

Transportation Tunnels - Road & Highway

No.	Project	Client	Type of Work	Contract Value (EUR)	Work Period	Job Description
1	Niayesh Tunnel Teheran / Iran	Tehran Municipality, Civil & Engineering Organization	Construction supervision Expert Services	503,000	2009 - 2012	Niayesh Tunnel project section is 3.2 km long and includes two unidirectional 3lane Tunnel tubes with emergency lanes. The length of the north Tunnel is 2,660 m and the south Tunnel is 2,610 m. They have a cross section of 196 m ² and will be excavated by NATM (New Austrian Tunneling Method). Intersection caverns derive sizes up to 455 m ² . Geology is characterized by medium to high cemented sandy gravel to gravelly sand of the Tehran Alluvium. The project includes also structures as follows: 5 cross passages, ramps, intersections, ventilation building and control station.
2	Niayesh Tunnel Teheran / Iran	Tehran Municipality, Civil & Engineering Organization	Design Supervision	1,029,536	2010 – 2011	Niayesh Tunnel project section is 3.2 km long and includes two unidirectional 3lane Tunnel tubes with emergency lanes. The length of the north Tunnel is 2,660 m and the south Tunnel is 2,610 m. They have a cross section of 196 m ² and will be excavated by NATM (New Austrian Tunneling Method). Intersection caverns derive sizes up to 455 m ² . Geology is characterized by medium to high cemented sandy gravel to gravelly sand of the Tehran Alluvium. The project includes also structures as follows: 5 cross passages, ramps, intersections, ventilation building and control station.
3	Amir Kabir Tunnel Teheran / Iran	Tehran Municipality, Civil & Engineering Organization	Construction supervision Expert Services	724,712	2009 - 2012	The tunnel is located in the south of Shohada Square in Tehran alongside Amin Hozur underground passage. This tunnel will connect the Tehran highway traffic with the city center and Bazaar of Tehran. According to project requirements, the project is constructed using two different construction techniques: (1) cut-and-cover system; and (2) mined underground system. The total length of the project is about 2935 m. Using the cut-and-cover system, 1457 m are constructed; and using the mined underground system 1478 m is constructed.
4	Amir Kabir Tunnel Teheran / Iran	Tehran Municipality, Civil & Engineering Organization	Design Expert Services	979,848	2009 - 2012	The tunnel is located in the south of Shohada Square in Tehran alongside Amin Hozur underground passage. This tunnel will connect the Tehran highway traffic with the city center and Bazaar of Tehran. According to project requirements, the project is constructed using two different construction techniques: (1) cut-and-cover system; and (2) mined underground system. The total length of the project is about 2935 m. Using the cut-and-cover system, 1457 m are constructed; and using the mined underground system 1478 m is constructed.
5	A5 Motorway North Poysbrunn – Drasenhofen Vienna / Austria	Asfinag Bau Management GmbH Vienna / Austria	Expert Services	56,965	2010	Building-Economical Advisory Services in the sector of road construction for a functional bid. Consultation with the development of a concrete remuneration
6	A9 Motorway Pyhrn – Bosrucktunnel Austria	Asfinag Bau Management GmbH Vienna / Austria	Design and Construction Supervision Expert Services	330,395	2008 - 2014	Project contains construction of second tube motorway tunnel including bridge construction works of section south and north as well as rehabilitation of existing tunnel. 2 nd tube of Bosruck tunnel will run west of existing tube east and west of accompanying gallery. There are water sensitive, swell able as well as squeezing rock properties.

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7	Motorway Tunnels of M6 Pecs / Hungary	Allagútterv Kft. Budapest	Design and Construction Supervision, Independent Checking Engineer	256,700	2006 - 2010	Motorway M6 should connect Budapest with Croatia along river Danube. Tunnel is to be built near to Pecs. This chain has 4 X 2 Tunnels with lengths between 422 m and 1,356 m all in clay and loess. Excavation diameter is about 110 m ² .
