



MEP Consulting Services Catalogue

2026 Edition

Engineering Excellence & Sustainable Solutions



ENGINEERING

is not about systems; it is about responsibility for what they do.

About Consquare Consultancy

Consquare Consultancy LLC is a tier-one multi-disciplinary engineering consultancy firm specialising in comprehensive Mechanical, Electrical, and Plumbing (MEP) services. With over 25 years of proven excellence and collective engineering experience, we have established ourselves as a pivotal partner in the construction industry, bridging the critical gap between architectural vision and engineering functionality.

Our firm operates at the intersection of innovation and practicality, delivering high-performance building systems that are energy-efficient, sustainable, and commercially viable. With primary operations across the GCC region, we possess deep expertise in cooling-dominated climates, addressing the unique challenges posed by extreme temperatures, high

humidity, and stringent energy-efficiency requirements. We pride ourselves on a deep understanding of the built environment, offering end-to-end solutions from feasibility studies and conceptual design through to detailed engineering, site supervision, and post-occupancy commissioning.

Consquare is committed to engineering excellence. We leverage advanced computational tools and adhere to rigorous international standards to solve complex challenges in the built environment. Our client-centric approach ensures that every project—whether a high-rise commercial tower, a specialised healthcare facility, or an industrial complex—is delivered with precision, quality, and technical integrity.

Our Experience & Track Records

Our portfolio encompasses a diverse range of successful projects across the GCC and wider MENA region. We have successfully delivered engineering solutions for complex infrastructure in cooling-dominated environments, demonstrating our capacity to handle large-scale developments with intricate technical requirements specific to hot, arid climates.

25+

Years of Excellence

500+

Projects Delivered

1.5M+

Square Metres Engineered

100%

Client Retention

Clients do
not buy
designs;
they buy
certainty



Comprehensive Engineering Services

We design for performance, resilience, and accountability.

Consquare provides a holistic suite of engineering services. Our technical teams are organised into specialised disciplines to ensure depth of knowledge and expert delivery in every aspect of building services.



MECHANICAL ENGINEERING & HVAC SYSTEMS

Optimising thermal comfort and indoor air quality in cooling-dominated GCC climates.

- Centralised Chilled Water Plant and District Cooling Systems
- Building Cooling and Air-Conditioning
- Building Energy Management Solutions
- Indoor Air Quality and Ventilation Strategies
- Thermal Load Management and Optimization
- Smoke Control and Pressurisation Systems
- Process Cooling & Industrial Ventilation
- Building Automation and Controls (BMS)
- Thermal Energy Storage (TES) systems for Colling Shifting

PLUMBING & WATER SYSTEMS

Sustainable water management and advanced treatment solutions.

- Plumbing & Water Systems
- Domestic Cold and Hot Water Systems
- Centralized Water Heating Solutions
- Water Treatment and Filtration
- Potable Water Storage and Distribution
- Drainage, Venting, and Wastewater Systems
- Stormwater and Rainwater Management
- Water Reuse and Conservation Systems
- Fuel Storage and Utility Fluid Systems



ELECTRICAL ENGINEERING

Designing robust, safe, and efficient power infrastructure.

- MV/LV Power Distribution & Load Analysis
- Substation Design & Transformer Sizing
- Standby Power Generation & UPS Systems
- Renewable Energy Integration (Solar PV Systems)
- Smart Metering & Power Quality Analysis
- Lighting Design (Interior/Exterior) & Control Protocols (DALI/KNX)
- Earthing & Lightning Protection Systems (IEC/NFPA)
- Electric Vehicle (EV) Charging Infrastructure

ELV & ICT SYSTEMS

- Structured Cabling & Network Infrastructure
- CCTV Surveillance & Video Management Systems
- Access Control & Intrusion Detection
- Audio Visual (AV) & Public Address Systems
- IPTV, SMATV, and Intercom Systems
- Smart Home Automation & IoT Integration

