

CORPORATE CAPABILITY DOSSIER

Traffic Engineering | Transport Planning |
Road Safety | Specialist Advisory



EXECUTIVE SUMMARY



"Aurelion was founded with a clear vision—to provide practical, independent, and technically robust traffic engineering solutions that help shape safer, smarter, and more sustainable communities. We combine international engineering expertise with local market knowledge to deliver solutions that clients can trust."

Saswata Chakrabarti

Founder & Director

Aurelion Traffic & Road Signs Installation L.L.C. is a Dubai-based traffic engineering and transport planning consultancy delivering specialist transportation engineering services across the UAE and the GCC. We support government authorities, developers, engineering consultants, architects, and contractors with practical engineering advice, technical design, transport planning, and independent advisory services.

Our expertise spans Development Traffic Engineering, Road Safety Engineering, Microsimulation Modelling, Temporary Traffic Management, Transport Planning, and Specialist Advisory. From Traffic Impact Studies and parking design to transport masterplans, road safety audits, traffic modelling, and technical peer reviews, we deliver evidence-based engineering solutions that support planning approvals, improve road safety, and enhance mobility outcomes.

Supported by an experienced Technical Advisory Board and international engineering expertise, Aurelion combines best practices, advanced analytical tools, and industry-leading software including VISSIM, SIDRA, SYNCHRO, VISWALK, AutoCAD Civil 3D, ArcGIS, and QGIS to deliver technically sound and practical solutions.

At Aurelion, quality, independence, and engineering excellence underpin every assignment. Our objective is to help clients make informed decisions through reliable technical advice, innovative engineering solutions, and a commitment to safer, more efficient, and sustainable transport infrastructure.

WHY AURELION

At Aurelion, we combine technical expertise, international experience, and practical engineering solutions to support transportation projects from concept through implementation. Our multidisciplinary approach integrates traffic engineering, transport planning, road safety, and specialist advisory services to help clients make informed decisions, secure authority approvals, and deliver successful infrastructure projects.

Why Clients Choose Us

- Specialist Traffic Engineering Expertise – Comprehensive solutions spanning Traffic Impact Studies, Parking Design, Transport Planning, Road Safety Engineering, and Traffic Modelling.
- Independent Technical Advice – Objective, evidence-based engineering recommendations focused on achieving the best outcomes for every project.
- International Engineering Experience – Supported by experienced technical advisors with expertise across the UAE, GCC, Asia, and other international markets.
- Practical & Authority-Focused Solutions – Designs and technical assessments developed to support regulatory approvals, operational efficiency, and long-term mobility objectives.
- Quality Through Engineering Excellence – Robust technical reviews, structured quality assurance, and internationally recognised engineering practices ensure dependable deliverables.
- Collaborative Client Partnership – Working closely with developers, consultants, contractors, and government authorities to deliver practical, buildable, and sustainable transportation solutions.

Engineering Expertise. Intelligent Insights. Reliable Execution.



OUR ENGINEERING PRACTICE AREAS

Aurelion delivers specialist transportation engineering services that support the planning, design, operation and safety of transport infrastructure across the UAE and GCC. We partner with government authorities, developers, engineering consultants and contractors to provide practical, evidence-based engineering solutions from concept planning through project delivery.

01 Traffic Engineering

- Traffic Impact Studies (TIS)
- Parking Design & Layouts
- Access Strategy & Circulation
- Multi-Level Parking Design
- Swept Path Analysis
- Authority Submission Support

02 Road Safety Engineering

- Road Safety Audits (RSA)
- Collision data collation and analysis
- Road Safety Engineering
- High crash location identification
- Crash Investigation & Analysis
- Road Safety Improvement Plans
- Vulnerable Road User Assessments

03 Transport Planning

- Transport Masterplans
- Mobility Strategies
- Public Transport Planning
- Pedestrian & Cycling Planning
- Travel Demand Forecasting
- Accessibility & Connectivity Studies
- Integrated Transport Planning

04 Traffic Modelling & Simulation

- VISSIM Microsimulation
- SIDRA
- SYNCHRO
- VISWALK Pedestrian Simulation
- Network Performance Analysis

