

المتفوقون لخدمات وصيانة حقول النفط المساهمة

# ALMOTAFUGOON OILFIELD SERVICES COMPANY

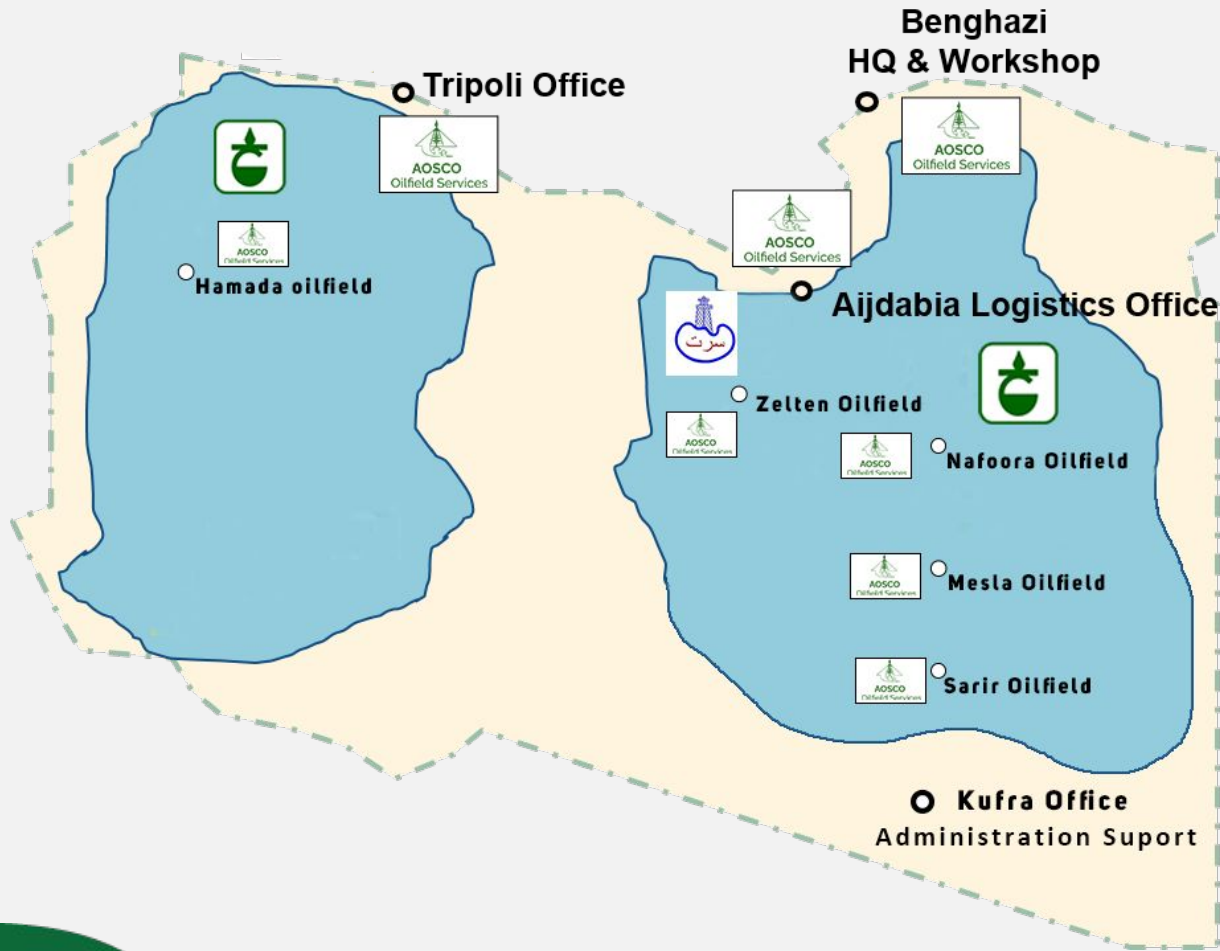


**AOSCO**  
Oilfield Services



**The Libyan ESP Services Company**





# AOSCO Vision

Our aim is to become **the leading company in the Libyan oilfield services** area. In order to reach our vision; we provide specific solutions for every customer by incorporating into the local infrastructure, the new technologies and the latest knowhow in the Oil & Gas Industry.



# AOSCO Mission

AOSCO organization culture is defined by a set of values that outline how we operate every single day – Trust, Care, Innovation, and Pride. They reflect how we interact with our clients, our colleagues, and our communities. We hold each other accountable for creating a company we can all be proud to work at.

