



Enriching Lives



# KIRLOSKAR BROTHERS LIMITED

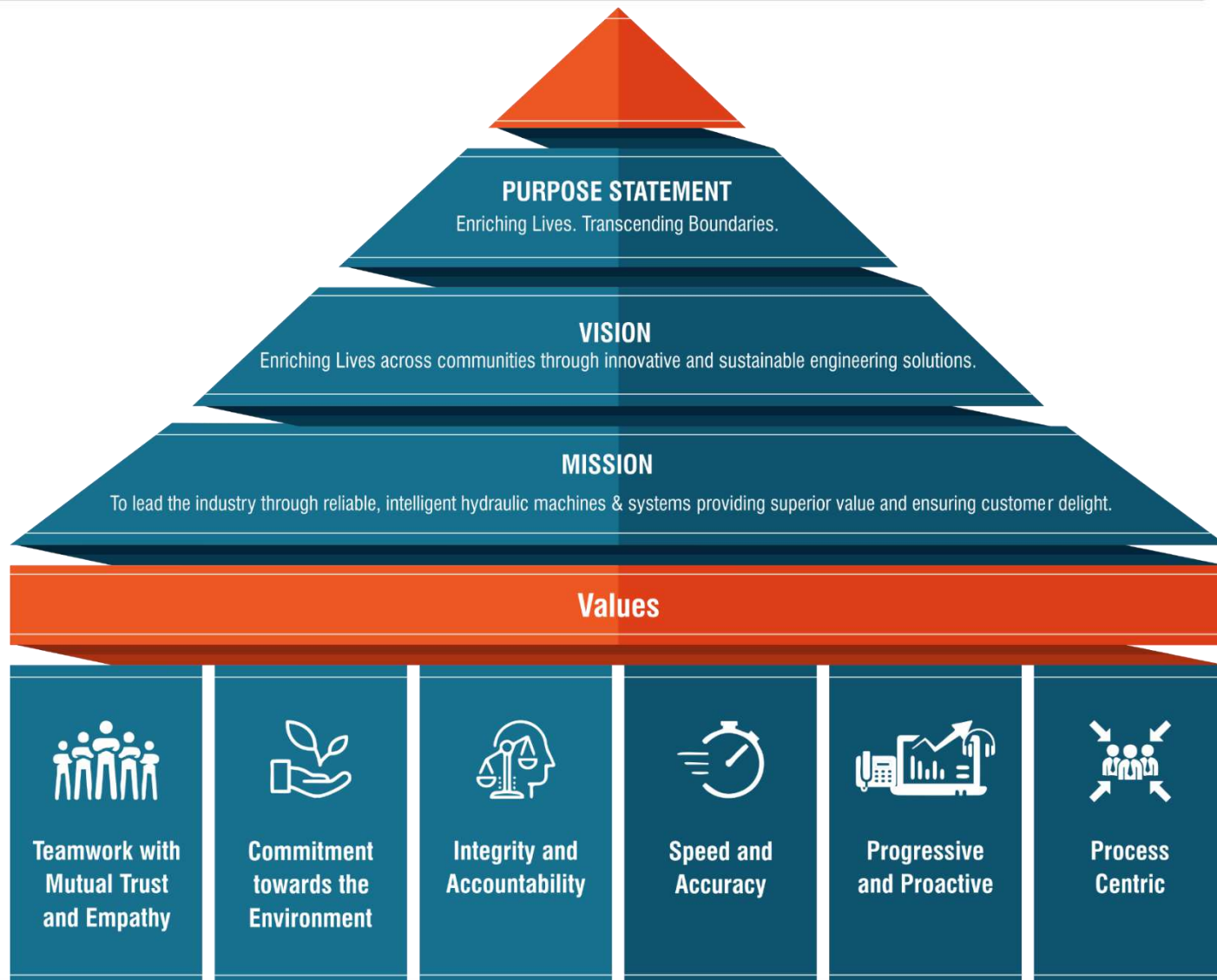
Established 1888

A Kirloskar Group Company

# Our Purpose, Vision, Mission & Values



Enriching Lives











Enriching Lives

**KBL at a Glance**

**Our Joint ventures  
and Subsidiaries**

