



COMPANY

P R O F I L E



We need to see the private sector investing more in the business of healthcare in Africa as Service Providers. Companies can also ensure their employees have high quality private health insurance coverage and this creates more demand in the market and allows Governments to focus on the most vulnerable.

H.E. PAUL KAGAME
PRESIDENT OF REPUBLIC OF RWANDA

Remarks at the Africa Leadership Meeting on Investing in Health,
Addis Ababa, Ethiopia, 9 February 2019

Foreword

Jean Malic KALIMA

Chairman, RAFEEF Medical
Company Rwanda



RWANDA'S healthcare sector is rapidly transforming, thanks to the Government for creating a conducive climate that has increasingly enabled investments. As such, there is a rush for establishment of medical facilities across the country. However, there is an eminent gap in terms of investment in soft infrastructure, including; medical asset management, biomedical engineering consultancy (architectural designs services, Equipment planning, Project Management etc)

Rafeef Medical Company Rwanda is a newly established biomedical engineering consultancy and leading supplier of world-class medical engineering and equipment. We also offer Medical Equipment and Asset Management services that guarantees high-quality patient care and safety.

Situated at the heart of Kigali, Rwanda's Capital City, our ambition is to drive a high-performance culture, putting at the core, while remaining true to our values and our purpose so to help people do more, feel better and live longer.

Rafeef Medical Company Rwanda is a subsidiary of Rafeef Group, a multinational company with its headquarters in Khartoum, Sudan, that leverages on a long and rich history of delivering efficiently on big medical engineering and supplies projects across Africa and in the Middle East.

Therefore, we base our efforts and insights on this rich history and extensive experience of Rafeef Group's experts in biomedical engineering and healthcare technologies to offer unprecedented medical engineering solutions, asset planning and management and maintenance services that underpin investors' value for money. We develop healthcare architectural designs and systems that have a lasting positive impact on medical facilities, inspiring staff at all levels to work more creatively and collaborate more effectively in a medical environment.

Our scope of services include consultancy in; Medical Infrastructure, Architectural Design, Healthcare Management Systems, Medical Project Planning and Management, Feasibility Studies, Construction and Upgrading, to mention but a few! We are committed to providing integrated solutions to our clients' diverse portfolio of projects.

We're leveraging on the healthcare industry-leading Information models and technologies to do quality engineering analysis at an unrivalled quality.

Our Team will provide the optimal solution in the most cost-effective manner. Are you an investor in the healthcare industry, public or private? Talk to us today for a suitable medical engineering plan that fits both your investment dreams and budget.

Our Technical Team

**Prof. Alnazeir
Osman Mohammed
Hamza**



He is the **LEAD BIOMEDICAL ENGINEERING CONSULTANT** at Rafeef Medical Company Rwanda. A highly professional and experienced Biomedical Engineer, Prof Osman was awarded his doctorate in Medical Physics & Engineering from University of KwaZulu Natal, Durban, South Africa. He had earlier graduated with distinction in MSc. in Medical Physics & Engineering, Surrey University-UK and with first class in BSc. Diagnostic Radiologic Technology from the University of Science and Technology, Sudan.

His main specialties are; Medical Imaging, Quality Control of Medical Equipment, Biomedical Image Processing, Computer Aided Diagnosis, Radiation Protection and Radiobiology.

Prof Osman brings on board a wealth of experience at Rafeef Medical Company, Rwanda, having served in a variety of highly technical positions at various top Universities in Sudan; as an associate professor, Dean of Engineering Faculty, Senior Lecturer and many more. He still serves as a Professor at the College of Engineering (Biomedical Engineering dept.), Sudan University of Sciences and Technology (SUST).