05 Temporary Traffic Management

- Traffic Management Plans (TMP)
- Traffic Diversion Plans
- Construction Traffic Management
- Work Zone Traffic & Safety
- Temporary Signage Layouts
- Construction Access Planning

06 Specialist Advisory

- Independent Technical Review
- Peer Review
- Due Diligence
- Expert Witness Services
- Technical Advisory
- Independent Engineering Review

INDUSTRIES WE SERVE

Aurelion partners with government authorities, developers, engineering consultants, contractors, and infrastructure owners to deliver specialist traffic engineering, transport planning, road safety, and advisory services. We support projects across the development lifecycle with practical engineering solutions that improve mobility, enhance safety, and enable sustainable infrastructure.

01 **Government Authorities**

Supporting transport authorities and municipalities with traffic engineering, transport planning, road safety, and independent technical advisory services.

02 **Engineering Consultants**

Providing specialist traffic engineering, modelling, and transport planning expertise to support multidisciplinary infrastructure and development projects.

03 **Infrastructure Contractors**

Delivering traffic management planning, construction traffic solutions, and engineering support for safe and efficient project delivery.

04 **Developers**

Supporting residential, commercial, industrial, and mixed-use developments through Traffic Impact Studies, parking design, and access planning.

05 **Smart Cities & Urban Development**

Supporting integrated mobility, sustainable transport planning, and future-ready urban infrastructure through engineering-led solutions.

06 **Airports, Ports & Industrial Facilities**

Providing specialist transport planning, traffic engineering, and operational assessments for major transport and industrial infrastructure.

Partnering with organisations to deliver safer, smarter, and more sustainable transportation infrastructure.

OUR PROJECT DELIVERY APPROACH

Every project follows a structured engineering process built on technical excellence, collaboration, and quality assurance. From understanding project objectives through engineering design, technical review, and final delivery, we provide practical, evidence-based solutions that support informed decisions and successful project outcomes.



01 Understand

Understand project objectives, stakeholder requirements, site constraints, and authority standards to establish a clear project framework.

03 Develop

Prepare engineering designs, technical assessments, modelling, and planning solutions tailored to project and regulatory requirements.

05 Coordinate

Collaborate closely with clients, consultants, contractors, and authorities throughout the project lifecycle to achieve practical and coordinated outcomes.

02 Assess

Review existing conditions, engineering requirements, available data, and operational challenges to define the most appropriate technical approach.

04 Review

Undertake rigorous technical reviews, quality assurance, and independent verification to ensure compliance, accuracy, and engineering excellence.

06 Deliver

Deliver clear, practical, and decision-ready engineering reports, drawings, and recommendations that support approvals and successful project implementation.

TECHNOLOGY & INNOVATION

Aurelion leverages industry-leading engineering software, digital technologies, and intelligent workflows to enhance project quality, improve technical accuracy, and support informed engineering decisions. Technology is integrated throughout our project delivery process to provide efficient, reliable, and practical solutions for complex transportation challenges.

01 Engineering Software



Industry-leading transport engineering platforms including VISSIM, SIDRA, SYNCHRO, VISWALK, AutoTURN, Civil 3D, ArcGIS, and QGIS.

02 Digital Engineering



Digital workflows that improve engineering efficiency, collaboration, and technical coordination throughout the project lifecycle.

03 GIS & Spatial Analysis



Geospatial mapping, network analysis, and spatial intelligence to support transport planning and infrastructure development.

04 Data Visualization & Reporting



Interactive dashboards, engineering graphics, and technical reporting that transform complex data into clear decision-making tools.

05 AI-Assisted Engineering



Artificial Intelligence supporting traffic analysis, video processing, quality assurance, and engineering productivity.

06 Innovation



Continuous adoption of emerging technologies and best practices to improve engineering quality, project delivery, and client outcomes.

Combining engineering expertise with digital innovation to deliver smarter transportation solutions.

"QUALITY IS NOT AN OUTCOME—IT IS THE FOUNDATION OF EVERY PROJECT WE DELIVER."

