallow overburden: max. height ~45 m	ÖBB Infrastruktur AG - Business area Engineering Services OE Tunnelling Sparkassaplatz 6, 1150 Vienna, Austria Dipl.-Ing. Oskar Obermeier T: +43/(1)/895-7769	1999	2003	180 000	~ 145.300.000	preliminary geological/geotechnical services submission project tender design
68	New Railway Construction Line Munich - Verona, Northern Access Corridor, Tunnel Stans-Terfens Lot H2, Lot H3, Lot H4, Lot H5, Austria	total length of section: ~ 20 km including 12,8 km mined tunnels (~ 3,4 km shield, ~ 1,2 km under compressed air, ~ 8,2 km NATM) and ~ 5 km cut & cover section	ÖBB Infrastruktur Aktiengesellschaft Business area Unterinntal former Brenner Eisenbahn Gesellschaft Industriestrasse 1 6134 Vomp, Austria Dipl. Ing. Dr. Arnold Fink T: +43/(0)5242/71481	1998	2010	2 600 000	720.000.000 H2-2: ~ 90.000.000 H3-6: 13.800.000 H4-2: 270.000.000 H4-3: 104.000.000 H5 + H5V: 206.000.000 H7: 187.000.000 H8: ~ 31.000.000	preliminary design, tender design and documents, detailed design, geotechnical engineering at site

Selected References: Railways

No.	Title of Contract, Location	Brief Description of the project	Client, person to be contacted, adress, telephone number	Commencement of services	Completion of services	Total fee Geoconsult (in €)	Total construction costs (in €)	Services
69	New Railway Construction Line Munich - Verona, Northern Access Corridor, Section Kundl/Radfled - Baumkirchen, Tunnel Stans - Terfens Lot H5 and H5V, Austria	Double / triple track railway tunnel expecially in cut & cover, mined method and in top-down method with parallel rescue tunnel Main tunnel, total tunnel length: 8.480 m; mined tunnel section: 8.250 m including 500 m section under compressed air, Tunnel length in cut & cover: 100 m. Tunnel length in top-down method: 130 m. Cross sectional area: 130 m^2 (double track) and 190 m^2 (three tracks). Construction method: NATM, Overburden: up to 300 m Pilot tunnel. Length: 5.760 m, 70 m in cut & cover method, cross sectional area: 30 m^2; Construction method: NATM	ÖBB Infrastruktur Aktiengesellschaft Karl-Kapferer-Str. 5 6020 Innsbruck, Austria T: +43/(0)512 5309-0 F: +43/(0)512 576887 Dipl.-Ing. Dr. Arnold Fink ÖBB Infrastruktur AG, Business area Unterinntal former Brenner Eisenbahn Gesellschaft Industriestr. 1, 6134 Vomp, Austria T: +43/(0)512/93000 8621-503 F: +43/(0)512/93000 8621-111 M: +43/(0)664 5080 316 arnold.fink@oebb.at	01/1998	08/2009	~ 2.900.000 (preliminary, tender and detailed design) 1.130.000 (geotechnics)	~ 206.000.000 (Maintunnel: € ~ 165 Mio. Pilottunnels: Fiecht: € 14 Mio., Vomp: € 27 Mio.)	Preliminary design, tender design, detailed design, geotechnical engineer on site
70	HSR Cologne - Frankfurt Construction Lot B Tunnel Deesener Wald Germany	double track high-speed railway tunnel length: 1270 m, cut&cover sections: 164 m (north 124 m/south 40m), mined tunnel: 1.106 m (NATM), cross section: up to 150 m^2. 1 emergency exit shaft with adit to the main tunnel, diameter: 8 m, shaft excavation, cross section: 68 m^2. shaft depth: 28 m, ventilation cavern: 350 m^2	ARGE KDD - Arge Kutscheid Dernbach/Deesen (KDD), branch office Rheinstraße 28, D-56428 Dernbach Deutschland Dipl.-Ing. Manfred Bauer c/o Hinteregger T: +49/(2602)/1599-57 T: +43/(0)662/88980	1997	2001	661 000	33 000 000	detailed design and documents, construction supervision, geotechnical engineer on site
71	City Railway Bochum Construction lot E1 - station Rathaus Süd Germany	total length of lot: 860 m, single track mined running tunnels length: 1.360 m, mined method, cross section: 38 - 87 m^2 additional measures: ground freezing statiom - roof slab construction: ~110 m	Dyckerhoff & Widmann AG Schederhofstr. 2 45145 Essen Germany Dipl.-Ing. Altenscheid T:+49/(201)/1001	1997	2001	392 000	~ 28.000.000	tender design and documents
72	HSR Cologne - Frankfurt Construction Lot B Tunnel Dernbach Germany	high-speed railway tunnel, double track running tunnel total length: 3.305 m incl. 920 m long cut & cover section, mined section (NATM) with cross section: up to 150 m^2 3 emergency exit shafts with adit to the main tunnel shaft cross section: 68 m^2,shaft depth: 20-50 m	ARGE KDD - Arge Kutscheid Dernbach/Deesen (KDD), branch office Rheinstraße 28, D-56428 Dernbach Deutschland Dipl.-Ing. Manfred Bauer c/o Hinteregger T: +49/(0)2602/1599-57 T: +43/(0)662/8898-0	1997	2000	1 185 000	87 000 000	detailed design and documents, construction supervision; geotechnical engineer on site
73	HSR Vienna – Salzburg Section St.Valentin - Amstetten, Siebergtunnel Austria	twin tracked railway tunnel, length: 6,48 km construction methods: cut&cover: 116 m dop down method: 1.260 m, foundation pile box: 96 m drill&blast drive (NATM): 5.008 m, cross section: 119 - 138 m^2. overburden: 9 – 50 m 2 intermediate attacks, 3 shafts for emergency	ÖBB Infrastruktur AG - Business area Engineering Services OE Tunnelling Sparkassaplatz 6, 1150 Vienna Austria, Dipl.-Ing. Dr. Georg-Maria Vavrovsky T: +43/(1)895/7769	1996	2001	360 000	95 000 000	construction supervision, geotechnical engineer on site
74	HSR Vienna - Salzburg, Section bypass Melk, Austria	6,4 km HSR section incl. 2 tunnels length Tunnel Wachberg: 1,0 km, length Tunnel Melk: 1,8 km construction method: NATM, excavation cross section: 100 - 120 m^2, cut&cover: 80m, lid section: 72 m	ÖBB Infrastructure AG - Business area Engineering Services OE Tunnelbau Griesgasse 11/II, 8020 Graz, Austria, Dipl.-Ing. Oskar Obermeier T: +43/(1)93000-45760	1996	2000	2 400 000	40 000 000	construction supervision
75	HSR Vienna - Salzburg section Lainzer Tunnel / Wienerwald Tunnel construction lots: LT22, LT26 (= WT2) LT31, LT32, LT33, LT44 Austria	double-track railway tunnels total length: ~ 12,8 km; cross section: 100 m^2 length of construction lots: LT22: 945 m, LT26: 1.717 m, LT31: 1.813 m, LT32: 1.237 m, LT33: 3.481 m, LT44: 945 m	ÖBB Infrastruktur AG - Business area Engineering Services OE Tunnelling Sparkassaplatz 6, 1150 Vienna, Austria Dipl. Ing. Herbert Muchsel T: +43/(1)8957769-0	1995	2011	4 645 000	1 300 000 000	approval for railways: all construction lots tender design: LT22, LT 31, LT32, LT33, LT34, LT44 detailed design: LT22, LT26, LT31, LT33, LT34