For over a decade, Prof Osman has been a member to the; Biomedical Engineering Council, Medical and Health Professional Council, General consultancy Board- Ministry of the Cabinet (Republic of Sudan), Faculty of Engineering Research Council, Ionizing Radiation Laws Revision Committee-Ministry of Health (Sudan), to mention but a few. He has widely published in the science domain, such as “Digital Toolkit for Digital Mammography Quality Control” listed on the Amazon (www.amazon.com)

Elbagir Abd Elhafeez Gibreal



He is the **SENIOR BIOMEDICAL ENGINEER** at Rafeef Medical Company Rwanda, Kigali Rwanda. Gabriel brings on board a wealth of biomedical engineering experience. A graduate with honors in Engineering Technology Electronics (Medical Instrumentation), has since 1998 worked in various medical institutions as both a research consultant and Biomedical Engineer. He has spent a big part of his medical career working in Khartoum, Sudan, serving in various capacities, including but not limited to; Head of Instrumentation Department at Radiation & Isotopes Centre Khartoum (RICK). He has undertaken many consultancies at various medical institutions, both private and public in; Sudan, including but not limited to, Federal Ministry of health (Sudan), Universal Hospital Group (UHG, Sudan), Custom Specialized Advance Surgery Hospital, etc. He has also undertaken various refresher medical courses across the world, including; London (UK), Berlin German, Ohio (USA), Ottawa (Canada), Holland and Australia.

Salih Alabbas Abasalih



He works as **BIOMEDICAL ENGINEER** at Rafeef Medical Company Rwanda, Kigali Rwanda. He has a proven track record of supporting senior engineers figures in medical imaging devices, and good experience in endoscopy system. He is also proficient in the academic track with experience in teaching and supervision of scientific researches. He is highly trained and experienced in diagnostic equipment from GEHC, with his 4 years experience in service delivery on GEHC equipment. Between 2013 and 2016 he was a teaching staff member at University of Science and Technology. He was responsible for teaching and supervision in the following: Digital Signal Processing (DSP), Digital Image Processing (DIP), Ionizing and Non-Ionizing Imaging Technology, Medical Instrumentation, Biomedical Material and Rehabilitation, Medical Informatics and Telemedicine. He is also an expert in the hands-on training programs related to MATLAB Software Program (Basic, DSP and DIP) and LABVIEW Software Program (Basic, Instrumentation).

Amro Jerada



He is the **BIOMEDICAL ENGINEER**, is part of the technical team at Rafeef Medical Company Rwanda, Kigali-Rwanda. He works with Rafeef in furthering his dream of being a role model to the subsequent generations in Africa and beyond. Amro strives to change the world and leave a positive impact. A Masters Holder in Biomedical Engineering from University of Medical Science and Technology in Sudan, Amro also undertook a course in Rehabilitation and Biomedical Electronics in Malaysia. In his education career, he achieved prestigious accolades in; medical laboratory and digital image processing. With close to a decade of working experience, Amro has served in various top medical positions, in Khartoum, Sudan and Dubai, United Arab Emirates (UAE). He brings on board a wealth of experience in terms of; Endoscopy Systems training and servicing

Mandour Elmahdi



He serves as the **OPERATIONS MANAGER** at Rafeef Medical Company Rwanda. Quite an experienced manager indeed; he brings forth valuable industry experience and a passion for management. From his personal experience and hands on skills in foreign trade and service business, he's effective at managing all operations. Mandour graduated with honors in Bsc. in Mechanical Engineering from University of Khartoum where he's currently undertaking a Msc. in Renewable Energy. Mandour has served as the Chief Executive Manager (CEM) at Rafeef Group Headquarters in Khartoum, Sudan, where he worked tirelessly with the board of directors in developing the company strategy, establish yearly plans and budgets and manage the execution process, lead the personnel and oversees performance, communicating with business partners, financiers and maintain a good business relation with Rafeef Group top clients. Before that, Mandour also served as Projects Manage/Coordinator at the Group, responsible for planning and managing resources at top management level. In order to remain relevant to the changing society, Mandour has undertaken many short courses in; Policy Formulation, Public Policy Process Analysis, Leadership, Economic Development, Renewable Energy Technologies and Applications, to mention but a few. Thus, he has accumulated special hands on skills in; Business Development and Strategy, Policy Formulation, and Project Management.