QUALITY ASSURANCE & TECHNICAL EXCELLENCE

At Aurelion, quality is embedded throughout every stage of project delivery. Our structured quality management framework combines technical expertise, independent review, and rigorous engineering governance to ensure every deliverable meets the highest standards of accuracy, compliance, and professional excellence.



01 Technical Excellence

Every project is delivered by experienced transportation professionals using recognised engineering principles and industry best practices.

03 Authority Compliance

Engineering assessments and designs are developed in accordance with applicable authority requirements, standards, and project-specific guidelines.

05 Project Delivery Excellence

Clear communication, proactive coordination, and disciplined project management ensure reliable and timely delivery.

02 Independent Technical Review

All technical deliverables undergo structured peer review and quality assurance to ensure accuracy, consistency, and compliance.

04 Digital Quality Assurance

Industry-leading software, digital workflows, and engineering validation enhance accuracy, consistency, and project efficiency.

06 Continuous Improvement

We continually strengthen our engineering capability through innovation, knowledge sharing, professional development, and adoption of emerging technologies.

OUR LEADERSHIP TEAM

LEADING AURELION'S VISION, STRATEGY & PROJECT DELIVERY

Aurelion's leadership team combines entrepreneurial vision, international business development, strategic partnerships, and technical expertise to deliver world-class traffic engineering and transport planning solutions across the UAE and the GCC. Together, the team is committed to engineering excellence, innovation, and long-term client success.

Saswata Chakrabarti Founder & Director



Saswata provides the strategic vision and overall leadership for Aurelion. He is responsible for corporate strategy, business growth, client engagement, strategic partnerships, and expanding the company's presence across the UAE and international markets.

Core Responsibilities

- Corporate Strategy
- Business Development
- Client Relationships
- Strategic Partnerships
- Regional Expansion

Kunj Bihari Director – Global Delivery



Kunj is responsible for global project delivery, multidisciplinary coordination, and operational excellence. He oversees engineering resources, project execution, quality management, and delivery processes to ensure projects are completed efficiently and consistently across international markets.

Core Responsibilities

- Global Project Delivery
- Project Management
- Engineering Coordination
- Quality Assurance
- Delivery Excellence

Dr. Stephen Lambert Director – Traffic Engineering



Stephen leads Aurelion's traffic engineering practice, overseeing the delivery of Road safety engineering, Traffic Impact Studies, transport planning, traffic modelling, parking design and multidisciplinary engineering projects. He ensures every project meets the highest technical standards and authority requirements.

Core Responsibilities

- Road Safety Engineering
- Transport Planning
- Traffic Modelling
- Technical Leadership
- Engineering Quality

Mahendra Kumar Ramesh Director – Operations



Mahendra oversees Aurelion's operational management, ensuring seamless execution of business processes, resource planning, client management, and organisational efficiency. He plays a key role in maintaining operational excellence and supporting the successful delivery of projects across the business.

Core Responsibilities

- Operations Management
- Resource Planning
- Project Operations
- Business Administration
- Operational Excellence

OUR ADVISORY TEAM

PRINCIPAL TECHNICAL ADVISOR – TRAFFIC STUDIES & SMART MOBILITY



**Dr. Nael Al Saleh,
PhD**

Dr. Nael Al Saleh is a transportation engineering specialist with extensive expertise in traffic studies, intelligent transportation systems, mobility analytics, and applied research. His work bridges academic excellence with practical engineering solutions, focusing on Traffic Impact Studies, road safety, smart mobility, and emerging transportation technologies. Through research, consultancy, and technical leadership, he has contributed to advancing innovative approaches to sustainable transportation systems. At Aurelion, Dr. Al Saleh provides strategic technical guidance that supports data-driven engineering decisions and the delivery of world-class transportation solutions.

TECHNICAL ADVISORY TEAM

Dr. Yarah Basyoni, PhD

Lead Consultant – Intelligent Transportation Systems (ITS)

25+ years' experience in Intelligent Transportation Systems (ITS), smart mobility, transportation planning, traffic operations, and applied transport research.

Todd Litman

Lead Consultant – Sustainable Transport Planning

30+ years' experience in sustainable transportation, mobility policy, travel demand management, and urban planning.