**Our Business**

**Manufacturing &  
Quality Testing  
capabilities**

**Notable Work**

**Giving back to  
society**







Enriching Lives

## KBL at a Glance

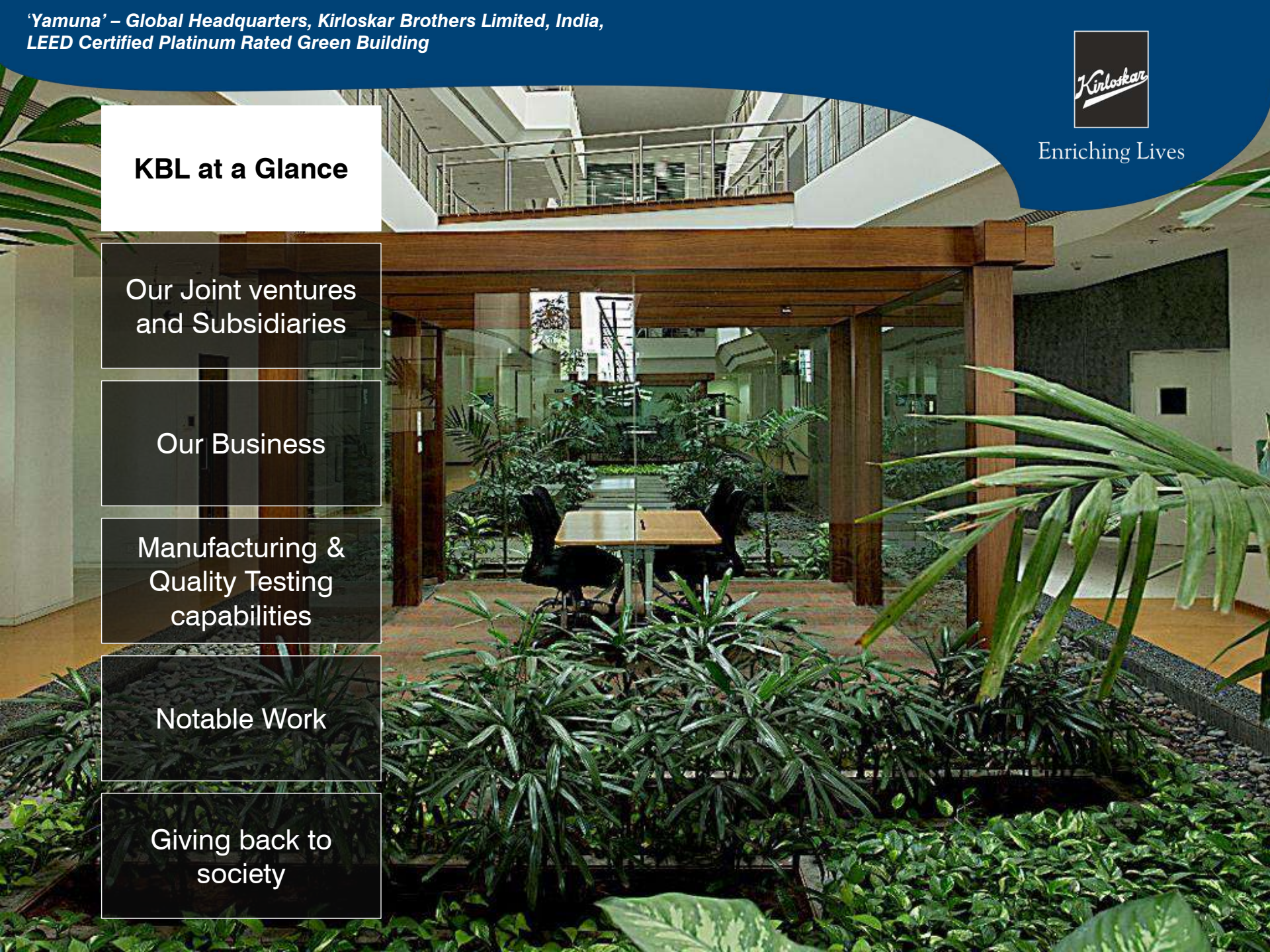
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# Key Facts about KBL

