

we build for The Next Generation

# Libyan Depelopment Company

Our mission is to be our client's premier choice and most trustworthy partner in all our business .



www.ldcholdingscy.com



info@ldcgoldingscy.com

Libyan Depelopment Company (L.D.C) is an EPCC & Solutions pro-vider company.



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To bring significant value to our home communities in all our markets through our responsible culture, being partners in our client's success, and protecting our shared environment.





Libyan Development Company (L.D.C) is an EPCC & Solutions provider company.

Building a good customer experience does not happen by accident. It happens by design.

Clare Muscutt



We provide the oil refineries &

gas companies in Iraq with mechanical and electrical instrumentation & water treatment solutions. L.D.C is authorized by major international companies to execute their contracts in Iraq. Our international partners and suppliers have entrusted us to deliver, install and maintain their equipment in Iraq.

## L.D.C Code Of Conduct

## **Our Overarching Principles**

At LDC we are committed to operating our business in line with the following six overarching principles. These principles reflect the spirit of the obligations and responsibilities set out in this Code



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# OUR SERVICES

## CONSULTING/PROVIDING SOLUTIONS



#### ENGINEERING AND REVERSE ENGINEERING



#### **PROCUREMENT - INSTALLATION**





#### **TESTING AND COMMISSIONING**





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#### MAINTENANCE









# MISSION

- To deliver significant value and satisfaction to our customers.
- To contribute to the overall growth in our industry and country.
- To sustain our environments for a better long run.

This is accomplished impassioned the bv the unswerving and engagement of our people, and considering every single operation as "mission-critical" as well as successfully delivering the best services available following quality-driven processes in a saf<u>e and</u> environmentally friendly way.





To become the first choice for Oil, Gas Services and EPCC Solutions in Iraq.

# Our purpose

We aim to understand the needs of industry & our clients and deliver products and services that exceed their expectations.

# QUALITY POLICY

LDC Company for oil services provides its services to the satisfaction of our clients by complying with contract requirements and specifications.

The company conducts its business with a strong focus on the needs of the client and commitment to continual improvement to achieve and maintain a reputation for quality and reliability.

LDC Company for oil services achieves this by:









Identifying the needs and expectations of the customer through an effective contract review process.





:

Continuously improving the business processes to make it more efficient. Complying with the specification, standards, regulatory & legislative requirements of Iraq and client procedures during the project realization process, with a focus on defect prevention and personnel safety.





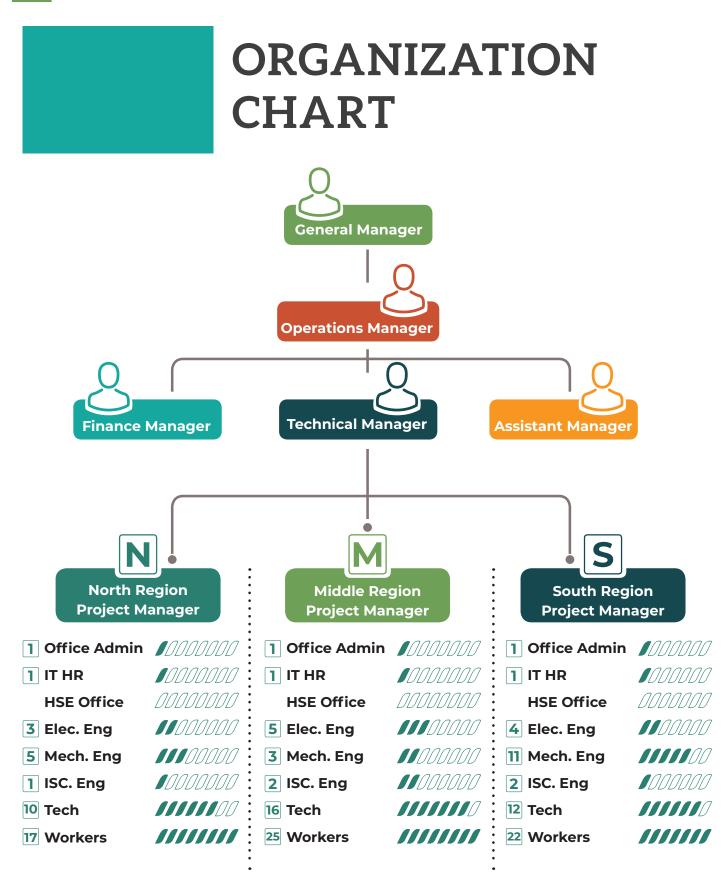
Providing a safe work environment and adequate facilities.







Training employees to comply with procedures and practices to enable them to work towards continual improvement.