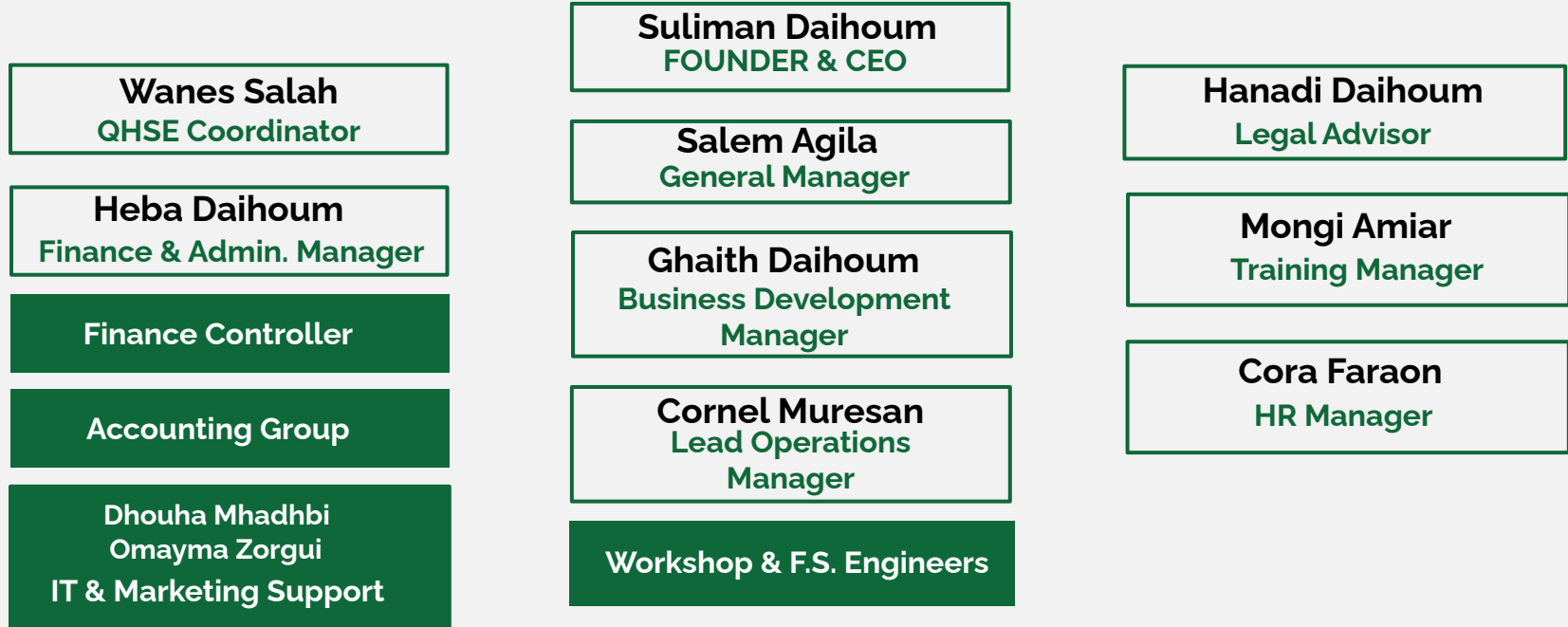
**We provide service with a human touch**

**We make a positive difference in our partners' lives**

**We have a client first philosophy**

**We live out our values**

# ORGANIZATIONAL CHART



# AOSCO Services



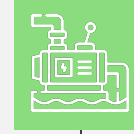
**Oil & Gas Exploration**  
Consultancy



**Oil & Gas Reservoir**  
Consultancy



**Drilling Engineering**  
Consultancy



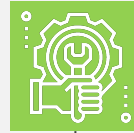
**Production Engineering**  
Consultancy



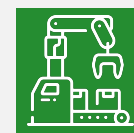
**Artificial lift**  
Services



**Field Support**



**Process & Maintenance**  
Consultancy



**Equipment - Material**  
Supply & Lease



**Training**

# Oil and Gas **EXPLORATION** Consultancy: **GEOLOGY**



## Services and Experiences:

- **Geological evaluations** of new locations
- Proposing new **seismic programs**
- Review **petro-physical analysis** of drilled wells

## Outputs:

- 3D structural model in Petrel for concession NC2 & NC4
- Drilling assessment reports of the exploration wells
- Acquisition of new 3D seismic
- Junior geoscientists training
- Cooperated with the petrophysicists for ELAN, IP, MRX and MDT interpretations to evaluate the hydrocarbons presence of each sandstone reservoir



# Oil and Gas EXPLORATION Consultancy: GEOPHYSICS



## Services:

- Seismic field Surveying and Acquisition
- Seismic data processing and imaging
- Seismic interpretation
- GIS (Geographic Information System)
- Geo-Training

**Integrated technology**

**Innovative approach**

to achieve clients geophysical objectives

## **SURVEYING**

- Verify existing geodetic network
- IGS point recording and calculation
- Establish Datum shift parameters
- Seismic survey and stakeout
- Scouting for tender preparation & acquisition survey
- Define and resolve coordinates problems for old data
- Identify and resurvey of old seismic lines

## **SEISMIC ACQUISITION**

- 2D, 3D survey design & pre-planning
- Tender preparation & evaluation
- Client representative on site and quality control
- Survey scouting and levelling
- Coordinates transformation between different projections and datums.
- Resolve all coordinates problems
- SPS recreation for old data from observers logs.