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Giving Employment to  
**6,000+** people

Manufacturing across  
**16** plants

Serving the world for  
**133+** years

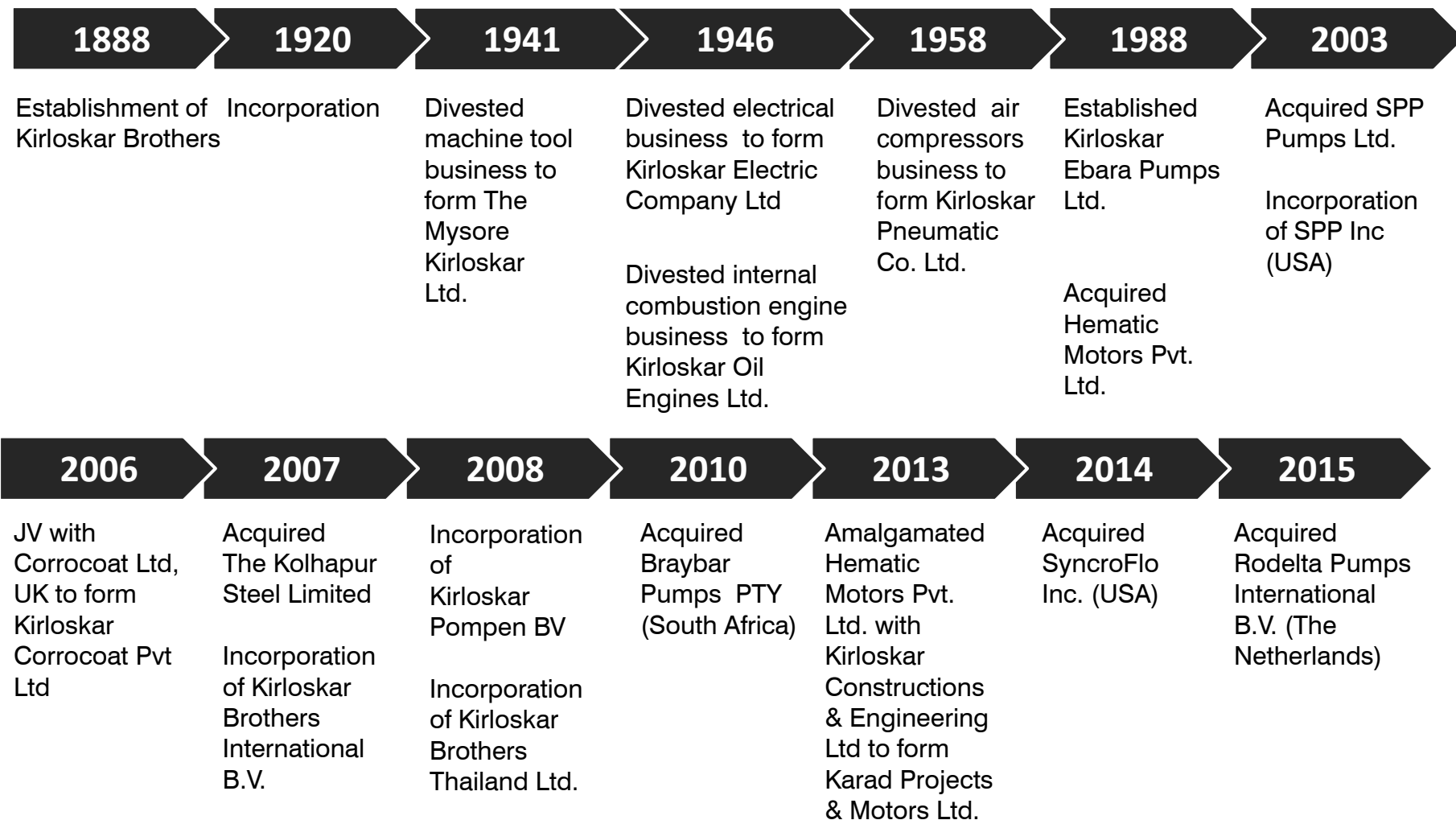
**9<sup>th</sup>** pump  
manufacturing company to  
get N and NPT certification  
from the American Society  
of Mechanical Engineers