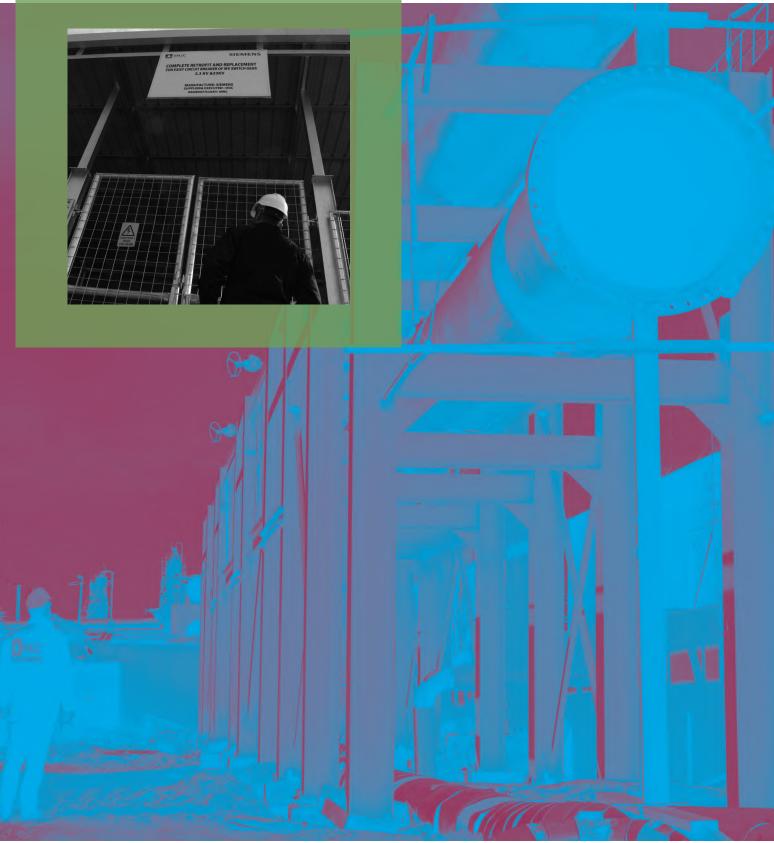
## LDC STAFF OUR EXPERT TEAM

LDC has a well-trained and high-skilled engineering staff consisting of electrical mechanical civil instrumentation and design engineers carrying out the work with full QA/QC and safety plans. The staff coordinates directly with management to achieve the highest quality, time and zero accident.

1 DCRP 2 INFOsec 3 COMPLIANCE 4 FCC 5 BBISN 6 HSE 7 ESR 8 QA/QC 9 COMPEX 10 ISO

# OUR SERVICES





## We saved time and money for Refineries



## **Refinery Solutions**

We set standards in the Oil and Gas industry by using proven technologies to increase productivity, reduce downtime, and achieve operational excellence in a safe working environment.

A wide range of solutions includes retrofit, retaliation, separation, anti-coking as well as other services,

Few can match our commitment to provide innovative new equipment and professional experience which reduces employee hazards. Maximizing a refinery's profitability and operational fluidity hinges on reducing the contaminants and corrosion that compromise the mechanical performance and reduce the shutdown, Issues like inefficiency, system failures, and unforeseen downtime can lead to significant financial losses.



**1**-Saving energy, flare Gas Waste Heat Recovery for Electricity Production and steam

2-Vibration control and structural bearing technology, we cover all methods of vibration reduction not focus on single product technology, by isolating unwanted vibrations and redesign, development, damping, limiting. we provide customers with efficient on-site consulting and developing customized solutions.

The technique of removing vibrations from the pipes, and this is by placing special and low-cost devices on the path of the pipes from the outside, and thus helps to increase the operational life of the pipes and maintain the integrity of the material inside the pipes.

**3**-Reciprocating compressor cooling technology, new closed system, design, manufacturing, supplying, site modification, and start-up.

4- Decoking is the process of removing coke scale build-up from the process tubes of fired heaters and boilers, Internal cleaning of heater tubes can be done.

5- The technology of placing thermal cameras inside the ovens to see the level of the flame to avoid damage to the tubes in direct contact with the flame and bear a temperature of 1500C and these cameras protect the ovens from fires. In the same technology there is a cut-off technology for the oven and the alarm purification.

6- Technique regarding HSE, which are fire alarms and gas sensors online on satellites and placed on tanks, inside units and in dangerous places.

7- The retrofit technique does maintenance of the power station without turning off the electric power and thus we avoid turning off the operational units and causing a shortage of production.