Mustafa Salah Mustafa Ahmed



He is the **HEALTHCARE TECHNOLOGY ENGINEER** at Rafeef Medical Company Rwanda, Kigali –Rwanda. Mustafa brings on board Eight (8+) years of experience in design and engineering of healthcare facilities as Healthcare facility planner and medical equipment consultant.

He has rich experience in Medical Gas Systems, HVAC and Medical equipment planning services, expert knowledge and utilization of international codes and standards (HTM-0201, NFPA-99, ASHRAE, FGI, IHFG,...) .

Professional commands of various design software such as AutoCAD, Revit. He has extensive knowledge and experience in project execution routine and duties through all project stages; Design, building and commissioning.

Before joining the Kigali Technical Team, Mustafa worked for over 5 years as Health Project Planner at Rafeef Integrated Solutions Co., Khartoum, Sudan, where he spearheaded a number of projects such as; Universal Hospital group (UHG Hospital), 460 beds General hospital, Khartoum North-Sudan, International Medical City (IMC), 200 beds General hospital, Khartoum-Sudan, and Altaafi Hospital, 50 beds General hospital, Medani-Sudan.

Mustafa holds a Msc in Engineering from King Fahd University of Petroleum and Mineral (KFUPM). Dhahran, Saudi Arabia and a Honours Degree in Mechanical Engineering from the University of Khartoum, Sudan. He also holds professional development certificates in; Health Facility Planning, Atlas Copco (Beacon Medaes) Products, and Project Planning.

Overview



INCORPORATED in Rwanda in 2020, Rafeef Medical Company Rwanda is a multinational Medical Equipment supplier, specialized in Healthcare Asset Management and engineering solutions. We also provide after-sales technical support and financing solutions to healthcare facilities.

With its history dating back in 2010 in Khartoum, Sudan, Rafeef aims to make people's lives healthier through providing best-in-class medical equipment and services while building long-term relationships with our clients.

We support healthcare providers to serve their patients efficiently, by focusing on innovation, quality and the customer's needs. We also assist in healthcare facility development and planning.

Our commitment is to deliver an excellent and integrated service, with the latest data available, based on scientific facts and professional opinion backed up by our extensive experience.

With over 10 years of combined experience in sales, service and repair of medical equipment. We follow manufacturer's guidelines, standards and procedures during testing, servicing and maintenance of equipment and use calibrated biomedical test equipment.



Vision Statement

To offer industry leading medical engineering, management, maintenance and supplies solutions to our clients through designing world-class healthcare facilities and innovative medical equipment planning



Mission Statement

Exploring the best way of combining our client's expectations and our expertise to provide outstanding value by:

- | | |
|--|---|
| 1. Providing reliable professional medical engineering consultancy services | 4. Develop our staff to deliver the highest quality service |
| 2. Forge mutually beneficial and lasting relationships with our clients and partners | 5. Supplying best quality medical products by cooperating with reputable brands |
| 3. Create value for customers to earn their lifetime loyalty | 6. Creating custom financing solutions to our clients |
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Our Values

We're committed to a set of values which formulate everything we do, from our ongoing relationships with customers and partners to our daily interactions among our team, we are committed to:

1. **Be an integral member of society:** sharing common values, and proposing new values and being committed to the social and economic development of Rwanda through our business activities.
2. **Customer satisfaction:** focus on our customer's needs, offering smart solutions that completely fit in their needs, ensuring the best quality, appropriate level of technology and cost efficiency.
3. Delivering **full technical support** to our customer and building long-term relationships with a mutual respect.
4. Developing a **competent and talented team** through hiring skilful individuals, providing employees with a working environment that stimulates innovation, diversity, teamwork, learning and adopting a continuous development program.
5. Providing our clients with services and products that comply with the **highest standards of quality**.
6. **Grow steadily and profitably.**

What we offer

Medical Equipment & Systems Supplies

RAFEEF is your one-stop-centre for medical supplies and medical equipment. Based at the heart of Kigali, our team is on hand to help you with product selection and compatibility. We work in partnership with trusted manufacturers and supplier to bring you medical supplies and equipment that meet your requirements. We deliver within Rwanda and other countries neighbouring Rwanda to ensure unlimited access to medical supplies and medical equipment. We hope we can be of service to you today and in the future. Also, we help our clients customise the best finance solution for their equipment procurement depending on facility type and capacity.

