Fueling Efficiency
in Oil & Gas

Giza Systems 50Th

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Who We Are

Giza Systems is the number one systems integrator in Egypt and the Middle East providing a wide range of industry specific technology solutions in the Oil & Gas, Telecom, Water, Power, Manufacturing, Real Estate and Hospitality industries.

We have been shaping the IT industry and corporate agendas since 1974. Our consultancy practice provides industry focused services that enhance value for our clients by streamlining operational and business processes.

Operating in the Middle East through our offices and group of companies, we are focused on contributing to the local and regional development with our technology solutions, commitment and outstanding customer service.

Our team of 600 professionals enables us to extend our geographic footprint delivering diverse projects and connecting us with clients in the Middle East, Africa, Europe, Latin America and Russia.

What We Do

We deliver a comprehensive scope and range of end-to-end industry specific solutions that meet customer demand for streamlining operational and business efficiencies.

Our technical capabilities, extensive experience and knowledge of the market, as well as our partnership with global leaders enable us to develop integrated solutions that can work with and build on the evolving technologies, as well as meet the dynamicity of our customers' needs.

In our pursuit to constantly enhance existing resources and create new capabilities, we drive forward the growth of our company, our customers, our people, and our communities.

Capabilities

With a steady growth in our client base all over the Middle East, we have established local and regional offices to respond to the demands of our clients, as well as leverage the company's success and proven track record in the different sectors.

Target Sectors

Working with over 1,500 satisfied customers, Giza Systems is uniquely positioned to fulfill the needs of the local and regional markets due to our diversified integration and automation solutions that fulfill the various needs of the following sectors:

- Oil and Gas
- Manufacturing
- Telecommunications
- Power
- Water
- Real Estate and Hospitality
- Transportation

Offices

- Headquarters: 5th Settlement, New Cairo, Egypt
- Local branches: Alexandria, Assiut, Ismalia
- KSA branches: Riyadh, Al-Khobar and Jeddah
- UAE branch: Dubai
- Qatar branch: Doha

Quality

Giza Systems strives to integrate quality in all its processes to ensure adherence to the best standards and practices. Giza Systems has received the ISO 9001:2008, ISO 14001:2004, and OHSAS 18001:2007.

Oil and Gas

The perpetual demand for energy combined with the limited supply of natural resources is forcing the oil and gas industry to reconsider how they do business. With fluctuating demand, limited supply, rising operation and production costs, environmental concerns, emergence of industry regulations, and compliance issues, the industry is becoming even more competitive.

Faced with one of the harshest and most competitive environments, oil and gas companies are required to generate a return on their investments and find new ways to cut costs. This means that they must operate within a context that ensures that their long term strategy accounts for the adoption of the highest standards of social responsibility and environmental stewardship, as well as enables them to adapt to the different challenges posed by the complex environment of the oil and gas industry.

The challenges of the oil and gas industry encompass economic, political, social, and environmental factors. Whether the challenges are internal or external to the company, the fact of the matter is that the sheer amount of variables necessitates streamlining of business operations to improve processes, develop more effective supply chains and promote efficient energy, reinforce aging infrastructure, enhance environmental standards, and manage their resources and assets.

Adapting to the complex environment translates into achieving internal, operational, and business efficiencies in order to focus on sustainable solutions that enhance profitability, increase controls, cut operational and compliance costs, and manage risks.

Driven by technology, geopolitics, and environmental and safety factors, the oil and gas industry is ready to leverage innovative and intelligent solutions that allow for scalability, sustainability, and integration with existing systems and applications.

As the oil and gas industry increasingly becomes immersed with data and operating complexities, smart technologies are required. These technologies can work with existing investments and future installations alike. We provide oil and gas companies with integrated solutions that provide management and operators with the right tools and real-time data to optimize operations all across the phases of the process.

Giza Systems offers solutions that serve production, refining, transportation, distribution, and petrochemical operations, as well as regulatory operations necessary for optimum results. Total solutions are designed to optimize operations, ensure full process automation, and substantially improve the production processes, while maintaining a permanently safe and cost effective environment. Our solutions serve the oil, gas and petrochemicals industries.

Our Oil and Gas Best Industry Practice

Our total integrated solutions cater to the oil, gas, and petrochemical industries.