8- The technology of the UPS generator without cells and batteries, up to 2 megabytes, and operates on the important units directly, the most important of which are the gasoline production units and the isomerization units, where it protects the reactors and thus protects the catalyst from damage

9- The technology of making a complete modernization of the system of micro-machines and all the controllers within the units and converting the old system to the modern DCS system

10- Connecting the cathodic protection monitoring system in a very innovative and modern way, without the Internet, but directly online on satellites

11- Purification of fuel oil from sulphur and use as fuel for furnaces or direct sales

12- Unit for converting fatty waste into solid wax and transformer fat



13- Developing and increasing the efficiency of gas turbines by adding a specialized system

14- Supplying specialized pumps systems for firefighting

15- Developing and finding solutions for the central cooling tower system

16- Equipping a VFD system to control the speed of the electric motor

17- water treatment solution, micro sand filter.

# • Engineering Services





Training

- Operation
- Start-up
- Engineering design

## • Equipment services



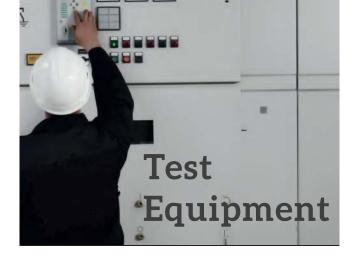
- Calibration
  - Service
  - Service

- Test Equipment
- Measurement
- Sales

# MACHINERY & EQUIPMENT R IR



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testing earth resistance of substation

## Other Equipment

MHG 3100X16	Barkals MACHINE TOOLS	CUTTING MACHINE 300 TON HYDRAULIC
APH 3116X300	Rankals MACHINE TOOLS	AUTOMATIC BENDING MACHINE 300 TON
TRAUMATIC 180	TRUMPF	PROGRAMMABLE CNC BUNCHING KN205 MACHINE
PMS 12-6MF	DALEX SCHWEISSTECHNIK	PROGRAMMABLE CNC POINT WELDING CNC MACHINE
Origo Mig C420w PRO	ESAB *	WELDING MACHINE MIG-MAG 420Amp
T 40 DIGIT COOL 2AXES CNC	5111/50	BENDING BUSBAR CUTTING AND MACHINE CNC 40 TON
Holecut 40-6 CNC	EHRT	BUSBAR CUTTING AND BENDING MACHINE CNC 40 TON

## MECHANICAL TEST • ······ EQUIPMENT



- Wireless and Digital Tool for Alignment Shift Pulley
- 2. Easy-laser 960 Turbine Alignment Systems
- 3. Laser Transmitter Diesel Engines and Gearboxes
- 4. Shims of all Sizes and all Types
- 5. Xt770 Shaft Alignment
- 6. E540 Mid Range Shaft Alignment





# PARTNERS

LDC has partnerships with international manufacturers to implement EPC sand services projects





# **PARTNERS**

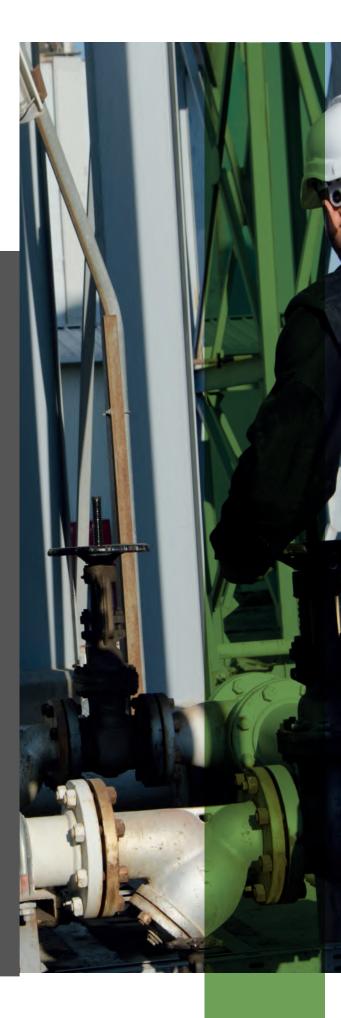
LDC has partnerships with international manufacturers to implement EPC sand services projects



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# MECHANICAL SCOPE OF WORK

We Provide All Mechanical Services From Marketing To Consulting Services, for Oil & Gas, Power Generation, Water treatment, Industrial Service & Support (Reverse Engineering, Training, Modification, Rehabilitation, Development), Supply, Installation, Maintenance, and Operating for All Mechanical



## Equipment

All kinds of pumps API & 1OS (horizontal and vertical centrifugal pump API 610 single and multistage, rotary, positive displacement screw type, submersible, reciprocating, diaphragm, Overhung Pumps, Between Bearing, Magnetic Driven Pumps.



Steam turbines API 611 & API 612 single and multistage.



Gearbox And Speed Aviator.

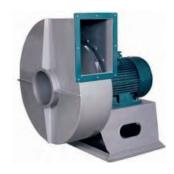
Air dryer system.

centrifugal reciprocating and screw compressor.

