




GEODATA

Selected References
Projects considered since 2010

**INVESTIGATION AND UTILITY GALLERIES,
CAVERNS, SHAFTS AND HYDROELECTRIC
POWER PLANTS**

AUSTRIA		
Owner Client	Project Services	Year Project Type
Verbund AG ARGE PSW Limberg III - Marti/Porr/Hinteregger	HEPP Limberg III, 480 MW; headrace tunnel I = 3.000 m and penstock I = 584 m (TBM), powerhouse and transformer caverns (85.000 m ³ excavation volume), several other tunnels, galleries and shafts with 4.500 m length Construction and heading survey, geotechnical monitoring and instrumentation, EUPALINOS surveying software	2021 - Hydropower
TIWAG ARGE SKW Kühtai - Swietelsky/Jäger/Bodner	HEPP Kühtai, 130 MW; water transmission tunnel I = 25 km (TBM); power house cavern with 80.000 m ³ excavation volume and 4 km NATM tunnels, rockfill dam 113 m high, crest length 510 m and 2 km NATM galleries Construction and heading survey, geotechnical monitoring and instrumentation, EUPALINOS surveying software	2021 - Hydropower
Verbund AG ÖSTU-Stettin	HEPP ESA Reisseck II plus; efficiency enhancement plant, access tunnel, headrace tunnel, tailrace tunnel, by-pass and drainage tunnel, total length 890 m, power house cavern Construction and heading Survey, supply of geotechnical instruments, EUPALINOS surveying software	2021 - Hydropower
ÖBB ARGE Untertagebau KW Obervellach II - ÖSTU-Stettin/Jäger Bau	Traction Power Station Obervellach II; 37 MW, headrace tunnel I = 3.862 m, access tunnel, 2 inclined galleries, total length 380 m, storage tunnel and plant chamber I = 662m Construction and heading Survey, supply of geotechnical instruments, EUPALINOS surveying software	2020 - Hydropower

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Investigation and utility galleries, caverns, shafts and hydroelectric power plants



Owner Client	Project Services	Year Project Type
ÖBB ÖBB, Swietelsky Tunnelbau	HEPP Tauernmoos 170 MW ; power house cavern, tailrace tunnel l = 1,6 km, access tunnels total length approx. 4,2 km Geotechnical monitoring and instrumentation, EUPALINOS surveying software	2020 - Hydropower
illwerke vkw AG ÖBB, Swietelsky Tunnelbau	Rodundwerk I ; penstock tunnel l = 300 m, penstock shaft l = 470 m, 36° inclined TAUROS TBM guidance system	2020 -
Octapharm ÖSTU-Stettin	Medientunnel Inneryard/Basiy neu; l = 14 m Heading Survey, TALOS motorlaser, EUPALINOS	2019 Utility tunnel
Verbund/TIWAG/ Engadiner Kraftwerke ARGE GKI Maria Stein - STRABAG/Jäger/ Hinteregger	Comunity HEPP Inn (Austria/Switzerland), 89 MW ; power house Prutz/Ried and headrace tunnel, l = 23,2 km Geotechnical monitoring incl. optical 3D deformation, construction and heading survey, network and control survey, profile check, gyro measurements, EUPALINOS surveying software	2017 - Hydropower
Austrian Federal Forests ÖSTU-Stettin	HEPP Taurach; penstock l = 420 m Optical 3D displacement, construction and heading survey, network and control survey, profile check, motor laser system, EUPALINOS surveying software	2017 Hydropower
KELAG Züblin	HEPP Feldsee; raising of the storage dam GEOROBOT automatic 3D-displacement monitoring	2015 Hydropower
Ski Area Operator Zauchensee HTB Bauges. mbH	Gallery Zauchensee; water supply for snow canons, l = 130 m Construction and heading survey, motor laser, EUPALINOS	2015 Water supply
KELAG HTB Bauges. mbH	HEPP Reisseck; widening of existing tunnel, l = 40 m Construction and heading survey, EUPALINOS	2014 - 2015 Hydropower
MA 31, City of Vienna Marti GmbH	Neubrucker Lehenstollen; drinking water supply, l = 1.075 m Construction and heading survey, geotechnical monitoring and instrumentation incl. 3D displacements, vibration monitoring, EUPALINOS	2014 - 2016 Water supply
Vorarlberger Illwerke Pöyry Illwerke	HEPP Obervermunt II, 360 MW ; pumped-storage power plant, several galleries with total l = 8,1 km, powerhouse and transformer caverns Construction and heading survey, geotechnical instrumentation	2014 - 2017 Hydropower
ÖBB Infrastructure Bemo Tunneling	HEPP Tauernmoos; investigation gallery l = 850 m Construction and heading survey, geotechnical monitoring incl. 3D displacement, EUPALINOS	2013