8	Highway Bogota - Villavicencio Tunnel Section Colombia	Coviandes S.A Concesionari a Vial de Los Andes Bogota / Colombia	Final Tender Design, Construction Supervision Expert Services	750,000	2001 - 2008	Final Design for tunnels and portals for El Tablón – Puente Tellez; Puente Quetame; Quebrada Naranjal – Quebrada Blanca y Guayabetal on highway Bogotá – Villavicencio. Sector 1 includes 3 different tunnels and 6 portals with lengths between 290 and 520 m. The four sectors include 14 tunnels. Technical details: - Area (with invert) = 100.75 m ² - Area (without invert) : 87.44 m ² Services included Ventilation Concepts, Specifications, Electrical/ Mechanical Design, Safety and Risk Management
9	Highway S1 Danube River Crossing, Tunnel "Donau-Lobau" Vienna / Austria	Asfinag Bau Management GmbH Vienna / Austria	Preliminary & Tender Design Expert Services	534,000	2011	In the course of construction of section S1 Schwechat – Süßenbrunn the River Danube and the National Park "Donauauen" is under crossed with the new twin-tube road tunnel "Danube-Lobau". Then tunnel has a length of 7,729 m and is divided in a section excavated by TBM (length: 5,979 m) and an open cut section of 1,749 m length. The TBM tunnel has a diameter of 15 m. The tunnel runs through gravel, sands as well as through silt-clayey formations. The construction water level southern of river Danube is nearly at top ground surface and in the north approx. 2.0 m under top ground surface. The driving in mining method is carried out with a max. Ground water level of approx. 55 m above tunnel floor. Due to low covering and undercutting of some buildings and rivers, a drive with TBM with little settlements is intended.
10	Motor Highway No.1 Jammu, Kashmir/ India	Louis Berger Group, Inc Kashmir/ India	Studies Design Specifications, Expert Services	257,000	2007	Study, preliminary and tender design for 8 NATM highway tunnels including 1 tunnel of 9 km length, total tunnel length 13 km, bi-directional single tube tunnels in Himalaya environment. Study for tunnel locations, definition of possible tunnels and alignments. Comparison studies for Patnitop range crossing, 5 variants of alignment, tunnels of 1 km to 9 km length. Preliminary and tender design for 7 short tunnels (max. 1 km length) recommendation for project management and detailed design requirements. Preliminary and tender design for Patnitop tunnels, 9 km bidirectional tunnel of 170 m ² , 1000 m overburden in Himalaya tectonically influenced geological conditions.
11	Highway S1 Danube River Crossing, Tunnel "Donau-Lobau" Vienna / Austria	Asfinag Bau Management GmbH Vienna / Austria	Detailed Design Expert Services	180,000	2007 - 2011	Motorway tunnel crossing river Danube with high grade ring road system in Veina. 2 tubes with 3 lanes each with a total length of 6.7 km. Working in consortium (25%)
12	Wuhan Yangtse River Tunnel Project Wuhan / PR China	China Railway Tunnel Group JV Wuhan / PR China	Technical Assistance Expert Services	94,500	2003 - 2008	Tunnel is located between 1st and 2nd Yangtse Bridge. 2 TBM Tunnels with 2 lanes are connecting the 2 city parts. Main road passage under Yangtse River into the city. Tunnels are located in sandy soils saturated with water. Max. water pressure = 6 bar, length = 3.7 km

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13	Motorway Izmir - Aydin incl. Izmir Ring Road Tunnel Selatin and Tunnels Karsyaka Izmir / Turkey	General Directorate of Highways Ankara / Turkey	Construction Supervision Geotechnique Project Management Design Expert Services	1,429,520	1996 - 2007	Construction supervision of 145 km long 2 x 3-lanes highway including the tunnel "Selatin" with a total length of 2 x 3,250 m. The project includes 10 bridges (30 to more than 100 m) and several tunnels. Detailed design of five 2 x 3-lane highway tunnels with a total length of 2 x 6,000 m by NATM method in rock and soft ground.
14	Motorway M6 Tunnel Chain Pécs Pécs / Hungary	Allagúterv Kft. Budapest / Hungary	Tender design Geologic-Geotechnic Services	30,700	2006 – 2008	Connection from Budapest to Croatia along river Danube, a chain of tunnels is intended to be built in vicinity of city Pécs. 4 Tunnels in each direction with length between 422 and 1,356 m.
