

PICO ENERGY
Technologies LLC



ARTIFICIAL LIFT PRODUCTION OPTIMIZATION

***“We are what we repeatedly do.
Excellence, then is not an act but a habit.”***

–Will Durant

Why not?

Why not develop oilfield tools and equipment that are superior in their functionality, differentiated from the competition, and cost-effective? Why not manufacture, train and operationally support the use of this high quality technology? Why not strategically use our technical expertise to support other energy group members.

PICO Technologies was conceived to answer that question as a subsidiary of PICO Energy Group since 2008 located in Houston, TX and the technology arm of the group, currently responsible for developing “fit-for-purpose”, high quality and cost efficient solutions that address the operating needs of the E & P industry: delivering patented designed proprietary Openhole wireline logging tools and Production optimization control systems for Progressive Cavity Pump systems, as well as Production development and management of other Projects Like PICO IV...

PICO Technologies provides a High Standard Technology with proven capabilities Delivering Cost Efficiency for a Changing Market inspired by the Gearhart Model – High Quality Technology in Massive Production leads to a meaningful Market share.

“I got it in my blood”

–Marvin Gearhart





Message from the Chairman

Eng. Salah Diab Chief Executive Officer

PICO Group was founded in 1974. A modest beginning indeed, it has been an exciting 40 years. Today, PICO Group remains the Egyptian service leader, with a lead brand and operations in different diverse segments through independent entities in Real Estate, Agriculture, Food, Engineering Services & Trading, Private Equity Investments, Petroleum Services, and Exploration & Production for Oil & Gas.

PICO Group has grown in different market segments it operates in with offices in the Middle East, Europe, United States, and Mexico; the Group employs over 5,000 people...

PICO Energy Group is a leading Egyptian operator of mature oil & gas fields and a provider of fit-for-purpose petroleum services. The E&P Division is focused on the development of mature fields with an international network; a recognized specialization in redeveloping mature fields, and a strong portfolio of assets, the E&P division expects to increase to 65,000 BOEPD by 2016. Meanwhile, the Services Division, operating under PICO Petroleum Services ("PPS"), is expanding beyond the Middle East into the Gulf of Mexico. PPS is comprised of distinct, independent, integrated companies, including: PICO Petroleum Integrated Services, PICO Technologies, PICO Marine Services, PICO Logistics Services, and PICO Research & Analysis. With the support of a specialist technology research & development subsidiary PICO Technologies LLC "established in 2008" in Houston, Texas, PPS is capitalizing on its proven know-how in servicing mature oil and gas fields, providing clients with innovative ideas and fit-for-purpose solutions.

So much for our past and present...What about PICO ENERGY's future?

The 21st Century is now upon us with a multitude of exciting possibilities and new challenges. PICO ENERGY is no stranger to challenges as it always welcomed them as a prerequisite of progress. In the past, we had the burden of limited opportunities but the luxury of limited information. Today in a border-less world with the flow of information exceeding human capacity, we are faced with a different challenge; we have the burden of unlimited information but the luxury of unlimited opportunities. We are forced to filter, focus, select, and then prioritize more than any time before. Therefore, we believe that investing in human resources is fundamental for securing the flow of innovative ideas and the future potential of our organizations.

Our key corporate focus is now shifting from the traditional financial indicators towards building a sustainable intellectual base, adaptive to the rapid changing world around us. Our present drive for expansion and innovation is intended to propel us - forward as a major regional player in the Energy sector.

Eng. Salah Diab

PICO ENERGY Advanced Technological Solution Technologies LLC

PICO Technologies is a research, development and manufacturing company focused on innovative oil field equipment and tools. Currently dedicated to designing open-hole wireline logging tools and Production Optimization Control Systems, as well as Production development and management of several other projects. Our proprietary open-hole wire line logging technology provides high quality, cost effective triple combo tools with slimmer, shorter designs to enhance your operations. Full support and training ensure a high performance solution to your logging requirements.