Our solutions are designed to:

- Optimize operations
- Ensure full process automation
- Substantially improve the production processes, while maintaining a permanently safe and cost effective environment

Amongst our solutions are Distributed Control Systems (DCS), SCADA Systems, Advanced Process Control Solutions, Field Solutions, Well Head Control Panels, Fire & Gas (F&G) Safety Systems, F&G Detectors, Emergency Shutdown (ESD) Systems, Infrastructure Communication Solutions, Automatic Identification Solutions (AIS), Business Intelligence, and Back Office Solutions. We also provide on-site professional services in this industry to implement the different solutions.

Back Office Solutions
Customer Relationship Management (CRM) and Billing
Business Intelligence Solutions
Distributed Control Systems (DCS)
Transportation Lines and SCADA Solutions
Safety Systems and Detectors
Automatic Identification Systems (AIS)
Field Force Management / Mobile Workforce Management Systems (MWMS)
Fire & Gas (F&G)
Well Head Control Systems
Geographical Information Systems (GIS)
Communication Solutions
Petrochemicals
Emergency Shutdown (ESD) Systems
Training Simulators
Leak Detection Systems (LDS)
Field Solutions
Communication Solutions
Advanced Process Control Solutions

Oil and Gas Offerings

Well Head Control Systems

These are the systems controlling well head operations through hydraulic control systems that are connected to the control room via wired or wireless communications, with automatic responses that render quick solutions to the assigned issues once they occur.

Distributed Control Systems (DCS)

Distributed Control Systems (DCS) are equipped with state of the art technologies and user-friendly interfaces that help plant operators manage industrial processes - through the control of all process variables - while connected to advanced monitoring platforms.

Our extensive experience in DCS engineering has enabled us to specialize in developing and applying control technology to various plant areas. These areas include: refinery operations, processing plants, petrochemical processes, gas liquefaction, utilities area, and tank farms to different areas in the plant.

Giza Systems is currently employing the latest cutting-edge DCS technology. Our team's in-depth knowledge of plant processes covers a complete service spectrum including project management, procurement, engineering, panel building, FAT, training, commissioning, start- up, and fine-tuning to optimize factory/plant operations.

Advanced Process Control Solutions

These solutions are expert systems configured to collect field data according to the process, and are preset to automatically interfere to solve any issues on behalf of the operator. These solutions help improve profitability by increasing throughput, reducing costs, enhancing yields, and improving product quality.

Training Simulators

These are tailor-made models that simulate the plant and its relevant possible situations, measuring and analyzing the reaction of the plant to operator actions and orders.

Programmable Logic Controller (PLC)

PLC technology is generally employed in a number of oil and gas applications dealing with controlling and monitoring multiple process variables in different areas of the plant. We design, engineer, and deploy suitable PLC Systems based on the client's requirements and application needs. We also support our clients with testing, commissioning, start-up, and offer a wide range of services for plant operations, as well as after-sales services and support for already existing installations.

Automatic Identification Systems (AIS)

The Automatic Identification System (AIS) is an automatic tracking system used on ships by vessel traffic services (VTS) for identifying and locating vessels by electronically exchanging data with other nearby ships and AIS base stations. AIS information supplements marine radar, which continues to be the primary method of collision avoidance for water transport.

To optimize security of offshore platforms and constructions, AIS is rendering navigation safer by enhancing the possibility of detecting the whereabouts of other ships, thus, solving the inherent problem with all radars. This enables the detection of fishing boats and smaller ships, fitted with AIS, in sea-clutter and in heavy rain. The operation center application software can monitor all the marine traffic.

In addition, it is possible to install oceanographic (wave height, wave direction and speed, sea temperature) and meteorological (visibility, air temperature, wind speed and direction, humidity) sensors in the offshore platforms. AIS systems can broadcast those meteo-oceanographic (MOS) data within proper AiS messages to all ships. Moreover, operation centers can receive local weather and sea conditions of relevant offshore platform.

Communication Solutions

Our portfolio of solutions and services catering to various markets include:

- Microwave
- VHF/UHF
- Tetra
- GSM/UMTS/LTE
- WiMax/ Wi-Fi
- Satellite
- Free Space Optics
- SDH/PDH
- Dense Wave Division Multiplexing
- Optical Fiber

They are employed as either wired or wireless media in order to provide and relay control and monitoring information to control centers. In addition to the tremendous relevance of radio for the operation and maintenance of crews, these solutions become essential for the oil and gas industry.

When confronted with rough terrain, such as mountain-like areas, wireless communication solutions are the main resort due to the difficulty level of cabling.

Our competitive advantage in fulfilling the dual functions of IT-based and engineering services enable oil and gas providers to benefit from our competence and our experience in vertical integration. We enable the oil and gas industry to meet their needs by providing them with the most advanced, cutting-edge solutions.

