INSTALLATION OF INDUSTRIAL EQUIPMENT

Sector: Oil and Gas

INTRODUCTION

- Extracting natural resources, including hydrocarbons and associated gases, is a complex process. Resource extraction (e.g., oil and gas fields) encompasses all stages of production, from geophysical soil surveys to detect deposits to packaging and delivering refined products to consumers

- The key stage of extraction involves transporting energy resources from the reservoir to the wellbore. Adhering to strict sequencing and proper technology for methods and approaches is essential to ensure compliance with well development standards

- One of the initial and critical phases of development is designing the well grid

- Drilling rigs are used not only for direct extraction but also to support the process and supply water

OPTIMIZING WELL PLACEMENT

There must be a specific distance between wells, which varies depending on soil properties, resource depth, and other factors

Typically, grids are designed using triangulation, with the size of the individual triangles being relatively flexible. A triangular layout allows for 15% more wells compared to rectangular spacing

Developing systems with multilayer deposits presents significant challenges

Key factors in determining the success of well placement include:

- Geological, morphological, physical, and geophysical characteristics of the area
- Development methods and technologies for subsequent operation, including equipment specifications
- Composition and physical/chemical properties of the resource and the aquifer
- Proportions of elements in the extracted emulsion
- Oil, gas, and mineral reservoir regimes

EXPLORATION

An important stage of resource development is exploration. Exploration identifies and assesses existing hydrocarbon reserves, as well as oil and gas deposits

COMMON METHODS USED DURING EXPLORATION INCLUDE:

- Geological techniques
- Geophysical surveys
- Hydrogeochemical methods
- Drilling and analyzing test wells

It’s worth noting that natural gas and hydrocarbons are among the most essential resources used by humans since ancient times

THE FOUNDATION OF OIL WELL DEVELOPMENT

- In the early stages, geological survey teams visit the exploration area to conduct geological mapping and fieldwork. This involves studying rock layers, their composition, and their angles of inclination
- To analyze bedrock, special trenches of varying depths are dug
- For a broader understanding of deeper rock formations, mapping wells are drilled, typically reaching depths of about 600 meters. the collected data is then processed to create a geological cross-section of the area
- In oil well development, a geological map is an essential tool, serving as a projection of rock outcrops onto the surface

GEOPHYSICAL METHODS

No matter how precise geological surveys are, they provide only a general idea of the upper structure of rock formations. To gain more accurate information about subsurface conditions, geophysical exploration methods are employed

GEOPHYSICAL METHODS FOR OIL AND GAS EXPLORATION INCLUDE:

SEISMIC SURVEYS:

Based on the relationship between Earth’s gravity and rock density. Rocks saturated with oil or gas are less dense than those containing water

ELECTRICAL SURVEYS:

Utilizing the conductivity properties of different rock formations

MAGNETIC SURVEYS:

Measuring variations in the magnetic permeability of rocks

- These exploration methods are used not only to extract resources but also to map the boundaries of deposits. Additionally, they help determine the depth and thickness of layers containing hydrocarbons and gas necessary for future development

WELL CONSTRUCTION OBJECTIVES

wells serve diverse purposes. if a deposit is fully prepared and thoroughly explored, production wells are drilled for extraction

Within the category of production wells, there are not only those used for oil and gas extraction but also supporting wells like injection, appraisal, and observation wells:

Injection wells: Used to maintain reservoir pressure by introducing various substances into the production layer

Appraisal wells: Assess the depletion levels of reservoirs and help design development strategies

Observation wells: Monitor extraction processes and ensure compliance with operational plans

The structure of a well often depends on the number of additional wells and the casing string rows cemented during the drilling process

WELL CONFIGURATIONS:

- **Single-string wells:** Feature only a production casing
- **Two-string wells:** Include one production and one intermediate casing
- **Multi-string wells:** are structured similarly

Both exploration and production of wells require high levels of expertise and comprehensive understanding of all aspects of the process

EXPLORATION AND APPRAISAL WORK

Exploration is conducted in resource-rich areas to confirm the presence of hydrocarbons and evaluate reservoir parameters for subsequent development

SPECIFICS OF GAS AND GAS-CONDENSATE EXPLORATION:

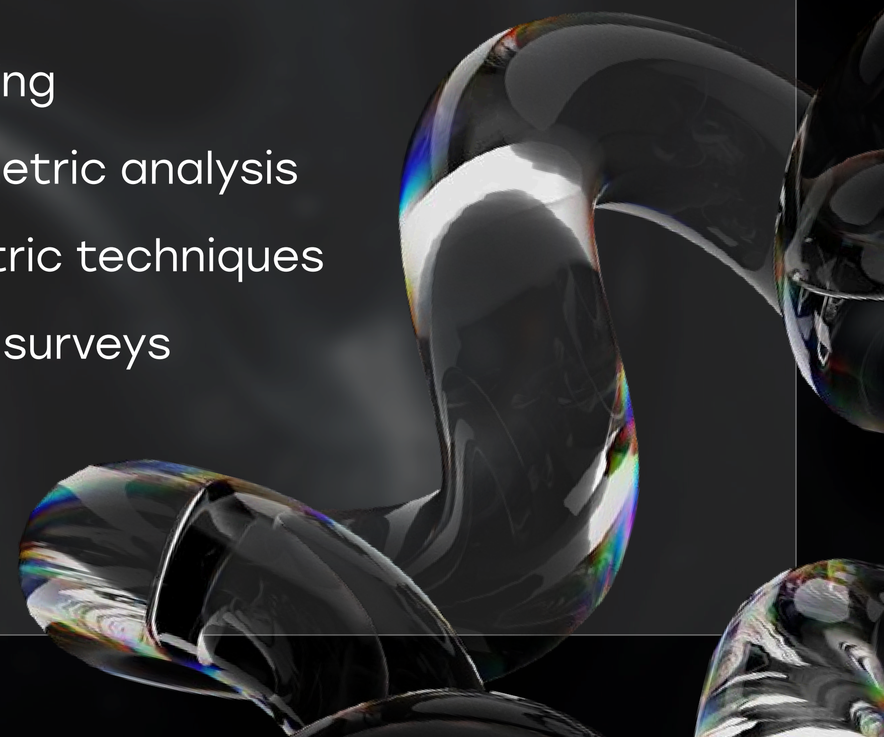
These focus on hydrocarbons from homologous series in various aggregate states within deep layers of the Earth’s crust

PRIMARY EXPLORATION RESULTS:

Determining the current and potential reservoir properties of oil and gas-bearing formations. During production, the resource state is regularly assessed as needed

Phase states of hydrocarbons significantly impact the extraction method. Most exploration techniques are applicable to both oil and gas. After preliminary studies, wells are drilled and evaluated using methods like:

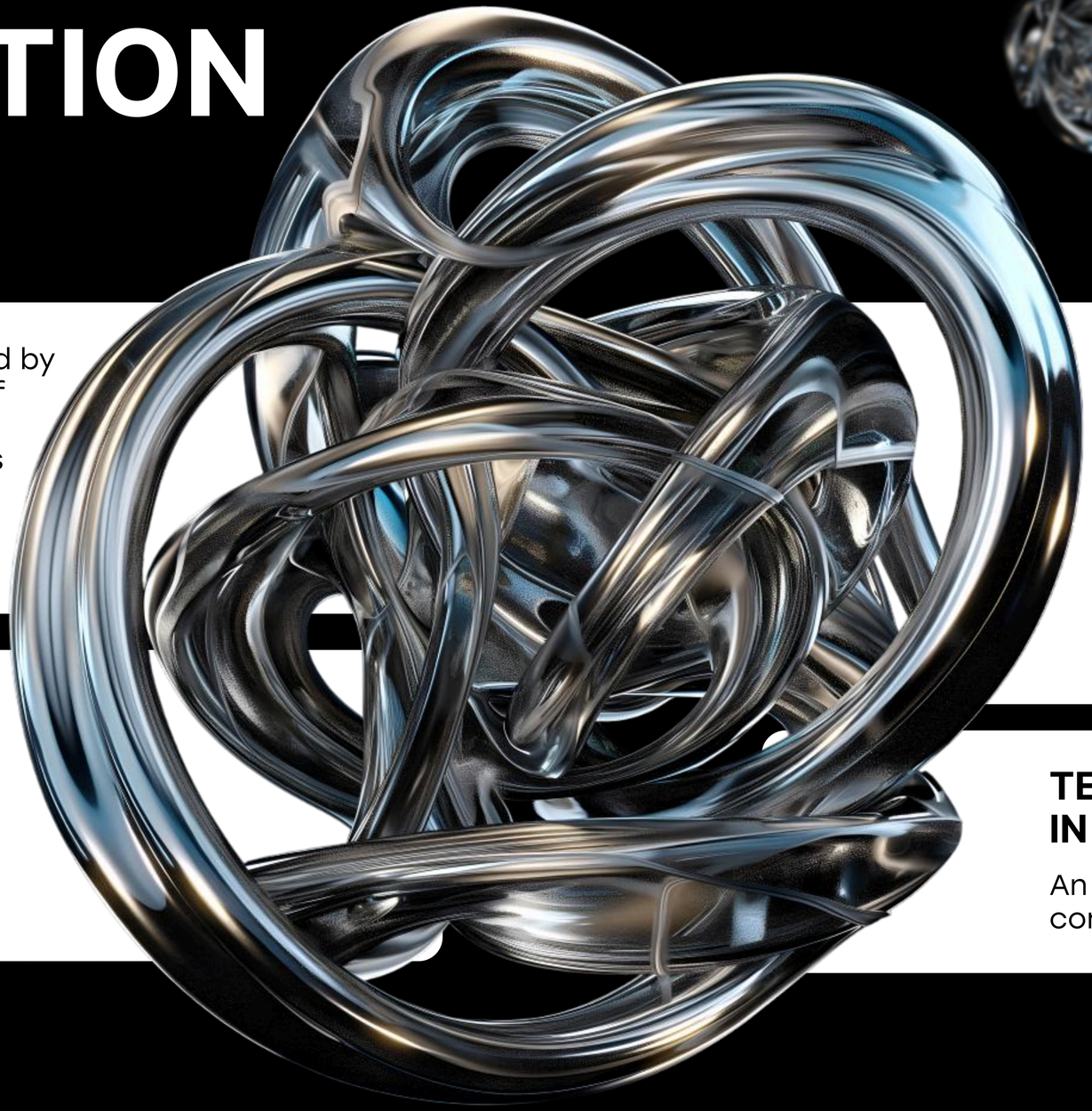
- Well logging
- Thermometric analysis
- Radiometric techniques
- Acoustic surveys