15	Road Tunnel Sevan Armenia	Arpsevan a.s. Armenia	Design Consultancy for ventilation Expert Services	67,000	1993 – 1996	System proposals for ventilation of road tunnel, Safety management and tunnel operation
16	Highway Bogotá – Girardot Road Tunnel Sumapaz Colombia	INVIAS Instituto Nacional de Vías Ministerio de Transporte Bogotá / Colombia	Geologic-Geotechnical Assistance Risk analysis Expert Services	405,000	2004 – 2009	2-lane highway tunnel between the cities Bogotá and Girardot. The tunnel runs through triassic conglomerates and sediments of chalk. Length = 4,510 m Excavation cross section 75 m ²
17	Highway A8 Innkreisautobahn Wels – Sattledt Wels / Austria	ASFINAG Vienna / Austria	Consultancy Expert Services	272,000	2001 - 2004	Assistance for the Construction of the Motorway The 2x double lane motorway route has a length of 11 km and contains 4 Cut & Cover tunnels, 1 gallery, an access road and several bridges.
18	Prague Ring Road Lots 513-1, 513-2, 514-1, 514-2, 514-3 and 514-4 Prague/ Czech Republic	Motorway Directorate Prague/ Czech Republic	Feasibility Study, Design Review, Construction Supervision, Expert Services	170,000	2004	Design review, technical assistance, consulting to the client, design supervision for motorway tunnels of total length 7 km
19	Road Tunnel Lochkov Prague / Czech Republic	Motorway Directorate Prague / Czech Republic	Construction Supervision Expert Services	50,000	2003	Construction Supervision (CSV) for exploratory tunnel for future 2 km motorway tunnel, design and consultancy for geotechnical monitoring, technical alternatives during construction
20	Road Development Project Shanxi Shanxi Province / PR China	Shanxi – Quilin Expressway Company Ltd. / Babbie Group Ltd. PR China	Construction Supervision Technical Assistance Expert Services	318,300	2003 – 2006	Construction supervision and technical assistance for 5 tunnels and 26 bridges on the new 176 km long highway Taiyuan – Linfen in the province Shanxi / PR China.

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21	Road / Cycle Tunnel Kienbergwand Salzburg / Austria	Provincial Government of Salzburg Austria	Tender design Cost & Schedule Expert Services	45,000	2003 - 2006	Project consist of motorway and a bicycle tunnel Total length = 1,168 m. The bicycle tunnel consists of 4 full profile tunnels with a length of 666.1 m and 3 half profile tunnels with a length of 181.6 m. The connection tunnel is located in the middle of the motorway tunnel and has a length of 77.5 m. The tunnel crosses crystalline rock (Dolomite), at east portal tertiary ground with a length of 35 m.
22	Highway Bogotá - Villavicencio Tunnel Buenavista Colombia	INVIAS Instituto Nacional de Vias Ministerio de Transporte Santafé de Bogota / Colombia	Detailed Design Specifications Construction Supervision Expert Services	1,416,618	1998 - 2002	Detailed design and construction supervision for the 2-lane NATM tunnel, length of 4,520 m, cross section of approx. 75 m ² , along the route Bogota – Villavicencio.
23	4 Linzer donaubrucke (4th Bridge over River Danube) Linz/ Austria	ASFINAG/ Government of Upperaustria Linz/ Austria	Design Expert Services	6,000	2003	Conception of a bridge over River Danube within a design competition which consists of 2 parallel asymmetric angular ripe bridges with on pylon in the North of the bridge. The West - Bridge has 4 lanes, the East Bridge 3 lanes plus sidewalk and a cycle lane. the pylons are inclined of 26° an bear the wohle load with 11 ropes. They are re-anchored with 10 ropes to the north bank rock formations.
24	Shanghai Chongming River-Crossing Project Shanghai Province / PR China	Shangai Orient International Tendering Co., Ltd. Shanghai / PR China	Oversea Expert to Act as Jury Member for Evaluation of Design Proposals	20,000	2011	Expert Services for Act as Jury Member for Evaluation of Design Proposals. In order to demonstrate international Level which to approval from Shanghai Municipal Engineering Administration Bureau.
25	Highway Tunnel Klimkovice Czech Republic	HCH CZ Prague / Czech Republic	Design Review, Design Validation, Value Engineering, Expert Services	32,000	2002	Design review, Feasibility study alternatives, technical assistance, consulting to the Client, for motorway tunnels of total length 2.5 km
26	Road Tunnel Fuxing Dong Shanghai / PR China	Impregilo S.p.A. Milan / Italy	Technical assistance in Design Expert Services	86,100	1999 - 2001	Technical assistance for tender design preparation of a road tunnel between Puxi and Pu Dong by crossing the river Huang Pu. The tunnel consists of 2 tubes with 2 lanes in each direction. The total tunnel length is approx. 1.59 km and will be excavated by TBM and cut & cover. Internal diameter of TBM is 10 m. The technical assistance service includes review of tender drawings and design statements, consultancy for the evaluation of the TBM type and consultancy for ventilation design.