Shown here are some of our Equipment systems and supplies.

► Operating Rooms & Surgery



We work with the Client's team to build an ideal operating room environment. Rafeef provides a comprehensive engineering & supply solution in Operating Room & Surgery. This includes:

Modular System	We use HT LABOR & HOSPITALTECHNIK Modular System in building Operating Theatres (OTs) and Intensive Care Units (ICUs), offering various sorts of materials such as wall systems, installation modules, ventilation, ceiling, doors, scrub facilities, and integrated furniture system. The system represents a unique combination of quality, innovation and flexibility which enable customized adaptations upgrades and the integration of new devices to be carried out at any time.
Electro Surgical devices	Rafeef offers a full range of HF surgery devices and accessories including Ligation, Plasma Surgery, ultrasonic system and Smoke Management.
Laser Systems	We supply powerful laser system from Richard Wolf for treatment of stones and more
Endoscopy Equipment	Rafeef offers a complete range of endoscopic system for minima l-invasive surgery to certain Specialties such as General & Laparoscopy surgery, Gynaecology surgery, Urology surgery, ENT surgery, Orthopaedic Surgery, Spine surgery, and Plastic surgery. We also offer HD endoscopy surgery visualization system. Beside endoscopic systems, Richard Wolf is offering turnkey systems covering all operating needs such as integrated system (Core nova), surgical lights and tables.
Operating Rooms (OR) Integrated System	Today's high-tech environment in operating rooms is witnessing an increasing need to structure workflows and configurations as more and more innovative operating techniques and increasingly complex instrument systems are deployed. One of the most important functionalities is networking all equipment in the operating room in order to enhance efficiency and quality for surgeons and OR personnel. We supply CORE NOVA , which is the result of know-how and vision for a completely new technological platform of operating room integration and consistent implementation of the system based on powerful and secure network technologies. CORE NOVA offers many different options for launching integration in the operating room and ensuring efficient and universal integration of devices and systems – for example intraoperative documentation using the endoscopy camera, professional media management and control of medical instruments. Core Nova system can also be expanded at any time independently of the initial configuration. Network technologies and modularity reduce the resources required for expansion to a minimum and facilitate practical solutions in every dimension. They are optimized to customers' requirements, international standards, and technological developments.

Critical Care Supplies	We supply a wide range Modular and integrated anaesthesia machines including MRI anaesthetic workstation, and gas measurement, Sleep Apnoea Therapy, Patient Monitoring	
Intensive and Neonatal Care Supplies	<p>We work with the customer team to build the ideal ICU environment, Rafeef provides a comprehensive engineering & supply solution for Intensive care areas including:</p> <ul style="list-style-type: none"> ➤ A high glass wall and modular system to enable optimum observation on patients in intensive care area. ➤ ICU and NICU workstations: include 	<p>ventilations systems, advanced software packages and accessories.</p> <ul style="list-style-type: none"> ➤ Jaundice Management: includes jaundice meters and phototherapy lights, Heat therapy, Warmers. ➤ Other equipment such as Bronchoscope, laryngoscope, (DC) Defibrillator and suction machines.
Emergency and Life Support Systems	We work with the customer team to build the ideal Emergency Environment. Rafeef group provides a comprehensive engineering & supply solution for Emergency centres including: Hospitals, Military medical corps, ambulances and air rescue through our partner Wienmann Emergency GmbH. We supply equipment within this range; Ventilator (ADULT, NEONATAL AND PAEDIATRIC), Oxygen System, Life Base Portable System, Portable Suction Machines, Defibrillator, Cases and Backpacks.	