EXTRACTION PERIOD

The increasing period is marked by the drilling and development of the field. The constant period continues as long as it remains economically viable and the extraction efficiency remains stable

At this stage, the capacity of compressor stations is increased, and further exploration is carried out to assess the feasibility of using drilling rigs



READINESS FOR DEVELOPMENT AND DEGREE OF DEPLETION

Pilot operation differs from industrial operation in that it involves simultaneous further development of the well and parallel extraction of raw materials

TECHNOLOGY USED IN DEVELOPMENT

An example is the compressor technology

GAS CONDENSATE

Gas condensate (a mixture of propane, propylene, isobutane, and butylenes that transition from a gaseous to a liquid state under pressure) is either a byproduct of oil well development or a standalone raw material found in resource-rich areas

CHARACTERISTICS:

1. Low density
2. High boiling point, up to 250 °C (482 °F)
3. Minimum of 5 carbon atoms per molecule (C_5H_{12} and above)
4. Gas factor of 1400–12500 m^3/m^3
5. Specific gravity in the atmosphere: 0.74–0.78 g/m^3
6. Additional inclusions: N_2, CO_2, H_2S, He, Ar

After processing, gas condensate is used as motor fuel and serves various applications in the chemical industry

UNIQUE FEATURE OF EXTRACTING “NATURAL GASOLINE”

The key feature lies in the pressure maintenance system used, such as water injection or a closed-loop process

During the exploration phase, field development is planned with a consistent number of injection and production wells

IMPORTANT CONSIDERATIONS INCLUDE:

- The risk of condensate buildup in the reservoir and wellbore due to pressure and temperature drops
- The multiphase nature of the emulsion, which requires advanced technology to separate “white oil”

ADVANCED FIELD DEVELOPMENT SOLUTIONS

Del Mar Energy Inc specializes in oil and gas production, field development, and exploration. The company can seamlessly manage tasks from planning operations on-site to executing the entire scope of work, including building a fully operational refinery. The core mission of the holding is to continuously enhance field development methods and implement innovative solutions

- Del Mar Energy is one of the few companies engaged in field development both onshore and offshore
- The company boasts extensive expertise in the geology of natural gas and oil, as well as exploration technologies. It has proprietary equipment and software developed by its in-house analytical center
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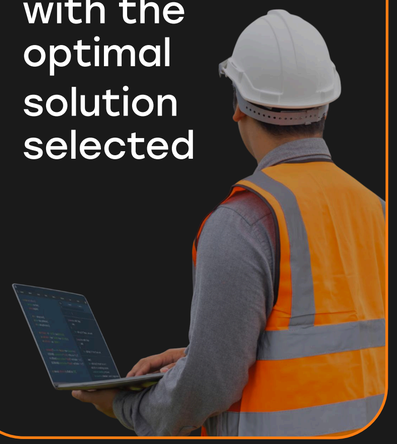
- This unique equipment and software enable comprehensive field studies, including geological assessments, seismic exploration of high-complexity sites, and evaluations of depleted reservoirs
- Del Mar Energy consistently conducts field development operations across 27 countries worldwide