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All fan type (FDF boiler fan, cooling tower fans, air coolers ... etc).



Chillers And De Wax Filters, sand filters,

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Fire Systems.

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Vacuum	And	Ejector		
System.				
••••	• • • • • • •	• • • • • • • • •		
Lubrication system.				

Modification and development for API 617 Centrifugal compressors, Rehabilitation for wax-oil filter separator.

Pump stations development, with More Efficient Pumping Equipment, Mechanical solutions for seal API 682.

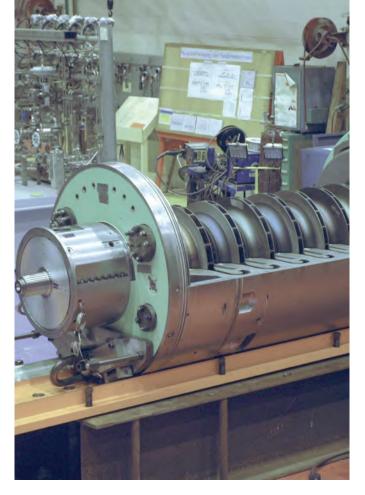
Shaft alignment for single and series equipment.

Modern cleaning solutions, by ultrasonic.

Maintenance Services (Corrective maintenance, Preventive Maintenance, PredictiveMaintenance,Periodicmaintenance, emergency maintenance ... etc.).

Supply, Installation, Maintenance, development for mechanical equipment accessories (vibration system, tachometer system, temperature, and thermal system,





pressure system and control flow system and measurement).

Pump Station Services (RO Plant, cooling tower unit, san, and micro sad filter, water treatment).

Problem analysis and find a solution (pump impellers corrosion, body crack, bearings, shafts bending, pipes, motors, vibration, flow, pressure, NPSH ... etc.) Instrumentation and test non-destructive examination, hydrostatic, Mechanical engineering support (auxiliary system, pump selection, process plant equipment layouts, power and process system design, pumping system), Instrumentation and controls engineering support (PLC , SCADA, DCS, HMI, design loop diagrams)





#### 🖪 Bornemann



ITT/Bornemann founded in Germany in 1853 has stood for relentless innovation, precision, reliability, and service. Borne-mann designs and manufactures tailor-made Twin Screw Multiphase Systems that help the oil industry eliminate methane flaring when processing Multiphase mixtures of liquids and gases. This benefits customers by improving production efficiency, reducing emissions and helping them comply with government regulations.

#### Multiphase Technology and Customer Benefits

#### Unpredictable Flow

The focus is on unpredictable flows, previously considered as unprofitable. Twin Screw Multiphase Pumps hand these with ease and at a fraction of the conventional costs.

#### Untreated Stream

Twin Screw Multiphase Pumps offer a reliable solution to suit a whole range of potential flows. Untreated products ranging from wet - gas to heavy crude are reliably pumped in any situation, offshore, thermal or conventional. In addition flaring can be avoided making this by product available for profitable us.

### Multiphase Technology and Customer Benefits

#### **Prologned Production**

Exploiting oilfields in harsh or inaccessible environments and extenting the lifecycle of oil wells is the perfect opportunity to generate a sizeable profit. A comparatively low investment and impressively reduced Total Cost of Ownership are the commercial benefits.



## **Advantages**

- ✓ The wide range of applications
- ✓ Self-priming
- Pumped capacity proportional to the speed
- ✓ Compact construction
- ✓ Direct drive without speedreducer possible
- ✓ Change of pumping direction - simple
- Pumping elements simple to replace
- ✓ Easy maintenance
- ✓ For almost all media and fluids
- ✓ High viscosity possible
- ✓ Low pulsations
- ✓ Low noise level
- ✓ Dry running possible
- ✓ Constant flow on varying pressures and volumes Very good suction performance up to NPSH 1 - 1,5
- ✓ m/3- 5 feet
- ✓ Engineered 2-piece shaft and screw construction

# Scopes of Application

- Up- and Midstream
- ✓ Downstream
- ✓ Marine
- ✓ Offshore
- ✓ Industry



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Specialist for Pumping Technology

Ruhpumped founded in 1950 is an innovative and efficient pump technology company that offers highly-engineered and standard pumping solutions for oil & gas, power generation, industrial chemical and water markets. Ruhrpumpen offers a broad range of centrifugal and reciprocating pumps that meet and exceed the requirements of the most demanding quality specifications and industry standards such as API, ANSI, ISO, and Hydraulic Institute.



We are an industry leader in the design and manufacturing of API 610 centrifugal pumps and API 674 reciprocating pumps for the extraction of crude oil and the production of its by-products.

