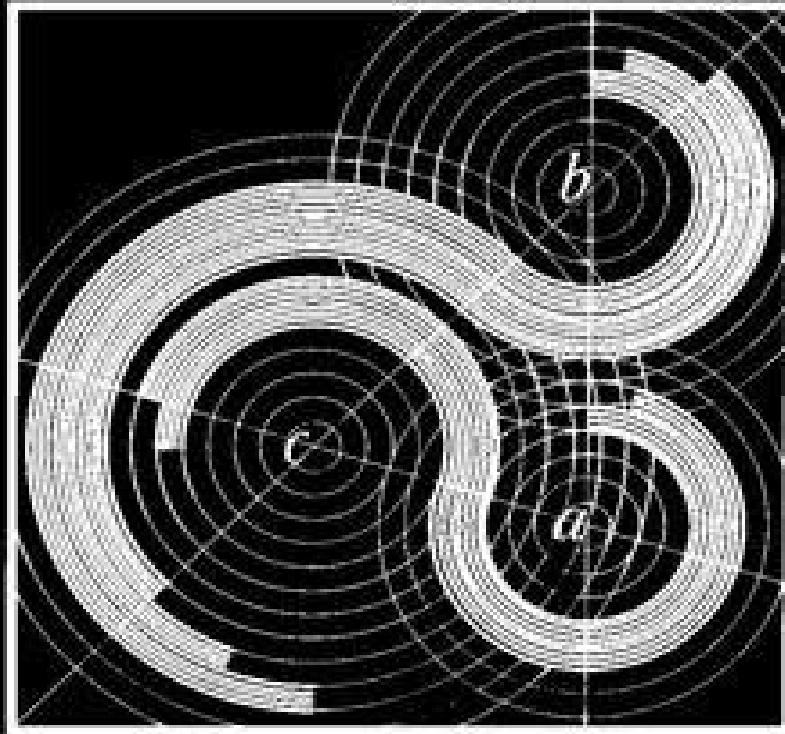


# MEEFIT



**SOLUTIONS PROVIDER**

## **Oil & Gas Solutions**

○ **Khartoum** ○ **Rome** ○ **Houston** ○ **London**



# About MEFIT

MEFIT is involved in a wide range of activities, such as; oil and gas projects and services, regional/urban planning, complete design of commercial/industrial centers, new city planning, and energy projects. MEFIT's experience and expertise in consulting, engineering and project/program management allows an original overall approach to project development.

MEFIT's wide network of Specialists provides the expertise required to carry out Analysis, Feasibility Studies; Planning; Budgeting, Engineering and Designing, Tendering and Program/Project management.

There is an outstanding difference between the traditional consultancy approach and the philosophy adopted by MEFIT. The difference is immediately identifiable by the great importance MEFIT attaches to the local cultural aspects of the work at hand.

Due to its modern organization, MEFIT can provide answers to satisfy the most complex demands of the clients. Many clients can testify to the magnitude and quality of MEFIT's work.

## **MEFIT is implementation**

from the first idea, a simple line or colour hypothesis, to the completion of the smallest sophisticated detail, fit-for-purpose solutions produce an entire package from comprehensive design to implementation.

## **MEFIT is dynamic**

it aims at the realization of potential from a creative, energetic, and youthful staff, supported by experienced and skilful managers who represent the driving force of the company.

## **MEFIT is agile**

know-how and organization bring the most compatible partnerships for any requirement. These qualities insure the commitment and the fulfillment of the project's objectives.