27	Road Tunnel Pushkin Armenia	Motorway Directorate Armenia	Feasibility Study Rehabilitation Expert Services	220,000	1998 - 2000	Rehabilitation of road tunnel, study and detailed design for rehabilitation, technical assistance to Client, consultancy, CSV
28	Motorway Guiyang – Xinzhai Guizhou Province / PR China	Louis Berger Inc. Washington DC / USA	Construction Supervision Technical Assistance Expert Services	27,000	1997 - 2000	Construction supervision and technical assistance for a motorway section with a length of 250 km. The contract, located in a mountainous terrain, includes one tunnel, numerous bridges, cuts and embankments in landslide sensitive area.

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29	Jiangxi Expressway Project Tunnels Yanlieshan and Jichong Ling Jiujiang - Jingdezhan, Jianxi Province / PR China	Jiangxi Provincial Communications Department (JPCD) ADB loaned Jiujiang – Jingdezhen Highway Project Management Office PR China	Technical Assistance Expertise Construction Supervision Expert Services	275,000	1997 - 2000	Technical assistance for the tunnels "Yanlieshan", total length of 3,350 m, and "Jichong Ling", total length of 612 m, within the 135 km long expressway which links the cities Jiujiang and Jingdezhan. Project includes Tunnels, Bridges, earthworks and drainages and Underpasses and culverts
30	Highway Tunnel Hai Van Pass Da Nang / Vietnam	Louis Berger Int. East Orange NY / USA	Tunnel Design 2 Ventilation Risk Analysis Expert Services	286,600	1996 - 2000	Tunnel design and expert services as subcontractor for LBI. 2-lane highway tunnel in middle Vietnam with a total length of 6.3 km and a cross section of approx. 85 m ² .
31	By-pass Spital at Semmering Road Tunnel Spital Austria	Republic of Austria Land Court Leoben / Austria	Expert Services	10,000	1999 - 2000	The tunnel consists of 2 tubes (2,597 m) and is used as by-pass of Spital Semmering. Tunnel was built by NATM. Tunnel under crosses the Austrian Federal Railways.
32	By-pass route Westtangente Linz / Austria	Alpine – Mayreder Baugesellschaft mbH Linz / Austria	Feasibility Study Expert Services	24,400	1999 - 2000	Feasibility study regarding the by-pass route "Westtangente", which beneath the river Danube with a total length of 4,400 m. The study deals with the review of the designed alignment, the development of ventilation systems, cross section of the TBM tunnels and detailed cost estimate.
33	2-lane Highway Tunnel La Línea La Linea - Ibague / Colombia	INVIAS Instituto Nacional de Vías Ministerio de Transporte Santafé de Bogotá / Colombia	Design Review	27,000	1998 - 2000	The project is featured as 2-lane highway tunnel with adjacent rescue tunnel of approx. 8.5 km length. Design review, bore coring investigation, alignment investigation, evaluation of civil, structural and electromechanical concept. Working as UT DIS / EDL - D2 Consult
34	Motorway and 2 Highway tunnels Tarsus - Adana - Gaziantep Turkey	Tekfen - Impresit Joint Venture Istanbul, Adana / Turkey	Detailed Design & Construction Supervision	2,107,500	1994 - 1999	Detailed design of two 2 x 3-lane double tube NATM highway tunnels with a total length of approx. 5,500 m rock and soft ground. Slope stability analysis, structural computations, specifications, BOQS drainage systems, fire-fighting systems in earthquake active area.