# Our Journey



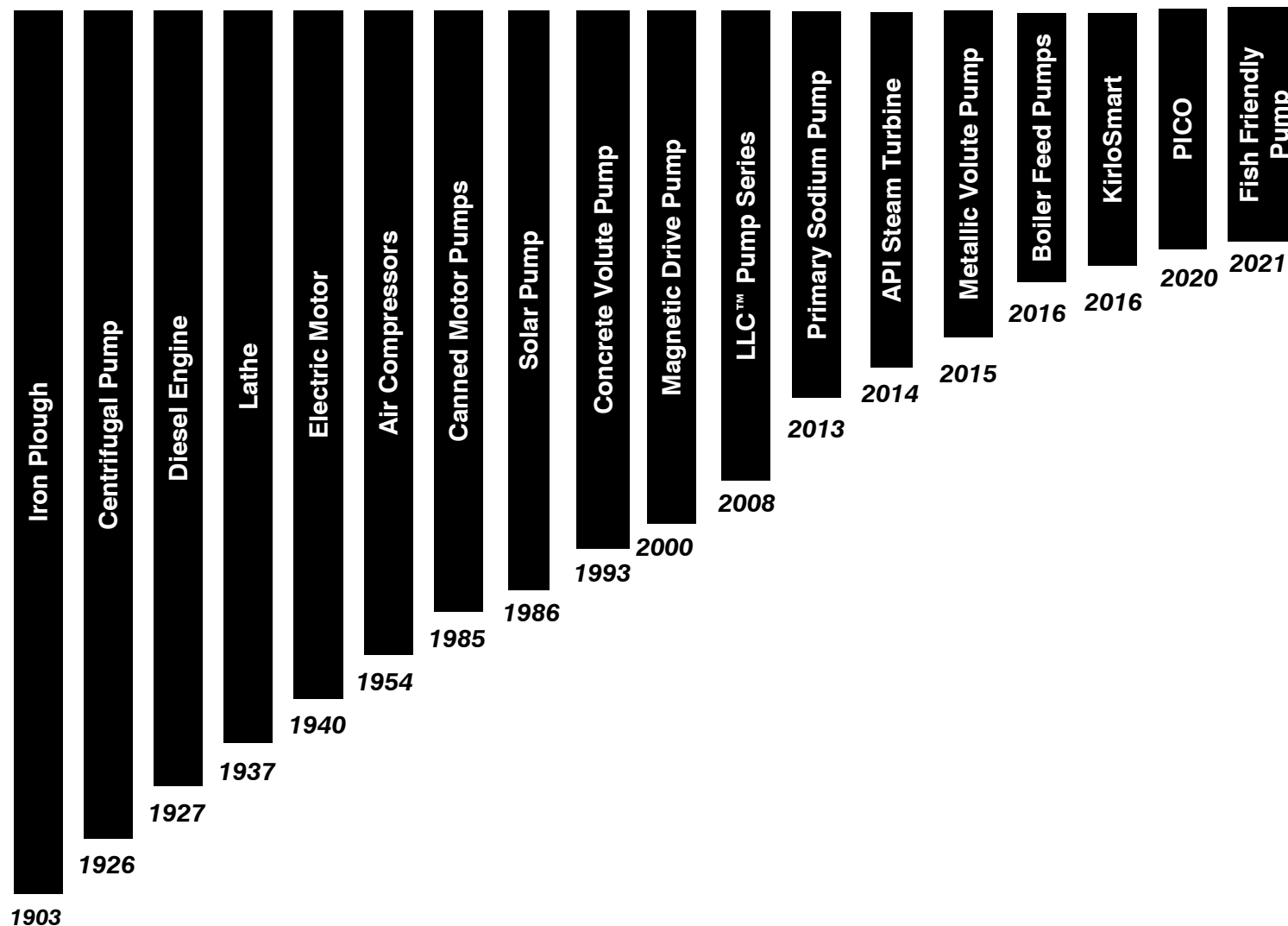
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# Giving India Its First