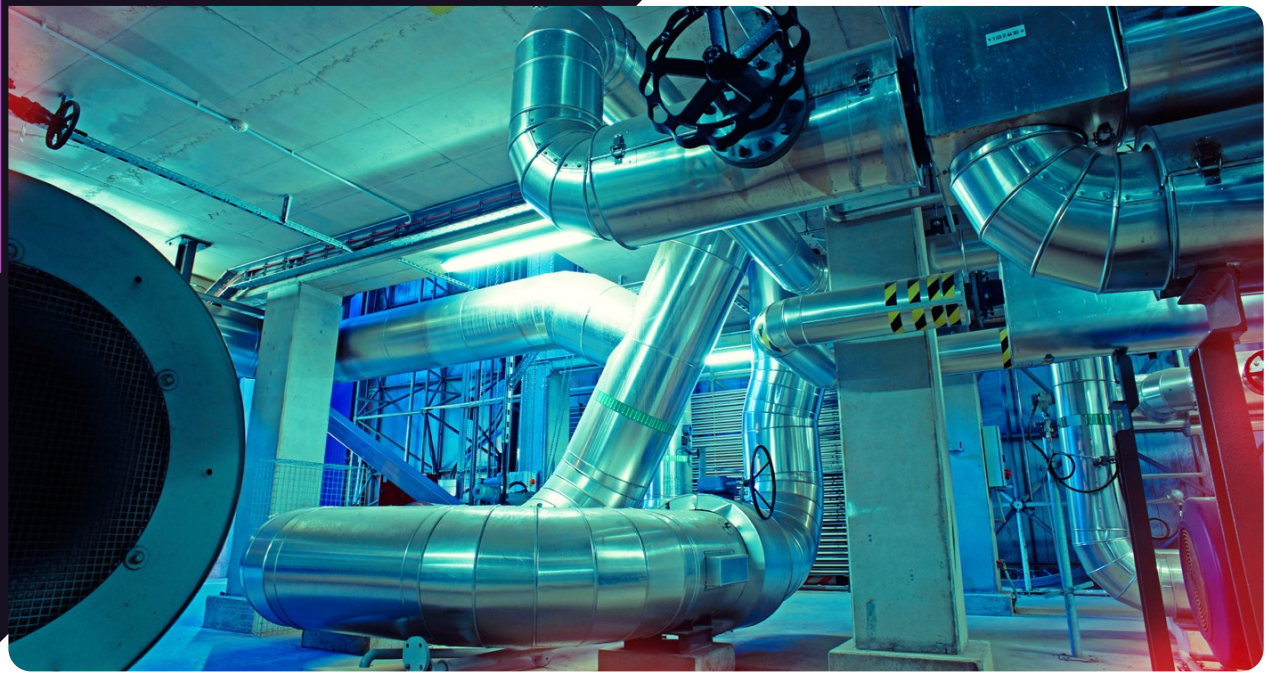
FIRE & LIFE SAFETY

Ensuring occupant safety through code-compliant protection systems.

- Automatic Sprinkler & Standpipe Systems
- Clean Agent Suppression (FM200, Novec 1230)
- Pre-action & Deluge Systems
- Addressable Fire Detection & Alarm Systems
- Voice Evacuation & Emergency Communication
- Emergency & Exit Lighting Layouts
- Fire Pump Room Design & Hydraulic Calculations

SPECIALISED ENGINEERING

- Medical Gas Pipeline Systems (MGPS) for Healthcare
- Laboratory Fume Hood & Exhaust Systems
- Commercial Kitchen Ventilation & Filtration
- Data Centre Cooling & Power Infrastructure
- Compressed Air & Vacuum Systems
- Clean Rooms Design
- Energy Audits & Building Performance Optimisation
- Sustainability & Green Building