Seal chamber dimensions fully conform to API 682 and API 610 standards, with the installation of dual seals also supported

- Overhung Pumps
- Between Bearing Pumps
- Vertical Pumps
- Magnetic Driven Pumps
- Reciprocating Pumps
- Fire Systems
- Decoking



MITSUI E&S recently acquired Kaji, a manufacturer of higher-capacity, higherpressure, higher-efficiency, and smaller compressors. Kaji is the embodiment of state-of-the-art technologies Highpressure vertical and horizontal compressor types (oil-free or oil lubricant).



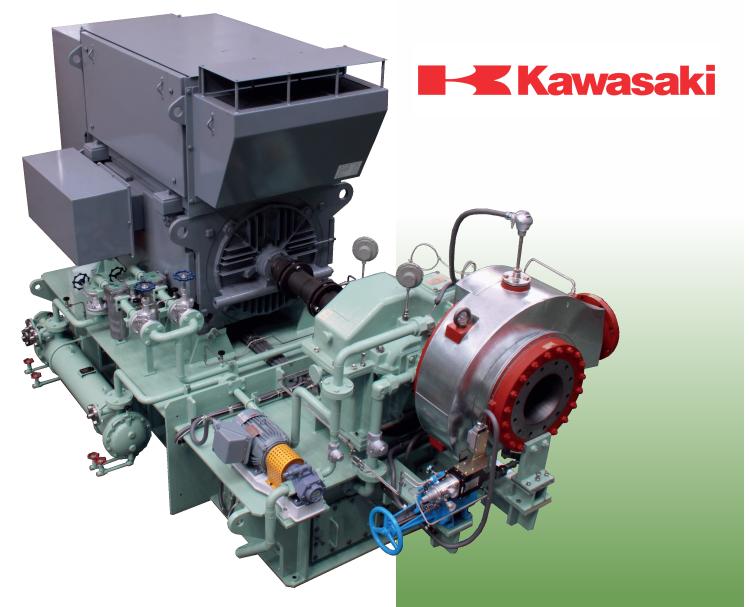
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Sumitomo Heavy Industries was founded in 1888, for Industries comprehensive machinery for oil and gas fields application manufactures goods ranging from advanced precision machinery for various fields including:

- - Oil and wax filtration
  - Liquid-Liquid Extraction
  - Distillation Technology
  - Pressure vessels
  - Steel Structures
  - Nanotechnology and megastructures

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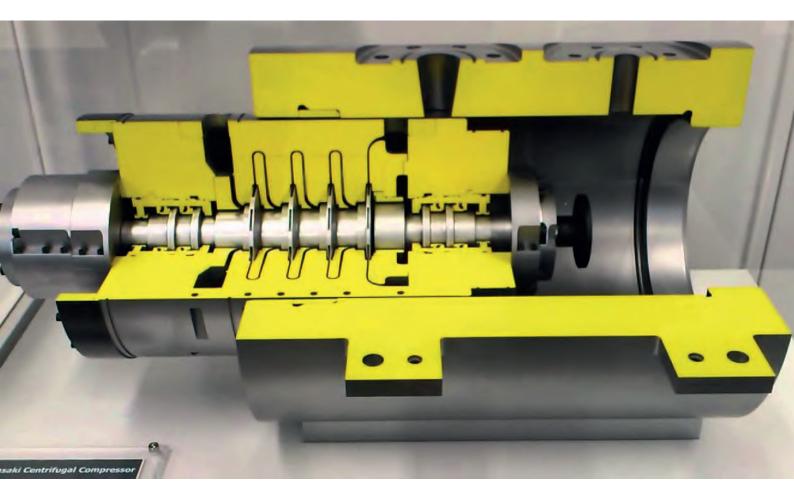


#### **Centrifugal Compressors:**

Kawasaki Centrifugal Compressors are hard at work throughout the oil and gas industry and elsewhere.

#### **Boilers:**

Kawasaki provides boiler systems fired with a variety of fuels including biomass, asphalt and conventional fuels such as coal and oil Kawasaki Heavy Industries founded in 1896 is a manufacturer of Gas Turbines, Steam Turbines, Centrifugal Compressors, Boilers, Chillers, and Compressors.



#### Features:

Optimal design tailored to customer specifications and compliant with API standards.

High quality and superior reliability backed by over half a century of gas industry experience.

high discharge pressure with a high ratio, low suction temperature, highly corrosive gas services such as H2S, CO2 and Hg, the aforesaid experience and technological background, Kawasaki can over an ideal compression package solution and will endeavor to support a safe and stable gas production under severe operating conditions.