Owner Client	Project Services	Year Project Type
Project Company KWK Stanzertal JV ÖSTU-Stettin/ Hinteregger	HEPP Stanzertal, 20 MW; headrace and pressure tunnel l = 5,4 km Geotechnical monitoring incl. optical 3D displacement, construction and heading survey, network and control survey, gyro measurements profile check, motor laser system, TAUROS TBM guidance system, EUPALINOS surveying software	2013 - 2015 Hydropower
TIWAG Swietelsky Bau GmbH	HEPP Kaunertal 900 MW , upgrading of existing plant, headrace gallery, l = 4.500 m, access tunnel, inspection tunnel & shafts with total l = 1.000 m Optical 3D deformation monitoring, construction and heading survey, network and control survey, profile check, motor laser system, EUPALINOS, KRONOS tunnel information system, TAUROS TBM guidance system	2012 - 2014 Hydropower
ÖBB Infrastructure ÖBB Infrastructure	Ventilation structure Paierdorf , complex underground structure for ventilation purposes as part of Koralm tunnel high speed rail Geotechnical instrumentation, optical 3D deformation monitoring	2012 - 2013 Ventilation
VERBUND AHP ARGE PSKW Reisseck II – Hinteregger/ÖSTUStettin/ Porr/Swietelsky	HEPP Reisseck II, 430 MW ; pumped storage power plant, upgrading of existing power plant scheme Malta/Reisseck, headrace and pressure shaft, l = 5,3 km, powerhouse and transformer caverns Optical 3D deformation monitoring, geotechnical instrumentation, construction and heading survey, network and control survey, profile check, motor laser system, tunnel scanner, TAUROS TBM guidance system, KRIOS online monitoring system, EUPALINOS	2010 - 2014 Hydropower
TIWAG Alpine Bemo Tunneling	HEPP Kühtai ; investigation gallery Längental, l = 735 m Optical 3D deformation monitoring, construction surveying and heading control, EUPALINOS surveying software	2010 Hydropower
STRABAG STRABAG	Mucking Gallery Diabas ; Saalfelden, l = 3.000 m Heading survey, TAROS machine guidance system, EUPALINOS	2008 - 2010
VOESTALPINE ÖSTU-Stettin	Gallery Annaberg ; Leoben, water supply concept for steel plant, l = 600 m Construction and heading survey, profile check, EUPALINOS	2007 - 2008
VERBUND AHP JV Jäger/STRABAG/ Frutiger	HEPP Hieflau, 63 MW ; headrace tunnel, l = 600 m drill & blast and 4.900 m TBM excavation Optical 3D deformation monitoring, construction and heading survey, network and control survey, profile check, motor laser system, TAUROS TBM guidance system, EUPALINOS	2007 - 2009

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Owner Client	Project Services	Year Project Type
SALZBURG AG Jäger Bau	HEPP Hintermuhr 104 MW; pumped storage power plant, penstock, l = 129 m Geotechnical monitoring and instrumentation incl. 3D displacement monitoring, construction and heading survey, EUPALINOS	2006 - 2007
VERBUND AHP JV Hinteregger/ ÖSTUStettin/ Porr/Swietelsky	HEPP Limberg II, 480 MW; pumped-storage power plant, headrace, l = 4.200 m, penstock 45%, l = 770 m, power house cavern 66.650 m ³ , NATM and TBM excavation. Total l = 15 km Geotechnical monitoring and instrumentation incl. 3D displacement, laser scanning, gyro measurements, motor laser system, TAUROS machine guidance, KRIOS online monitoring system, EUPALINOS	2006 - 2010

Explanation of abbreviations for Austria owners and clients:

- ARGE Joint venture companies
- ASFINAG Austrian federal road administration (responsible for construction, maintenance and financing of the Austrian freeways)
- ÖBB Federal railway company

DENMARK		
Owner Client	Project Services	Year Project Type
HOFOR HOFOR	Kalvebod Brygge Cloudburst Tunnel; l = 1.250 m Surface monitoring (3D-displacement), noise and vibration monitoring	2021 - Flood protection

ENGLAND		
Owner Client	Project Services	Year Project Type
Bazalgette Tunnel Limited BMB JV	Thames Tideway West; 6 km sewer tunnel from Acton in West London to Wandsworth in South West London Operation of KRONOS tunnel information system	2015 - 2016 Waste water

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GERMANY		
Owner Client	Project Services	Year Project Type
Emschergenossenschaft ÖSTU-Stettin/ Hinteregger	Emscher Sewage Canal, BA40; 10 km section between Bottrop and Oberhausen with to parallel shield tubes, total l = 20 km 3D displacement monitoring, construction and heading survey, network and control survey, profile check, motor laser system, EUPALINOS	2014 - 2016 Waste water
Regional Authority in Baden-Württemberg ARGE Emscher ba 40	Emergency tunnel Hugewald, B294; emergency tunnel for existing road tunnel, l = 1.200 m Geotechnical monitoring and instrumentation, construction and heading survey, network and control survey, gyro measurements	2011 - 2012 Tunnel safety


