




GEODATA

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

Selected References
Projects considered since 2010

AUSTRIA		
Owner Client	Project Services	Year Type
Octapharm ÖSTU-Stettin	Medientunnel Inneryard/Basiy neu; l = 14 m Heading Survey, TALOS motorlaser, EUPALINOS	2019
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 -
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
KELAG Züblin	HEPP Feldsee; raising of the storage dam GEOROBOT automatic 3D-displacement monitoring	2015
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
KELAG HTB Bauges. mbH	HEPP Reisseck; widening of existing tunnel, l = 40 m Construction and heading survey, EUPALINOS	2014 - 2015

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Owner Client	Project Services	Year Type
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
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
ÖBB Infrastructure Bemo Tunneling	HEPP Tauernmoos; investigation gallery l = 850 m Construction and heading survey, geotechnical monitoring incl. 3D displacement, EUPALINOS	2013
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
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
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
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
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

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Owner Client	Project Services	Year Type
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
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

ENGLAND		
Owner Client	Project Services	Year 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

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GERMANY		
Owner Client	Project Services	Year 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
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


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


ITALY		
Owner Client	Project Services	Year Type
ANAS Hinteregger	SS38 Morbegno; escape tunnel l=2,3 km TAUROS TBM guidance system	2017
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


BHUTAN		
Owner Client	Project Services	Year 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

INDIA		
Owner Client	Project Services	Year 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
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
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
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

TURKEY		
Owner Client	Project Services	Year 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

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

CHILE		
Owner Client	Project Services	Year Type
Alto Maipo S.p.A. Strabag SE	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 Optical 3D displacement monitoring, construction and heading survey, network and control survey, gyro measurements, profile check, TALOS motor laser systems, EUPALINOS	2013 -

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