Established early in 1987, in USA, PACT® and its principals redefined the meaning of professional engineering and manufacturing. PACT® has grown to become one of most of the recognizable, privately-owned business, PACT® references cover the whole spectrum of industries, including Chemical, Petrochemical, Pharmaceutical,

Metallurgical, Semiconductor, Automobile, Food and beverage, Power and Toiletry industries. PACT® provides the best solution to meet the water treatment and wastewater treatment and reclaim/ reuse requirements.







#### **Traditional sand filter**

Down filtration at 10 m/hr 10 To 20 micron filtration Backwash flow 2 x flow rate

#### Micro sand filter

Cross flow filtration at 50 m/hr Down to less than 1 micron

Backwash flow is 1/4 of flow rate

Evoqua has more than 100-year heritage of innovation and industry firsts, market-leading expertise. Their costeffective and reliable treatment systems and services ensure uninterrupted quantity and quality of water, increase efficiency through water reuse, and prepare customers for next-generation demands.

Evoqua's Vortisand® systems are synonymous with water filtration, serving the industrial water markets since 1986. The award-winning Vortisand is a High-Efficiency Micro sand Filtration System.

It is a high-capacity media filter that combines cross-flow dynamics with micro sand media to achieve submicron filtration performance.



# **MHPS**

Mitsubishi Hitachi Power Systems (MHPS) began with the merging of the thermal power generation divisions of Mitsubishi Heavy Industries, Ltd. and Hitachi, Ltd. As a globalleading company in the field of thermal power generation systems and environmental technology, we can handle the entire production process from the development, design, manufacturing, construction and commissioning to aftersales service for thermal power plants.

## ELECTRICAL SCOPE OF WORK





# SIEMENS

Medium voltage GIS switchgears

## Low voltage switchboard

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### **Transformers**



M.V & L.V Motors for safety and hazard area.



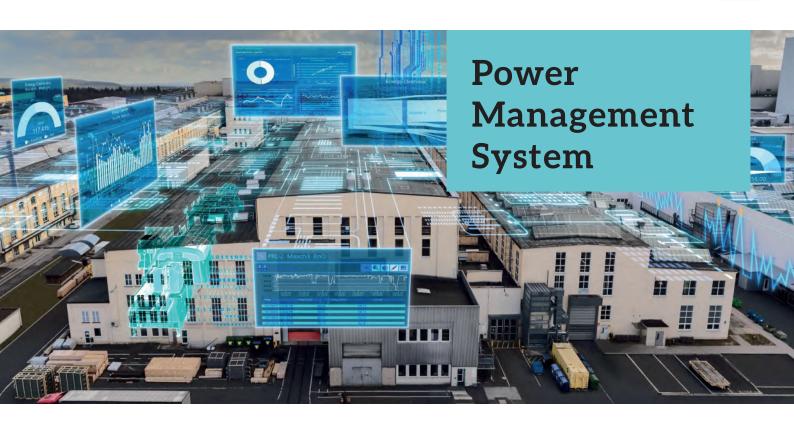
## Protection for Electrical System



- ATT



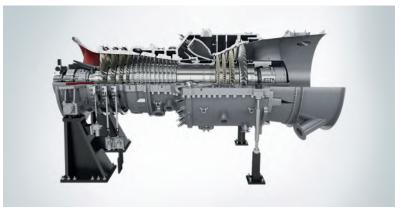
Automation, instrumentation, PLC , and HMI



Valves and Control Valves Gas turbine technical services







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## F-Fuji Electric



**SFe Gas Circuit Breakers** Dead Tonk Type BAKS



Large-capacity Transformers

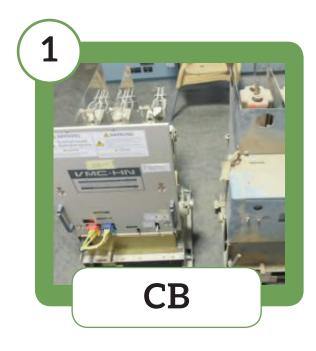




Single Type Protective Relays

MV and LV Switchgear

## RETROFIT SOLUTION BY LDC









## Before



## After







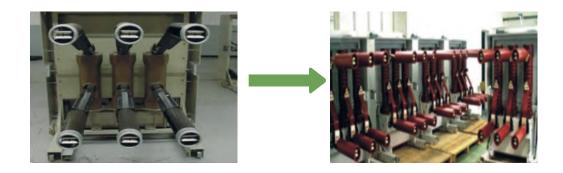


## RETROFIT SOLUTION BY LDC

## 1. Why shall you choose Retrofit?

- Special industrial applications, with no or less acceptable downtime
- No Loss Of Production Line
- · Circuit breaker has reached the end of its life-cycle
- Outmoded technology increases safety and reliability risk
- Increase of maintenance costs of old circuit breaker
- Supply of spare parts can not be assured anymore
- replacement of old minimum oil or SF6 technology
- State-of-the-art vacuum switching technology
- Minimization of customer's investment
- Use of existing components

