

EGYPT'S OIL & GAS

SECTOR TOWARDS A DIGITALIZED FUTURE



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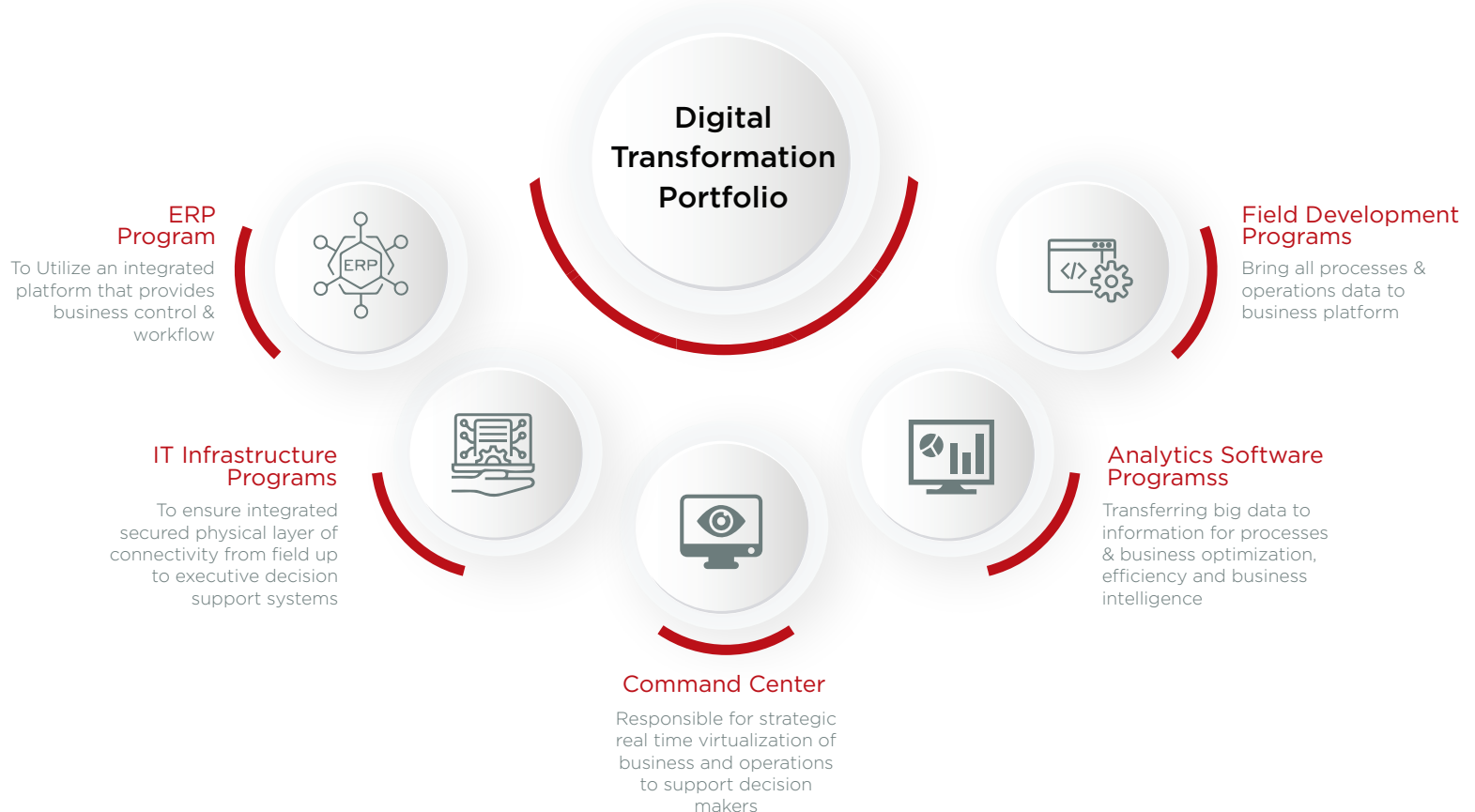
BY JOLLY MONSEF, MARIAM AHMED & YOUSTINA MOUNIR

The world is going digital and embracing sundry new technologies. In this regard, the Egyptian oil and gas sector does not tolerate keeping pace with this development, through adopting the digital transformation program. This program comes as the seventh pillar of the sector's modernization program, which was developed in 2016, to transform the oil and gas sector into one that operates digitally on a wider scope.