GREECE		
Owner Client	Project Services	Year Project Type
INTRAKAT Jäger Bau	Aposelemis Tunnel; 3,5 km long water supply tunnel in Creta TAUROS TBM guidance system	2014 - 2018 Water supply


ITALY		
Owner Client	Project Services	Year Project Type
ANAS Hinteregger	SS38 Morbegno; escape tunnel l=2,3 km TAUROS TBM guidance system	2017 Tunnel safety
AHR-ENERGIE G.m.b.H. STRABAG	HEPP In der Klamme, 8,7 MW; penstock, l = 1.300 m Optical 3D deformation monitoring, EUPALINOS surveying software	2010 Hydropower


NORWAY		
Owner Client	Project Services	Year Project Type
VAV Oslo Kommune Marti AS	Tunnel Skullerud - Enebakkveien; l = 3.320 m (drill & blast), 2 access galleries l = 100 m + 200 m, 2 shafts Construction and heading survey, EUPALINOS surveying software	2020 - Water supply


BHUTAN		
Owner Client	Project Services	Year Project Type
SJVNL/Druk Green Power Corp. Druk Green Power Corp.	HEPP Kholongchu, 600 MW; headrace tunnel, l = 15,8 km, diversion tunnel, l = 420 m, power house cavern Geotechnical instruments, EUPALINOS surveying software	2014 - 2019 Hydropower

INDIA		
Owner Client	Project Services	Year Project Type
ISPRL Hindustan Constr. Comp. (HCC)	Padur Crude Oil Strategic Storage Project Unit 1; 2 caverns, 656 m/20 m/ 30 m (L/B/H) and 2 caverns, 700 m/ 20 m/ 30 m (L/B/H), capacity: 2,5 MMT Optical 3D displacement monitoring, EUPALINOS, KRONOS tunnel information system, training & consulting, laserscanning, calculation of strapping tables	2011 - 2014 Storage
LANCO Teesta Lanco Infratech Ltd.	HEPP Teesta VI, 520 MW; North-Sikkim, 2 headrace tunnels, l = 13,65 km, 4 tailrace tunnels, l = 250 m Optical 3D displacement monitoring, consulting & training, EUPALINOS	2010 - 2011 Hydropower
DANS Energy Pvt Ltd. DANS Energy Pvt Ltd.	HEPP Jorethang Loop, 96 MW; head race tunnel, l = 6,8 km, tailrace tunnel, l = 30 m, surge shaft, d = 25 m Optical 3D displacement monitoring, consulting & training, EUPALINOS	2010 - 2013 Hydropower
Brihan Mumbai Municipal Corp. (BMC) Pratibha/ÖSTU-Stettin	IV Mumbai Water Supply Project; intake tunnel, l = 7,5 km, high pressure tunnel, l = 15,1 km Construction surveying and heading control, network and control survey, gyro measurements, consulting & training, EUPALINOS	2009 - 2010 Water supply

TURKEY		
Owner Client	Project Services	Year Project Type
Enerji SA Sargin Construction	HEPP Dogancy, 62 MW; headrace tunnel, l = 6.900 m TAUROS TBM guidance system, GNSS network and control survey	2012 - 2015 Hydropower

CANADA		
Owner Client	Project Services	Year Project Type
Regional Municipality of Halton	Mid Halton Outfall Tunnel; wastewater tunnel, l = 6,3 km, 2 x 60 m deep shafts	2015 - 2017
STRABAG Inc.	EUPALINOS surveying software	Waste water
Ontario Power Generation	Niagara Tunnel Facility Project, diversion tunnel, l = 10,2 km	2009 - 2011
STRABAG Inc.	Network and control survey, gyro measurements, EUPALINOS	Hydropower

CHILE		
Owner Client	Project Services	Year Project Type
Alto Maipo S.p.A.	HEPP Alto Maipo, Alfafal II und Las Lajas section, 531 MW total; Alfafal II headrace tunnel, l = 14,5 km, Alfafal II tailrace tunnels, l = 3,4 km, Las Lajas headrace tunnel 1 & 2, l = 5,8 + 3,7 km, Las Lajas tailrace tunnel, l = 12,9 km, access tunnels, l = 4,3 km, 2 power house caverns and several shafts, NATM and TBM excavations Total length: TBM 30,8 km; NATM 44,5 km	2013 -
Strabag SE	Optical 3D displacement monitoring, construction and heading survey, network and control survey, gyro measurements, profile check, TALOS motor laser systems, EUPALINOS	Hydropower

USA		
Owner Client	Project Services	Year Project Type
Orange County California	Edinger Storm Channel Improvements; Huntington Beach, CA, water channel undercrossing IS 405, l = 85 m	2012 - 2014
KEC Engineering	Optical 3D displacement monitoring, GEOROBOT automatic 3D monitoring, KRONOS tunnel information system, EUPALINOS	Flood protection