# Oil and Gas RESERVOIR Consultancy



- Reservoir and well **data analysis and interpretation**
- Reservoir **management and monitoring**
- **Well test** interpretation and analysis
- Propose **solutions** for all **issues** related to wells and reservoir
- Identify wells for **work over** and other interventions
- Follow up and contribute in the **reservoir studies**
- **Collaborate** with other subsurface department
- Reserves calculations
- **Reservoir simulation** with history matching and predictions
- Propose **new wells to drill** to increase recovery
- Coach new engineers by providing **internal courses**



**AOSCO Drilling** Consultant plays an integral role in ensuring operations, testing and workover programs are **executed in accordance** with the operators **drilling program** by coordinating with the rig crews to make sure the jobs are done efficiently and safely.

## **Periodical Activity:**

- Participate in preparing Sarir Field 2022, W/O Plan and Budget
- Prepare tables required by NOC for Sarir Field wells depths for capable producers and wells expected to be workovered next year
- Participate in discussions with the service companies, the well interventions reports
- Analyze suppliers offering for Sarir purchase orders
- Analyze and evaluate the new company price list for approval

# PRODUCTION Engineering Consultancy



Our **Production** Consultants over see the operators **production plan**, handling various aspects of daily **well production assignments** and assisting in **preparing completion**.

## Services and Experiences:

- Follow up the workover daily activities carried in Sarir Field
- Discuss and try to find a suitable solution for any problem during W/O operations with Field Engineers and W/O Engineering Team
- Prepare W/O and Completion programs for Sarir Field, taking into consideration Reservoir Engineering Recommendations



# ARTIFICIAL LIFT

## Gas Lift

Gas Lift Mandrels, Valves, [Merla chokes](#), [Burton Gauges](#) and accessories  
[Side Pocket Mandrels and Valves](#)

## Electrical Submersible Pump (ESP)

- Consultancy, application, downhole & surface equipment experts
- Pull and Run ESP Equipment
- **ESP Operations**
- Surface Equipment, consumables, wellhead and accessories

## Sucker Rod Pump (SRP)

Consultancy, application, maintenance, material supply and training  
[SRP Operational Performance](#)

## Field Management

Prepare and organize the field operation to match the ESP industry standards  
[Digitize Artificial Lift Operation](#)



# Case Demonstrations



Artificial Lift

**Competency, Expertise and Diversified Experience**  
of our personnel ensures the **success** of customer's operations



# ESP Services



Artificial Lift

## VSD & SWB Commission, Troubleshooting & Monitoring, Supervision



## ESP Pull & Installation



## VSD & SWB Repair - Specialist





# ESP Services



Artificial Lift

Power **Analyzer**



VSD & SWB  
**Upgrade – Retrofit**



**Echometer** Services



ESP Cable Repair  
**Workshop – Specialist**



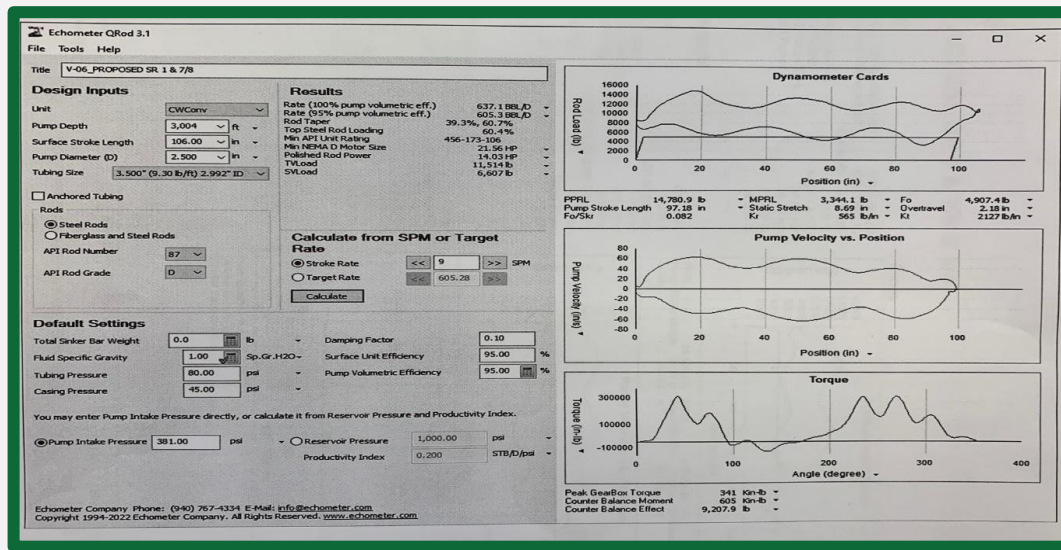
# Sucker Rod Pump Services



Artificial Lift



Sucker Rod Pump Service

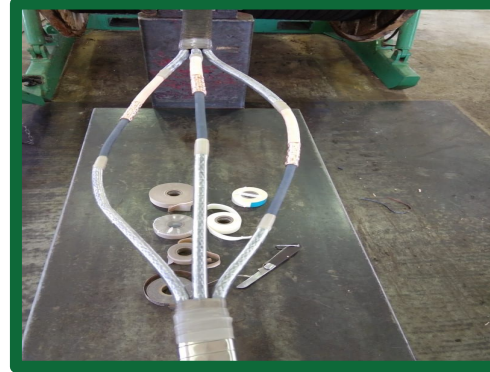


Sucker Rod Pump Design Simulation

# Field Operations and Support



Field Support



## ESP Cable Splicing

- Inspection
- Cable splice
- Testing
- Storage

# Field Operations and Support



Field Support



## Mobile Cable Repair Shop

- Testing and Repair Equipment
- Top quality tools and materials
- Professional Personnel