DIGITAL TRANSFORMATION PORTFOLIO

Within the digital transformation program framework, the Ministry of Petroleum and Mineral Resources (MoPMR) set a digital transformation portfolio that encompasses five main pillars to achieve a comprehensive digital transformation process. These pillars include Enterprise Resource

Planning (ERP) systems, and developing information technology (IT) infrastructure that are decisive for digital transformation. Moreover, the portfolio focuses on establishing command centers, Data Analytics Software and field development programs.



Flashbacks

The Egyptian oil and gas sector has pioneered digital operations over the past 60 years. This digital adaptation was evident in the widely deployed technologies in the oil and gas sector, such as the Supervisory Control and Data Acquisition (SCADA) systems, the Distrusted Control Systems (DCS), and the smart and digital instruments used in companies and fields.

TRANSFORMATION ACROSS SECTOR'S VALUE CHAIN

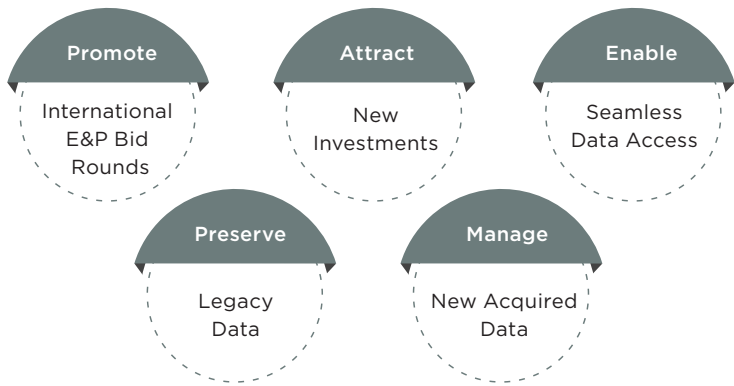
The main objective of the digital transformation program is developing and modernizing Egypt's oil and gas sector to be more efficient, achieve optimal performance across the whole value chain, upstream, midstream and downstream. It is worth mentioning that establishing

the Egypt Upstream Gateway (EUG) is considered to be a significant step towards digitalizing the upstream activities, being the first exploration and production (E&P) digital data center.