➤ Diagnostic Systems and Supplies

Diagnostic tests improve patient care, contribute to the protection of consumer health, and help to limit healthcare spending by finding potential problems sooner. For the purposes of diagnosing, monitoring, screening and prognosis, diagnostic tests are essential at every step.

Imaging and Radiology systems	Ultrasound, Mobile X-Ray, MRI, CT-Scan, C-arm, X-Ray Cathlab, Mammography, Fluoroscope, Bone Densitometry, and interoperative ultrasound.
Molecular Imaging	Nuclear Medicine, PET/CT, PET Radiopharmacy
Other Diagnostics	Sleep Diagnostics (POLYSOMNOGRAPHY AND POLYGRAPHY), Modular Diagnostic Station.
Laboratory Supplies	Automation System, Chemistry, Haematology, Histopathology, Microbiology, Molecular Biology, Blood Bank, Immunoassay, Urine Analysis.

➤ Other Medical Supplies

Dental Supplies	Dental Units, Stools, Operating Lights, X-Ray, Suctions, Curing
Medical Gas System	Design, Supply, & Installation of Medial Gas Plant including Oxygen, Medical Air, Nitrous Oxide. etc.
Medical Furniture	Patient Beds, Delivery Beds, Electrical Surgical Tables, Patient Reception Couches, Emergency Stretchers

Technical Support Services



RAFEEF has built-up years of experience ensuring the reliability and efficacy of medical equipment and systems with highly specialised technical support services.

For all the medical equipment and systems;

- we deliver **continuous applications training and service training** either locally within the country or internationally at the manufacturer’s factory.
- we provide **warranty of 1 to 2 years** depending on the equipment against manufacturer’s defect, thereby ensuring the equipment is working at the highest efficiency in its earlier life
- we will provide you a **service agreement** to take charge of your maintenance services both preventive and corrective, so you don’t have to worry about have a dedicated technician or biomedical engineer.
- we provide **regular software updates** to ensure that the systems are in line with the state-of-the-art technology embedded.
- we deliver **essential spare parts** for equipment immediately or within a very short time to ensure prompt replacement with minimum downtime.

Enterprise Asset Management (EAM)



MEDICAL Equipment and Asset Management plays a crucial role in healthcare to ensure high-quality patient care. Efficient and accurate hospital equipment management systems provide a high degree of patient safety for your facility. With this service, Rafeef ensures that assets are managed more efficiently and effectively, to improve patient care and operational efficiency.



Hospital equipment management systems include tracking, locating and analyzing the assets with the help of customized tags and labels.

Rafeef provides top notch Asset Management Services for health facilities by being able to handle virtually all the stages of Health Technology Management Lifecycle that starts from planning, procurement, acquisition, installation commission, decommissioning and finally disposal of hospital equipment.

➤ EAM Service Components

Our wealth of experience and proven systems and products ensure that we deliver highly competitive



maintenance services, broken down into five (5) key components;

1. Medical Equipment & Systems Assessment:

The Rafeef Equipment & Systems Assessment function provides an opportunity for our esteemed clients to do a comprehensive review of both the physical and software infrastructure of the health-care, allowing planners to understand their current status, benchmark and plan for future needs.

2. Configuration & Calibration:

We provide configuration and calibration services to ensure that your measuring instruments always

perform according to expected specifications and standards to uphold medical processes that meet international regulations. Our Team of experts are conversant with a wide range of medical equipment brands. With our state-of-the-art equipment and well-trained specialist, we ensure fast lead times, clear reports and swift service.

3. Preventive, Predictive and Corrective Maintenance:

We offer preventive maintenance to avoid unexpected breakdowns and associated downtime and costs. This way, we timely advise clients on equipment that requires replacement of parts and periodical inspections.

Our predictive maintenance of medical equipment is based on years of experience and advanced analytics. Considering the busy nature of healthcare facilities, it is crucial to identify the cause of potential faults or failures before they occur. And, by proactively identifying potential issues, Rafeef deploys maintenance services more effectively and improve equipment up-time.

