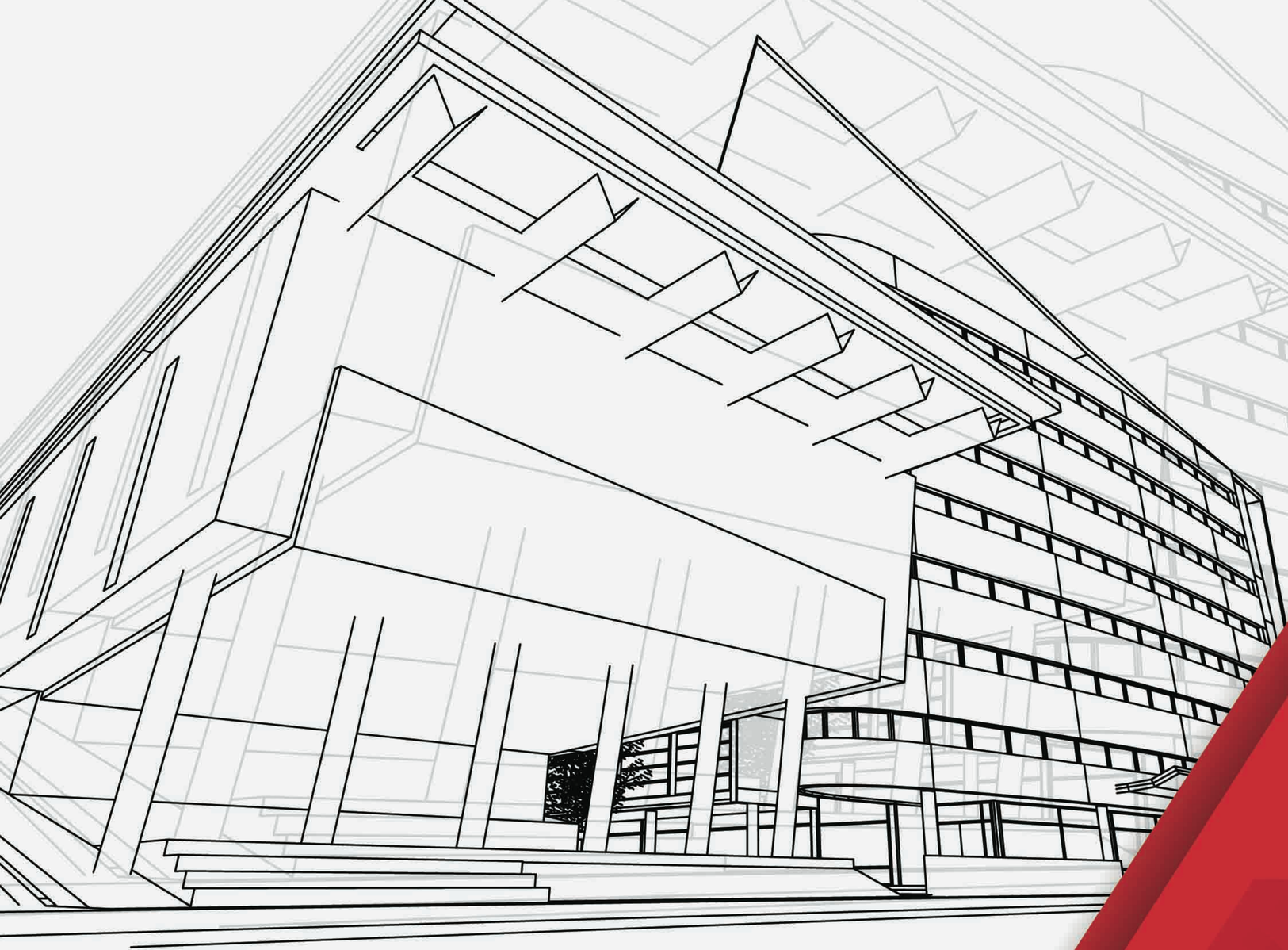


English

MUKANDU®

ARCHITECTURE ENGINEERING CONSTRUCTION

Brochure

MUKANDU AEC

WHO WE ARE

Mukandu was created by its founder and C.E.O Mr. Yannick K. OKUKA to fulfil the much needed gap within the design-engineering-construction sector in the Democratic republic of Congo. We strive for efficiency and excellence in all our efforts. Be it from the design process to the construction phase, we coordinate our team to participate by withholding high standards, always.