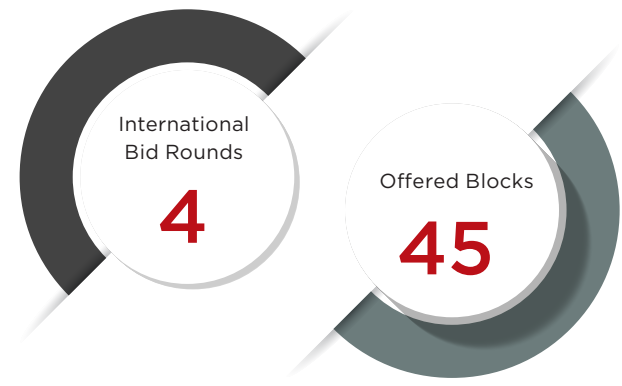
UPSTREAM

1. EUG

EUG VISION



EUG ACHIEVEMENTS



2. Digital Applications



Egypt Production Digital Centre

Monitoring and reporting oil & gas production data using AVOCET Software



GIS Platform

Digitizing asset's locations and data maps of production locations



Digital Data Centre

Preserving, managing and analyzing oil & gas sector data

MIDSTREAM

1. Monitoring & Control for Oil & Gas Grids



NATA Control Center

Enhancing management, operation and monitoring of national gas network



Phase 1 of PPC SCADA System

Enhancing management, operation and monitoring crude oil & products network



ERP Systems

Implemented across GASCO & PPC



Phase 1 of Automatic Tank Gauging System

Completed for PPC

DOWNSTREAM

1. ERP System Implementation



Holding Companies as EGPC and others



More than **60** companies

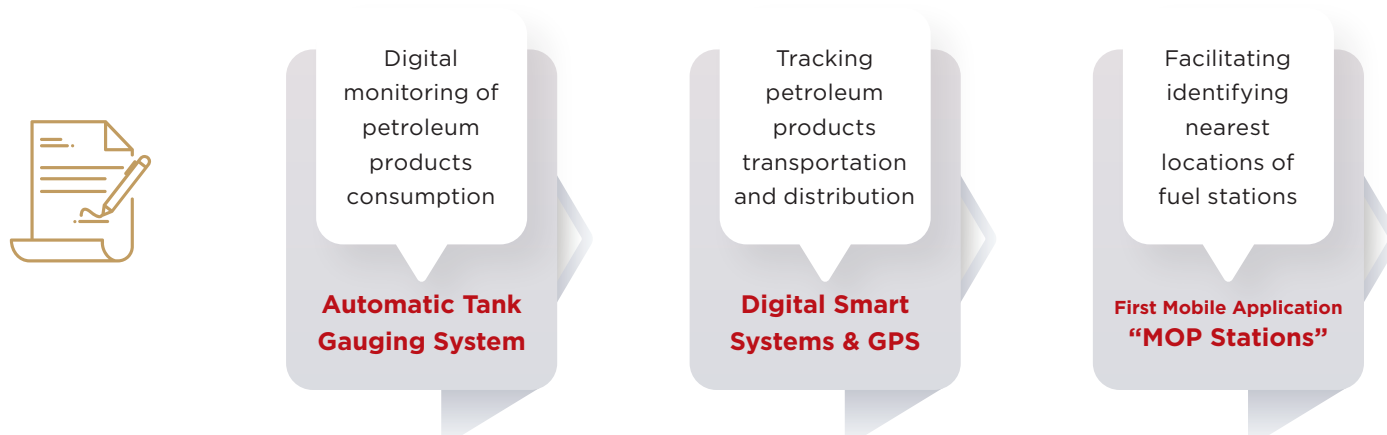


Affiliated companies, including refineries and sales & distribution companies

2. Refinery Operations

Phase 1 of Radar Tank Gauging System	Phase 1 of Linear Programming
Monitoring operations & storage facilities	Optimizing process operations and supply chain activities

3. Sales & Distribution Operations



COLLABORATION WITH DIGITAL PARTNERS

The MoPMR is keen to continue collaboration and cooperation with different digital partners through signing Memoranda of Understanding (MoUs) and agreements to accelerate digitalization implementation efficiently by using various modern solutions and technologies.

The collaboration mainly aims to support digital transformation projects, benefit from the IT companies' advisory services in digital transformation, and enhance digital transformation to meet international best practices.

Signed MoUs and Agreements for Digital Transformation



Feb, 2023

MoPMR & IBM
EGPC & Cisco
EGPC & Oracle
Enppi & SAP
Tanmia Petroleum Company & Huawei Technologies
EMC & Huawei Technologies



Mar, 2022

Abu Oir & SAP



Feb, 2022

MoPMR & Apache

MINISTRY'S FUTURE PLANS

The MoPMR paid attention to developing future plans for digitalization, being one of the most essential aspects of the sector's future. The future plans are mainly focused on continually expanding the sector's digital foundation projects, continuing collaboration with partners to deploy the latest technologies, synthesizing information, business analytics, and insights, as well as, supporting unlocking the full potential of the Egyptian oil and gas sector.

Digital transformation is not just transforming processes to become digital; it is the approach to remodeling any enterprise to incorporate digital technology across different sectors to achieve greater efficiencies. The MoPMR seeks to digitize Egypt's entire oil and gas sector by establishing integrated digital systems to leverage integration and improve coordination between sector entities. This is in addition to ensuring the availability of data to support, speedy decision-making and being able to help when facing crises.