For more information on how you can improve your fundamental logging operation, please contact us at: 19407 Park Row, #130 Houston, TX 77084

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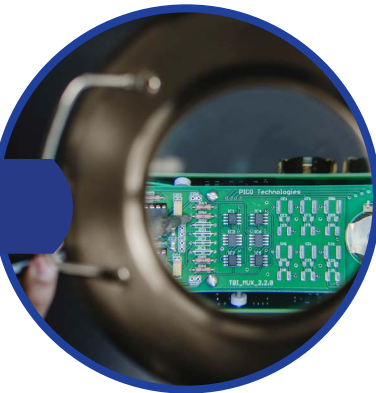
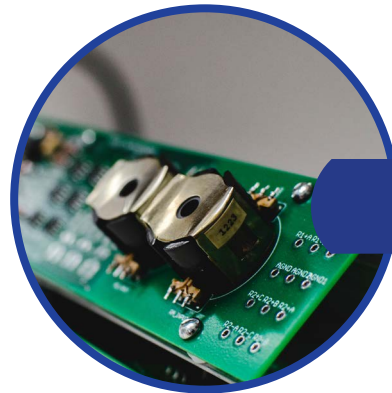
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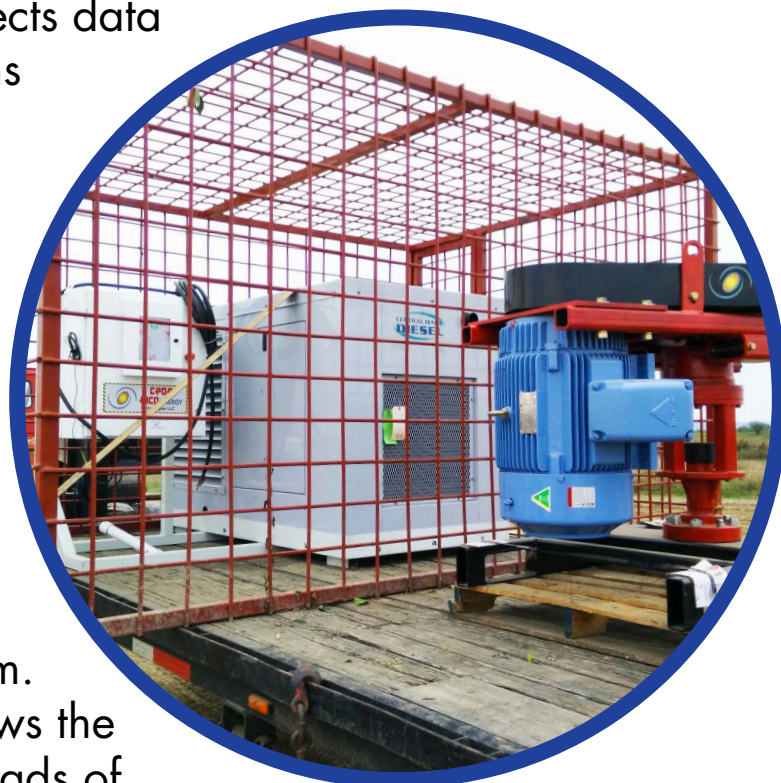
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The Customized Production Optimization System

control system is designed primarily for heavy oil applications with the goal of optimizing production, improving efficiency and extending run life of the pump. The system collects data from artificial lift operations and provides the critical information required to increase production and minimize down time. CPOP provides data gathering on everything from power quality to well performance degradation so that manpower can be spent managing problems rather than identifying them. The system's flexibility allows the scalable control of driveheads of power ratings from 0.5– 30 (from ABB manual) horsepower from different major manufacturers.



Customized Production Optimization Panel (CPOP)



Benefits:

- Monitor your artificial lift operations in realtime
- Reduce labor expense with the use of remote monitoring and control
- Improve HS&E performance due to less man-hours in roundtrip traveling to sites
- Increase production through improved well drawdown and longer equipment runtime
- Accessible from popular mobile devices
- Receive periodic status reports via email or text
- Better backspin control
- Low operating and maintenance cost
- Receive alarms in case of performance anomalies
- Compact design with minimal moving parts

**PICO Technologies may also offer partnership in providing customized product design and capabilities in line with customer needs*

**PICO Technologies can provide different models and sizes through our third party partners, while maintaining competitive rates.*

Customized Production Optimization Panel (CPOP)*:

Enclosure Rating:	NEMA 3R
Control:	Graphical user interface via Touch Screen LCD
Options:	Flood Sensor Emergency Shutdown Wireless Communication Module
Features:	Touch screen LCD graphical user interface (GUI) Ability to integrate new sensors (pressure, level, flow, etc) Wireless cellular network connection for control & monitoring Customizable control options Flood protection sensor Enclosure size optimization Sealed cooling system

PICO Drive Head (PDH)

Max HP:	30 HP	Max Output Torque:	600 ft-lb
Max Speed:	500 (rpm)	Backspin Control:	Caliper Disc

Compatible Motors from most suppliers:

Voltage:	480VAC 3-Phase 60Hz 6-pole	Output:	20HP to 30 HP
Output:	20HP to 30 HP	Power:	15KW
Frame:	286T		

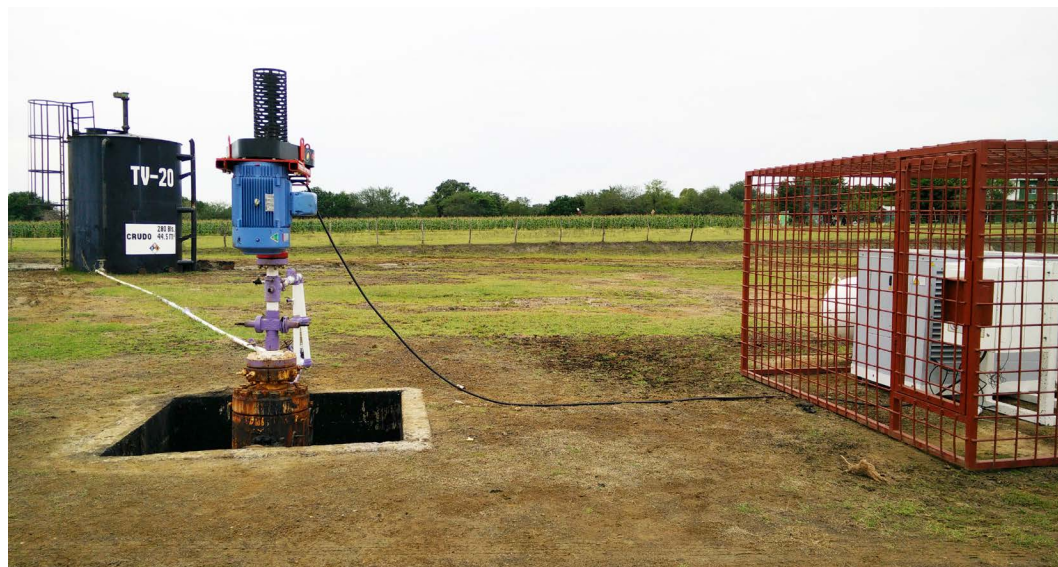


*Our Customized Production Optimization Panel (CPOP) had proven compatibility with most Drive Heads from most major suppliers.



PICO Technologies Progressive Cavity Pumping Systems

PICO Technologies provides the surface equipment of the PCP system, including surface drive head/motor, variable speed drive, power supply unit.



Applications:

- Heavy/extra heavy wells volume range 20-500 B/D and depths to 457m (1500ft)
- Wells up to 457m (1,500ft) with high viscosity and significant solids
- Shallow to medium depth wells high sensitivity to energy costs
- Low volume, high viscosity wells up to 762m (2,500ft)

Benefits:

- Low capital cost
- High energy efficiency
- Low installation/maintenance cost
- Relatively simple operation
- Environmentally friendly with low profile

PCP System Accessories

Pump Accessories:

- Pup joints
- Collar, X-O, sub, Swage
- Anti vibration joint

Rod Accessories:

- Couplings, X-O, Shear Coupling

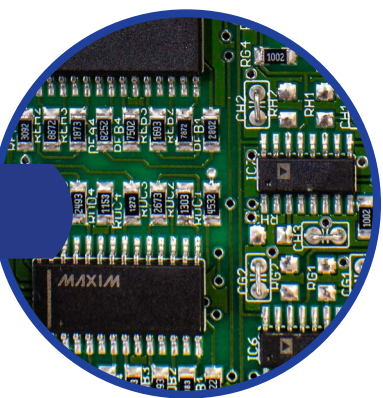
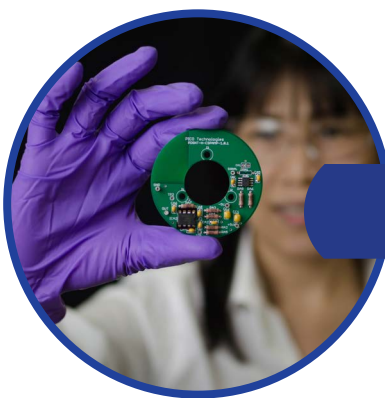
Drive head Accessories:

- Sheaves, Bushings, Belts
- Packing
- Ring Gasket
- Mechanical Seal

Power Units:

- Electrical

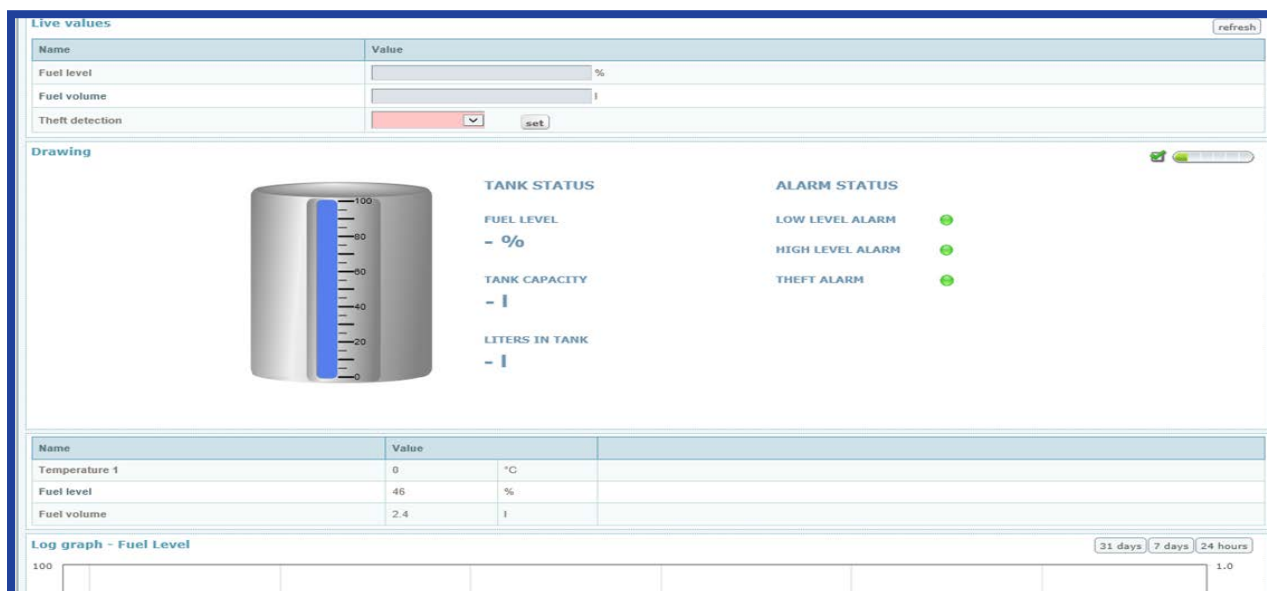
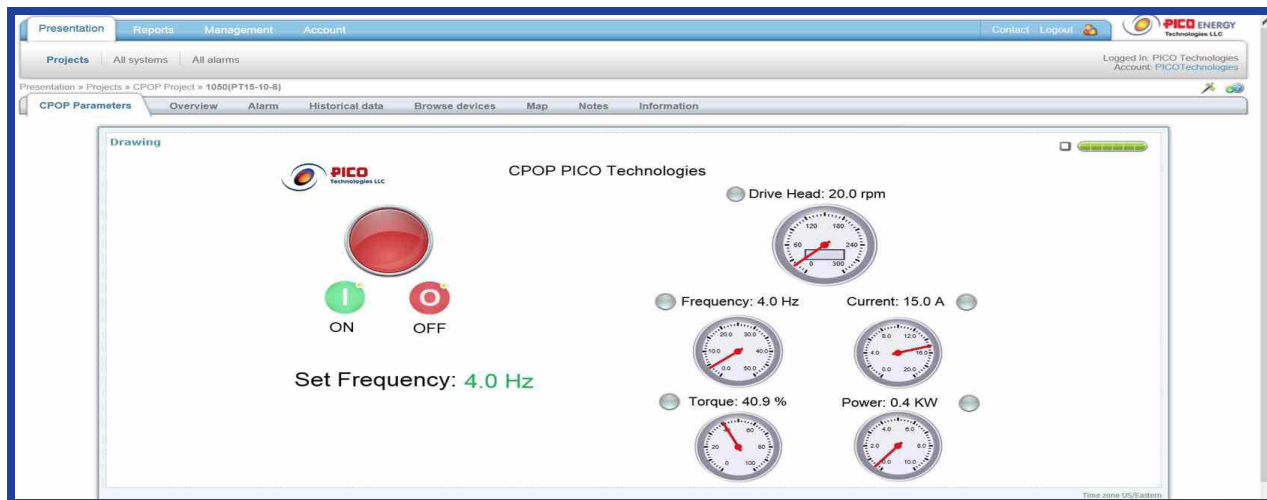