We are an Architecture, Engineering and Construction Company (AEC) practicing a Design-Build ethos. We provide the following services:

WHAT WE DO

A. Architecture and construction drawings
(exterior-interior design including 3D renderings)

B. Contractor services
(construction, plumbing, electrical and HVAC)

C. Financial analysis services
(business plans and feasibility studies)

D. Consulting services
(design, civil, mechanical and electrical engineer)

E. Juristic documentation services
(construction legal contracts and government regulations)

F. Quantity surveying services
(sourcing and procurement)

ARCHITECTURE

A good building should satisfy the three principles i. Durability, ii. Utility and iii. Beauty. At Mukandu we strive to fulfil each of these three attributes as well as possible. Our sustainable architecture aims to satisfy the contemporary ethos:

"A building should be constructed in a manner which is environmentally friendly in terms of the production of its materials, its impact upon the natural and built environment of its surrounding area and the demands that it makes upon non-sustainable power sources for heating, cooling, water and waste management and lighting".

We provide the following architecture services:

A **Pre-design services**
(feasibility studies and site analysis)

B **Site development services**
(site development planning and surveying)

C **Interior design and design services**
(space planning and adaptation of MEP systems)

D **Computer applications**
(3D computer presentations, scheduling and mock-ups)

The complexity of buildings today brings the need of collaborations with various disciplines when designing a structure. At Mukandu we collaborate with architect, civil-structural-electrical engineers to derive the most effective and efficient productive process.

ENGINEERING

Engineering is a broad discipline which is often broken down into several sub-disciplines. At Mukandu we focus on a multi-disciplined approach through experience. Our main branches of engineering are Civil engineering, Electrical engineering, Structural engineering, Environmental engineering and Surveying. By applying mathematics and sciences such as physics we seek to find solutions to problems or to improve existing solutions for our clients.

Civil Engineering

Electrical Engineering

Structural Engineering

Environmental Engineering

Surveying

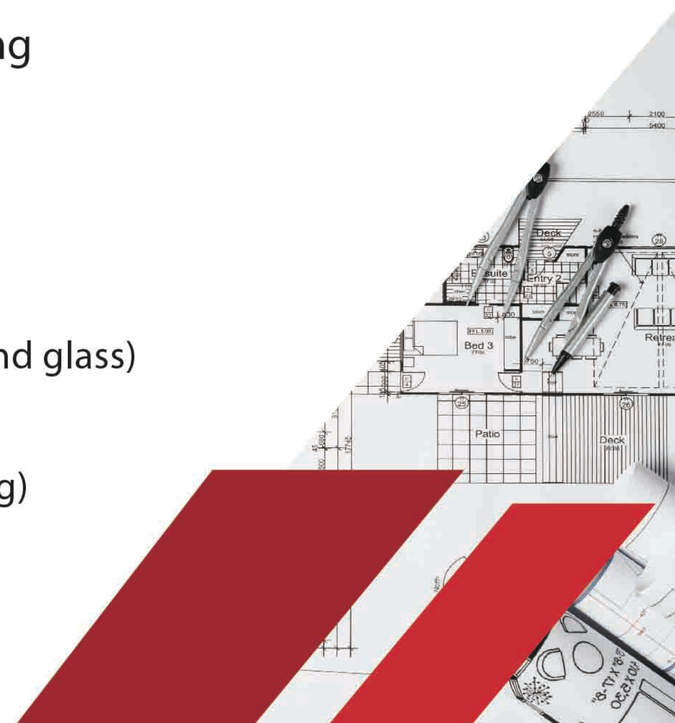
We provide the following engineering services:

A **Pre-design services**
(MEP analysis and HVAC analysis)

B **Materials and system testing**
(stress test for concrete, steel, timber and glass)

C **Computer applications**
(computer analysis, mock-ups and scheduling)

D **Documentation services**
(inventories of materials and measured drawings)



CONSTRUCTION

At Mukandu we are a Design-Build company (D&B), where we are contracted by a single entity to both provide a design and to build that particular design. Our construction approach formulae consist of (i) Architectural and Engineered plans, (ii) Quantitative and Juristic documentation, and (iii) Management procurement and Construction. As construction is an ever evolving field we stay updated with new construction techniques and sustainability approaches as to boost efficiency, improve performance, reduce construction waste and save money.

