



SPYROS (SPYRIDON) KONSTANTIS

Dipl. Eng. MSc MSc Eurlng APMP CEng – MICE

PARTNER AND CO-FOUNDER OF RULER LTD

Results-driven and experienced senior risk and project management professional, Chartered Engineer, with proven ability to provide tailored risk management consulting services and deliver innovative technical solutions to challenging engineering problems. Active industry involvement since the year 2000 and experience in management and technical leadership in major Tunnelling and Infrastructure projects worldwide, including 2 years as Risk Management Consultant in Construction Insurance. Award winner in leading and managing multi-task teams and delivering complex multi-disciplinary infrastructure, Metro and Rail projects.

Client-focused with excellent project management and leadership skills and highly qualified and experienced in:

- Risk Management
- Risk Engineering
- Project Management
- Tunnel Engineering and Underground Works (Design & Construction)
- Ground Engineering
- Planning and Program Management
- Contracts Management
- Tender Process
- Interface management
- Stakeholder Management
- Budget administration
- Team Management
- Staff and Team Development

Spyros earned his BSc and MSc in Civil Engineering from the National Technical University of Athens, Greece, a MSc in Design and Construction of Underground Works from the same university and a MSc in Computational Mechanics from Stuttgart University, Germany.

Spyros is currently the Technical Engineering Manager for the Qatar Rail, Doha Metro, Gold Line and Green Line Extension projects and a partner and co-founder of Ruler Consult, a London-based risk engineering management consultancy. He has previously worked for Marsh and Arup in the UK; for COWI in Denmark, Qatar and UAE and for Greek firms of consulting engineers, contractors and universities.

He is a Chartered Engineer with the Technical Chamber of Greece and with the Institution of Civil Engineers UK (CEng MICE). He is also a Professional of the Association of Project Management (APM), a member of the European Federation of National Engineering Associations (Eurlng) and a reviewer in the Geotechnical and Geological Engineering Journal. He has full professional proficiency in English, Greek and German and intermediate professional proficiency in Spanish.



Work experience

RULER Consult Ltd, London **Partner / Co-Founder**

Since 2016

Suki Kinari, Hydropower Plant, Pakistan

Risk Engineering site surveys and advisory on a run-of-river HPP with 25km of tunnels and an underground power house

Novatek Building Complex, Moscow, Russia

Risk Engineering site surveys and advisory on a 17 storey building complex with underground basements

TexRail, Fort Worth, DA, USA

Risk Engineering site surveys and advisory on a 27mile new commuter railway line

Al Khor Expressway, Qatar

Risk Engineering site surveys and advisory on a new 28km highway with entrusted rail works

Machakhela 1&2 Hydroelectric Projects, Georgia

Risk engineering review and risk based tunnels schemes/alignments optimisation for 2 Hydropower plants in Georgia.

Attiko Metro, Athens Metro New Line 4

Risk engineering management study for the new Athens Metro Line 4, consisting of approximately 13 km of tunnels and 15 underground stations. Objectives were to:

- Identify/assess the main hazards and high-risk elements of the project
- Develop risk mitigation strategies
- Provide recommendations on alternative conceptual configurations for the identified high-risk elements
- Identify opportunities for project optimization, and
- Provide recommendations for the Geotechnical Baseline Report

Cross River Rail, Australia (In the Pipeline)

Risk Engineering, Advisory and DSU progress monitoring of a railway tunnel in Brisbane

Qatar Rail **Technical Engineering Manager**

Since 2014
Doha, Qatar

Awards of Excellence in Project Management and Program Delivery Special Contribution received in 2016, 2017 and 2018 for recognition of Exceptional Performance and Commitment to Deliver.

Gold Line

Client-side Technical Engineering Manager responsible since contract award for the design management, project management, design development and coordination, technical and construction interfaces, change management and delivery of Gold Line Underground package part of the \$37bn rail network planned for the State of Qatar. The Gold line package includes 10 underground stations, underground stabling facilities, approximately 15km of 7,1m diameter twin tunnels excavated with 6 EPB TBMs and 24 Cross Passages.

Contract sum approx. \$3.3bn. Client: State of Qatar, Engineer: Qatar Rail, PMC: Louis Berger-Egis Rail JV.

Green Line

Client-side Technical Engineering Manager responsible for the concept design development, tender process management and evaluation of the Green Line Extension, part of Phase 1a of Doha Metro. The line includes underground and elevated sections with a total length of approximately 20km and 9 stations

Marsh, Construction Practice Risk Management Consultant, Vice President

Risk Management Consultant for the Construction Insurance of major infrastructure and heavy civil projects worldwide, such as tunnels, highways, bridges, dams and hydropower plants and buildings.