Exchangeofminimumoilcircuitbreakeragainstvacuumcircuit breaker 36 kV(BBC)



## 2. Conclusion

Comparison: Retrofit vs. installation of new switchboards

#### **New Switch board**

#### strengths

- Brand new equipment
- In-house testing of all the equipment
- Type tests for all the equipment
- Conformity to current standards or all equipment
- Warranty
- Performance
- Minimal maintenance

#### weaknesses

- Cost
- Long downtimes
- Personnel training
- New spare parts.
- Civil engineering works and connections
- (new cable heads and/ or new cables)
- Installation and commissioning

#### Retrofit

#### strengths

- Cost
- Partial and short downtimes
- Working procedures maintained control and power system maintained
- Critical switchboards kept running

#### weaknesses

- warranty only on Retrofit truck
- New standards and type tests only
- applicable for Retrofit truck

## **3. Your Benefits**

#### **Cost Saving**

- Lower costs compared to installing a new switchgear
- Minimization of investment
- Reduced maintenance costs due to the use of the latest technology

#### **Time-Saving**

- Short Implementation and replacement time
- Minimum or NO service interruption during replacement
- No disassembly of existing cables and wirin

#### **Better performance**

- Use of a state-of-the-art circuit breaker in existing panels
- Increase of ratings particular cases manageable

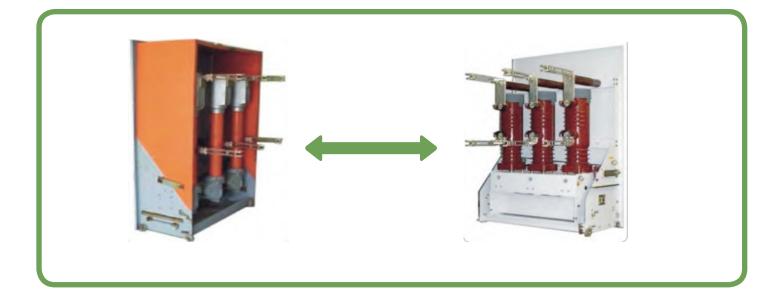
#### Reliability

- Higher operational reliability by using modem components
- Assurance of the operational safety by using the interlocking system of existing switchgear
- Extension of system availability
- More reliable supply of spare parts



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#### Westinghouse-Replacement via VD4 for 12-36 kV



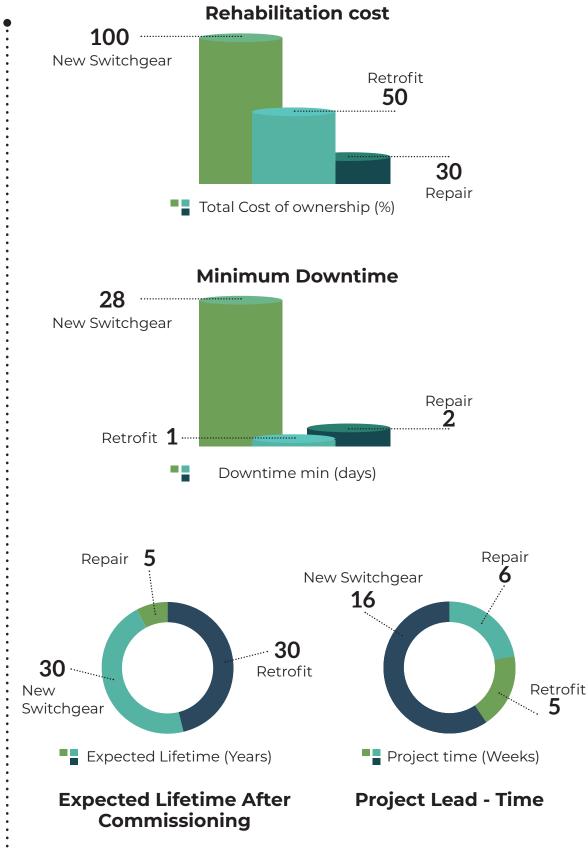
#### Brands

- 1. Siemens
- 2. Fuij
- 3. ASEA VHE / VHD HKK
- 4. BBC. ZE4
- 5. BBC. SD12 (OD3)
- 6. BBC. ZE7WL
- **7.** BBC. BA1-T
- 8. HAWKER SIDDELEY.D4X / D6X /D8X/-LS
- 9. REYROLLE.LMT
- 10. HITACHI.MGH-IOF / L / T-25
- 11. SACHSENWERK. 5012 / 17-2
- 12. MITSUBISHI. 10-VPR-25B
- 13. STROMBERG P2. OSAM-24
- 14. F & G HP506. CONCORDIA SPRECHER