Rapid repair of equipment that has broken down is critical to ensure uninterrupted operations, minimal downtime and optimal production. Rafeef offers Corrective Maintenance services to provide emergency maintenance support in the event of an unexpected breakdown for timely resumption of work.

4. Functioning Reports:

In order to monitor the performance of equipment and provide adequate reports, we build an integrated system that helps clients to generate performance data on all equipment inventories so as to have reliable access to information such as:

- how intensively the asset is used
- reliability (incident reports, performance failure)
- maintenance history and schedule
- operating costs (consumables, repairs and maintenance expenditure)
- expected effective life

The system is configured in a way that the information relevant to one department can be shared by all the parties interested in a particular piece of medical equipment.

5. Other Supportive Services:

In addition, under Equipment and Asset Management services, Rafeef offers the following support services;

- Site preparation, installation and commission
- Minimize the harm caused by Equipment/Asset malfunctions and outages
- Provide on-call repair services
- Oversee warranties and stock management
- Supervise and monitor the safety of electrical equipment
- Oversee legal and standard requirements
- Spare part and technical supplies management
- Technical consultancy and guidance in medical engineering
- Maintain the legally required standards for the equipment

Healthcare Engineering Solutions

Rafeef leverages on a strong partnership with HT Group to develop design and engineering solutions for the healthcare facilities using the latest engineering software, international codes and standards to provide world-class engineering consultancy to our clients, including hospitals and laboratories for both public and private entities.

➤ Architectural Design Services



Our Engineers and Architects work in complementarity to offer trending architectural designs that match current and future needs of our clients and community. To meet the demands of highly technical facilities, we adopted a unique design process that integrates architecture, engineering and planning to ensure applicability and sustainability.

In conformity with international codes and standards (FGI, AUHFG etc...) we apply a systematic methodology to deliver sustainable and integrated architectural plans and designs, including;

i. Functional Space programming:

With this component, the Key Planning Units (KPU) of the service planning are grouped into Functional Planning Units (FPU). Then, a summary of Schedule of Accommodation (SOA) is indicative of all FPUs, in order to estimate the total project area.

ii. Medical Planning:

After feasibility studies and functional space programming, a medical plan is designed in two phases, namely;

1. Medical Planning Concept (conceptual design)
2. Single line layouts (layout design)

At this stage, the initial design idea is developed to include the functional relationships at the scale of service planning, the whole hospital, the FPUs (departments) and at the scale of rooms.

The functional relationships for the whole hospital departments including horizontal and vertical relationships are described using a very systematic approach called **Blocking and Staking**, which takes into account more functional and practical considerations.

By the end of the concept design followed by detailed design all major components of the facility shall be described, indicating how all FPU's fit together.

iii. Interior Design& Integrated 2D, 3D Visualization:

Quality of care is directly linked with the quality of interior design of the facility. Our design processes ensure delivery of enduring environments, which address the community needs while balancing aspects such as; image, budget, functional efficiency, future flexibility and on-going maintenance. After approval of the room data sheet, we provide interior shots showing the finishing of; ceilings, walls, floors, furniture and medical equipment.

iv. Exterior Design:

At this stage, the architectural design of the project is developed and defined in details to illustrate plans, sections, elevations, and 3D imagery, the overall form and fabric of the project and its detailed layouts, spatial arrangements, facades, overall appearance and range of construction materials and finishes. The design is sufficiently developed to generate detailed quantities and cost information

for the overall appearance, structure, services, finishes and external works.

v. Way Finding & Signage System:

Signages specified for hospitals must give the entire facility a cohesive and coordinated appearance while, at the same time, meeting the unique requirements of multiple user groups including; management and staff, doctors and other professionals, patients or residents, visitors, suppliers and other service providers.