Responsible for:

- Benchmarking exercises against the Code of Practice for Risk Management of Tunnel Works
- Risk engineering site surveys
- Recommendations on risk mitigation strategies
- Underwriting summary reports
- Probable Maximum Loss (PML) assessments and reviews

Participation in the following projects:

North Marmara Motorway Project and 3rd Bosphorus Bridge, Turkey

Total length of approximately 171km, including 67 viaducts, 3 cut and cover tunnels, 4 NATM tunnels and the 3rd Bosphorus Bridge, a combined road-rail High Rigid Suspension Bridge (HRSB)

Crescent Development, Baku, Azerbaijan

Three reinforced concrete mixed-use developments and a combined reinforced concrete and structural steel luxury hotel on a man-made island.

Cable Tunnels, Singapore

35km of 6m diameter TBM tunnels, 15 permanent shafts and 4 temporary shafts to facilitate the 14 TBM drives.

2012 – 2014
London, UK

Amaila Falls Hydropower project, Guyana

Earth fill dam, underground water conveyance system with tunnels and shafts and a surface power house.

Ohio River East End Crossing Project, USA

Cable stayed bridge, on-shore short span bridges and twin NATM tunnels.

Adjaristsqali Hydropower Project - Shuakhevi Scheme, Georgia

Part of the Adjaristsqali Cascade Hydropower Scheme with two dams with reservoirs, one weir, underground water conveyance system with tunnels and shafts and a surface power house.

Hulu Terengganu Hydroelectric project, Malaysia

Earth fill dam, RCC dam, underground complex of caverns and underground water conveyance system with tunnels and shafts

Ulu Jelai Hydroelectric project, Malaysia

Earth fill dam and reservoir, diversion and transfer schemes, underground power station and water conveyance system.

Alto Maipo Hydro Electric Power Plant Project, Santiago, Chile

Six run off river water intakes, two underground power stations and underground water conveyance system of tunnels and shafts with an overall length of 68km.

Quitaracsa Hydro Electric Power Plant Project, Peru

Underground power station, water transfer tunnel system of 6km, intake weir and regulatory water reservoir

High speed train line Tel Aviv-Jerusalem, Israel

New railway line with tunnels and viaducts, with an overall length of approximately 56km.

Arup, Geotechnics and Tunnelling Tunnel Skills Leader UK

Tunnel Skills Leader in the UK and Senior Engineer in the Geotechnics and Tunneling department, responsible for the design and management of tunnelling projects, technical leadership and team development.

Participation in the following projects:

Crossrail, UK

- TBM tunnel design, risk management and interface management, development of alternative design schemes that reduced contractual risks and cost and facilitated decision making process in the Optimised Contractor Involvement (OCI) phase.
- Bid preparation for Farringdon station; preparation of construction method statements, development of innovative techniques for program

2010 – 2012
London, UK

acceleration and construction risk mitigation.

Express Rail Link, Hong Kong

Principal internal reviewer for design and construction methodology, risk assessment and mitigation of tunnels and underground works for package C820.

Metro de Santiago, Chile

Principal internal reviewer for gap analysis, identification of contractual interface risks, value engineering and alternative schemes for program acceleration and risk mitigation.

AMP5 Water Outfalls, UK

Project development and conceptual design of two water outfalls and recommendations on procurement strategy

LU Bank Station Upgrade, UK

Preparation of prequalification submission, investigation of construction options for the high-risk elements of the project and development of risk registers.

ASTUTE Project

Project Manager for the Risk Management Work Package of a 4 year FP7 European research proposal. Objectives were to reduce uncertainties inherent to the Conventional Tunnelling Method, improve productivity and raise safety level similar to TBMs.

Varesine Development Project, Milan, Italy

Principal internal reviewer for construction impact assessment and interaction between a proposed high rise building with deep basement and foundations and an existing operational railway tunnel

Project Braeburn – Shell Centre Redevelopment, London UK

Senior Tunnel Engineer, in charge of the team responsible for the condition survey and assessment of the London Underground Bakerloo and Northern Lines being inside the construction influence zone of the project that involved deep excavations and foundations.

COWI, Bridges Tunnels & Marine Structures Senior Engineer

Senior Engineer responsible for the design management and coordination of geotechnical and tunneling projects.

Participation in the following projects:

STEP Deep Tunnel Sewer, Contract T-02, Abu Dhabi UAE

Tender, preliminary and construction stage design management and coordination of the tunnels, geotechnical and underground works

**2007 – 2010
Denmark**

Qatar-Bahrain Causeway, Doha Qatar

Basic geotechnical and foundation design of the viaduct bridges.

Copenhagen Metro Cityringen, Denmark

Preliminary and tender stage design management and coordination of the tunnels and underground works, including risk assessments, construction planning, value engineering and optimization.