Ashish Mohapatra

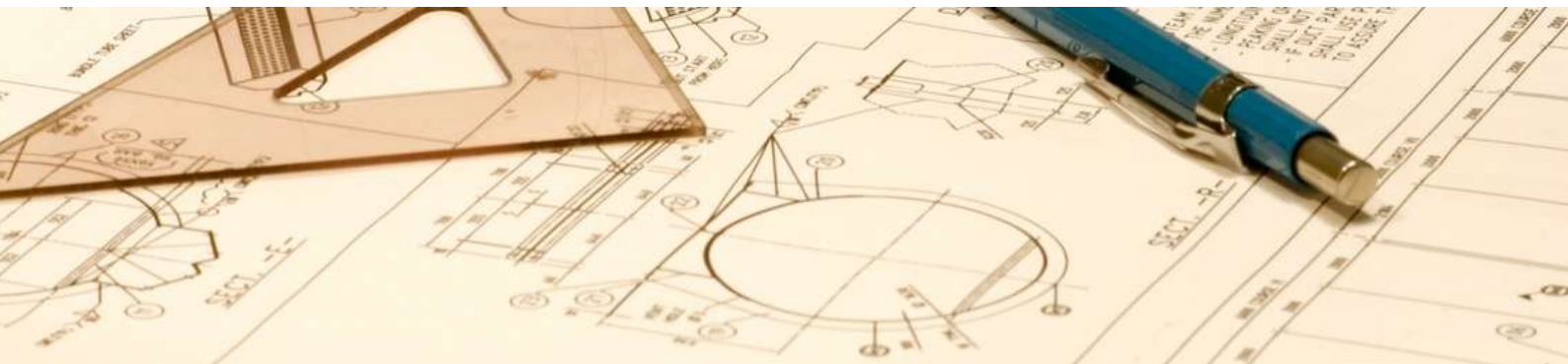
Lead Consultant – Institutional Governance & Capacity Building

40+ years' experience in institutional strengthening, governance, policy development, and capacity building programmes.

Emtiaj Hoque

Lead Consultant – GIS & Spatial Analytics

11+ years' experience in Enterprise GIS, spatial analytics, remote sensing, geospatial data management, and digital mapping solutions.



OUR ADVISORY TEAM

PRINCIPAL TECHNICAL ADVISOR – SUSTAINABLE MOBILITY & STRATEGIC ADVISORY



Dr. Viktoriia Betina,
PhD

Dr. Viktoriia Betina is an internationally recognised expert in sustainable urban mobility, transport policy, clean energy transition, and resilient city development. She has advised governments, international organisations, and research institutions on mobility strategies, policy development, and infrastructure programmes across international markets. Her expertise spans smart cities, sustainable transport, climate-resilient infrastructure, strategic planning, and technical proposal development. At Aurelion, she provides strategic technical leadership, supports major bids and proposals, and helps clients develop innovative, future-ready transportation solutions aligned with international best practices.

TECHNICAL ADVISORY TEAM

Kamran Shah, P.Eng., PTOE, PTP

Lead Consultant – Traffic Engineering & Parking Design

25+ years' experience in traffic engineering, Traffic Impact Studies, parking planning, traffic signal design, and transportation engineering.

Daniel Woods

Lead Consultant – Rail Transit Systems

30+ years' experience in Rail Systems, Electrification and Intercase Management

Ramesh Chand Vishwakarma

Lead Consultant – Contracts & Commercial Management

30+ years' experience in FIDIC contracts, commercial management, claims, dispute resolution, and project controls.

Csaba Kelen

Lead Consultant – Transport Modelling

25+ years' experience in transport modelling, travel demand forecasting, microsimulation, and multimodal transport analysis.

Prasada Rao Inapanuri

Lead Consultant – Traffic Management

30+ years' experience in traffic management, traffic modelling, road safety audits, and transportation engineering.

Alia Al Kloub, MSc

Lead Consultant – Transport Planning

8+ years' experience in transportation planning, traffic engineering, GIS-based transport planning, and sustainable mobility across the Middle East.