# Field Operations and Support



Field Support



## ESP Operations

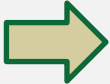
- Run & Pull
- Commissioning
- Trouble shooting



# Process and Maintenance Consultancy



ESP STORAGE in client Field



Feb 2022

# Process and Maintenance Consultancy



**Storage in bundles**  
with splitter and wooden base

# Process and Maintenance Consultancy

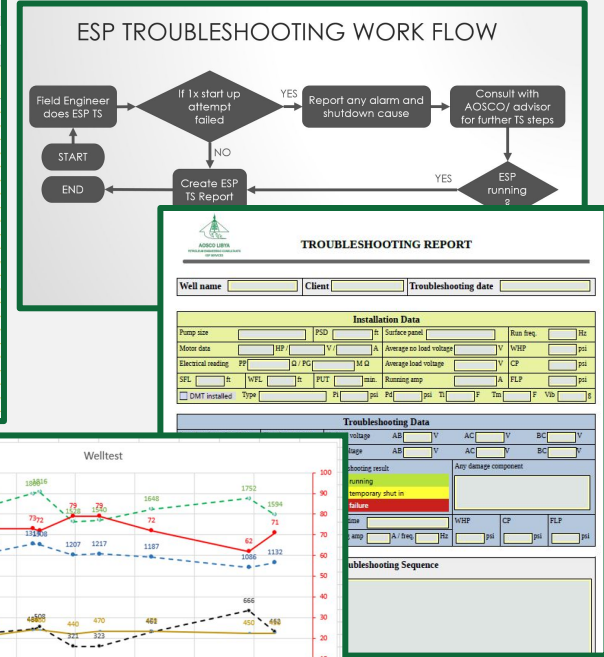


## Product:

- Database collection
- Work flow
- Reporting template
- Manual to digital record

Simple and Fast....  
High effectiveness & Efficiency

No.	Well No.	Field	Area	Installation Date	Start Up Date	Failure Date
A-001	Al-Kheir				Natural flow	
A-002	Al-Kheir				Natural flow	
A-003	Al-Kheir				Natural flow	
A-004	Al-Kheir				Natural flow	
A-005	Al-Kheir			8-Jun-20	10-Jun-20	
C-001	Zelten			13-May-21	23-Nov-21	
C-001	Zelten			24-Jan-21	26-Jan-21	
C-005	Zelten	North West Zelten		29-Nov-18	2-Dec-18	
C-005	Zelten	North West Zelten		18-Mar-20	20-Mar-20	
C-011	Zelten	North East Zelten		4-Sep-20	13-Sep-20	
C-012	Zelten			18-Aug-20	20-Aug-20	
C-013	Zelten	North West Zelten		12-Apr-20	15-Apr-20	
C-020	Zelten	North West Zelten		6-Feb-21	9-Feb-21	
C-023	Zelten	South Zelten		9-Feb-21	14-Feb-21	
C-035	Zelten	North East Zelten		20-Sep-20	22-Sep-20	
C-035	Zelten	North East Zelten		27-Sep-20	28-Sep-20	
C-038	Zelten					
C-041	Zelten			20-Mar-21	25-Mar-21	