Seattle SR520 Immersed Tunnel, USA

Preliminary foundation design of the immersed tunnel segments, value engineering and optimization.

Lusail Development Infrastructure, Doha Qatar

Detail design of foundation of two suspension bridges with circular central pylon.

Anaplas Consulting Engineers, 2007

Structural Engineer responsible for analysis and construction stage design. Participation in the following projects:

Peristeri Municipality Public Schools Sector, Athens Greece

Residential Developments, Sharjah UAE

Pangaea Consulting Engineers, 2007

Tunnel and Geotechnical Engineer, responsible for the construction stage geotechnical and tunnel design of **Peristeri and Anthoupoli stations, Athens Metro Line 2 Extension.**

Free Lance Project Manager, 2006

Project Manager, responsible for the construction stage design management and coordination of the following structural and geotechnical projects:

Water Tanks

Water Pumping Stations

Litter Trans-shipment Station

Residential Houses

Waste Water Treatment Plant

Hellenic Ministry of Culture, 2005

Structural Engineer responsible for the analysis and construction stage design of new masonry buildings for the **Restoration of Ancient Thira Archaeological Site** project in Santorini, Greece

Pangaea Consulting Engineers, 2005

Tunnel and Geotechnical Engineer, responsible for the technical bid preparation for **Thessaloniki Metro** in Greece, including preliminary design of tunnels, temporary retaining works, ground improvement and risk mitigation strategies

2002-2007
Greece

Hellenic Ministry of Defence, Corps of Engineers, 2003-2005

Officer in the Corps of Engineers, responsible for construction design and site supervision of military engineering works, including reinforced concrete and structural steel military buildings, quay walls, retaining walls and roads

Laboratory of Earthquake Engineering, National Technical University of Athens, 2003

Structural Engineer responsible for the preparation and analysis of dynamic tests on the shaking table. Participation in the following projects:

ABB power plant facilities

Moment resisting steel frames with isolators

Seismic isolation system

Perforated brick masonry house in low seismicity regions

Capacity designed masonry walls in low seismicity regions

Alpha Beton Contractors, 2003

Resident Engineer responsible for construction supervision and method statements of permanent reinforced concrete linings for shafts and a SCL tunnel for the **Athens Metro Extension of Line 3**.

Omikron Kappa Consulting, 2002

Tunnel and Geotechnical Engineer, responsible for construction stage design of tunnels and underground works. Participation in the projects:

Anilio Highway Tunnel EGNATIA ODOS S.A.

S1 Highway Tunnel, EGNATIA ODOS S.A.

AS1 Highway Tunnel, Pathe Highway

The Arab Contractors, Trainee, Egypt, 2000

Trainee University Student in the construction supervision of sub-bases and pavements of roads for Hurghada Infrastructure.

**1998-2000
Trainee**

University of Brno, Faculty of Civil Engineering, Trainee, Czech Republic, 1999

Trainee Student, responsible for the experimental observation and measurement of moisture transport in building materials for Bioclimatic residential houses

Hellenic Public Power Corporation, Hydroelectric Dams Sector, Trainee, Greece, 1998

Trainee University Student in the Mesochora Hydroelectric Dam in Trikala Greece, providing assistance on the site laboratory and field measurements

Education and professional qualifications

MSc Computational Mechanics of Materials and Structures, Fakultät 2: Bau- und Umweltingenieur-wissenschaften (Faculty 2: Civil and Environmental Engineering Sciences), Universität Stuttgart Germany, GPA 1.9 (Good), 2007

MSc Design and Construction of Tunnels and Underground Works, School of Civil Engineering and School of Mining Engineering and Metallurgy, National Technical University of Athens Greece, GPA 9,09/10 (Excellent), 2003

Dipl(Eng) Civil Engineering, School of Civil Engineering, National Technical University of Athens Greece, GPA 8,34/10 (Very Good), 2001

IOSH Managing Safely in Construction (Certification), London UK 2011

APM, APMP Qualification (IPMA Level D Certification), London UK 2012

Language skills:

	Speaking	Reading	Writing
Hellenic	Native	Native	Native
English	Proficient	Proficient	Proficient
German	Proficient	Proficient	Proficient
Spanish	Intermediate	Intermediate	Intermediate

Professional associations

Institution of Civil Engineers (ICE) UK; CEng – MICE

European Federation of Engineers (Eurlng)

Association for Project Management (APM)

British Tunnelling Society (BTS)

Society for Earthquake Engineering and Dynamics (SECED)

Chartered Insurance Institute (CII)

International Society for Soil and Geotechnical Engineering (ISSMGE)

International Society for Rock Mechanics (ISRM)

Technical Chamber of Greece (TEE)

Hellenic Society of Civil Engineers (SPME)

Hellenic Society for Soil and Geotechnical Engineering (HSSMGE)