Field Solutions

Field instruments are essential for measuring the different parameters on-site in order to ensure accurate monitoring and control. Reporting to the central control room, these solutions include the installation of field instruments, transmitters, and sensors, as well as liquid and gas analyzers, control valves, and actuators. The aim is to monitor and measure all ongoing plant processes so that the information can be transmitted to the control center.

Our instrumentation teams are experts in programming, installing, and testing instruments, as well as their integration with new and existing automation systems installed to enhance process solutions. To offer the best and most suitable solutions to meet the needs of our clients, Giza Systems has partnered with a broad range of leading companies covering a wide range of field solutions.

Safety Systems

Fire & Gas (F&G) Safety Systems and Detectors

These solutions are designed to carefully monitor the emission of gas and oil/gas leaks. They are equipped with gas and smoke detectors, as well as flame sensors – among others – to control the environment for optimum safety. These systems have received some of the highest safety certifications, and are implemented by certified trained engineers.

Emergency Shutdown (ESD) Systems

In the event of a critical alarm (fire, high pressure, leak, etc.), Emergency Shutdown (ESD) Systems process a specific routine to control the situation, which is identified beforehand based on the client's needs.

Leak Detection Systems (LDS)

Leak Detection Systems aid in the detection of leaks, estimation of their location, and determination of their magnitude and possible effects. Leak Detection Systems are vital in controlling leakages and managing potential consequences, such as loss of energy, hindered transmission, environmental disasters, and human injuries.

When choosing a Leak Detection System, operators look for a solution that:

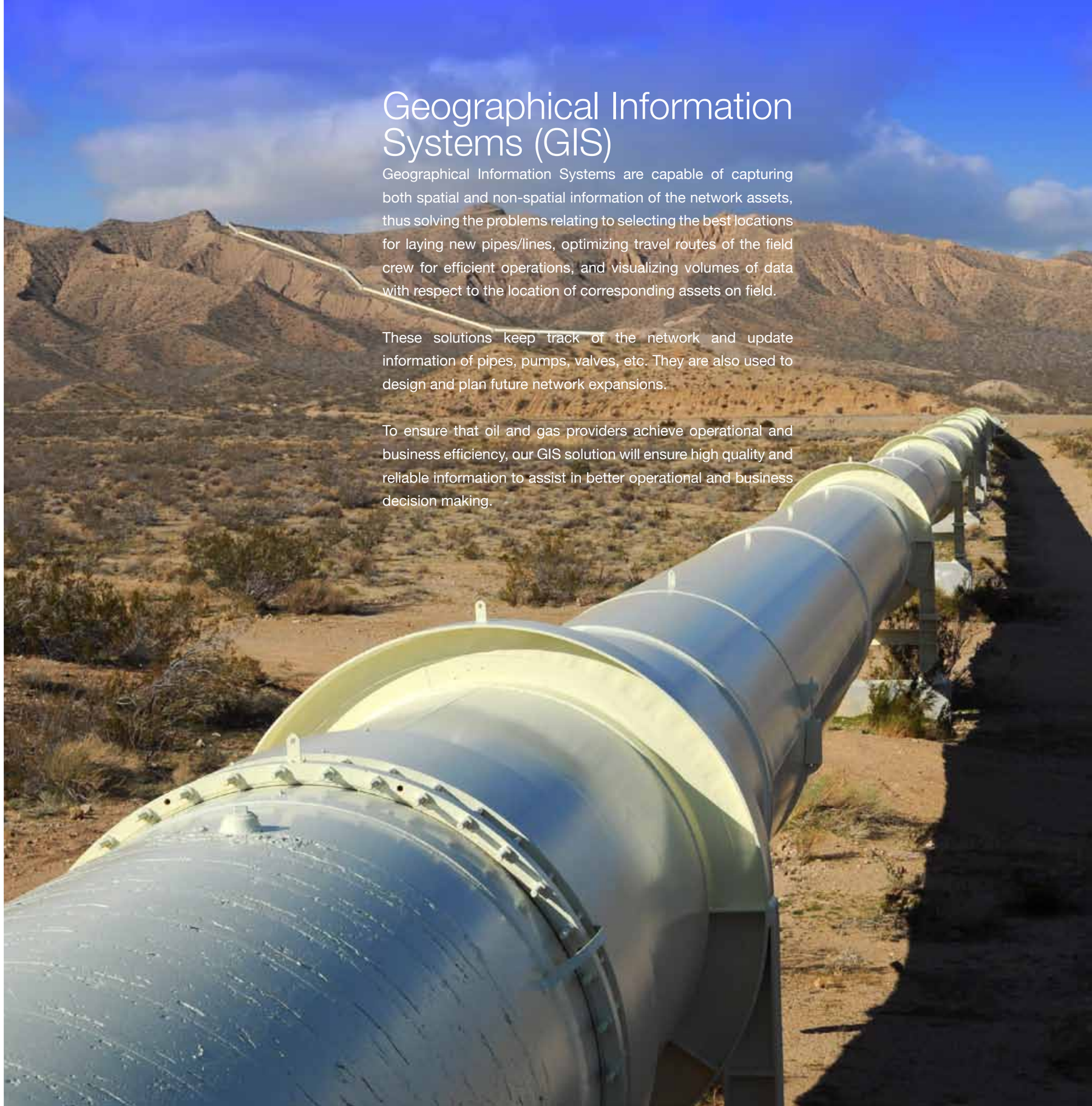
- Is easy to implement
- Detects small leaks under all operating conditions
- Responds in real time and without lags
- Signals an alarm only when there is a real leak
- Grants clear alarm annunciation
- Does not distract controllers from core duties
- Works with minimum instrumentation
- Provides low cost of ownership (installation and maintenance)