Core Competencies & Advanced Capabilities

COMPETENCY	TECHNICAL DESCRIPTION
Sustainability & Green Building	Expertise in LEED, Estidama, and ASHRAE standards for energy efficiency and sustainability. We implement passive design strategies and active energy conservation measures to minimise carbon footprints and operational costs.
Advanced Simulation (CFD & Energy)	Utilisation of Computational Fluid Dynamics (CFD) for airflow and smoke analysis, alongside dynamic thermal modelling to optimise HVAC sizing and envelope performance.
BIM & Digital Twin	LOD 300 to LOD 500 implementation using Revit MEP. We perform clash detection, 4D scheduling, and 6D facilities management data integration for seamless project lifecycle management.
Value Engineering & LCCA	Systematic Life Cycle Cost Analysis (LCCA) to evaluate CAPEX vs. OPEX, ensuring investment decisions are based on total cost of ownership rather than just initial outlay.
Thermal Energy Storage (TES)	Design and integration of chilled water thermal storage systems for peak load shifting, demand management, and operational cost reduction in cooling-dominated facilities.
Water Treatment Engineering	Comprehensive water treatment solutions, including RO plants, filtration systems, chemical dosing, and water quality management for potable, process, and cooling tower applications.
Vertical Transportation Systems	Coordination and integration of lift, escalator, and travelator systems, including machine room ventilation, electrical loads, and emergency evacuation requirements.

Sectors of Experience

Our extensive experience spans diverse industry verticals, delivering specialised engineering solutions tailored to the unique requirements of each sector.

COMMERCIAL & CORPORATE

- Office Towers
- Retail Malls, Shopping Centres and Showrooms
- Mixed-Use Developments
- High Rise Buildings
- Multi-function Halls and Auditorium
- Facilities and Assets Management Centres

HEALTHCARE & LABORATORY

- General & Specialised Hospitals
- Diagnostic Clinics & Imaging Centres
- Pharmaceutical Laboratories
- Clean Room Environments
- Quarantine Facilities
- Medical Storage
- Clinical Waste Management

GOVERNMENT & SECURITY

- Governmental Buildings
- Police Stations & Headquarters
- Detention Centres & Prisons
- Command & Control Centres
- Operations & Emergency Response Centres
- Border Control & Customs Facilities

MILITARY, DEFENCE & TRAINING

- Armouries & Weapon Storage Facilities
- Indoor & Outdoor Shooting Ranges
- Tactical Training Facilities
- Simulation & Training Cities
- Military Facilities & Barracks
- C7ISR Centres
- Military Industrial Plants

HOSPITALITY, LEISURE, SPORTS and EVENTS

- Hotels, Resorts, and Serviced Apartments
- Theme Parks & Recreational Facilities
- Theaters, Auditoriums, Galleries, and Art Centres
- Convention, Events and Exhibition Centres
- Stadiums and Indoor Sports
- Gym and Rehabilitation

INDUSTRIAL & MISSION CRITICAL

- Data Centres & Server Farms
- Logistics Warehouses, Sorting, Catering and Cold Storage
- Manufacturing Plants
- District Cooling Plants
- Unmanned Automatic Facilities
- Remote Monitoring Stations

INFRASTRUCTURE & TRANSPORTATION

- Airports & Aviation Facilities
- Metro & Rail Stations
- Bus Terminals & Depots
- Car Parks & Service Centres

RESIDENTIAL & LONG-STAY PREMISES

- High-Rise Residential Towers
- Luxury Villas & Compounds
- Student Housing
- Social Housing Projects

EDUCATIONAL & ACADEMIC

- Universities & Colleges
- Schools & Training Centres
- Research Facilities
- Libraries & Learning Resources Centres

Previous Experience and Success Stories

Consquare Consultancy LLC has a demonstrable record of delivering high-performance MEP solutions across complex, regulated, and mission-critical environments.

Our experience spans commercial, healthcare, government, security, hospitality, and industrial projects, where engineering precision, climatic resilience, and operational reliability are non-negotiable.