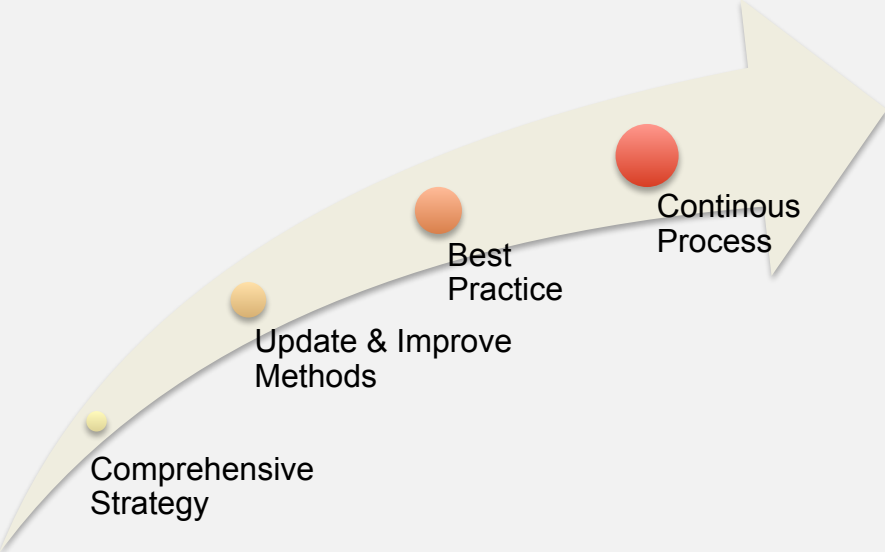




# Process and Maintenance Consultancy



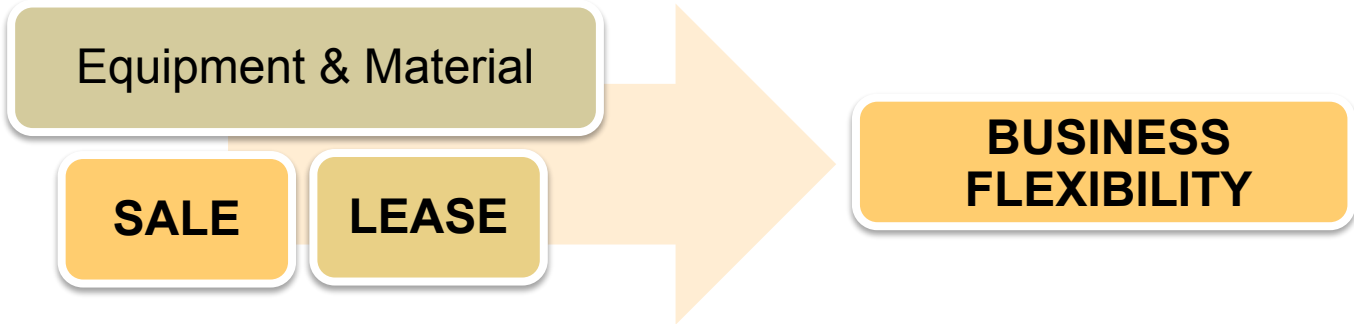
Process



Cost Effective Decisions



# Equipment / Material Supply and Lease



# Equipment / Material Supply and Lease



- **ESP Motor**
- **ESP Seal/ Protector**
- **ESP Gas Separator**
- **ESP Pump**
- **ESP MLE**
- **ESP Power Cable**
- **ESP Accessories**
  