OIL AND GAS FIELD DEVELOPMENT

Field development is a complex process aimed at establishing new extraction sites for oil and gas. Once extracted, oil undergoes primary processing immediately

Field development begins with drafting a pilot project and a technological scheme for resource utilization. This project defines the conditions for future field operations, as well as the reservoir's structure and the physical-chemical properties of the fluids

Based on research and obtained data, multiple options are developed and evaluated, with the optimal solution selected



The development system encompasses both methodologies and the technical-economic rationale for the project, including capital investments and oil recovery factors

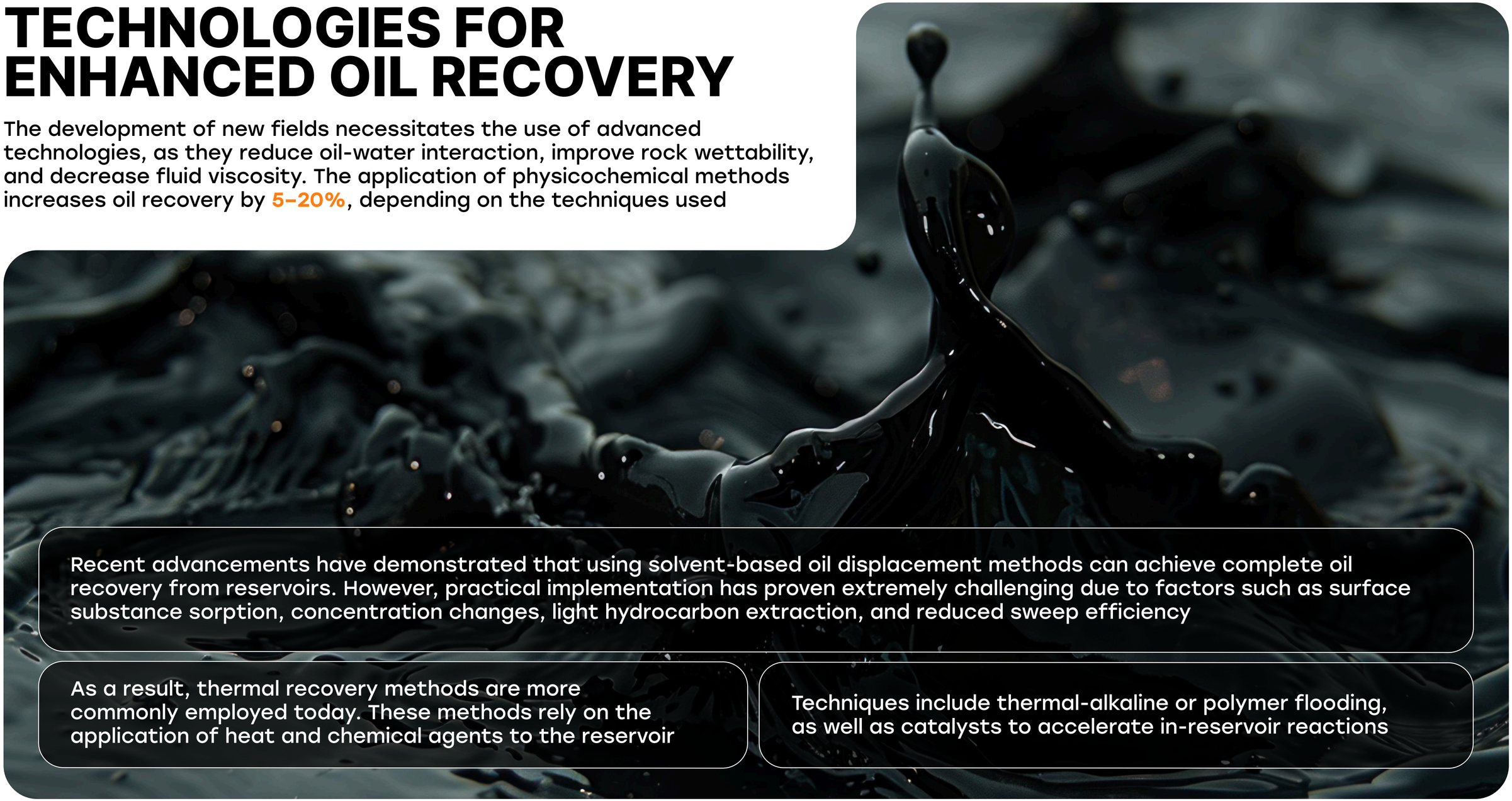
A second critical aspect is the efficiency of the development technology. While the system remains constant, various technologies can be applied

KEY TECHNOLOGICAL DEVELOPMENTS INCLUDE:

- Current and cumulative oil or gas production
- Development speed
- Water and impurity content in the reservoir
- Reservoir pressure and temperature

TECHNOLOGIES FOR ENHANCED OIL RECOVERY

The development of new fields necessitates the use of advanced technologies, as they reduce oil-water interaction, improve rock wettability, and decrease fluid viscosity. The application of physicochemical methods increases oil recovery by **5–20%**, depending on the techniques used



Recent advancements have demonstrated that using solvent-based oil displacement methods can achieve complete oil recovery from reservoirs. However, practical implementation has proven extremely challenging due to factors such as surface substance sorption, concentration changes, light hydrocarbon extraction, and reduced sweep efficiency

As a result, thermal recovery methods are more commonly employed today. These methods rely on the application of heat and chemical agents to the reservoir

Techniques include thermal-alkaline or polymer flooding, as well as catalysts to accelerate in-reservoir reactions

CUSTOM EQUIPMENT AND ADVANCED MATERIALS

At the customer’s request, column equipment can be supplied with necessary spare parts, or maintenance can be performed by company specialists under existing contracts

Del Mar Energy brings extensive technical expertise and utilizes a wide range of alloys manufactured using proprietary explosive metal cladding technology for columns, towers, reactors, heat exchangers, pipes, and storage tanks. Metal cladding with petrochemical protection and composite materials designed for chemical applications ensure the safe and reliable storage of corrosive materials at client facilities, ranging from purified terephthalic acid (PTA) to acetic acid and methyl methacrylate (MMA)

In equipment manufacturing, we use only the highest-quality steels and alloys, including ST3SP

INNOVATIVE APPROACHES WE EMPLOY

MODULARITY

Del Mar Energy’s modern assembly equipment is designed for quick configuration changes

01 04

ROBOTICS

Robots and automated systems are used for installation, especially in precise or hard-to-reach areas

02 04

DIGITAL TWINS

Virtual models of equipment are created for analysis and testing without the need for physical prototypes

03 04

ENERGY EFFICIENCY

Energy-saving drives and control systems are utilized

04 04

OUR APPROACH TO PROJECT DESIGN

01

REQUIREMENT ANALYSIS

Evaluating the tasks the equipment will perform and the conditions of its operation, with consideration for performance, durability, and safety parameters

02

COMPUTER MODELING

Creating 3D models using CAD software (AutoCAD, SolidWorks, CATIA) to detect errors early and optimize designs

03

SIMULATION AND CALCULATIONS

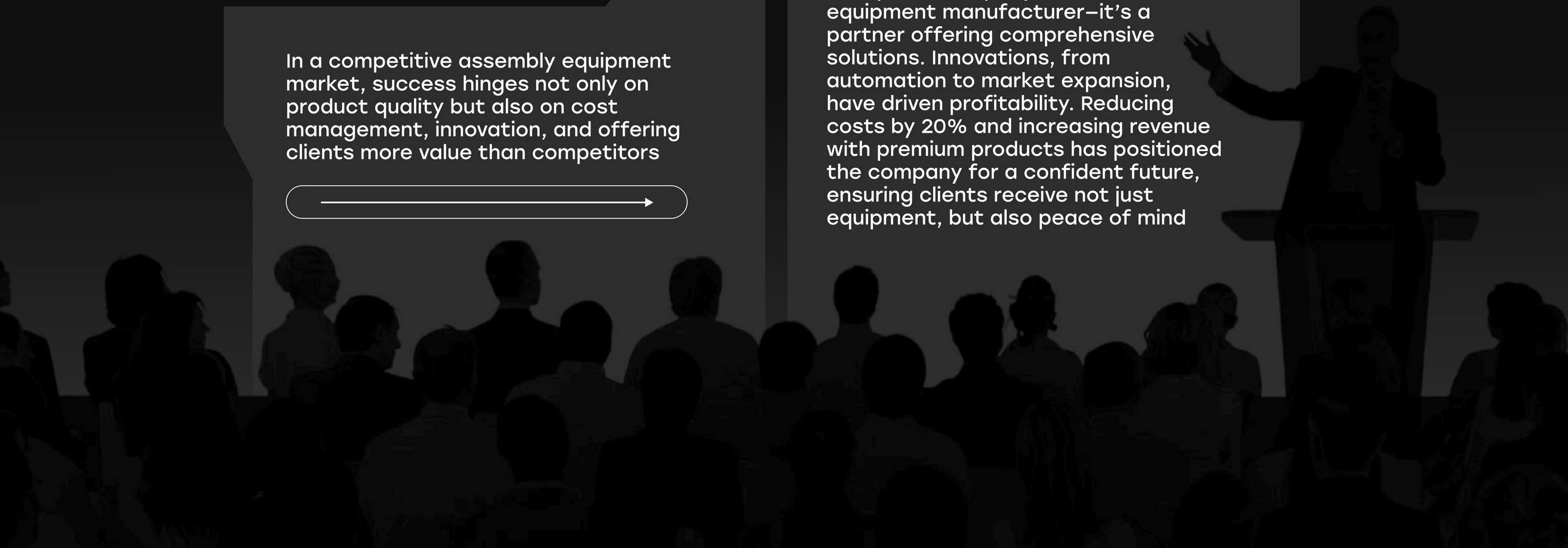
Analyzing strength, stability, and thermal loads with CAE software (e.g., Ansys)