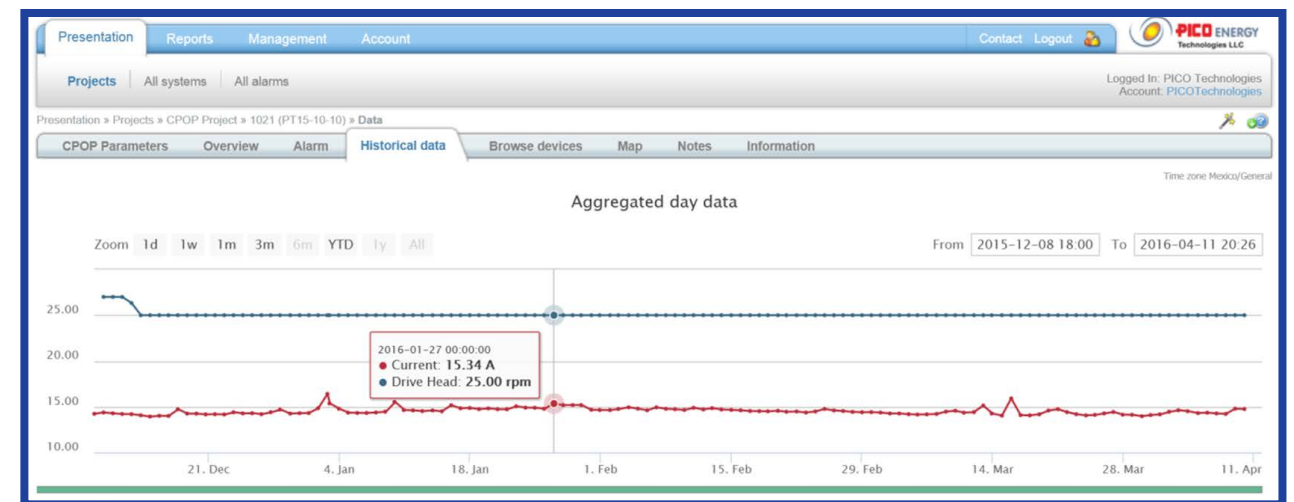
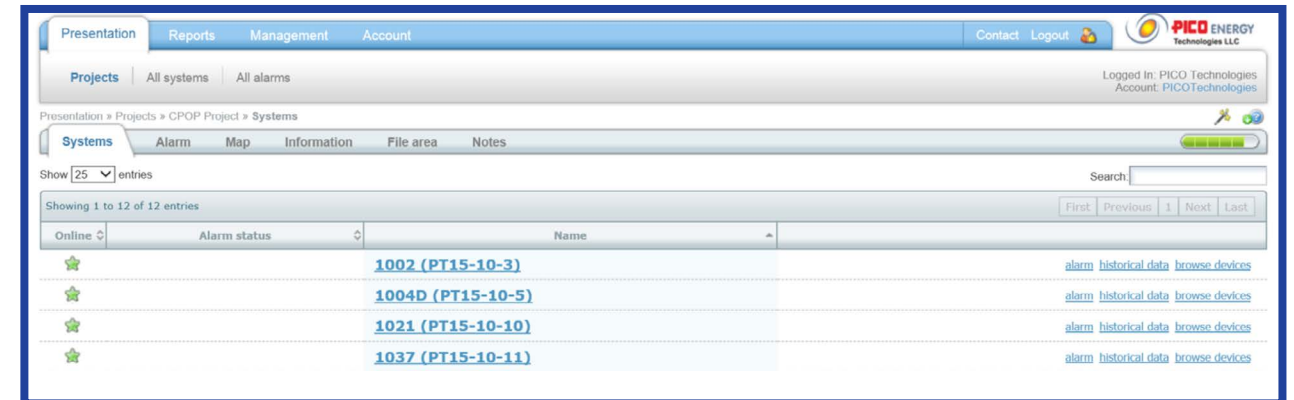
Wireless Control and Monitoring