○ **Khartoum** ○ **Rome** ○ **Houston** ○ **London**

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## About MEFIT

## Unique Approach

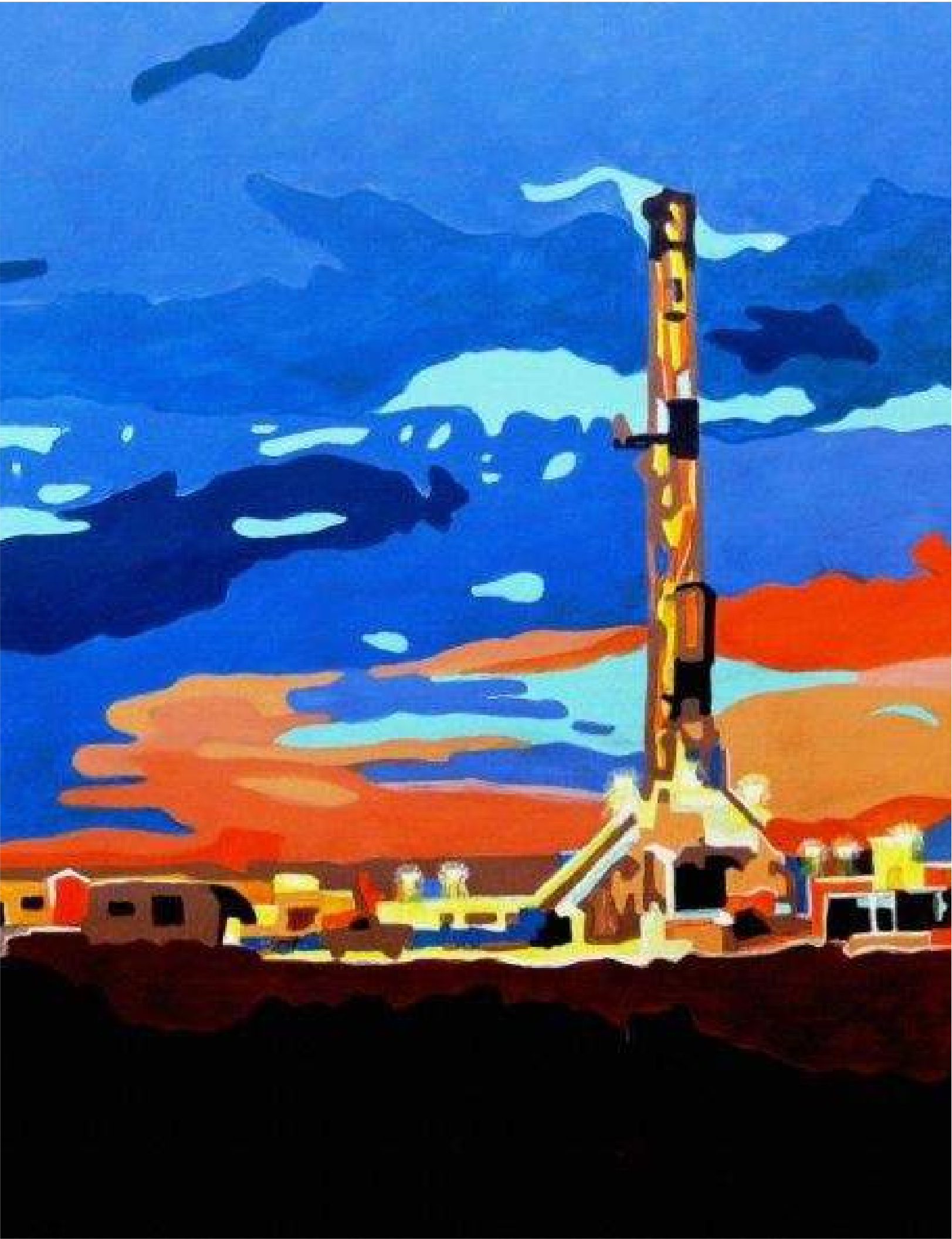
## Facilities and Services

- Oil & Gas Facilities
- Transmission and Storage
- Refinery
- Utilities & Offsite
- Maintenance
- Fabrication
- Clean ups and Environmental

## MEFIT Solution

- Partners
- Project Delivery
- Program Management

## Experience



# Unique Approach

## Oil and Gas Market

Following the separation with South Sudan in 2011, Sudan oil production capability has significantly decreased (by 75%) but remains the only outlet for oil produced in South Sudan. Remaining fields need to be operated and new fields, particularly offshore in the Red Sea need to be explored and brought to production. All of this in an industry significantly changed by Shale, facing reduced margins and increased competition among oil and gas producing countries. New or smaller producers have to look at new ways to participate in the market. Lower cost of production and getting oil to market is key to success.

As such it is imperative for oil and gas Operating Companies in Sudan to have very efficient and well maintained facilities at competitive costs.

## MEFIT is the right partner

MEFIT unique approach provides the solution required:

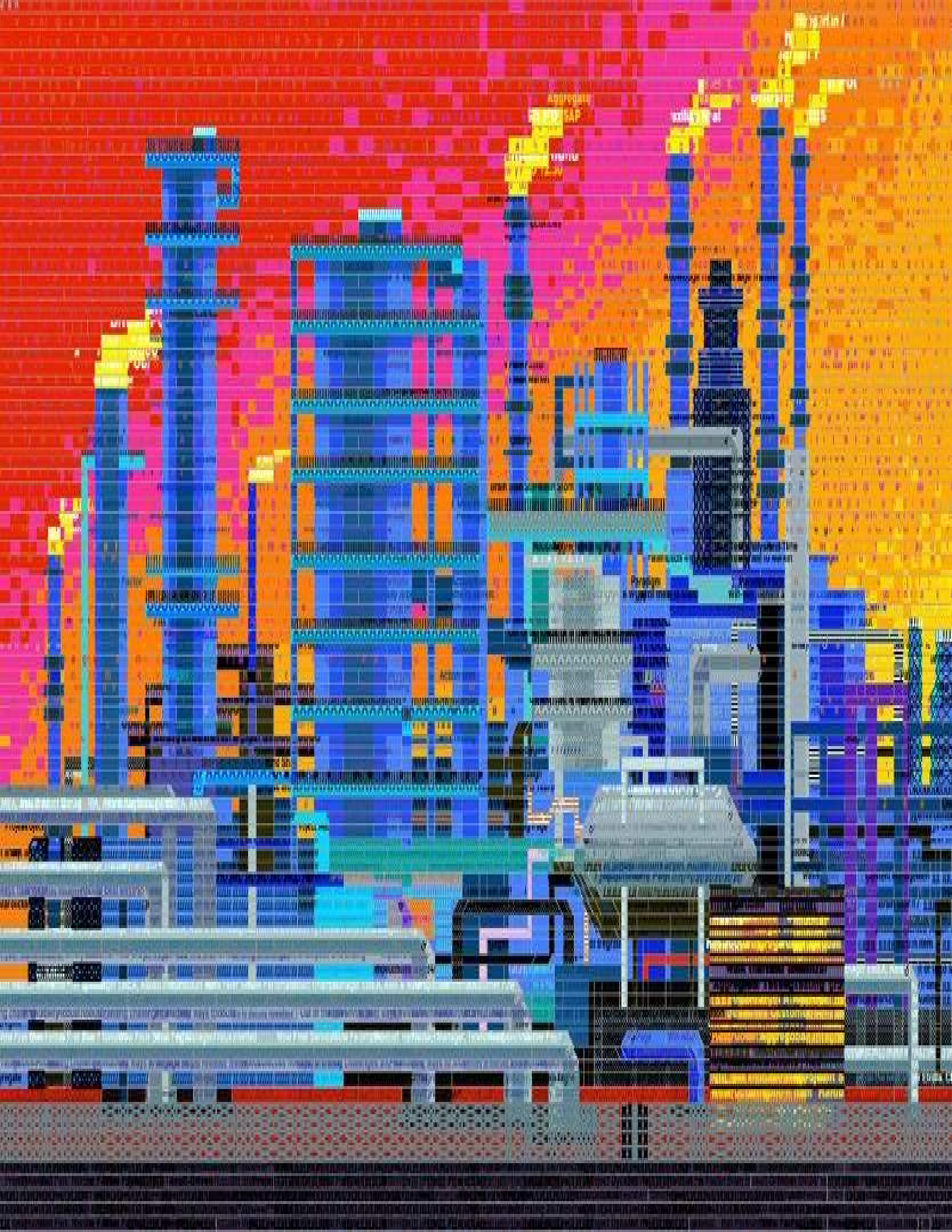
1. Lean organization with just on-time resources
2. World leading experts
3. Cost effective execution.
4. Standard design fit for purpose
5. Supply chain and construction integral to the design
6. Solution focus
7. Client centric



MEFIT services range from the initial development to the full implementation covering all aspects:



***MEFIT is the ideal partner for Sudan Operators and Owners to ensure the right resources, tools and processes are in place to ensure successful execution of their Mission.***



# Facilities and Services

## Introduction

MEFIT comprehensive services range the full suite of oil and gas facilities from the well head to transmission lines, oil storage to refineries.

MEFIT can provide smart, expedited solutions tailored around a wide variety of technical, geographic, legislative, and environmental challenges.

MEFIT brings a team of experts with global reach, wide experience and technical excellence to plan and execute complete life cycle projects in existing facilities or new facilities irrespective of scale and complexity.

MEFIT provides global technical expertise and flexible execution from the conceptual stage to the full implementation stage for:

- ✓ new and existing facilities onshore and offshore,
- ✓ fabrication services,
- ✓ maintenance programs,
- ✓ environmental services such as clean up, first response, waste and water management and treatment.

## Oil & Gas Facilities



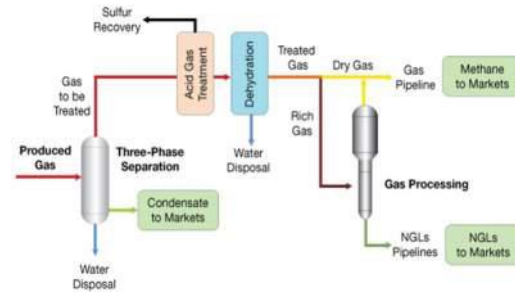
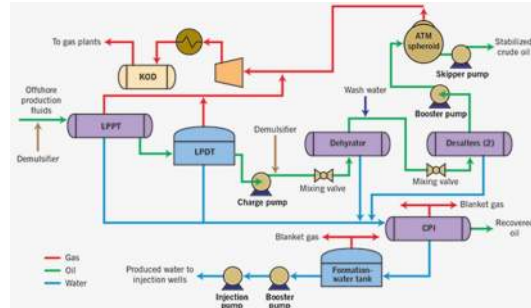
- |                                       |  |  |
|---------------------------------------|--|--|
| ✓ Conceptual/Feasibility studies      | ✓ Fabrication                                    | ✓ Process Optimization/Design Review           |
| ✓ Technology evaluation and Selection | ✓ Erection and Construction                      | ✓ Trouble Shooting /De Bottlenecking Solutions |
| ✓ FEED                                | ✓ Pre-commissioning and Commissioning            | ✓ Reliability & Availability Study             |
| ✓ Basic Engineering                   | ✓ Operation Support                              | ✓ Corrosion Study/Evaluation                   |
| ✓ Detailed Engineering                | ✓ Operators training (Field, Class Room and DCS) | ✓ Plant Performance Review                     |
| ✓ Construction Management             | ✓ Operation and Maintenance Manual               | ✓ HAZOP/HAZID/SIL                              |
| ✓ Modularization                      |  |  |