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# Our Joint Ventures and Subsidiaries



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**SPP Pumps Limited,  
United Kingdom**

- Leading market presence in Fire Pump Packages business. Lowest life cycle cost pump range
- R&D, manufacturing and test facilities in UK



**SyncroFlo Inc.,  
The United States of America**

- Leading American pump Packager
- Provides Booster and HVAC Packages



**Rodelta Pumps  
International B.V., The  
Netherlands**

- Leading manufacturer of API and Non-API pumps
- Specialization in O&G, Paper, Chemical and other fluid management applications



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**Kirloskar Brothers  
(Thailand) Limited, Thailand**

- Sales and packaging of centrifugal pumps for South East Asian markets



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**Kirloskar Brothers  
Europe B.V., The Netherlands**

- Sales and packaging of centrifugal pumps for European markets



**Braybar Pumps Limited,  
South Africa**

- Manufacturing and sales of high head Multi-Stage pumps, Rubber lined slurry pumps and white metal lined bearings



# Our Joint Ventures and Subsidiaries



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## Kirloskar Ebara Pumps Limited

- Centrifugal pumps as per API 610
- Multistage Boiler feed pumps
- Steam turbines and Turbo-gensets
- Hydraulic Power Recovery Turbine (HPRT)



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## Karad Project's And Motors Limited

- Motor manufacturing company with expertise in manufacturing of Stampings, Stators, Rotors, AC rotating machines, Aluminium Die-cast Connecting Rods and Pump assemblies.
- Also manufactures energy efficient motors for various applications .



## The Kolhapur Steel Limited

- Specializes in the manufacture of a wide variety of castings.
- The castings caters to demand for products like pumps, valves, turbines (steam and hydro), marine, rubber machinery, mining and general engineering.



## Kirloskar Corrocoat Private Limited

- Energy efficiency coatings
- Sea water application
- Single point solution provider for applications in Infrastructure, Water, Power, and Oil & Gas



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KBL at a Glance

Our Joint ventures  
and Subsidiaries

**Our Business &  
Global Footprint**

R&D, Manufacturing  
& Quality  
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# Our Business



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***Large & Medium  
pumping solutions***  
for complex fluid  
management system

***Small pump***  
for day-to-day use at  
households and farms.

***Valves***  
for industrial and large-  
scale applications

***Hydel  
turbines***



**Oil & Gas**



**Marine &  
Defence**



**Building &  
Construction**



**Water  
Resource  
Management**



**Power**



**Irrigation &  
Agriculture**



**Industrial**



**Customer  
Service &  
Spares**



**Small Pumps  
Business**

# Our Product Line

**Over 75 types  
of Pumps**

**Pumps up to  
22 MW**

**Lowest Life-cycle Cost (LLC™)  
pump series**

**Flow up to  
120,000 m<sup>3</sup>/hr**

**Head up to  
3200 m**

**28 Types of  
Valves**

**Valve diameter  
50mm to 5m**

**Low Tension  
Induction  
Motors**

**Pico and Mini  
Hydel Turbines  
(3 KW - 10 MW)**

**EPC Capabilities**





# Global Footprint



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# At KBL, identity of women workers matters