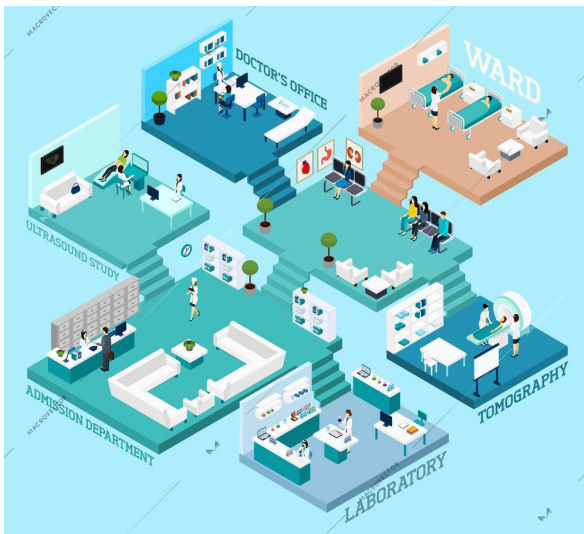
vi. Infection Control and Patient Safety Planning:

Infection Control Planning is a vital part of the full scope of work. All patient and operating staff floors are geared towards the highest level for patient safety, and to avoid all environmental risks. Procedures are executed by Rafeef waste management experts to accommodate waste segregation, waste collection, needle destruction, radioactive waste management, and provide solutions for internal or external treatment.

vii. Soft and Hard Landscape Planning:

We develop landscape designs that suit cultural and natural environments in order to achieve the socio-behavioural, environmental and aesthetic outcomes. Landscape Design resulting in useful healing, aesthetic, contemporary, safe and enjoyable purposes to the satisfaction and comfort of the patients.

➤ Medical Equipment Planning Services



In healthcare facilities project, equipment often account for 40% of the total project cost. Thus, professional medical equipment planning is vital in the successful completion of health care projects, budget optimization and achieving financial targets.

Our medical equipment planning team provides comprehensive, integrated, and systematic medical equipment planning services, comprising of;

i) Loaded Floor Plan:

It is designed to indicate the recommended finishes for the components of each space, walls, ceilings, floors, doors, and windows or wherever medical considerations require hospital specific finishes.

ii) Room Data Requirement:

Room data requirement drawings are prepared to facilitate the planning of the room equipment. Initial preliminary room schedules are prepared detailing the medical equipment and furniture recommended for each space.

The drawings indicate preliminary mechanical, electrical and finishing requirements for each typical room or space, thereby establishing the broad engineering guidelines for the project. Drawings also provide preliminary equipment and furniture listings proposed for use in the planned spaces.

iii) Medical Equipment Specifications and BOQ:

- Our medical equipment planning team shall prepare the bills of quantity and room schedules for medical equipment and medical furniture. The

room schedules will list all items of medical equipment and furniture scheduled per room, plus all rooms covered by the detailed room layout drawings. The preferred method of technical

► Medical Gas Pipeline System (MGPS) Design



MGPs is designed to provide a safe, convenient and cost-effective system for the provision of medical gases (Oxygen, Nitrous Oxide, Medical Air, Surgical Air, Vacu-

um, Aesthetic Gas, scavenging system) to the clinical and nursing staff at the point of use.

Patient safety is critical in the design, installation, commissioning and operation of medical gas pipeline systems. The concept of safety is achieved by ensuring identity of supply, continuity of supply, quantity and quality of supply. All are done in conformity with international standards and regulations such as Health Technical Memorandum (HTM 02-01, ASPE, NFPA99 C. etc...)

Rafeef offers a comprehensive planning and design service for the MGPS system which covers;



- Comprehensive schedule of provision of terminal units,
- System sizing calculations,
- Piping designs,
- Schematic diagrams for piping system,
- Terminal units and piping layout drawings,

- f. Plant layout design including:
 - i. Selection and sizing of various equipment
 - ii. Bulk oxygen (O₂)
 - iii. High pressure cylinder manifolds (O₂ – N₂O – N₂)
 - iv. Vacuum pumps (VAC)
 - v. Medical air compressor (MA)

Rafeef also provides a comprehensive testing and commissioning services of medical gas systems so as to;