Distribution Solutions

Transportation Lines and SCADA Solutions

Oil and gas transportation requires the installation of a network of pipelines that extends for thousands of kilometers, as well as meeting specifications that include the monitoring and control of some parameters. Remote terminal units and field instruments monitor block valves to collect information and transmit it to the control point, thus, enabling responses to issues through remote control capabilities.

The process is based on SCADA systems that oversee the pipelines all over the grid. This is coupled with communication solutions, through fiber optic or wireless networks, which are employed for the transmission of data to operators located at the central control room.



Geographical Information Systems (GIS)

Geographical Information Systems are capable of capturing both spatial and non-spatial information of the network assets, thus solving the problems relating to selecting the best locations for laying new pipes/lines, optimizing travel routes of the field crew for efficient operations, and visualizing volumes of data with respect to the location of corresponding assets on field.

These solutions keep track of the network and update information of pipes, pumps, valves, etc. They are also used to design and plan future network expansions.

To ensure that oil and gas providers achieve operational and business efficiency, our GIS solution will ensure high quality and reliable information to assist in better operational and business decision making.

Field Force Management / Mobile Workforce Management Systems (MWMS)

Day-to-day maintenance, repairs of existing assets and installation of new equipment are carried out by oil and gas plant operations staff. These mobile personnel who manage the assets dispersed across vast areas are generally referred to as the 'Field Force.' The IT system that helps oil and gas plant operations to schedule and dispatch work orders to such engineers is known as the Mobile Workforce Management System (MWMS).

Our MWMS optimizes and automates processes and information needed by companies that send engineers to the field. Moreover, it assists providers in the following:

- Routing, dispatch tracking, and reporting the status of field personnel
- Managing installations, service or repairs of equipment and field instruments
- Carrying out planned maintenance, unplanned maintenance, and resolving service outages

Customer Relationship Management (CRM) and Billing

CRM and Billing systems orchestrate and manage the meter-to-cash process. Our solutions allow oil and gas companies to differentiate themselves on the grounds of customer service, accurate billing, and efficient collections activities. Management of customer applications, meter work orders and installation activities, regular meter reading, readings validations and estimations, billing, payments and aging of debts constitute the high level mandates of billing and revenue management systems.

Business Intelligence Solutions

Knowledge management efforts focus on organizational objectives such as improved performance, customer satisfaction, quality of service, cash flow and other performance metrics. Business Intelligence technologies provide historical, current, and predictive views of business operations. Common functions of business intelligence technologies involve reporting, online analytical processing, analytics, data mining, business performance management, and predictive analytics.

The purpose of business intelligence solutions is to support better business decision-making through the transformation of raw data into meaningful and useful information. Such information is imperative to enable organizations attain more effective, strategic, tactical, and operational insights, as well as make informed decisions.

Back Office Solutions

These solutions include billing solutions, ERP, GIS, historian systems, business intelligence solutions among other applications. We also provide required processing and storage platforms in addition to information networks infrastructure.

Giza Systems has the capabilities and in-depth knowledge to fulfill clients' unique needs based on our core understanding of the significance of operational efficiency and integrity, as well as the necessary reliability measures, for the implementation of such projects.

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