RCU "Remotely Control Unit": A remotely operating system add to CPOP control unit provides an optional accessory device to connect to Internet, this allows the user to obtain the basic measurements and control through a web interface designed to provide a quick and easy graphical interpretation of the status of the equipment in real time.

Accessories such as tank level sensor can be added to the system in order to provide a more in depth status of the well site.



The RCU system provides operator efficiency and profitability as it enables reduced field monitoring costs and improved pump performance. Problems can be diagnosed in real time, The operator remotely controls the systems in the field from the office to save cost of logistics, Monitor the systems from the remote unit, turning on the systems after emergency shut down due to flooding, etc.



Benefits:

- Monitor your artificial lift operations in real time
- Receive alarms in case of performance anomaly or non-conformance event
- Receive periodic status reports via email or text
- Create and save custom trend plots and associated data

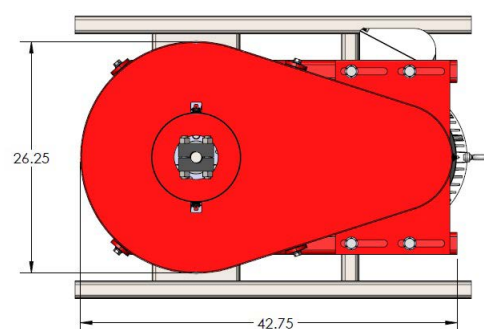
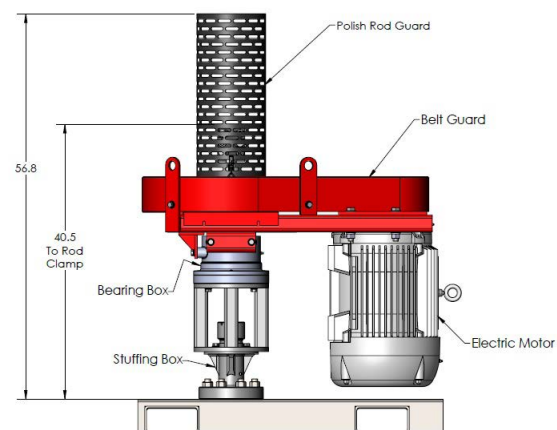


System Components

Drive head

The drive head is coupled with the prime mover via belts and sheaves. It is moved by an electrical motor

- Compact with minimal moving parts
- Hinged belt guard
- Internal backspin control
- Efficient



The Drive Head is an electrical motor driven assembly consisting of a caliper - disk-braking system. The Backspin Brake Assembly is an important safety device on any Electric Drive Head system to impede reverse rotation of the rod string and fluid drive when reverse rotation occurs. This ensures reverse rotation is controlled to prevent a potentially dangerous situation where sheaves can exceed their critical velocities and explode.

Electric Generator

Internal combustion engine tasked with providing power to the PCP system

- Environmental containment skid
- Available in different fuel sources
- Energy efficient
- Advanced control panel available
- Weather proof enclosure