OUR ADVISORY TEAM

PRINCIPAL TECHNICAL ADVISOR – PROJECT DELIVERY & INFRASTRUCTURE



Mr. Camille Elazar

Camille Elazar is a highly accomplished transportation and infrastructure professional with more than three decades of international experience leading the delivery of major transportation, highway, and multidisciplinary infrastructure projects across the Middle East. Having held senior leadership positions with Parsons International, he has successfully directed complex programmes for government authorities and private sector clients. His expertise encompasses transportation engineering, project governance, technical assurance, engineering management, and strategic advisory. At Aurelion, Camille provides executive technical leadership, ensuring every project is delivered with engineering excellence, innovation, and international best practices.

TECHNICAL ADVISORY TEAM

Dr. N. Srinivasa Reddy

Lead Consultant – Transportation Planning

33+ years' experience in transportation planning, urban mobility, highways, metro systems, airports, and international infrastructure projects.

Howard Smith, AICP, FITE

Lead Consultant – Transport Planning & Project Development

40+ years' international experience in transportation planning, public transport, corridor development, and infrastructure advisory.

Steve Barlow

Lead Consultant – Transport Strategy & Road Safety

35+ years' international experience in transport strategy, road safety, active mobility, and multidisciplinary infrastructure advisory.

K. J. V. Ramana Rao

Lead Consultant – Public Transport & Road Safety

32+ years' experience in public transport planning, travel demand modelling, road safety engineering, and integrated transport systems.

Md. Khalilur Rahman Khan

Lead Consultant – Transport Economics & Infrastructure Finance

35+ years' experience in transport economics, infrastructure finance, PPP advisory, investment planning, and policy development.

K. Mallikarjuna Rao

Lead Consultant – Road Safety Engineering

35+ years' experience in road safety engineering, highway safety audits, traffic operations, and work zone safety.

DELIVERING TRANSPORTATION EXCELLENCE ACROSS DIVERSE
INFRASTRUCTURE PROJECTS

PROJECT SPOTLIGHT

Our technical leadership team has successfully contributed to transportation planning, traffic engineering, mobility studies, metro systems, highways, airports, and urban infrastructure projects across Asia, the Middle East, Europe, and Africa. This collective experience enables Aurelion to deliver practical, innovative, and data-driven solutions for complex transportation challenges.

SELECTED LANDMARK PROJECTS

METRO & RAIL

- Mumbai Metro Line-3
- Chennai Metro Phase-2
- Pune Metro
- Nagpur Metro
- Dhaka MRT Line-1
- Metro Manila MRT-3
- Philippine Greater Capital Railway
- Mauritius Light Rail Transit

TRANSPORTATION & MOBILITY

- Bengaluru–Mumbai Economic Corridor
- Nagpur Airport Traffic Circulation Plan
- Dighi Port Industrial Area Master Plan
- Global Sports City, Chennai

INTERNATIONAL EXPERIENCE

QATAR • INDIA • BANGLADESH • PHILIPPINES • MAURITIUS • MYANMAR • NEPAL •
UK • MALAYSIA • TANZANIA

FUNDING AGENCIES

JICA • WORLD BANK • ASIAN DEVELOPMENT BANK (ADB) • USAID • DFID •
EUROPEAN UNION • AFDB • UNDP



PROJECT SPOTLIGHT

REPRESENTATIVE TRANSPORTATION PROJECTS

ROAD SAFETY ENGINEERING & AUDITS

- Development and Implementation for Crash Medial Measures, Traffic Calming and High Speed Collision treatment projects in Ireland
- Development of Road Safety Audit process in Ireland and Abu Dhabi
- Development of Inter Agency Partnerships to improve road safety at local and national levels
- Delivery of road safety training courses in Ireland, Abu Dhabi, Saudi Arabia and Ethiopia
- Thousands of RSAs for all stages of design and construction for projects ranging from small developments to major highways and road networks
- Development of the Road Network Safety Management System in Ireland as per the EU's Directives

