



Profile

AVANTIS is a multi-disciplined **engineering** and **design** firm specialized in Electrical, Power, Mechanical, Piping and Telecommunication projects.

AVANTIS' high skilled engineers offer an extensive **technical expertise** with a clear management vision in mechanical HVAC, plumbing, electrical, low current engineering and design services.

Our organization is structured to meet the challenges of projects of different sizes and complexities across the **Middle East** and **Africa**.

Our practice is built upon:

- The **quality** of our people
- The **depth** of our client base
- The **strength** of our relationships
- The **diversity** of design experience





Competence and Expertise

We strive to build and maintain good and long standing business relationships with all our clients.

We believe in teamwork, communications and partnering to make a relationship successful.

We value every client, and tailor our designs to respond immediately to all their needs through the skills and talents of our staff.

We are a customer focused organization.

We offer consultancy to deliver reliable results, including a sound and efficient site engineering supervision and approval.

We ensure the use of creativity to solve complex problems.

We focus on the highest level of excellence and quality in engineering and services for all our projects.



C_{ommitment to You}

Our **goal** is to become an extension of your organization.

Our **success** has come from listening, understanding and responding to the needs of our clients.

Our **focus** is the relationship, not simply the project.



S_{ervices}

Electrical & Mechanical
Design and Shop Drawings



Electrical Deliverables

- List of drawings
- Legend and notes
- Layout plans
- 3D modeling services (REVIT)
- Installation details
- Single line diagrams
- Load schedules
- Calculation notes
- Technical schedules
- Specifications
- Bill of quantities
- Project description report
- Operating and maintenance manuals



Electrical Deliverables

Systems

■ Lighting system

Conventional lighting systems • Intelligent lighting systems (KNX, DALI, etc,...) • Stage and theaters lighting system • Emergency lighting system • Software simulation and scenes

■ Power system

Medium voltage switchgears and protections • Feeders/cabling sizing • MV, LV transformers • Back up supply for critical loads • Diesel generators • Gas turbines • Panel boards and motor control centers • Low voltage distribution system including short circuit and voltage drop • Earth system • Lightning protection system

■ Data centers

Tiers 1, 2, 3, 4 type • Structured cabling • Power systems • Cooling systems • Security systems • Environmental monitoring systems

■ Fire alarm system

Fire alarm and detection system • F&G system for power plants • Cause and effect matrix

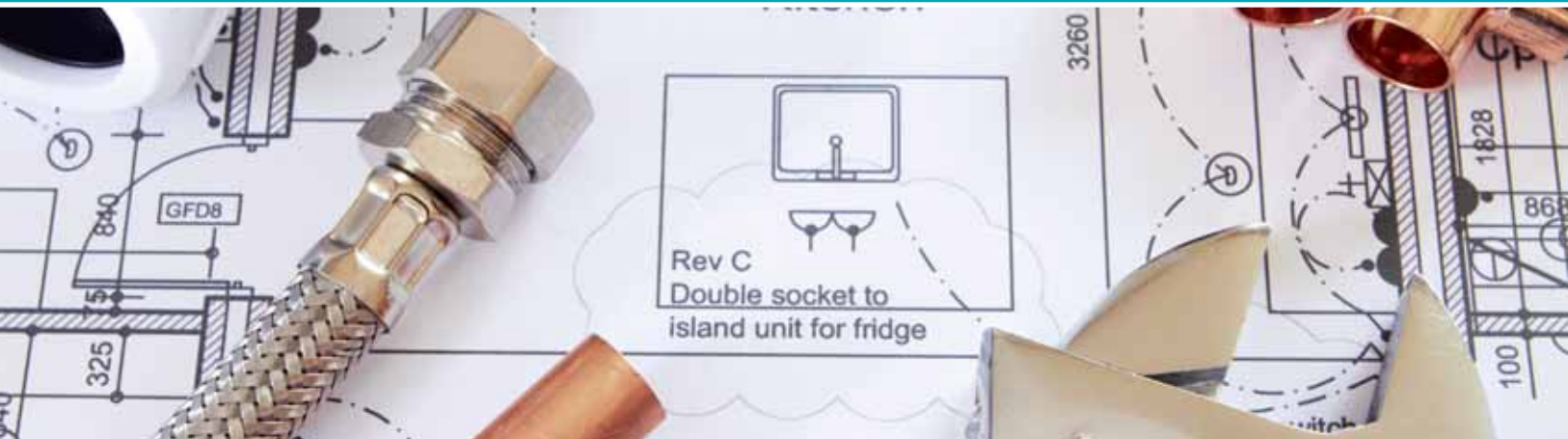
■ Low current system

Structured Cabling Network (SCN) • Telephone system • Intrusion and access control system • Building management system • Closed Circuit Television system (CCTV) • Parking management system • Public Address (PA) • Audio Visual (AV) & Multimedia Information system • Master Antenna & Community Distribution TV (SMATV & CATV) • Digital Clock system • Nurse Call system • Hotel Intelligent system • Vertical transport calculation