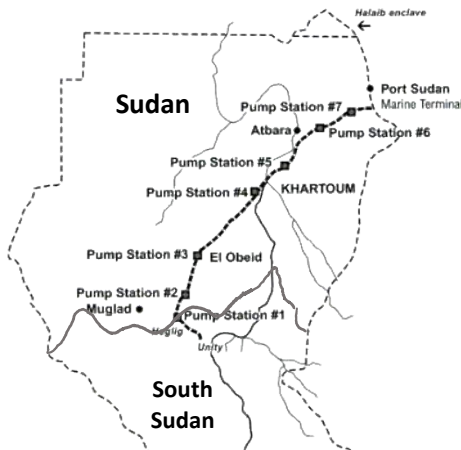
# Facilities and Services

MEFIT experienced team consists of world leaders in the conceptual design, engineering, procurement, fabrication and construction of oil and gas facilities worldwide including Sudan:

- ✓ Well site facilities
- ✓ Gathering systems
- ✓ Separation (oil, gas, water)
- ✓ Gas processing & liquids
- ✓ Flare and emergency systems
- ✓ Enhanced oil recovery (EOR)
- ✓ Water & water management
- ✓ Infrastructure, power, and utilities



## Transmission and Storage

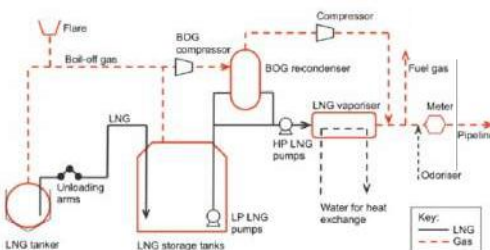
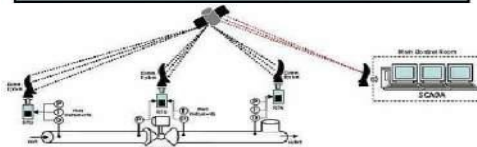
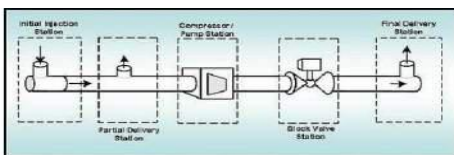


MEFIT designs, procures, builds and installs any size or complexity of pipeline, gathering system and associated infrastructure. MEFIT can assist PECO in assessing its program, or entire portfolio, evaluate options, for its on-going operations and maintenance programs.

MEFIT offers full project life-cycle professional and support services, such as hydraulic modeling, surveying, mapping, environmental, regulatory permitting, right of way, and commissioning support.

MEFIT pipeline and storage capabilities include:

- ✓ Pipeline complete engineering and design
- ✓ Meter stations,
- ✓ Pressure control stations,
- ✓ Block valves Stations
- ✓ Tank farms,
- ✓ Pump stations
- ✓ Compressor stations.
- ✓ Marine Rail and truck loading/unloading
- ✓ LNG Regasification Terminals



# Facilities and Services

## Refineries

MEFIT brings a team with extensive capabilities and experience in refineries ranging from conceptual study to decommissioning including:

- ✓ Conceptual Studies
- ✓ Technology and Licensors Evaluation
- ✓ FEED
- ✓ Detailed Design
- ✓ Vendors' management
- ✓ Construction Management
- ✓ Clean up
- ✓ Maintenance
- ✓ Decommissioning



MEFIT provides quality fit for purpose solutions for grassroots projects, revamps, facility expansions, modernization, clean ups, maintenance and de-commissioning.

MEFIT has extensive experience in the following refinery technologies both licensed and open art:

- |   |  |
|---|--|
| <input type="checkbox"/> Fluid catalytic cracking | <input type="checkbox"/> LPG/gasoline mercaptan removal          |
| <input type="checkbox"/> Alkylation               | <input type="checkbox"/> FCC wet gas scrubbing                   |
| <input type="checkbox"/> Hydrocracking            | <input type="checkbox"/> Selective hydrogenation                 |
| <input type="checkbox"/> Hydrotreating            | <input type="checkbox"/> Atmospheric crude distillation          |
| <input type="checkbox"/> Catalytic reforming      | <input type="checkbox"/> Vacuum distillation                     |
| <input type="checkbox"/> Aromatics extraction     | <input type="checkbox"/> Desalting                               |
| <input type="checkbox"/> FCC Gasoline HDS         | <input type="checkbox"/> LPG fractionation (saturate/unsaturate) |
| <input type="checkbox"/> Isomerization            | <input type="checkbox"/> Amine treating/regeneration             |
| <input type="checkbox"/> Dimerization             | <input type="checkbox"/> Sour water stripping                    |
| <input type="checkbox"/> Sulfur removal plants    |  |
| <input type="checkbox"/> Hydrogen plants          |  |
| <input type="checkbox"/> Coking                   |  |