We provide the following construction services:

- Architectural and Engineered plans
- Quantitative and Juristic Documentation
- Management Procurement and Construction

A **Legal**
(contracts, governmental regulations)

B **Finance**
(financial planning, careful analytics)

C **Procurement**
(bill of quantities, agreements with original material manufacturer)

D **Construction**
(carpenters, electricians, plumbers, ironworkers and masons)

BIM 360

Building Information Modeling is a way to design, construct, and operate buildings that involves creating and using intelligent 3D models. Building professionals recognize that BIM can alleviate many of the business challenges they face by facilitating more effective collaboration and providing greater project insight earlier in the design and construction process. BIM can also provide firms with a significant competitive advantage along with other substantial and long- lasting benefits.

- AUTODESK AUTOCAD CIVIL 3D
- AUTODESK 3DS MAX
- AUTODESK INFRAWORKS
- AUTODESK REVIT LIVE
- AUTODESK DYNAMO STUDIO
- AUTODESK AUTOCAD
- AUTODESK FABRICATION CADMEP
- **AUTODESK BIM 360**
- AUTODESK FORMIT PRO
- AUTODESK INSIGHT
- AUTODESK RECAP PRO
- AUTODESK ROBOT STRUCTURAL ANALYSIS PROFFESIONAL
- AUTODESK ADVANCE STEEL
- AUTODESK REVIT
- AUTODESK NAVISWORKS MANAGE

While BIM is a process and not software, and the shift from CAD to BIM involves changes that go beyond a simple software upgrade, the BIM software package you select can make all the difference in the benefits you realize.

ADVANTAGES OF USING AUTODESK BIM 360

AUTODESK **AUTODESK BIM 360**

a. **LAYOUT**
b. **ESTIMATING**
c. **SCHEDULING**
d. **ACCOUNTING**
e. **COST MANAGEMENT**
f. **FIELD MANAGEMENT**
g. **CONSTRUCTION MANAGEMENT**
h. **BID MANAGEMENT**
i. **TAKEOFF**
j. **DESIGN CHECKING**
k. **REALITY CAPTURE**

ECO-SMART

The world's technology gets smarter by the day and at Mukandu we strictly aim in making buildings smarter, greener, off the grid, independent and self sustainable.

1. Internet of Things Home Products

Mozaiq Operations is an international joint venture between ABB, Bosch, and Cisco. They develop and operate an open software platform for the connected smart home.

2. Sengled Smart Bulb

With the setting controls for the Sengled Smart Bulb, it's simple to monitor lights remotely, schedule them to come on before you get home from work in the evenings or even create a realistic use pattern when you are out of town to make your home appear occupied.

3. Smart Plugs/Outlets

The GE Z-Wave In-Wall Smart Outlet enables wireless control of on/off functions of plug outlets enabling you to control lamps and other electrical appliances wirelessly.

4. Smart Irrigation

Rain Bird ST8-WiFi puts control over your sprinkler system in the palm of your hand. Whether you're outside in the garden or away from home, you're always connected to your landscape.

5. Smart Flower Solar.

Smartflower's modular solar panels autonomously follow the sun so they're always at the optimal angle to the sun, generating 40% more energy production than traditional solar.

6. Smart recycling bin

Recycling is hard. You have to put the paper here and the plastic there. Today you need a connected Smart Bin like the Eugene. Eugene scans the bar code on the the package you are throwing away and tells you what to do.

ADDED VALUE SERVICES

- CONSTRUCTION DRAWINGS
- BILL OF MATERIALS
- COSTING AND BUDGETING
- ENERGY SAVING SOLUTIONS
- HVAC ANALYSIS
- MEP ANALYSIS
- STRESS ANALYSIS

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