Mechanical Deliverables

- List of drawings
- Legend and notes
- Layout plans
- 3D modeling services (REVIT)
- Installation detail
- Schematic diagrams
- Enlarged layouts (Technical areas, shaft details)
- Calculation notes (Design briefs)
- Load & heat dissipation calculations
- Thermal modeling
- Computational Fluid Dynamics (CFD)
- Hydraulic calculations
- Schedule of equipment
- Specifications
- Bill of quantities



Plumbing Systems

- Gravity/direct boosting domestic water distribution
- Centralized/decentralized hot water systems
- Solar/steam hot water systems
- Domestic water treatment station
- Sanitary waste and vent
- Storm drainage network
- Grey water system
- Sewage treatment plant
- Medical gases system (Compressed air, CO₂, nitrogen, oxygen, argon, vacuum, helium, natural gas, nitrous oxide, waste anesthetic gas disposal)



Heating, Ventilation and Air Conditioning System - HVAC

- Chilled water system (Water cooled chillers, air cooled chillers, primary and secondary closed loop system)
- Variable Refrigerants Flow (VRF)
- Variable Air Volume (VAV)
- Air handling units, fan coil units (Two or four pipes system)
- Energy recovery wheel system
- DX-Split units systems
- Under floor treatment systems
- Totally fresh air cooling system
- Low temperature/humidity system
- Hot water boilers, steam boilers, heat exchangers

Mechanical Deliverables



Fire Protection System

- Design of sprinkler system
- Design of fire suppression systems (FM 200, CO₂, dry powder)
- Stand pipe class-I (Landing valve)
- Stand pipe class-II (Fire hose cabinet)
- Stand pipe class-III (Combined system)
- Smoke management system

Building Management System - BMS

- Integration of different building utility systems into one platform that helps for a centralized monitoring and controlling of the distributed systems from one location
- Understanding the client's and projects requirements for the BMS system
- Identifying the design criteria
- Generating the documents to capture the required BMS system
- Developing the I/O list and network
- Production of layouts details and schematic diagram



Sustainable Design

As epic environmental and economic challenges converge, we are presented with a unique opportunity to advance green technologies for the 21st century. Sustainable design transforms the built environment into one that is both environmentally responsible and economically advantageous. *MEP Designs brings the benefits of green building to our communities and businesses to unite the built world and natural environment.*

Leadership in Energy and Environmental Design (LEED) Accredited

Our LEED-accredited professionals are distinguished by their knowledge and insight in green building practices, to successfully steward LEED-certified projects, and champion high performance, sustainable design.



Specialized Technical Consultancy for Hostelry Industry

- Laundry and dry clean facility design
- Main kitchen design
- Staff canteen design
- Freezers storage and cold rooms areas design
- Bar(s) system design and storage facility
- Self service islands design
- Bakery and pastry design
- Steam boiler room design
- Hot water heat exchangers and calorifiers design

Regulation and Codes

AVANTIS designs are in accordance with the following standards, codes and regulations:

- **ASHRAE** American Society of Heating, Refrigeration and Air Conditioning Engineers
- **SMACNA** Sheet Metal and Air Conditioning Contractors National Associates
- **NFPA** National Fire Protection Association
- **National Plumbing Code**
- **EN, BS, DIN, NF, IEC, IEE, ...** european norms and standard
- **ICC** International Codes Council
- **LEED** standards and methods



Some of Our Projects

Tom Hawksworth, Lagos, Nigeria

- Complete M&E design and engineering



EKO Tower Lagos, Nigeria

- Redesign for part of the electrical and mechanical trades
- Design for CCTV, access control and parking management system
- Complete engineering and shop drawings
- Design for the 4.5 MW backup power station