## Utilities & Offsite

Utilities & Offsites support facilities typically constitute 20 - 50 percent of a project's total installed cost. MEFIT brings technical and practical expertise in the conceptual design, expansion and long-range planning of these U&O facilities. The main U&O systems include:

- |   |  |
|---|--|
| <input type="checkbox"/> Air Systems: Instrument and Utility Air  | <input type="checkbox"/> Firewater System  |
| <input type="checkbox"/> Cooling Water  | <input type="checkbox"/> Flare System  |
| <input type="checkbox"/> Fuel Systems: Natural or Fuel Gas  | <input type="checkbox"/> Flushing Oil  |
| <input type="checkbox"/> Nitrogen / Inerts  | <input type="checkbox"/> Interconnecting Piping                                    |
| <input type="checkbox"/> Power Generation   | <input type="checkbox"/> Loading / Unloading                                       |
| <input type="checkbox"/> Steam Generation   | <input type="checkbox"/> Tankage & Storage: Atmospheric, Pressure and Refrigerated |
| <input type="checkbox"/> Water Systems: BFW, Utility Water, Potable Water, Demineralized Water and Condensate | <input type="checkbox"/> Waste Water Treatment                                     |

# Facilities and Services

## Maintenance Projects

MEFIT has the technical capabilities and skilled personnel to undertake system modifications and/or complete overhauls on pipelines of any size and in any service.

MEFIT services cover all aspects of pipeline construction and repair including repairs to anomalies and failed lines, routine valve repair & replacement, repairs in and around erosion prone areas (roads, dam walls and easements), and/or the installation of new line sections or equipment.

MEFIT provides experienced personnel to assist with pipeline construction, maintenance, or integrity management needs including:

Engineering support

- Inspection services
- Procedure development
- Field activity management
- Welding
- Non-destructive testing
- Logistical support



## Pipeline Integrity

- ✓ One Call Line Locating Services
- ✓ Leak Surveys
- ✓ SF6 Leak Detection
- ✓ Re-establish and Setting AGMs
- ✓ PIG Tracking
- ✓ Staking and Verifying Anomalies
- ✓ Filling
- ✓ Hydrostatic Testing
- ✓ Dewatering and Product Displacement
- ✓ Cleaning and Drying
- ✓ Pipeline Commissioning



# Facilities and Services

## Valves Management, Maintenance and Supply Services

MEFIT can provide high quality support service on valves, actuators, positioners, and associated equipment. This includes controls, chokes, isolation and pressure safety relief valves in all sizes and pressure ratings.



MEFIT will always provide the right valve for an application regardless of who the manufacturer is, which enables us to provide genuine spare parts and factory endorsed technical advice whenever valve maintenance and management is required.

MEFIT supplements valve management services by offering provide peripheral products and services within the valve industry such as high quality valve sealants, lubricants, pipeline isolations, joint integrity testing, bolt tensioning, pig trap door overhauls, acoustic leak detection and valve management software.

## Fabrication Services

MEFIT strong collaboration and relationships with fabricators in the Middle East provides access to facilities with piping fabrication, heavy and light structural steel fabrication, pressure vessels, process skids, and mechanical site services and the capacity for handling around 800,000 dia-inch piping fabrication and 30,000 tons of structural steel fabrication per year.

MEFIT's fabrication partner can fabricate:

- ✓ Plate and structural steel,
- ✓ Pipe spools,
- ✓ Complex modular assemblies
- ✓ Individual components,
- ✓ Large subassemblies,
- ✓ Trial fit and match mark large assemblies
- ✓ Painting, blasting,
- ✓ Post-weld heat treating,
- ✓ Nondestructive examination and testing.



# Facilities and Services

## Clean ups and Environmental

MEFIT through its partners can provide tanks and spills clean up and other environmental services in a cost effective manner by combining state-of-the-art know-how, international experts, management skills and local resources.

- ✓ Tank Cleaning and Sludge dehydration treatment, with integrated Energy Recovery:
  - ✓ Tank out of Service - shovel and semi-Automatic system such as COW technology or Blabo System
  - ✓ Tank in service - proprietary technology that allows continuous cleaning while the tank is in operation preventing sludge formation and corrosion and increasing in service time.
- ✓ Remediation of Contaminated Sites
- ✓ Management of Emergency and Environmental Actions: surveys and operations aimed to avoid or to minimize soil, subsoil, groundwater and surface water pollution in events of hydrocarbons leakage or spillage in industrial sites.



## Solid Waste and Wastewater Treatment

MEFIT provides services to clean solid waste and wastewater in operating facilities.