- **Gas Lift Mandrel**
- **PCP**
- **Sucker Rod Pump**

# Equipment / Material Supply and Lease



## ESP Panel Skid

**Integrated VSD,  
Step Up Transformer,  
Step Down Transformer**



## ESP Panel - Well Testing Skid

**Integrated VSD,  
Step Up Transformer,  
Junction Box**

# Equipment / Material Supply and Lease



Special Purpose **Generator**

- **ESP** Application
- **Desert** Environment
- **Extended** Fuel Tank

# Equipment / Material Supply and Lease



## Cable Spooler



## Mobile Cable Shop



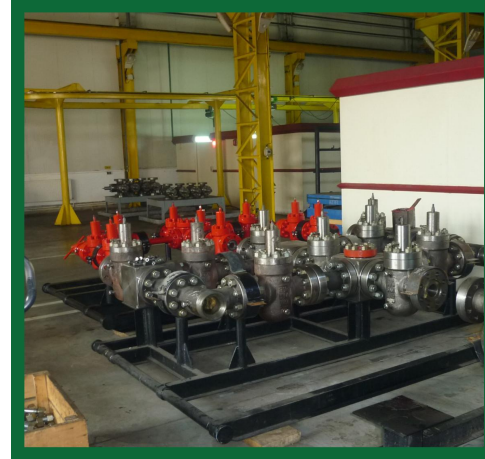
# Equipment / Material Supply and Lease



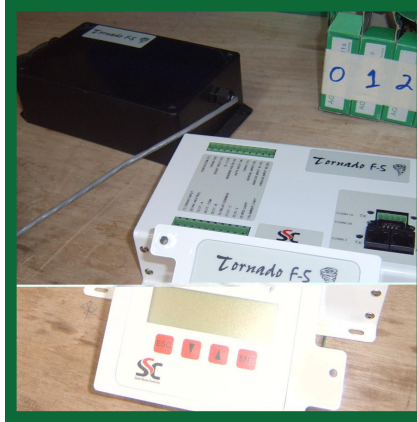
**Wellhead & Xmass Tree**



**High Pressure Valve & Sand Pump – Turbo Bailer**



# Equipment / Material Supply and Lease



## Consumables & Spare Part

## Forklift and Crane





# Equipment / Material Supply and Lease



## Merla Check Valves



## Mandrels



## Downhole Valves



**Cable Spoolers** Ready to  
dispatch from **our**  
**manufacturing facility**



# Training



We have **trained**  
**more than 80 Engineers**

# AOSCO Training Courses

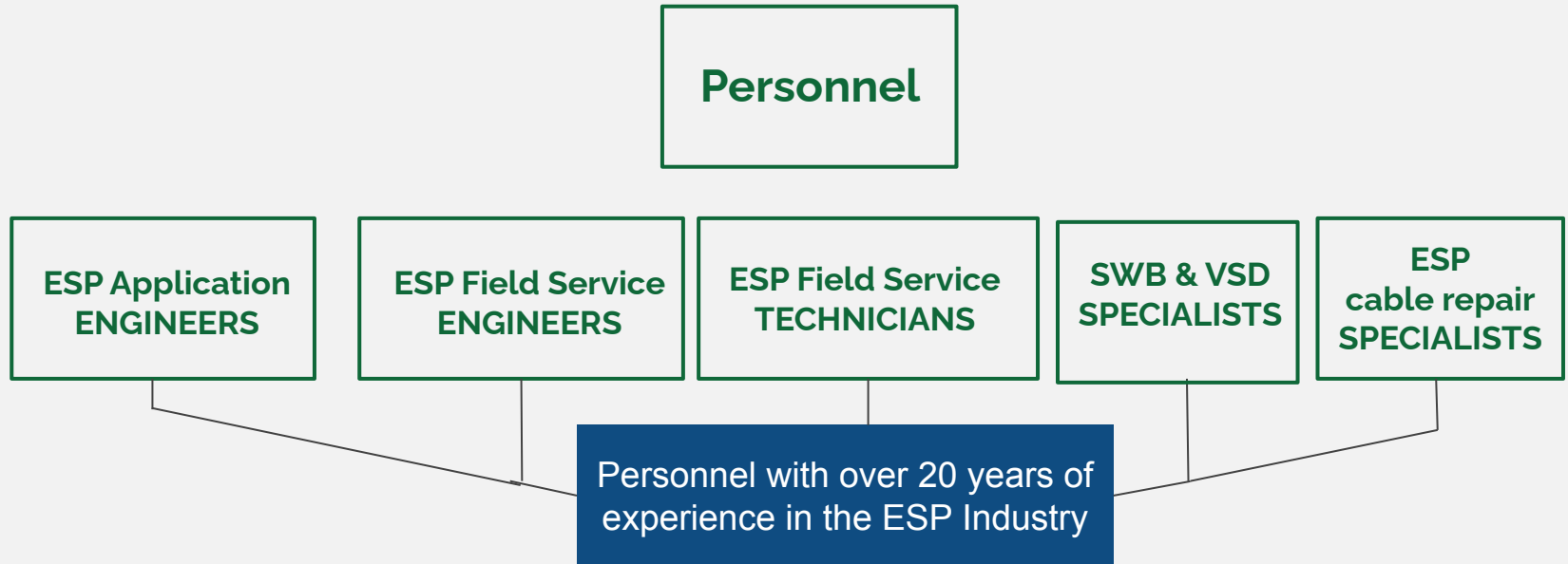
<b>Seismic acquisition</b>	<b>Seismic Data Processing &amp; Imaging</b>	<b>GIS (geographical information system)</b>
<b>Databases and Geodatabases conception</b>	<b>Geo-modeling</b>	<b>Petro-physics</b>
<b>Development Geology</b>	<b>Reservoir Engineering</b>	<b>Fluid Flow In Porous Media</b>
<b>Special Laboratory studies</b>	<b>Dynamic reservoir simulation</b>	<b>PETEL RE Work Flow Simulation</b>
<b>Reserve Calculation Methods</b>	<b>Petroleum Economic evaluation</b>	<b>Enhanced Oil Recovery, EOR</b>
<b>Drilling</b>	<b>Production Engineering</b>	<b>Well Testing</b>
<b>Introduction to ESP</b>	<b>VSD Technology</b>	<b>VSD Troubleshooting &amp; Repair</b>
<b>ESP Application Engineering (Basic)</b>	<b>ESP Application Engineering (Advanced)</b>	

# AOSCO Training Performed in North Africa



Course	Time	Instructor	Location
New Technology Petroleum Engineer	2009	David Anderson Bill Man Michael Meuffels	Libya Alwaha Harouj Rass Lanouf
Petroleum Engineer ESP Principles Introduction	2013	Suliman Daihoum	SOC Zelten Oil Field
ESP Application Basic and Sales Dynamic Reservoir Solution	2021	Tarek Elamri Monji Amiar	Tunis AOSCO Office
Production Engineering - ESP Principles - ESP Installation & Cable splicing (OJT)	2021 2022	Cornel Muresan	Libya AOSCO Benghazi HQ AGOCO Hamada Field
Production Engineering: - ESP Principles - VSD technology: - VSD Set-up & Commissioning	2021 2022	Bambang Handoko Yola Yedatama	Libya SORC Zelten Oil Field

# After Sale Services



# AOSCO References



AGOCO



SOC



Zueitina



Waha



Harouge



Ras Lanuf

# AOSCO Partners



# International Oil Shows



Regular participation in Oil Shows around the world helps AOSCO to remain focused in the latest technologies development in all our areas of interest; Asia, Middle East, Europe, North Africa.