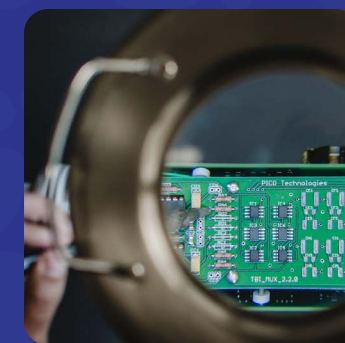
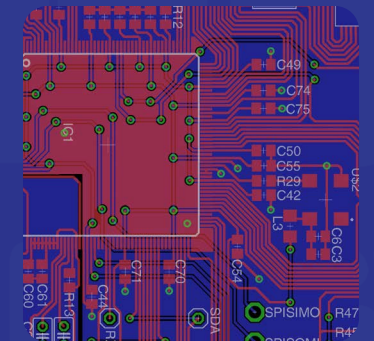
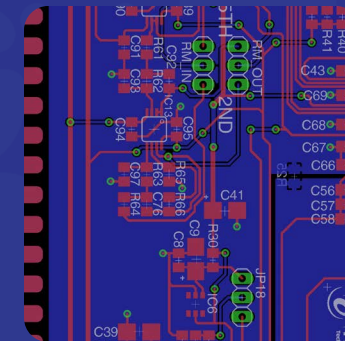
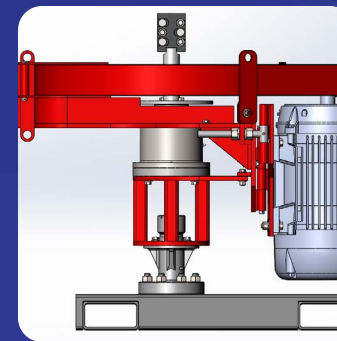


Benefits:

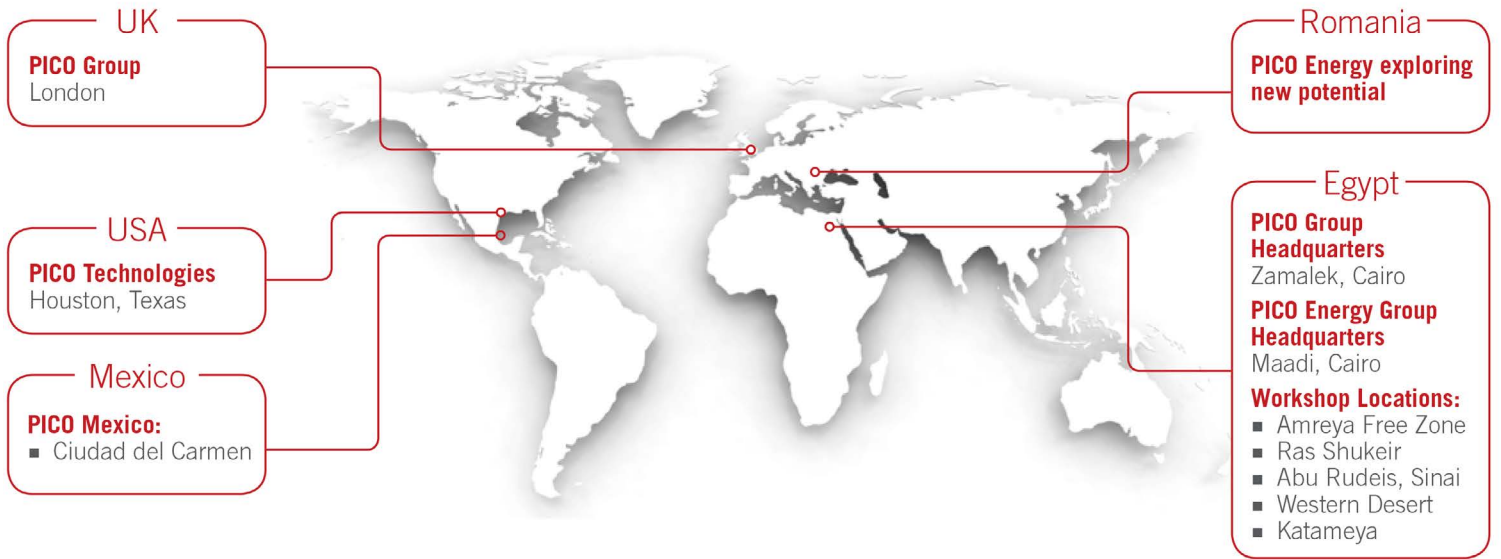
- Low capital cost
- High energy efficiency
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Field Testing Program



Our commitment to Research & Development of World Class Patent Technology requires us to maintain an ongoing Field Testing Program. Thorough testing proves the quality and reliability of our technology and tools. This process pushes us to strive for new innovations that will allow us to reach even higher standards for our clients.



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