- ✓ Soil & Sediment Washing Treatment
- ✓ Treatment of Drilling Mud through Mobile Plants
- ✓ Solid Waste and Wastewater Treatment Plants: design, build and operate high technology plants for Solid Waste and Wastewater
- ✓ Hazardous and Non Hazardous Waste Management: identification, collection, transportation, treatment and trading
- ✓ Decommissioning: Remediation and demolition of industrial sites, including scrap and used equipment trading
- ✓ Industrial Reclamation: Reclamation of tanks, piping and equipment
- ✓ Metal Recovery (e.g Vanadium, Molybdenum, Copper)



# MEFIT Solution

## Partners



**Single Point of Contact**  
**Project Management**  
**Program Management**



**Maintenance Services**  
**Valves Management, Maintenance and Supply Services**  
**Fabrication Services**  
**Offshore Services**



**Concept Design**  
**Process Design**  
**Processes and Procedures**  
**Manuals**



**Clean ups and Environmental**  
**Tank Cleaning**  
**Solid Waste and Wastewater**  
**Treatment**



**High Value Engineering Center**  
**Steel Detailing**  
**Fabrication Drawings**

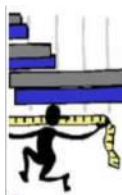
# MEFIT Solution

## Project Delivery

Projects fail to succeed due to project management issues during execution, not technical capabilities. MEFIT provides global technical expertise and flexible execution from the conceptual stage to the full implementation stage meeting clients' requirements in an effective and efficient manner.

MEFIT planned and systematic approach guarantees the required uninterrupted system performance. In the event of a system malfunction, troubleshooting promptly restores functionality. This approach, as a matter of fact, can also be applied to existing systems to rapidly identify cost effective permanent solutions.

MEFIT processes and procedures provide consistent performance regardless of team members by enabling real time projects monitoring and accurately forecasting project performance: no surprises. MEFIT execution efficiency is achieved through Benchmark Data, library database, knowledge base, workflows, IT support.



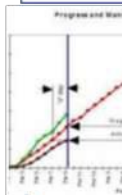
### PROJECT BASELINE

- Consistent baseline method
- Facilitate project startup
- Objective change management
- Consistent project monitoring



### PROCESS WORKFLOWS

- Consistent Work Quality
- Worksharing



### PROGRESS MEASUREMENT

- Auditable and independent
- Standard Rules of Credit and Workflow



### LOCATION

- Experts in Houston and Rome
- Cost effective delivery
- High availability production



### RISK MANAGEMENT

- Look-ahead
- Database
- Lessons learned and integrated in the value chain



### CONTINUAL IMPROVEMENT

- Plan Do Check Act Process
- Standards and benchmarks
- Continuous feedback

MEFIT has the expertise and know how to understand not only the technical aspects but also the socioeconomic and cultural requirements of an oil and gas project in a developing environment.

MEFIT is the ideal partner because of its unique organization to provide the highest quality services and products at the most cost competitive value.