Assembly equipment is designed for easy maintenance and component replacement. IoT elements are frequently integrated for real-time equipment monitoring, enabling wear prediction and fault prevention. These technologies ensure reliable, durable, and highly precise equipment, essential for construction, engineering, energy, and other industries

PATH TO MARKET LEADERSHIP

In a competitive assembly equipment market, success hinges not only on product quality but also on cost management, innovation, and offering clients more value than competitors

Today, the company is more than an equipment manufacturer—it's a partner offering comprehensive solutions. Innovations, from automation to market expansion, have driven profitability. Reducing costs by 20% and increasing revenue with premium products has positioned the company for a confident future, ensuring clients receive not just equipment, but also peace of mind



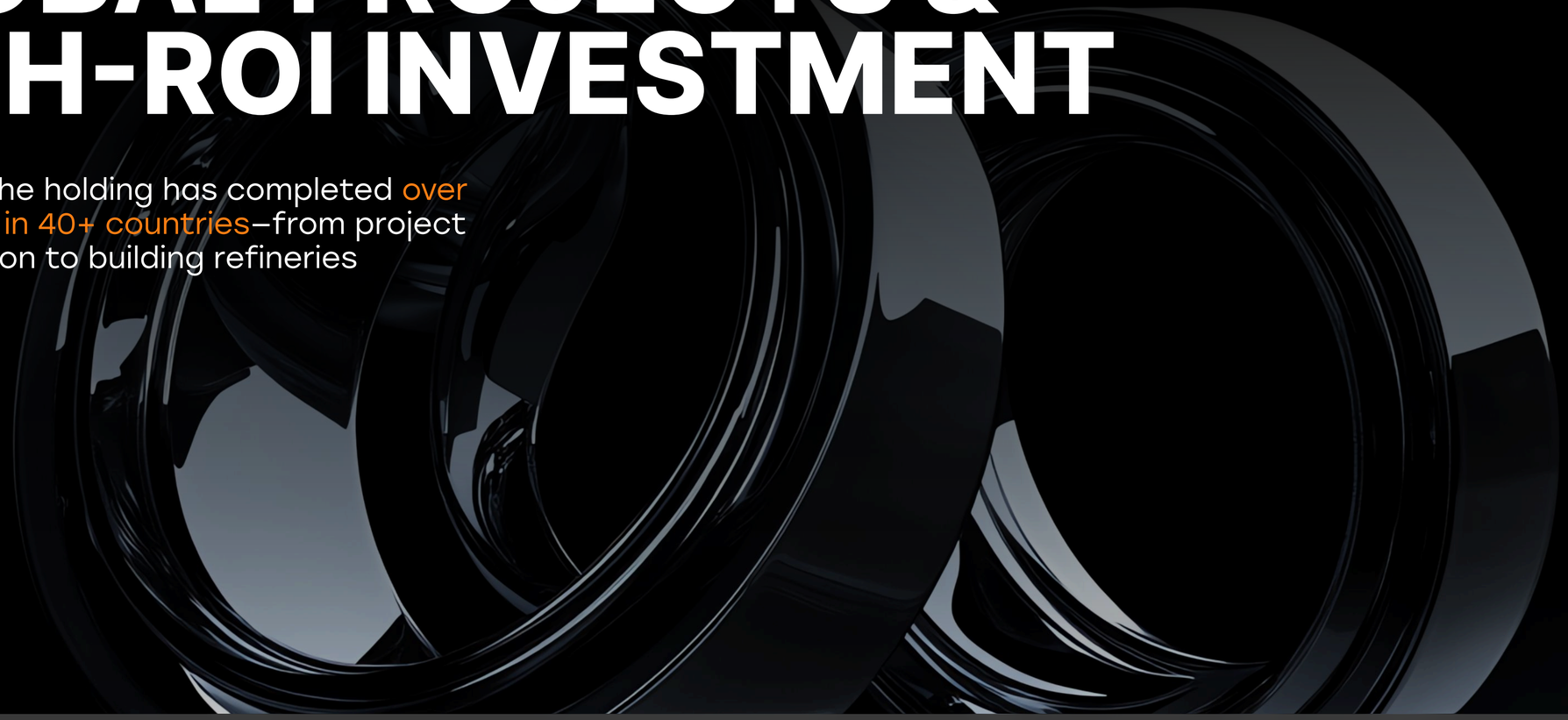
GLOBAL OIL DEMAND FORECAST

Our analysts project global oil demand will rise to 110 million barrels per day by 2045, maintaining approximately 29% of the global energy mix