Success, for us, is defined by systems that perform as designed, projects that progress without disruption, and clients who return with confidence. The depth of our portfolio reflects not volume alone, but consistent delivery, technical integrity, and trust earned through results.



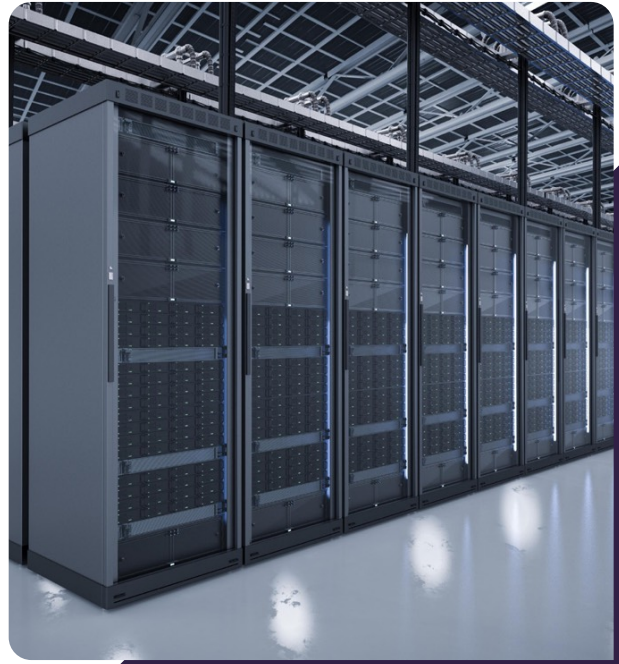
Al Jamarat Bridge - Makkah

Specialist MEP engineering for a high-density pedestrian structure, focusing on life-safety systems, electrical resilience, and environmental performance under extreme crowd and climatic conditions.



Al Rashidiya Police Station - Dubai

MEP consultancy for a fully operational police facility, delivering reliable HVAC, power, and life-safety systems aligned with continuous security operations.



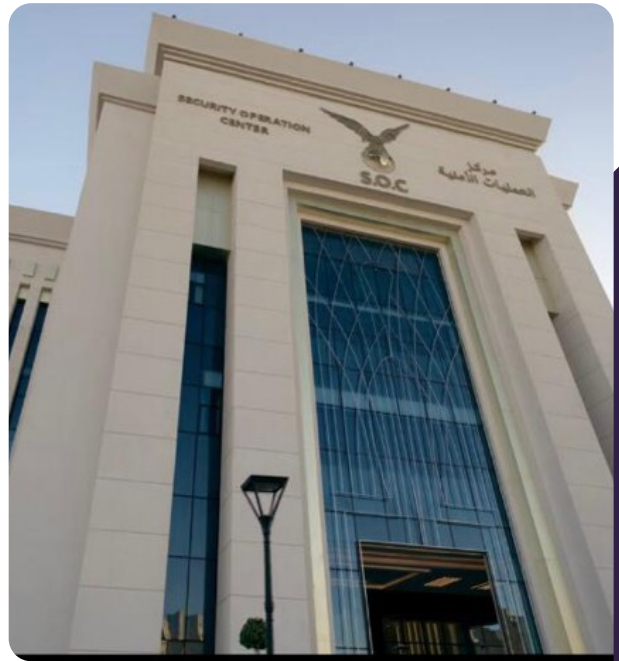
MOE Data Centre - Dubai

Mission-critical MEP design for a government data centre, emphasising redundancy, precision cooling, and resilient electrical infrastructure.



KAPSARC - Al Riyadh

Advanced engineering consultancy for a landmark research campus, integrating energy-efficient systems and complex building services within a highly specialised architectural form.