35	2-lane Highway Tunnel Plabutsch, 2nd Tube Graz / Austria	Provincial Government of Styria Graz / Austria	Tender design Cost estimate	15,000	1998 - 1999	The length of the tunnel is 9.8 km and its inner diameter is about 11.10 m. Adjustment of new safety standards. Tender design for the tunnel in 2 variants (one pass segmental lining, two pass segmental lining) in TBM method and cost estimate for both options

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36	Highway Tunnel San Rafael Cotapata – Santa Barbara La Paz / Bolivia	Republica de Bolivia Viceministerio de Transporte / IADB Inter-American Development Bank Washington DC / USA	Technical Studies Expert Services	38,500	1996 - 1998	Tunnel technical studies and review, recommendations for construction of the 2-lane road NATM tunnel with a length of approx. 1,350 m. The tunnel is situated approx. 3,100 m above sea level in the high mountain region of Bolivia.
37	Highway Tunnel Girardota Medellin / Colombia	INVIAS Instituto Nacional de Vias Ministerio de Transporte Santafé de Bogotá / Colombia	Detailed Design Specifications Expert Services	84,000	1996 - 1998	Detailed design for the 2 lane NATM tunnel in the area of Medellin. Length of 805 m, cross section of approx. 75 m ² .
38	Toll Road Tunnel Tobiagrande Tobiagrande - Puerto Salgar / Colombia	INVIAS Instituto Nacional de Vias Ministerio de Transporte Santafé de Bogotá / Colombia	Design Ventilation Project Management Expert Services	235,000	1995 - 1997	Standard specifications and standard drawings for 15 tunnels with a total length of approx. 18,500 m within an approx. 74 km long toll road.
39	Highway Shenyang - Benxi National Highway II Xiaotang - Gantang Section Guandong Province / PR China	TWB The World Bank Washington DC / USA	Design Review Construction Supervision Geotechnique Expert Services	184,500	1993 - 1997	Engineering design review of a 110 km motorway in mountainous terrain, including tunnels with a total length of approx. 14 km, numerous bridges, large slope cuts and embankments. Total length = 110 km, 15 tunnels (= 14 km), Bridges, Environmental protection measures
40	2-lane Road Tunnels Sottopasso Castel San Angelo Rome / Italy	Consorzio Ferofir Rome / Italy	Conceptual Design Expert Services	69,300	1996 - 1997	Conceptual design for segment lining and for intersection between the TBM Tunnel, inner diameter 11.42 m, and a conventional profile used for an exit. Total length of the tunnel approx. 800 m.
41	Road Tunnels Dayu & Wuyaling Shenyang - Nanfen, Liaoning Province / PR China	Louis Berger Inc. Washington DC / USA	Construction Supervision Training Expert Services	89,000	1995 - 1996	Expert Services to client, contractor and resident engineer. Tunnels in hard rock are excavated with drill & blast method. Total length of the 2-lane highway tunnels 5,050 m. ("Dayu" 1,470 m / 1,540 m, "Wuyaling" 2 x 1,020 m).
42	Road Tunnel 4th Elbtunnel Hamburg / Germany	City Government of Hamburg Hamburg / Germany	Design Expert Services	21,000	1993 - 1994	Design for lining system. One passes segmental lining with tapered ring types. Tunnel length = 3,100 m excavation diameter = 14.2 m

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43	Road Tunnels Honam and Munsan Seoul/ South Korea	Korean Highway Corporation Construction Management Engineering Seoul/ South Korea	FEM Analysis Construction Supervision Expert Services	360,000	1982 - 1985	Geonumerical investigations for the cross section with little overburden at tunnel Station 2+490 and at 2+220. Road tunnel profile without invert arch, width of approx. 11 m, height of approx. 7.5 m, length of approx. 700 m
44	Federal Highway A81 Tunnel Hohentwiel Zurich – Singen – Stuttgart/ Germany	Highway Directorate of Baden Wurtemberg Germany	Detailed Design Expert Services	28,350	1983 - 1985	Construction supervision and detailed design for the construction of the 2 X 2 lanes motorway with a length of 2 X 800 m. The NATM tunnels with a cross section of approx. 108 m ² (one tube) beneath soft ground and the roof in the Cut & Cover areas was built by the turtle tunnel method
45	Irag Expressway Road Tunnels Zakho Zahko/ Iraq	Republic of Irag Ministry of Housing & Reconstruction Bagdad/ Iraq	Feasibility Study – Tender Design Expert Services	288,000	1981 - 1983	Feasibility study for 2 NATM tunnels of the 3 lanes expressway in the Zahko area. The length of the tunnels ranges from approx. 2,300 m to approx. 4,000 m (alternative alignment) and have a width of approx. 16.20 m and a height of approx. 10 m