Awards - Acknowledgements

- Award of Excellence for Exceptional Performance and Contribution, Qatar Rail 2018
- Award of Excellence for Program Delivery Special Contribution, Qatar Rail 2017
- Award of Excellence in Project Management, Qatar Rail 2016
- Harding Prize Competition 2011, British Tunneling Society, Finalist
- Deutscher Akademischer Austausch Dienst, Germany 2006-2007

- Bodossaki Foundation, Hellas 2005-2006
- Hellenic State Scholarships Foundation, 1997-1998, 1998-1999 and 1999-2000

Articles

1. S. Konstantis, K. Yau, C. Paraskevopoulou. A probabilistic approach to assess the risk of liner instability and water inflow when tunneling/mining through karst geology using Geotechnical Baseline Reports, Tunneling and Underground Space Technology, 2019
2. S. Konstantis, K. Yau, C. Paraskevopoulou. A probabilistic approach to assess the risk of liner instability when tunnelling through karst geology using geotechnical baseline reports, ITA World Tunnel Congress 2019
3. S. Konstantis et al. Hydro Challenges for Doha Gold Line Station, Tunnelling Journal, November, 2018
4. S. Konstantis, S. Massinas et. al. Qatar Rail, Doha Metro – Gold Line Project / Assessment of TBM breaking-in activity into Souq Waqif station under adverse conditions. ITA World Tunnel Congress 2017
5. P. Spyridis, S. Konstantis, A. Gakis: Performance indicator of tunnel linings under geotechnical uncertainty. Geomechanics and Tunnelling, 2016
6. T. Konstantis, S. Konstantis, P. Spyridis: Tunnel losses: causes, impact, trends and risk management. In: ITA World Tunnel Congress 2016. 22-28 April 2016, San Francisco
7. I. Michalis, S. Konstantis: The application of Tunnel Stability Factor (TSF) in estimating the convergence mechanism and face stability in weak rock conditions. Jubilee edition for Professor A. Anagnostopoulos, NTUA, Athens. (edited by M. Kavvas)
8. R. Goodfellow, J. O'Carroll, S. Konstantis: Can the Risk Register become a Contract Document? In: 2014 North American Tunneling Conference. Los Angeles, June 22-25, 2014
9. S. Konstantis, P. Spyridis, A. Gakis: Index for the Capacity Utilization of Linings in Tunnels (CULT-I) - A quantified risk tool for design optimization. In: World Tunnel Congress 2014. Iguassu Falls – Brazil, May 9-15, 2014
10. B. Denney, S. Konstantis, S. Tillie: Proactive risk management - Helping to drive down insurance premiums and project costs. In: World Tunnel Congress 2014. Iguassu Falls – Brazil, May 9-15, 2014
11. S. Konstantis, P. Spyridis: Design optimization of tunnel linings based on risk and probabilistic finite element analyses. In: 11th International Probabilistic Workshop, Brno - Czech Republic, November 2013
12. S. Konstantis: Face stability assessment and ground deformation analysis for soft ground TBM tunnels. In: World Tunnelling Congress WTC 2013, Geneva-Switzerland, June 2013
13. S. Konstantis: Assessing face stability conditions for shallow tunnels in soft ground through the Tunnel Stability Factor. In: World Tunnelling Congress WTC 2012, Thailand, May 2012
14. S. Konstantis: Assessing Face Stability. In. Tunnels & Tunnelling International, Sept. 2011
15. H. Michalis, S. Konstantis, et. al. Tunnel Stability Factor – A new controlling parameter for the face stability conditions of shallow tunnels in weak rock environment. 17th ICSMG, Egypt

16. E. Papadrakakis, S. Konstantis, et. al. Seismic Vulnerability Analysis of Bridges with Random Material Properties. In: ECCOMAS Thematic Conference on Computational Methods in Structural Dynamics and Earthquake Engineering, June 2007, Rethymno, Greece
17. Anagnostopoulos, H. Michalis, S. Konstantis: Assessment of Face Stability Conditions of Underground Openings in Urban Areas through the Tunnel Stability Factor. In: 5th Pan-Hellenic Geotechnical Conference, Mai-June 2006, Xanthi, Greece

Invited presentations

1. Risk Management Workshop, British Tunnel Society (BTS) Young Members Group, March 2019, London, UK
2. Preliminary Design and Risk Management of Tunnels under Geotechnical Uncertainty, Leeds University, UK, April 2018
3. Probabilistic assessment of face stability conditions for shallow tunnels in soft ground, BTS Harding Prize Competition 2011, London, UK
4. Seismic Vulnerability Analysis of Bridges, ASPROGE (Antiseismic Protection of Bridges) Conference, National Technical University of Athens, May 2007, Greece