GEOCONSULT

Selected References: Railways

No.	Title of Contract, Location	Brief Description of the project	Client, person to be contacted, adress, telephone number	Commencement of services	Completion of services	Total fee Geoconsult (in €)	Total construction costs (in €)	Services
76	HSR Vienna - Graz, Semmering Tunnel, Austria	high speed railway section with a 22,2 km long twin track rail tunnel (Semmering Tunnel 19,2 km / Schaftkogel Tunnel 1,7 km), cross section: 96-117 m²	ÖBB Infrastruktur AG former HL-AG Business area Engineering Services OE Tunnelling Sparkassaplatz 6, 1150 Vienna, Austria, Dipl.-Ing. Franz Bauer T: +43/(1)/895-7769	1994	2001	1 671 000	~ 1.100.000.000	preliminary design tender design and documents for main tunnel and pilottunnel detailed design for pilottunnel
77	Zammertunnel, Zams - Landeck, Tyrol, Austria	Railway tunnel, total tunnel : 2.334.76 m Mined tunnel excavation length: 2.102,06 m Length of Cut & Cover tunnel West: 96m Length of Cut & Cover tunnel East: 122m Advance in soft rock West: 270,5 m Advance in hard rock East: 1.831.56 m Excavation area in soft rock: 117.57 m Excavation area in hard rock: 98.1 m Total excavation volume in hard rock: appr. 230,000 m^3, construction method: NATM	ÖBB Österreichische Bundesbahnen Planung und Engineering Mokrystrasse 1 6700 Bludenz, Austria Mag. Karl Hartleitner T: +43 (5552) 6111-450	09/1994	08/1995	240 000	40 000 000	Engineering documentation, construction supervision