PARKING PLANNING & DESIGN

- The Mukaab – Concept Parking Design
- Diriyah Gate Development – Parking Planning & Design
- King Abdullah Financial District (KAJD) – Parking Strategy & Design
- Dubai Mall Refurbishment – Parking Planning & Circulation
- Dubai Square Mall – Integrated Parking Design & Access Planning

MOBILITY PLANNING

- Navi Mumbai Comprehensive Mobility Plan
- Ranchi Comprehensive Mobility Plan
- Aizawl Sustainable Urban Transport Project
- Shimla Ropeway Mobility Study

TRAFFIC ENGINEERING & HIGHWAY PROJECTS

- Delhi–Mumbai Industrial Corridor (DMIC)
- Delhi–Amritsar–Katra Expressway
- Bharatmala Highway Projects
- NH-39 / NH-47 / NH-48 / NH-734
- Samruddhi Mahamarg

DELIVERING TRANSPORTATION EXCELLENCE ACROSS DIVERSE
INFRASTRUCTURE PROJECTS

PROJECT HIGHLIGHTS

DIVERSE EXPERTISE ACROSS THE TRANSPORTATION SECTOR

-  **Metro & Rail** - Planning, demand forecasting, station access studies, multimodal integration, and traffic management.
-  **Highways & Expressways** - Traffic studies, DPR support, road safety audits, highway engineering, and corridor planning.
-  **Traffic Engineering** - Traffic impact assessments, junction analysis, parking studies, access management, and circulation planning.
-  **Urban Mobility** - Transport Master Plans (TMP), sustainable transport planning, public transport integration, and smart mobility solutions.
-  **Airports, Ports & Logistics** - Airport traffic circulation studies, logistics planning, port connectivity, and freight movement analysis.
-  **Traffic Data & Analytics** - Video-based surveys, AI-assisted traffic analytics, mobility intelligence, GIS mapping, and decision-ready reporting.



ENGINEERING TOOLS & DIGITAL CAPABILITIES

ENGINEERING SOFTWARE

- Transport Planning & Modelling
 - VISUM
 - VISSIM
 - CUBE
 - SIDRA
 - SYNCHRO
- Design & CAD
 - AutoCAD
 - AutoTURN
 - Civil 3D
- GIS & Spatial Analytics
 - ArcGIS
 - QGIS
- Project & Analytics
 - Power BI
 - Microsoft Project
 - Excel & Power Query
- Digital Engineering
 - AI Video Analytics
 - Digital Dashboards

ENGINEERING & TECHNICAL RESOURCES

- Transportation Engineers
- Traffic Engineers
- Transport Planners
- Road Safety Specialists
- Traffic Modelling Specialists
- GIS Specialists
- CAD & Design Engineers
- Project Management Professionals
- Technical Advisory Board
- Digital Engineering Platform

Our engineering teams leverage industry-leading software, digital platforms, and specialist technical expertise to deliver accurate, innovative, and decision-ready transportation solutions.



GROWTH

AURELION AT A GLANCE



500+

Transportation
Projects Delivered

14+

Countries Served

35+

Engineering &
Technical Experts

12+

Years of Industry
Experience

3

Principal Technical
Advisors

18 +

Lead Consultants



REGISTERED, COMPLIANT & READY TO DELIVER

CORPORATE CREDENTIALS

UAE CORPORATE REGISTRATION

- Dubai Mainland Company
- Trade Licence
- Establishment Card
- Corporate Tax Registration