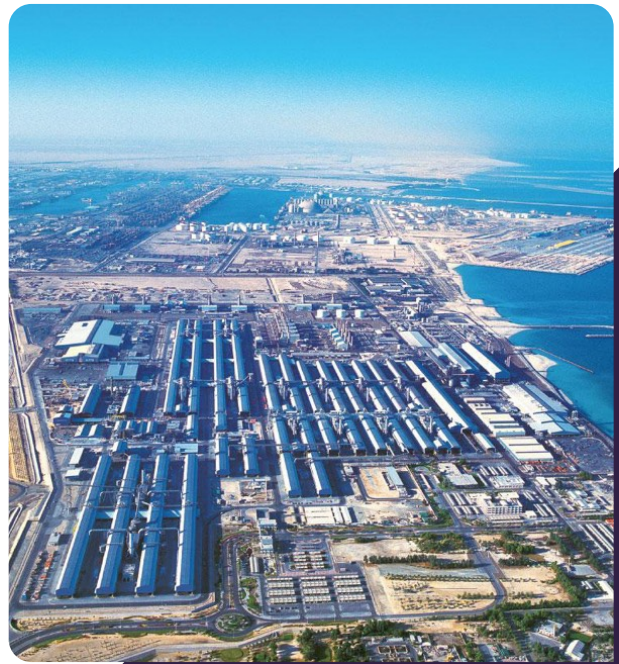
MOI SOC - Egypt

MEP systems engineered for a national security operations centre, prioritising redundancy, environmental control, and uninterrupted 24/7 operation.



Al Basra Courthouses - Al Basra

Comprehensive MEP consultancy for multiple judicial buildings, delivering reliable, code-compliant systems suited to continuous public service operations.



Dubal - Dubai

Industrial MEP engineering for large-scale facilities, addressing high electrical loads, industrial ventilation, and robust utility systems.



Central Prison - Sharjah

MEP, ICT, and security consultancy for a secure correctional facility, focusing on controlled ventilation, resilient power, and compliant life-safety systems.



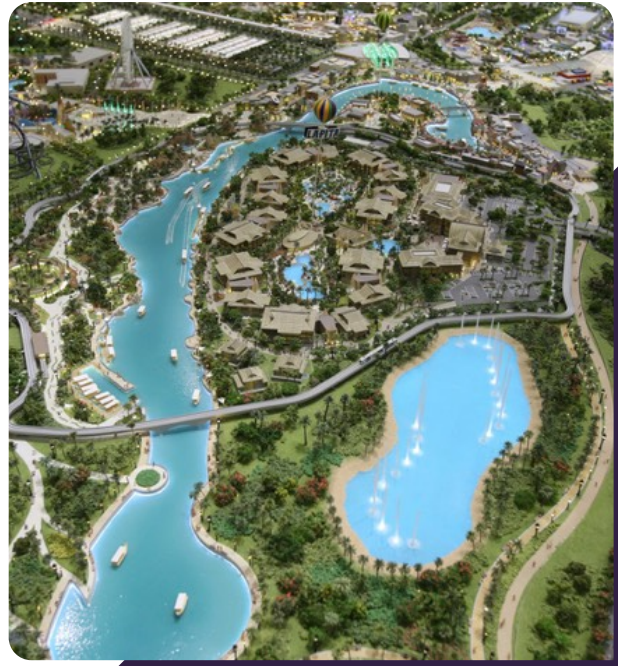
Al Qusais Police Station - Dubai

Engineering of dependable MEP systems supporting operational police functions, public access areas, and secure internal zones.



Hamad International Airport - Doha

Large-scale MEP engineering support for a major international airport, addressing highly specific systems of the un-manned catering in both air-side and land-side.



Dubai Parks and Resorts - Dubai

Special systems consultancy for a multi-destination leisure development, delivering scalable cooling, power, and water systems across diverse attractions.



Makers District - Abu Dhabi

Integrated design and balst analysis for a mixed-use urban development, optimised for comfort, efficiency, and long-term operational performance.