**WE are Everywhere!**



# International Oil Shows



ADIPEC 2022



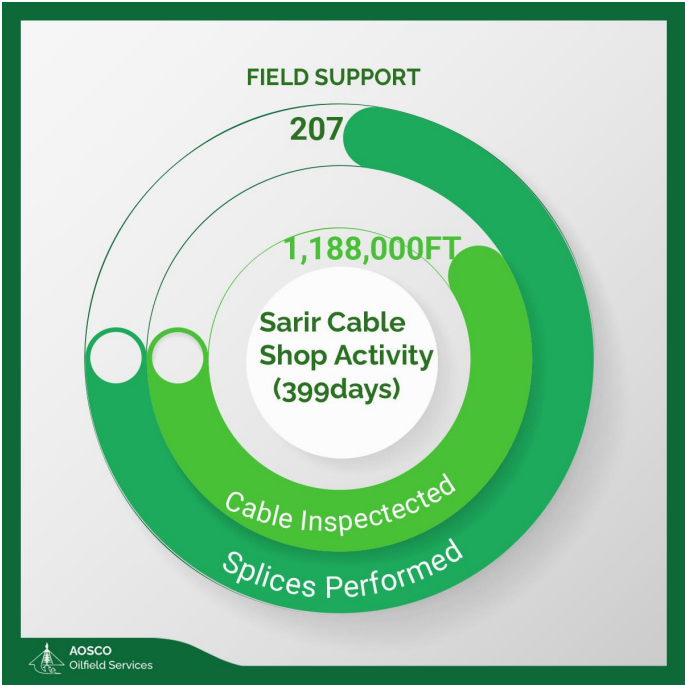
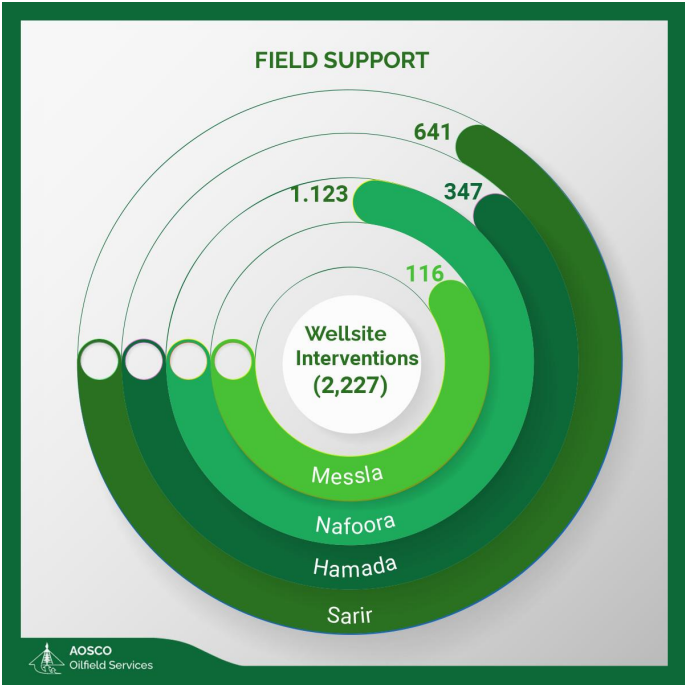
EGYPS 2023



OTC 2023

# Field Operations and Support

(AGOCO: During the Past 12 Months)



# Performance over 14 years

YEAR	SOC			AGOCO				
	DRILLING (days)	Simulation and Res. Management (days)	Production Technolgist and ESP (days)	Exploration Eng. (days)	Reservoir Eng. (days)	Petroleum Eng. (days)	ESP Eng. (days)	Cable Repair (days)
2009	380	120	85					
2010	580	150	160					
2011	167	45	30					
2012	11							
2013	365							
2014	277							
2017	137							
2018	200							
2019	346		38			105		
2020	465		356			292		
2021/2022			496	607	98	207	2767	399

# 2021 Performance

Year	SOC		AGOCO					CONS TOTAL DAYS	CONS TOTAL HOURS
	Drilling (days)	Artificial Lift (days)	Exploration (days)	Reservoir ENG (days)	Drilling (days)	Petroleum ENG (days)	Artificial Lift (days)		
2021	78	149	174	57	78	333	2210	<b>2,852 DAYS</b>	<b>20,928 HOURS</b>

# AOSCO Quality Assurance

As an oilfield service company, integrity is fundamental to Almotafougon Oilfield Service Company's success. We commit to the highest standards of professionalism, competitiveness, dependability and transparency to provide quality products and services to our customers.

We are an equal opportunities employer. We offer competitive remunerations to our employees and chances to advance in their careers, by providing a safe and healthy workplace in a very dynamic environment, in order to create a strong foundation for the business.

AOSCO is fully committed to the best standards of service and customer satisfaction, ready at all times to deliver services within the terms and conditions, in order to exceed customer's expectations on quality and costs.

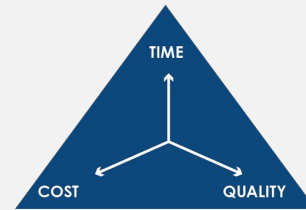
# AOSCO Commitment

We, strive to fulfill our pledge with continuous improvement in our services, with the support of our employees. AOSCO will continue to advance into becoming the best Oilfield Service Company for many years to come.