MARKETING STRATEGY

Quality & Compliance

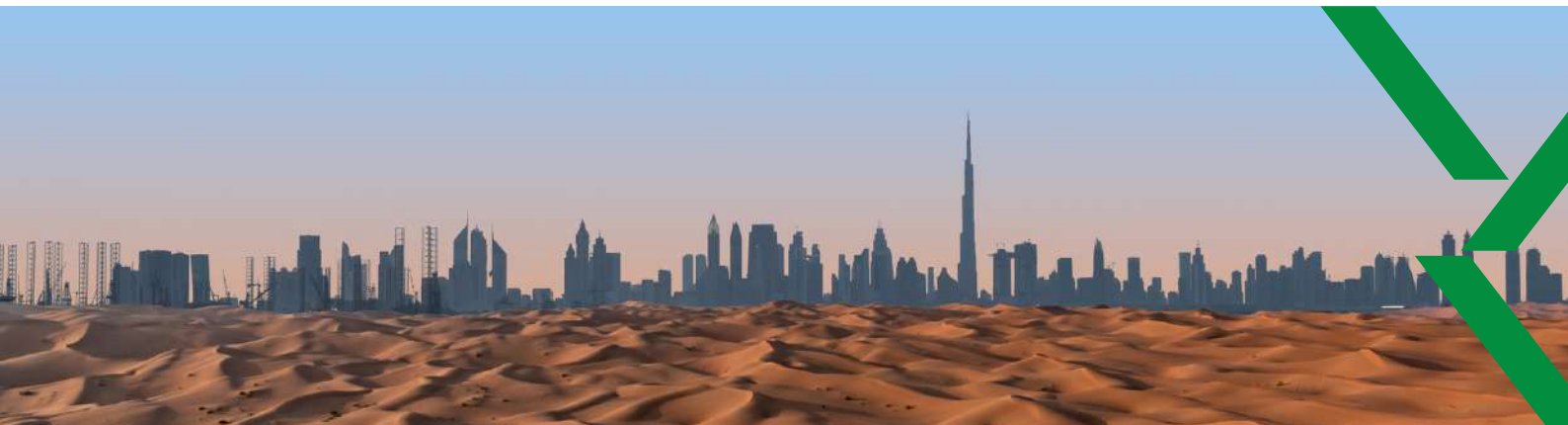
- Structured Quality Management System
- Health, Safety & Environmental (HSE) Commitment
- Engineering Review & QA/QC Procedures
- Regulatory Compliance

Professional Standards

- Ethical Business Practices
- Client Confidentiality
- Data Security & Information Protection
- Continuous Professional Development

International Capability

- Experienced multidisciplinary advisory team
- International project experience
- Technology-enabled project delivery
- Commitment to global engineering best practices



HEALTH, SAFETY & ENVIRONMENT (HSE)

At Aurelion, health, safety, and environmental responsibility are integral to every project we undertake. We are committed to providing a safe working environment, protecting the wellbeing of our employees, clients, partners, and the public, while minimizing environmental impact through responsible planning and operational practices.



Our HSE Commitments

Safety First

Prioritizing the health and safety of our workforce, clients, and the communities in which we operate.

Risk Assessment

Identifying, assessing, and mitigating project risks through structured planning and safe work practices.

Environmental Responsibility

Promoting sustainable operations by reducing waste, optimizing resources, and adopting environmentally responsible practices.

Competence & Training

Ensuring personnel are trained, informed, and equipped to perform their responsibilities safely and effectively.

Incident Prevention

Promoting a proactive safety culture focused on hazard identification, continuous monitoring, and preventive action.

Continuous Improvement

Regularly reviewing our HSE practices to enhance performance and align with industry best practices.

ENVIRONMENTAL & SUSTAINABILITY COMMITMENT

Aurelion is committed to promoting environmentally responsible practices that contribute to safer, smarter, and more sustainable transportation systems. We integrate sustainability considerations into our operations, project delivery, and technology adoption to help clients make informed decisions while minimizing environmental impact.



Our Sustainability Commitments

Sustainable Transportation

Supporting mobility solutions that improve traffic efficiency, reduce congestion, and encourage sustainable transport planning.

Responsible Operations

Promoting efficient resource utilization, minimizing waste, and adopting environmentally responsible work practices.

Digital-First Approach

Leveraging digital data collection, AI-powered analytics, cloud collaboration, and electronic reporting to reduce paper consumption.

Innovation for Efficiency

Utilizing intelligent technologies and data-driven solutions to improve operational efficiency and optimize transportation systems.

Environmental Compliance

Conducting our activities in accordance with applicable environmental regulations, industry standards, and client requirements.

Continuous Improvement

Continuously enhancing our environmental practices through innovation, technology, and responsible business operations.



LET'S BUILD THE FUTURE OF MOBILITY, TOGETHER.



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