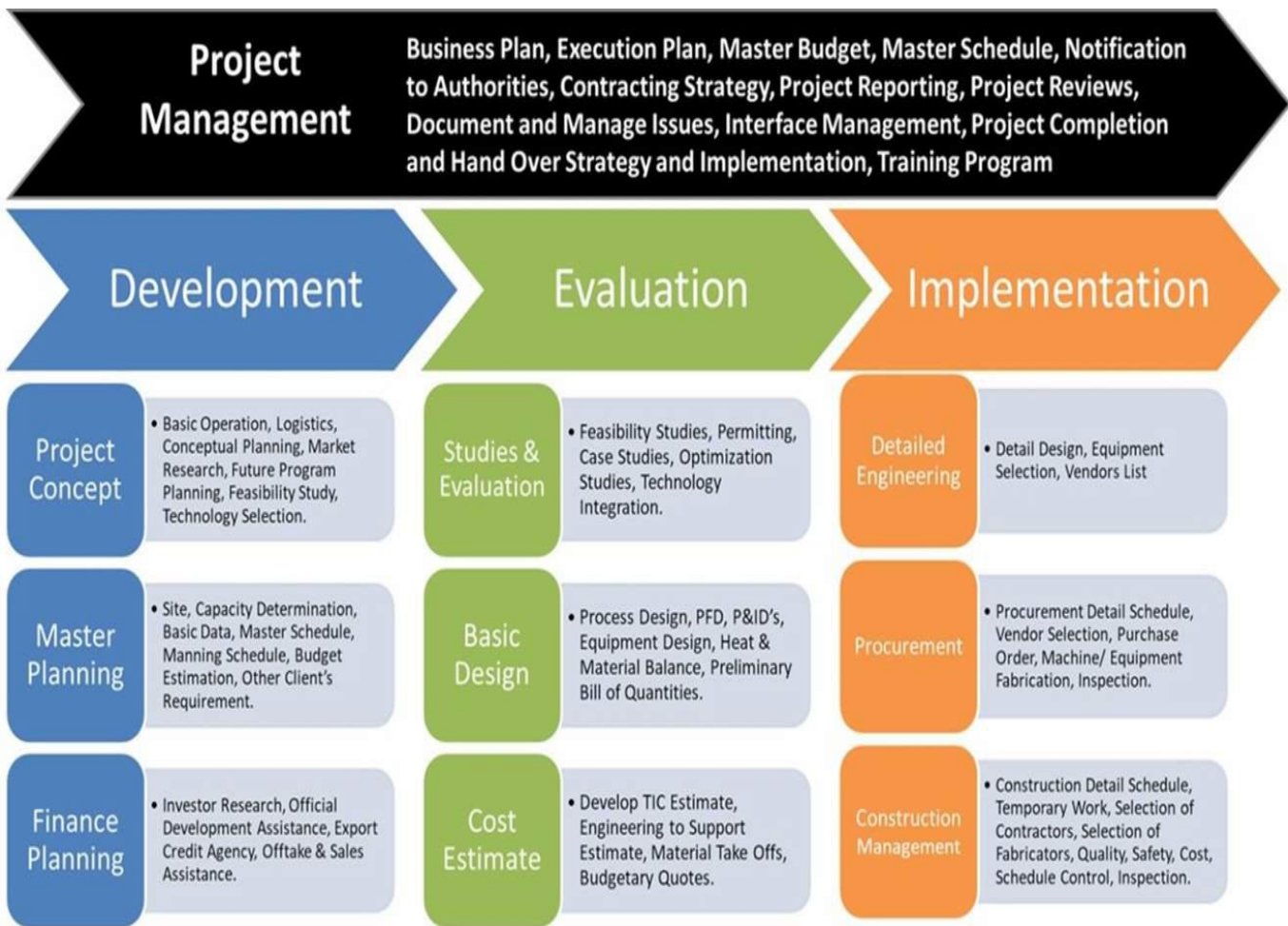
# MEFIT Solution

## Program Management

MEFIT is the ideal partner when addressing water requirements for large single or multi-crop farms, with or without animal rearing, since MEFIT proven Program Management approach will provide the optimum solution for the entire lifecycle of the investment

### Why Program Management?

1. Achieving the overall strategic capital investment goals.
2. Improve management of projects interdependencies and impact.
3. Effectively managing resources among projects within a program.
4. Manage risks, issues and changes across the program efficiently.
5. Focus on definition and management of strategic benefits.



# MEFIT Solution

## MEFIT Approach

1. **Strategic Alignment** - MEFIT ensures what is being delivered, is right, and will deliver real value against the business opportunity.
2. **Leadership** - MEFIT brings leadership and direction to projects.
3. **Clear Focus & Objectives** - MEFIT ensures there's a proper plan for executing on strategic goals.
4. **Realistic Project Planning** - MEFIT ensures proper expectations are set around what can be delivered, by when, and for how much.
5. **Quality Control** - MEFIT ensures the quality of whatever is being delivered, consistently hits the mark.
6. **Risk Management** - MEFIT ensures risks are properly managed and mitigated against to avoid becoming issues.
7. **Orderly Process** - MEFIT ensures proper project process is followed throughout the project lifecycle.
8. **Continuous Oversight** - MEFIT ensures a project's progress is tracked and reported properly.
9. **Subject Matter Expertise** – MEFIT brings the expertise needed to be able to understand if everyone's doing what they should.
10. **Managing and Learning from Success and Failure** - MEFIT learns from the successes and failures of the past.

### Responsibilities



- MEFIT overall responsibility for independently managing administering and directing the different phases and projects under the program.
- Detailed responsibility matrix to indicate each party responsibility on the following basis:

MEFIT	OWNER/OPERATOR
Ensure Program meets objectives and guidelines	Financial approvals and commitment authorization for the program

- Weekly and monthly project progress reports and other required reports such as executive summary reports, audit report, etc. as well as prepare and deliver presentations on project status.