**"AOSCO is committed to our customer's needs and will make every effort to exceed customer satisfaction, aiming to provide top quality products and an excellent service that is second to none"**

# AOSCO Commitment

- We warrant all our products
- All our products are stored safely in our storage facilities
- We provide a secure delivery of our products to our customers in time
- High quality safety equipment is provided to all our site personnel and workers in our facilities
- Our facilities are built in compliance with ISO standards
- Our company is certified under ISO 9001:2015, 14001:2015 and 45001:2018



# Our **people** are our most **valuable asset**



AOSCO service excellence is based on hard work and respect shown to all our employees, regardless their position and status within company.

This approach inspires our business partners to start and continue cooperating with us on long term, mutual lucrative projects

**#WeAreAOSCO**



# AOSCO Contribution Summary

## ❑ **Providing consultancy to clients in many domains:**

- Make geological evaluations of new locations,
- proposing new seismic programs and review petrophysical analysis of drilled wells
- Participate in preparing WO plans & budgets,
- analyze suppliers offering and evaluate price lists

## • **2D and 3D seismic data acquisition , surveying and processing :**

from 2D / 3D data acquisition to final pre-stack migration with AGOCO that was operated by 4 AOSCO engineers since November 2021 until the client asked to stop operations due to budget issues

# AOSCO Contribution Summary

- ❑ **Providing up to date and the best technologies & products in the market for our clients**  
such as Petrel, QRod, Rodstart-D and GRC, Fohama, Trinity Holdings, Southwest Electric...
- ❑ **Providing special purpose product to handle extreme conditions**  
such as mobile cable repair shops, dessert application and isolated generators, standardized VSD skids
- ❑ **Providing training courses for over 80 client engineers**  
in exploration, drilling, reservoir & production engineering, ESP & VSD application, well testing

# AOSCO Contribution Summary

## ❑ **Providing expert personnel for field support:**

- 35 highly qualified ESP experts, ESP engineers, Geo-physicians; Reservoir and Production engineers  
to support our clients across Libya with over **85** rig jobs and **2227** well interventions
- Our field experts helped maintain and optimize production in client fields through well interventions and technical advices to client coordinators.

# AOSCO Contribution Summary

- ❑ **Re-organizing client base with high operating standards:**
  - ESP offices and yards storage areas in Hamada, AGOCO
  - SRP equipment storage in Hamada, AGOCO
  - Digitalizing data for clients for High effectiveness & Efficiency in Zelten, SOC & Hamada, AGOCO
  - Providing layouts and manufacturing cable shop as in Zelten, SOC

# AOSCO Contribution Summary

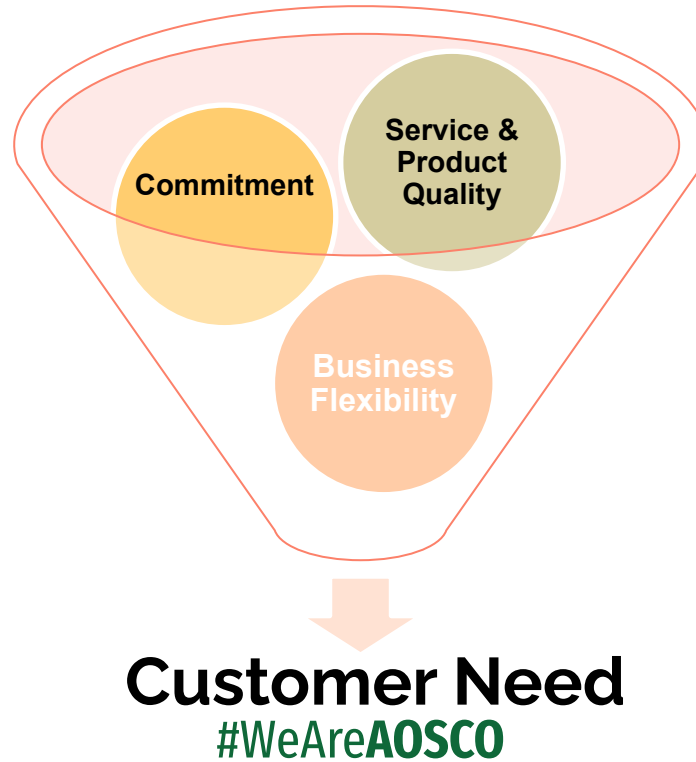
- ❑ **Recovering and Repairing abandoned material for future use and cost save:**
  - **Cable Recovery**  
1.118.000 ft of cable was inspected  
> 200 splices performed in the past 12 months in one field only (Sarrir field)
  - **VSD Repair**  
Repairing more than 5 VSDs and switchboards that were abandoned by clients and put them back in service
  - **Banding Machine**  
Recovering dozens of damaged banding machines in client fields

# Summary

AOSCO has a huge contribution in Libya oil production, optimization and development in Libya; whether it is leading SOC project in converting gas lifted wells into ESP wells from tendering up to monitoring and troubleshooting, or assisting AGOCO in Geological and Geophysical data acquisition and processing, ESP troubleshooting, production optimization and cable repairs and also SRP project .

We aim to contribute even more by providing more consultancy and field experts to our clients and also to be the number 1 supplier of equipment to our clients in Libya

# Conclusion and Recommendation





# Thank you for Attending

Do you have any questions?

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