With the expansion of the global economy, the need for oil and gas will not diminish

GLOBAL PROJECTS & HIGH-ROI INVESTMENT

In 23 years, the holding has completed over 300 projects in 40+ countries—from project documentation to building refineries



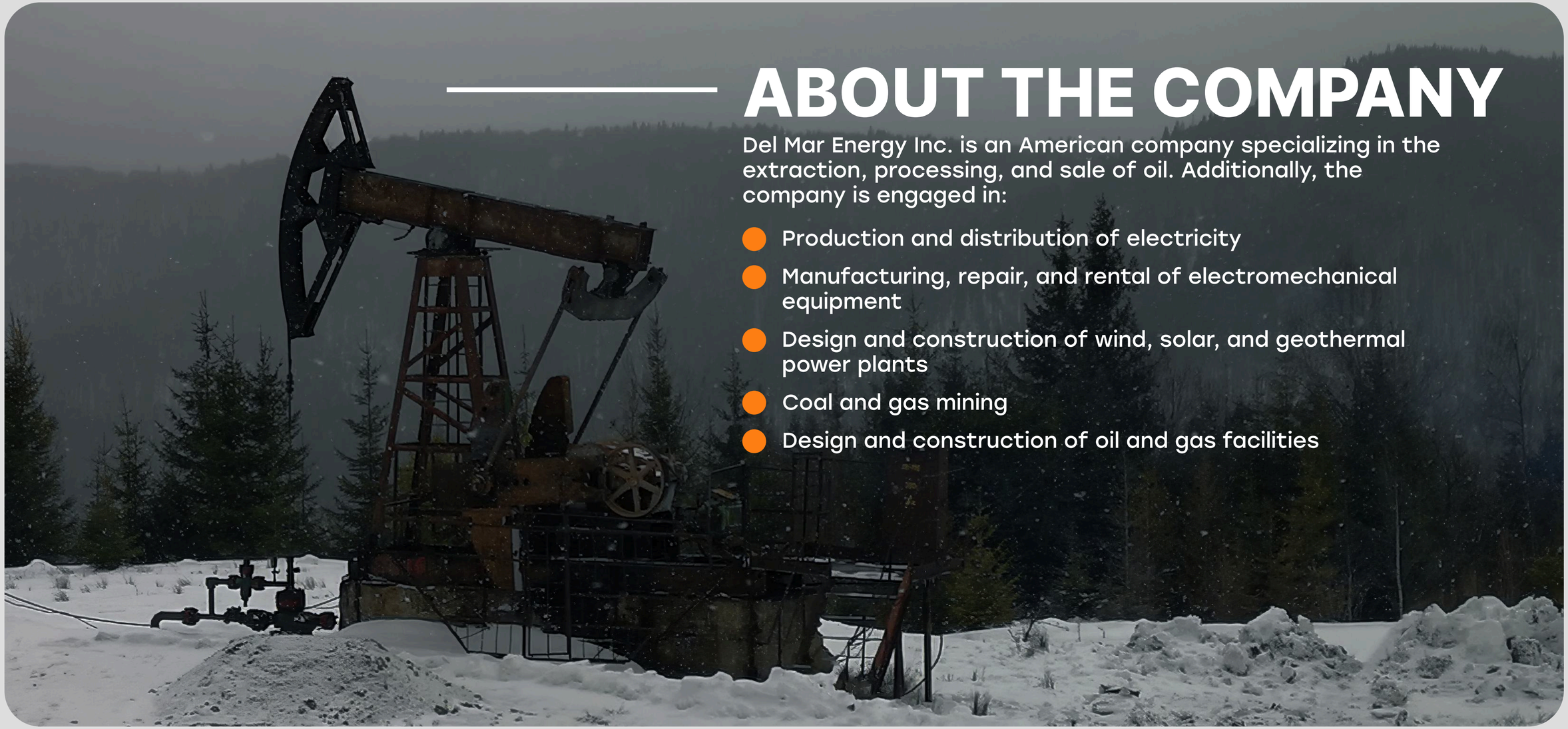
EXAMPLE INVESTMENT OPPORTUNITY:

Deposit:
$112.50

Duration:
245 days

Balance After 245 Days:
$262.395

ROI:
233.24%



ABOUT THE COMPANY

Del Mar Energy Inc. is an American company specializing in the extraction, processing, and sale of oil. Additionally, the company is engaged in:

- Production and distribution of electricity
- Manufacturing, repair, and rental of electromechanical equipment
- Design and construction of wind, solar, and geothermal power plants
- Coal and gas mining
- Design and construction of oil and gas facilities

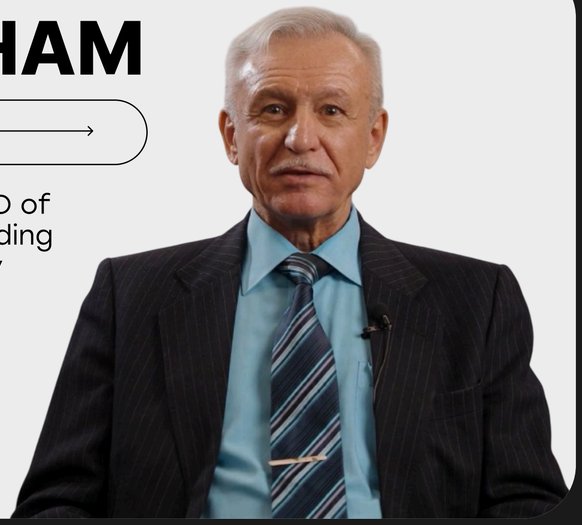
Founded in 2002 with just a few oil rigs, the company began developing its own technologies and implementing them in production by 2012. Today, 91% of our products are exported to over 40 countries worldwide

LEADERSHIP TEAM

MICHAEL LATHAM

Founder/CEO →

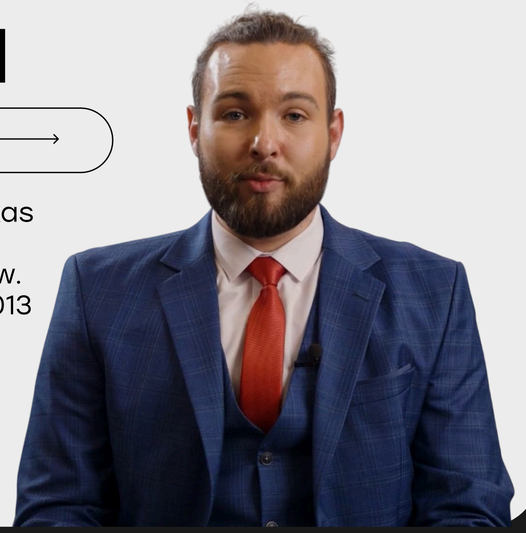
Michael Latham is the founder and CEO of Del Mar Energy. He established the holding company in 2002 in Texas, successfully building and growing industrial sectors



NICK KAUFMAN

COO (Chief Operating Officer) →

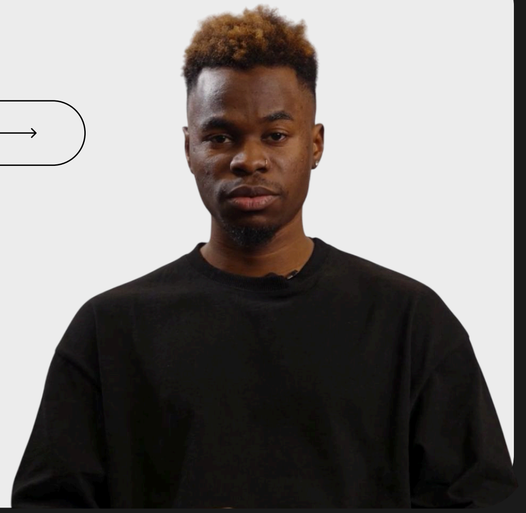
Nick has served as COO since 2018. A Texas native and graduate of the University of Massachusetts, Nick initially worked in law. He first encountered Del Mar Energy in 2013 and officially became a partner in 2018. Nick introduced many of the modernized technologies now used in production



STEFAN RUSSO

CIO (Chief Information Officer) →

Stefan started his internship at Del Mar Energy in 2016. In less than five years, he advanced from intern to company director



THOMAS LIEBERMAN

CMO (Chief Marketing Officer) →

Born in 1984 in Nevada, Thomas studied at a local university before moving to New York in 2006 to work in marketing and public relations. He began collaborating with Del Mar Energy in 2011. Prior to joining the company, Thomas worked on promoting brands such as P&G, Gillette, and General Motors