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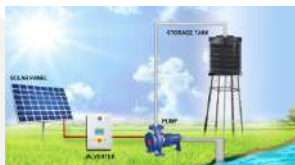
**100% women operated manufacturing plant at Kaniyur**



# Our Innovative Solutions



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**Solar  
Pumping System**



**Pump Selection  
Package**



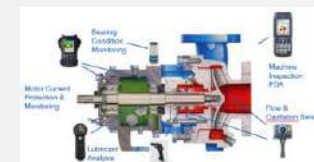
**Fire Pump  
Monitoring**



**Lowest Life-cycle Cost (LLC)™  
Pump Series**



**Primary Heat Pumps for  
Nuclear Power Plant**



**Remote Monitoring System –  
KirloSmart®**



**Augmented Reality Mobile  
Training Guide**



**Canned Motor  
Pump**



**Digital Sizing  
Guide**

# Association with Governments

**Angola**



**Cambodia**



**Egypt**



**Ghana**



**Jamaica**



**Laos**



**Lesotho**



**Senegal**



**Sri Lanka**



**Sudan**



**Vietnam**



**Zimbabwe**





# Our Global Partnerships



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# Few of our Global Customers



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# End-to-end Capability



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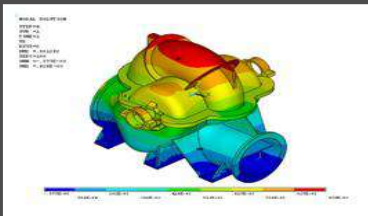
## Conceptualization



### Concept Design



### Engineering Design



### Performance Analysis

## Manufacturing



## Manufacturing

## Implementation



### Quality Check



### Installation & Commissioning



### Authorized Service Centre

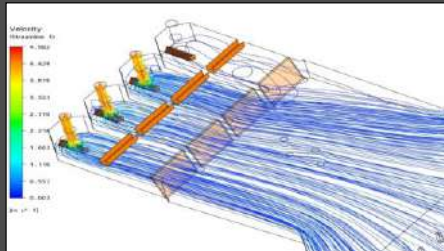


# Our R&D capability

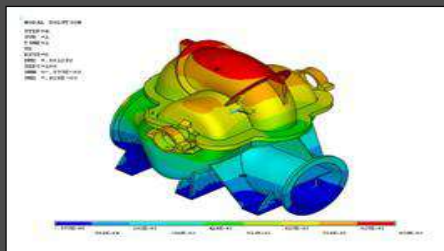


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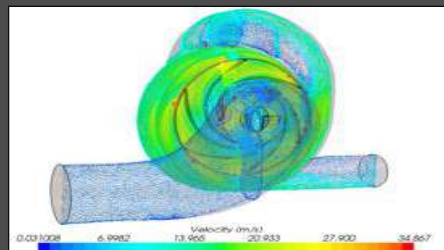
## Sump CFD Study



## Seismic analysis



## CFD analysis



- High performance and new product development
- Experimental Sump model studies
- Sump model studies using computational fluid dynamic (CFD) techniques
- Surge, Structural, Cavitation test, and Transient analysis



**6 US patents filled & approved**

## Approved Patents

‘Arrangements for pumping fluids from sumps’ is published in US.

## Benefit in terms of efforts

Helps in elimination of air entrainment and reduction of minimum submergence.

## Benefit in terms of monetary value

Saves in the cost of excavation of the pit as well as in the concrete lining.