- a. ensure that all equipment and medical piping systems are installed in accordance with project specifications and requirements.
- b. prove that equipment capability and functionality are as defined in the relevant scope of work
- c. ensure safety and adequate protection of all equipment and systems.
- iv) **Supervision of Installation, Testing, Commissioning, Training and Handing Over:**

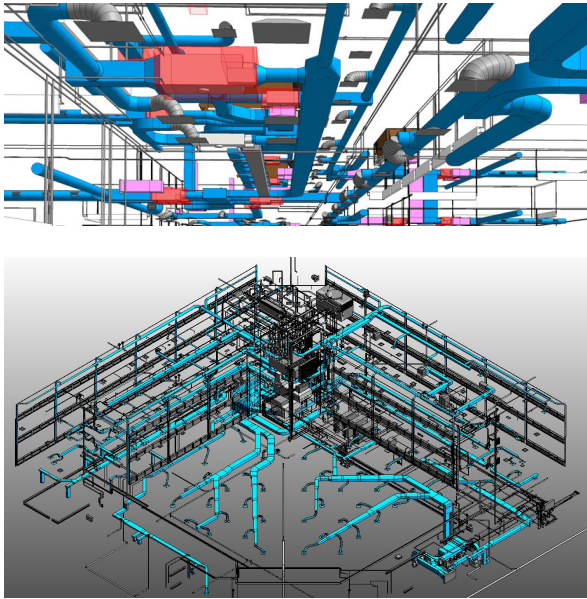
Our staff include a team of specialized technical personnel in various medical equipment fields. The team assists clients in the review and approval of installation drawings, supervision of site preparation for re-installation, installation, testing and commissioning and handing over process.

► Pneumatic Tube System (PTS) Design



Pneumatic is transferred in cylinders that are propelled through a system of pneumatic tubes and constitutes a solution of sending tube system of various sizes within the hospital. The material intended for delivery is placed in cylinders of various sizes, then the sender inputs address of the recipient department or laboratory into a central computer system which then proceeds to navigate the cylinder to its destination.

➤ Mechanical, Electrical & Plumbing (MEP) Design



To create an environment that promotes hygiene, healing, and well-being, Rafeef provides efficient design and engineering solutions whilst applying latest sustainable, economical and smart technologies, addressing our client's needs so as to provide them with the most suitable systems and solutions.

In our MEP design and engineering solutions, we emphasise on building performance, energy efficiency, and occupant comfort. While providing our design and engineering solutions, we give rather special consideration to:

1. Efficient Infection Control,

2. Right Level of Resilience, and
3. Design for the Live Environment.

➤ Project Management Consultancy (PMC)



We adopt well-organized PMC approaches to manage and guide projects step-by-step through every detail by facilitating the coordination of promoters, architects, contractors, doctors, equipment vendors, and consulting agencies into one congruous unit to avoid potential time lags and errors. This ensures that the facility is designed and managed within the estimated cost and timeframe without compromising the set standards.

Services offered under PMC include;

1. Project Coordination,
2. Tender Processing
3. Construction Process Management,
4. Project Documentation
5. Project Handover,&
6. Bill Certification

Working Environment

RAFEEF is keen on building a working environment that stimulates innovation, diversity, teamwork, learning and adopting a continuous development program. Our Con-

tinuous Professional Developmental (CPD) strategy focuses on building capacity to enhance productivity while maintaining quality of service at minimal costs.



Our Partners

OVER the last two decades, Rafeef has established strong partnerships with globally competitive medical equipment manufacturers or suppliers. Both the Equipment & Asset Supplies and the Healthcare Engineering Solutions functions are immensely reinforced by these partnerships. They not only enhance our reliability and efficiency as a company but also guarantee cost-effectiveness for our clients. Below are our main partners;



DOLSAN

HT GROUP 
YOUR PARTNER IN HEALTHCARE TECHNOLOGY

BOWA
EINFACH SICHER

 **GE Healthcare**

WEINMANN
medical technology

 **Riester**

RICHARD WOLF 
Authorized Distributor









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