Hotel 2 Fevrier Lome, Togo

- Complete value engineering
- M&E design and engineering



TOTAL VILLAGE PORT HARCOURT

- Security systems and fire alarm design and engineering



SMC Lagos, Nigeria

- Complete M&E design and engineering



One Airport Square Accra, Ghana

- Complete value engineering electrical and mechanical design



Residential Development Lagos, Nigeria

- Complete M&E design and engineering

Others

EKO Tower II

Nigeria, Lagos - design for security systems and M&E shop drawings

Total Houses

Nigeria, Abuja - M&E design

Louis Pasteur

Nigeria, Lagos - electrical networks redesign

BUA Residence

Nigeria, Lagos - M&E design

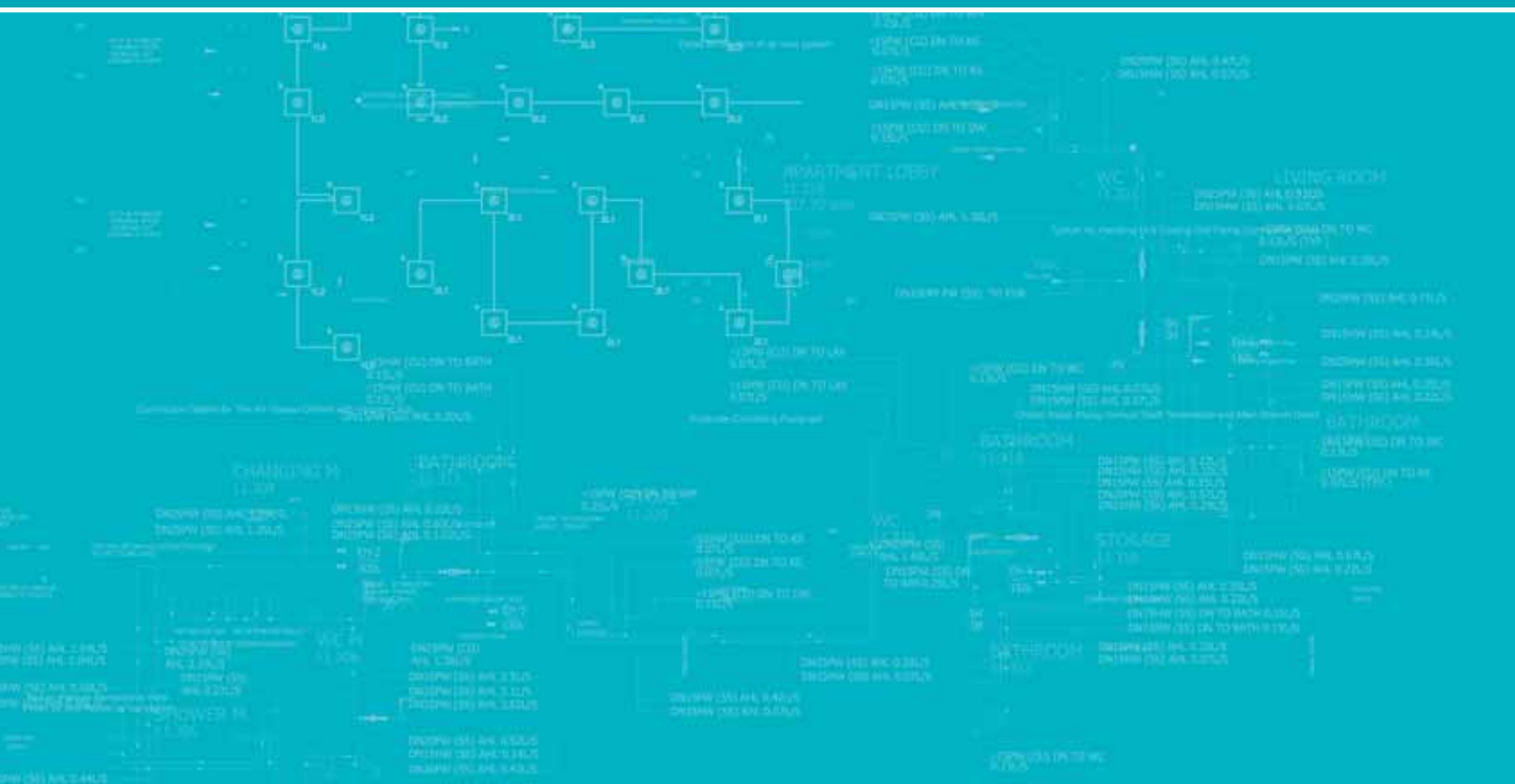
Takoradi Supermarket

Ghana, Takoradi - M&E design

Sonatrach Compound

Algeria - M&E shop drawings





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