# Our Manufacturing Capability



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**Fully automatic twin spindle, twin turret machine**



**Horizontal machining centre**



**Pattern manufacturing machine**



**4 Axis machine**

# Foundry Capability



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- 3D Printing facility
- Monthly production capacity = **1,400 tons**
- Capability to produce a single casting weighing **up to 8,000 kg**
- Casting capability of **special alloy steels** to international standards
- Equipped with a centralized pattern shop, mechanized sand processing system, automatic molding machines and metal pouring system.
- Independent units for **cast iron, alloy steel** and **non-ferrous metals**.



# Testing and Quality Control Capability



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## Quality Control



**FARO arm**

### Material Testing and Metrology

- Universal Testing Machine
- Fatigue Testing Machine
- Hardness Tester
- Portable co-ordinate measurement
- 3D scanning
- Spectrometer (computerized)
- Surface Finish Measuring Instruments

### Non Destructive Testing Laboratory

- Radiography
- Ultrasonic Testing
- Magnetic Particle Testing
- Helium Leak testing
- Liquid Penetrant Testing

## Testing



**Hydraulic Research Centre**

- Closed circuit NPSH testing capabilities
- Computerized data acquisition system
- Pump testing at duty conditions up to 5000 kW motor and discharge up to 50,000 m<sup>3</sup>/hr.
- Physical Sump and Pump model study
- Built as per British Hydraulic Research Association
- Testing at 50 Hz and 60 Hz frequency covering all global supply voltages (3.3 to 13.2 kV)

# Advanced Technology Product Division (ATPD)



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ATPD is a new manufacturing division at the company's mother plant in Kirloskarvadi, for high-end technology products, especially for nuclear applications. It has a state-of-the-art facility spread across a 6000 sq. m area and is fully equipped with modern machines and testing facilities, including special measuring instruments.



# World's largest 3D printer in the manufacturing process



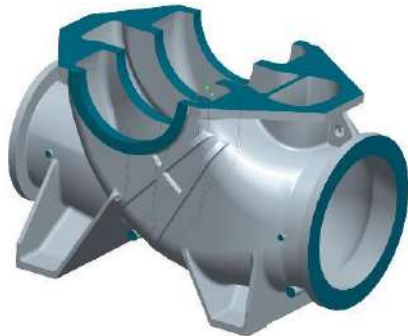
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Only pump company in India to use 3D printer for pump casting

## Advantages –

- Reduce defect
- Improve quality of product
- Reduce process cycle (manufacturing) time
- Help in design products with better efficiency
- Help prove new development concepts and help to bring innovation quickly to the market.
- Saving of material and man hours



KBL has been able to achieve an **average casting weight reduction of 15%** over the conventional process and **cycle time reduction of 78 Hours** for 12 Ton core-mould weight.



# Augmented Reality in customer service



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**Augmented reality** plays an integral role in our business operations as it helps us integrate and manage all our service knowledge on one platform thus enabling quicker problem resolutions through diagnostics based on the cumulative experience of the service engineers around the world.



# Our International Testing Facility



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# Certifications and Approvals



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- First Indian Pump Manufacturing Company to Receive Integrated Management System Certificate (ISO 9001:2015, ISO 14001:2015, ISO 45001:2018, ISO 50001:2018)
- CE
- ATEX
- FM approved / UL Listed fire fighting packages
- India Design mark for various products





# Certification and approvals – For manufacturing plants



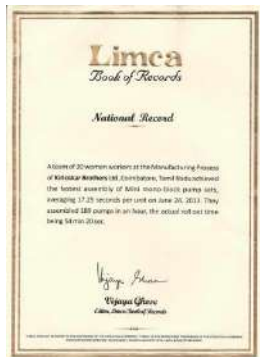
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**Kirloskarvadi & Dewas – Both Facilities are Greenco Gold certified**  
**Dewas – First pump manufacturing plant to receive Greenco certificate**  
**Kaniyur - First Mini pump manufacturing plant to receive Greenco certificate**



**KBL – Small Pump Business received the coveted CII-EXIM Bank commendation for 'Significant Achievement on the journey towards Business Excellence'.**



**A team of 20 women workers at the Manufacturing process achieved the fastest assembly of Mini mono-block pump sets, averaging 17.25 seconds per unit on June 24, 2013. Assembled 189 pumps in an hour, the actual roll out time being 54 min 20 sec.**

# Customer Service and Support



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## Centers / Service Point

No.