Golden Mile - Dubai

MEP engineering for a high-density residential and mixed-use development, focusing on energy efficiency, reliability, and occupant comfort.

Projects

Delivery Methodology

At Consquare Consultancy LLC, project delivery is treated as an engineered discipline in its own right. Every phase is structured to convert intent into performance, and design into operational certainty.

From early feasibility through to final handover, our methodology prioritises clarity of scope, technical rigour, and decision traceability. Each milestone is deliberately defined to reduce risk, eliminate ambiguity, and safeguard long-term performance.

This phased approach ensures that what is conceived is buildable, what is built is verifiable, and what is handed over performs reliably throughout its lifecycle. The result is not merely compliant documentation, but engineered outcomes that endure in real-world operation.

We employ a phased approach to ensure clarity, control, and quality at every milestone:

- 1** Phase 1
Concept and Feasibility  Deliverables: Basis of Design (BOD) reports, utility load estimations, preliminary space planning, and system option studies.
- 2** Phase 2
Schematic and Detailed Design  Deliverables: Detailed calculations, single line diagrams, equipment schedules, comprehensive layouts, and coordination drawings.
- 3** Phase 3
Tender Documentation  Deliverables: Technical specifications (CSI Format), Bill of Quantities (BOQ), Vendor lists, and conditions of contract.
- 4** Phase 4
Construction Support  Deliverables: Material submittal reviews, shop drawing and submittal approvals, RFI responses, and site inspection reports.
- 5** Phase 5
Handover and Close-out  Deliverables: Snag lists, testing & commissioning supervision, O&M manual review, and as-built documentation verification.



Quality Assurance & Standards Compliance

Our commitment extends beyond approvals and handover to ensuring that systems function as intended, meet operational expectations, and support safe, efficient, and resilient built environments.

Consquare Consultancy LLC operates under a zero-compromise quality philosophy. Quality is not treated as a post-design check or a compliance exercise; it is embedded into our engineering methodology, decision-making processes, and deliverable governance from project inception through to handover.

Every design output is developed to be technically defensible, regulator-ready, and operationally reliable over its full lifecycle.

Our quality assurance framework is built on discipline, traceability, and verification. Engineering calculations, drawings, specifications, and reports are subject to structured internal reviews, senior-level validation, and formal design coordination controls.

This ensures that all deliverables are consistent, coordinated, and aligned with both statutory obligations and project-specific performance requirements.

- International Codes: ASHRAE, NFPA, NEC, IEC, BS/EN, CIBSE, IPC, ASPE.
- Quality Management: ISO 9001:2015-aligned internal quality management systems (QMS).
- Local Authorities: Full compliance with Municipality regulations, Civil Defence, and Utility Provider requirements across our regions of operation.



Technical Capabilities

Our design philosophy is supported by state-of-the-art technology. We utilise industry-leading software to ensure accuracy, compliance, and efficiency in our deliverables.

- **BIM & Drafting**

Autodesk Revit MEP, AutoCAD MEP, Navisworks Manage (Clash Detection)