- 15. BRUSH. VSI
- 16. TAMCO. VK10J20H
- 17. ALSTHOM. FP-12-20 (SF6)
- 18. CUTLER-HAMMER. W-VAC
- 19. K-LLLy / K-VLy. VMG-133 / VMP-10K /VMPP /VMP
- 20. K-12 / K-26. VMP / VMPP / VMPE
- 21. K-37. VMP / VMPP / VMPE
- 22. K-47. VK-10 / VKE-10
- 23. K2-03 TOLBUHIN-BULGARIA AK-10



## RETROFIT SOLUTION BY LDC



## REFERENCE RETROFIT





## SIEMENS

## Industrial ups, Batteries & Batteries charge







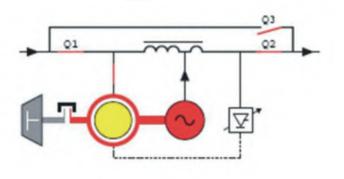




# Uninterruptible, continuous and conditioned power supply for mission-critical applications

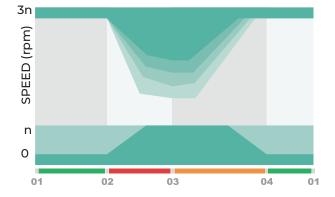
- Protection of the complete plant against Interruptions, spikes, and brown-outs,
- Voltage stabilization and filtering,
- Protection against long-term outages using the Integrated diesel engines,
- Power factor correction.





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Dependent System Load





# SCADA System

- PLC Programming and project management in Al Qurainat degassing project with South Oil Company using Advantich PLC.
- PLC Programming and project management in Al Qurainat gas gathering and compressing project with South Oil Company using Advantich PLC.
- Commissioning in Al Quds power station expansion project (Boiler) using Allen Bradley PLC (Compact logix).
- Implementing BMS of ministry of higher education using Siemens S7-300 PLC.
- PLC programming in building management system in ministry of education using Siemens S7-300 PLC.
- Siemens substations SCADA, RTU and HMI in (Eman substation, Hamorabi substation, Zwia substation, …etc.)



- PLC Programming in al Mansor salt factory using Allen Bradley PLC (Control logix).
- PLC Programming in south Rumaila gas compressor train B and train A using Schneider PLC (Quantum).
- PLC Programming and project management in (Aljehad Factory for chemical Materials) using Allen Bradley Redundant Controllogix systems.
- PLC programming of Gas support unit of Najaf power plant using Allen Bradley CompactLogix .
- PLC programming and project management for JP-8 station project in Al-Muthana air force base using ABB AC800M PLC.
- Hurria power plant control system commissioning (ControlLogix PLC)
- PLC programming for CompactLogix and Panel programming for Panel View 600 plus using RSLogix 5000 and FactoryTalk View in ministry of technology Projects (Baghdad water treatment developing)







# CERTIFICATE

This is to confirm that the organisation

#### LDC HOLDINGS (CY) LTD

6 THEMISTOCLES DERVIS STR., Papyrus Hall, 4th Floor, Suites: 3,4&5 1066 NICOSIA, CPRUS

has implemented and maintains a Management System in accordance with the standard

#### DIN EN ISO 9001:2008

The scope of the certification covers:

Suppling of: Distribution transformers, Cables and accessories, Conductors and fitting, Wooden poles, Power generations, Insulators, Pumps, Lighting poles, Safety clothing and equipment's

This certificate is valid from 2021-05-17 until 2022-05-16 and is subject to annual surveillance audits.

Registration Number: 39600/QM/07.96

Audit report 39600-9100-0001/150604

VDE Prüf- und Zertifizierungsinstitut GmbH VDE Testing and Certification Institute Certification

Date: 2021-05-17 Brad McGuire

Brad Mc Guine



The VDE Testing and Certification Institute is accredited by DAR Accreditation Bodies according to DIN EN ISO/IEC 17020 and DIN EN ISO/IEC 17021 and notified in the EU under ID. No. 0366.







#### Headquarter

Libya

## Tripoli, Dat El-emad Complex, Tower #3, Floor #6

#### **Our Branches**

#### Iraq

Baghdad, Karada,Zone 907, street No. 27, House No.9 00964 780 338 2 333

karkouk, Almas, Highway Street, Opposite to June 1 Sports Club 00964 771 561 2249

Basra, Manawi Albasha,, House No. 1/210 © 00964 790 220 2880

#### <u>Jordan</u>

Amman, 6th Circle, Zahran St. Abraj Emaar, 7th Floor, Bld 196 00962 799 928 077

#### Lebanon

Beirut, Credit Libanais Bank building, 3rd floor, Hamra Street 00961 71 115 703



Email: info@ldcgoldingscy.com



## we do hard Job in hard Place