### Performance Objectives

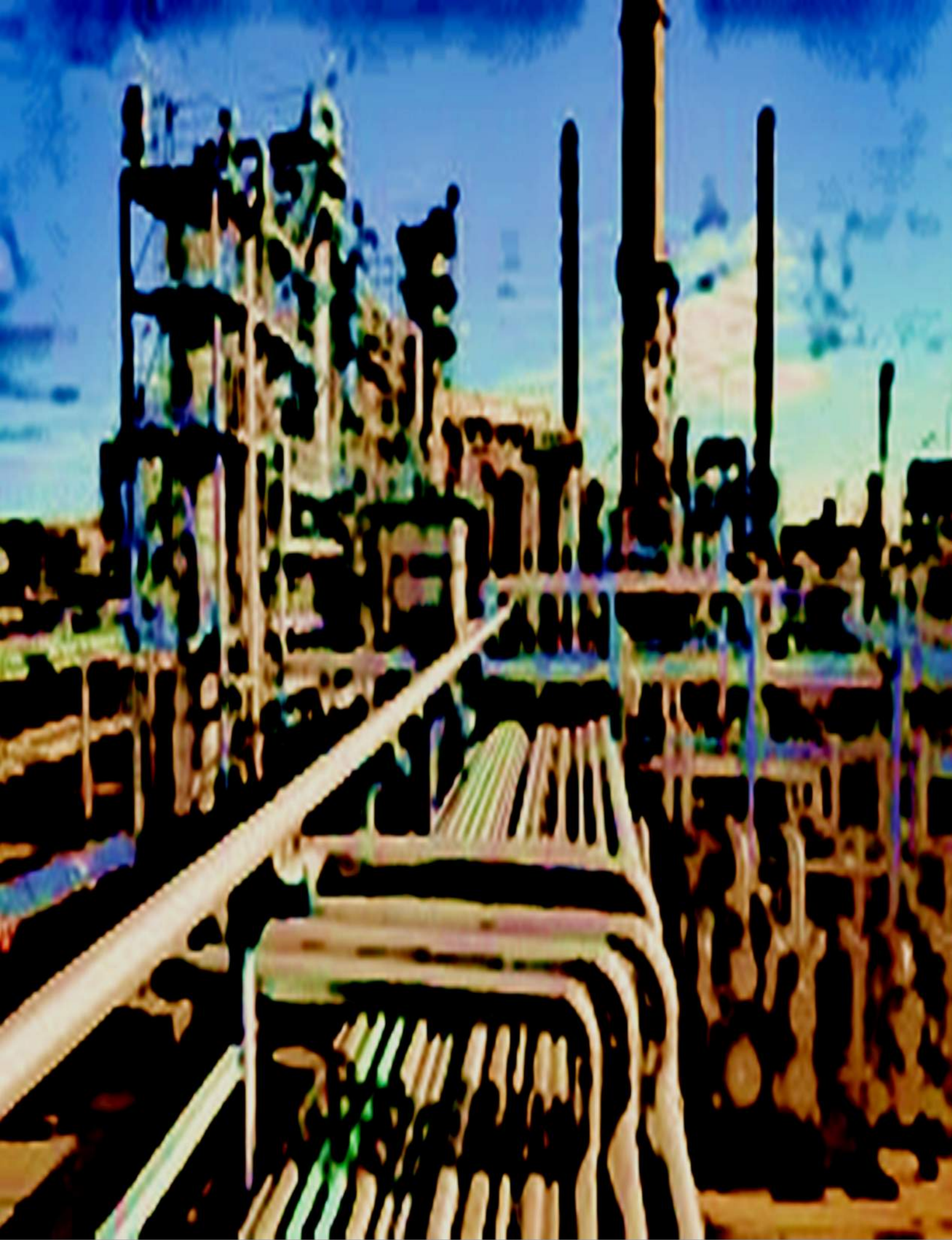


- Reduced costs
- Reduced cycle times
- Improve operations and productivity
- Improvement in the supply chain
- Reduce inefficiencies.
- Effective allocation of risks and incentives.
- Effective risk management process
- Knowledge management -single repository of best practices and learning

### Shared Risks



- Commitment to the relationship. MEFIT contractually accountable for performance through Key Performance Indicators (KPIs)
- Fundamental KPIs true "gain/pain share."
  - HSE
  - Quality
  - Costs Savings
  - Etc.
- Aggregate KPIs
  - Interim program milestones
  - Overall Efficiencies
  - Inventory/materials availability
  - Etc.
- Include contractors, vendors, supplier



# Experience

The following summarizes MEFIT management experience together with the experience of MEFIT Partners.

<b>Facility</b>	<b>Sudan</b>	<b>Middle East/Africa</b>	<b>Rest of the World</b>
<b>Central Process Facility</b>	<b>5</b>	<b>5</b>	<b>3</b>
<b>Field Process Facility</b>	<b>3</b>	<b>3</b>	<b>3</b>
<b>Gas Treatment Plants</b>		<b>6</b>	<b>15</b>
<b>Oil Pipelines</b>		<b>5</b>	<b>3</b>
<b>Gas Pipeline</b>		<b>3</b>	<b>2</b>
<b>Gathering Lines</b>	<b>6</b>	<b>9</b>	<b>5</b>
<b>Pipeline Facilities (block valves, scraper stations, metering, etc.)</b>		<b>12</b>	<b>8</b>
<b>Oil Pumping Stations</b>	<b>4</b>	<b>8</b>	
<b>Gas Compression Station</b>		<b>3</b>	<b>12</b>
<b>Gas Treatment Processing Plants (acid gas, dehydration, heavy removal, NGL, LPG, fractionation, etc.)</b>		<b>4</b>	<b>15</b>
<b>Refinery's Process Units</b>		<b>7</b>	<b>20</b>
<b>Refinery's Utilities</b>		<b>9</b>	<b>18</b>
<b>Marine Terminals</b>		<b>1</b>	<b>5</b>
<b>LNG Terminals (export and import)</b>			<b>8</b>
<b>Oil Depots</b>		<b>2</b>	<b>3</b>
<b>Offshore Facilities</b>		<b>6</b>	<b>8</b>
<b>Process Facilities Maintenance</b>		<b>4</b>	<b>2</b>
<b>Pipelines Maintenance</b>		<b>4</b>	<b>2</b>
<b>Valve Maintenance</b>		<b>4</b>	
<b>Tank Clean ups</b>		<b>2</b>	<b>8</b>
<b>Solid Waste</b>			<b>6</b>
<b>Water Treatment</b>		<b>2</b>	<b>8</b>

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