- **HVAC Analysis**

HAP (Hourly Analysis Program), IES Virtual Environment, Carrier E-20

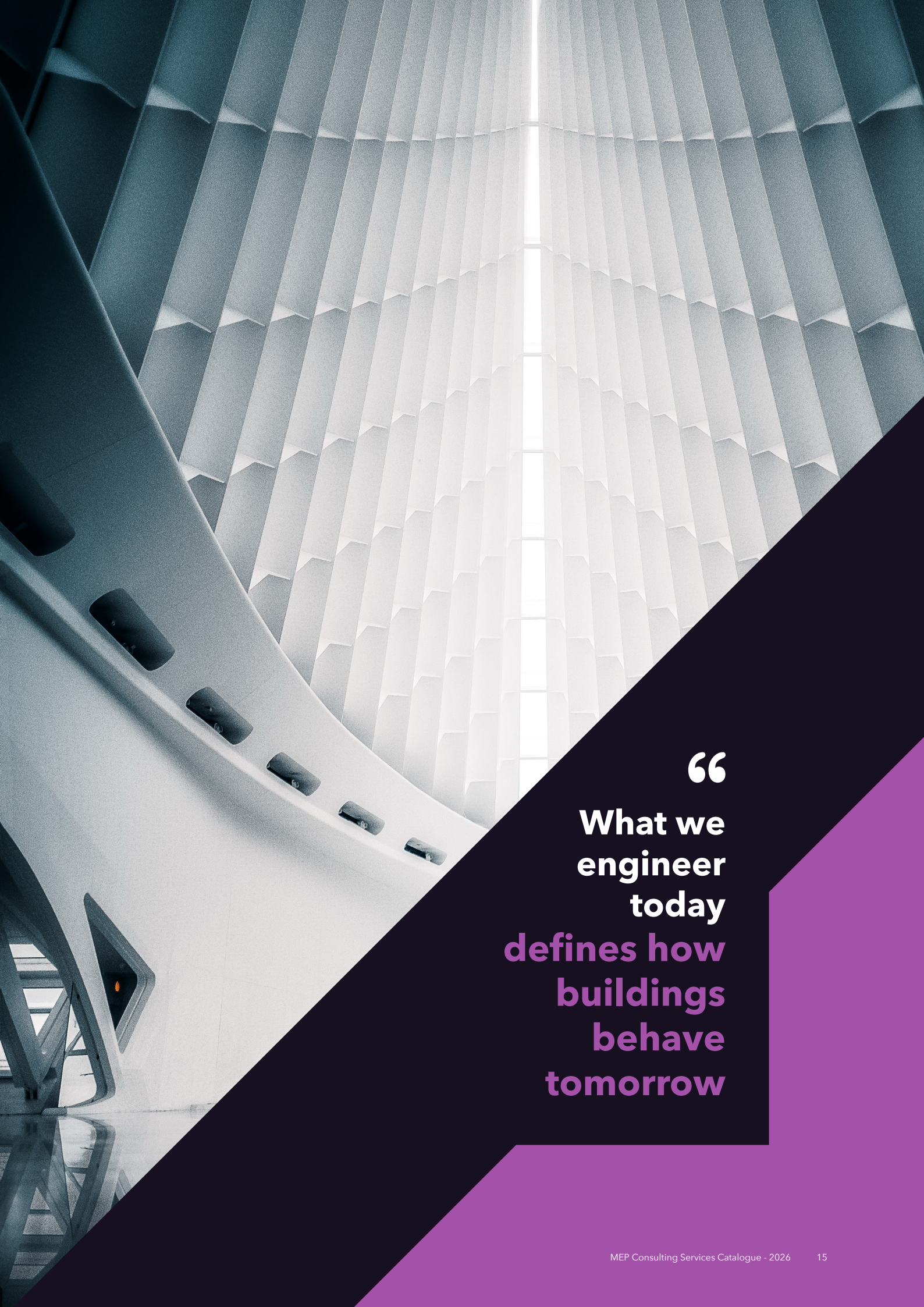
- **Electrical Design**

ETAP, Amtech ProDesign, Dialux / Relux (Lighting Simulation), AGI32

Competitive Advantages

Why do leading developers and architects choose Consquare Consultancy?

- **Principal Involvement:** Direct engagement of senior partners in every project ensures high-level problem-solving.
- **Integrated Design:** Seamless internal coordination between Specialist, Mechanical and Electrical disciplines eliminates site conflicts.
- **Cost-Conscious Engineering:** We design to budget, utilising value engineering to maximise functionality per dirham spent.
- **Speed to Market:** Agile workflows allow us to meet aggressive project timelines without sacrificing quality.



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**What we
engineer
today
defines how
buildings
behave
tomorrow**



Contact Us

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