Authorized Refurbishment Centers

4

Global service contact points

36

Authorized Service and Spares Dealers

126

Authorized Service Centers

600+

- Reduction in lead time through Smart planning at works
- Reduction in order creation time and empowerment of sales force through CRM 7.1 - Service Max <sup>TM</sup>



*Kirloskar Authorised  
Refurbishment Centre,  
Jamshedpur*



*SPP MENA Service Centre,  
Egypt*

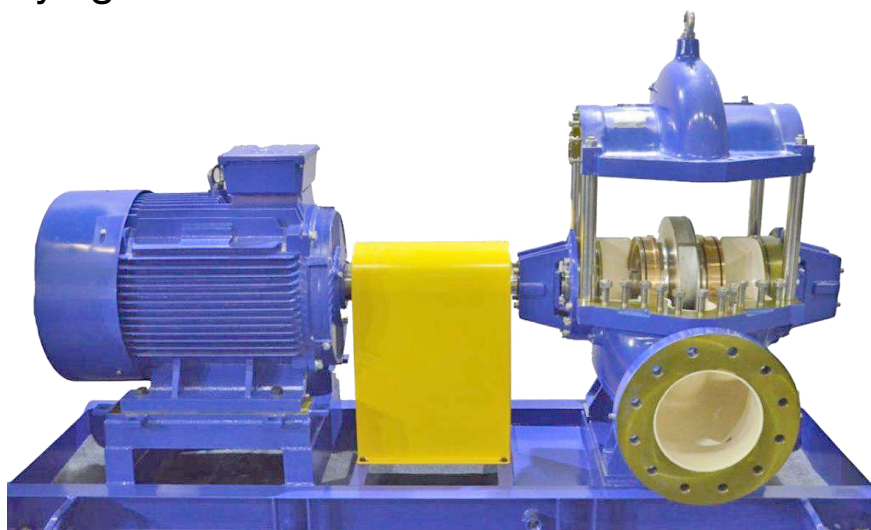
# Lowest Life-cycle Cost Pump Series



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Kirloskar Brothers Ltd. was the first company in the world to design Lowest Lifecycle Cost (LLC™) Pumps based on the recommendations of Hydraulic Institute and Euro Pump.

Lowest Lifecycle Cost (LLC™) Pump series focuses on the energy consumption and maintenance cost of the pumps. It is beneficial to evaluate the life cycle cost of a pump to compare the available pumping system while making buying decisions.



**More than 1000 installations across the globe**

## **United Kingdom -**

- Black and Veatch Limited
- Bristol Water PLC
- DWR Cymru Welsh Water
- EDF Energy
- Portsmouth Water
- Scottish Power
- United Utilities
- South East Water
- Thames Water Utilities Limited

## **Australia -**

- Weir Minerals

## **Norway -**

- Cardo Flow Solutions

## **Mexico -**

- Gammon Lakes

## **South Africa -**

- Rand Water

## **India -**

- Century Rayon, Shahad
- National Peroxide Limited
- Delhi Jal Nigam, Delhi
- JSW Steel
- Tata Steel
- And many more....



# India's First IoT Remote Pump Monitoring System



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Kirloskar Remote Monitoring System (KirloSmart™) is an intelligent remote monitoring solution which helps a person to view process parameters through the internet.

KirloSmart captures data from pressure transmitters, flow meters, vibration sensors, bearing RTD and energy meters. KirloSmart can monitor parameters like flow, pressure, vibration, bearing temperature, voltage, current, energy consumption, etc.

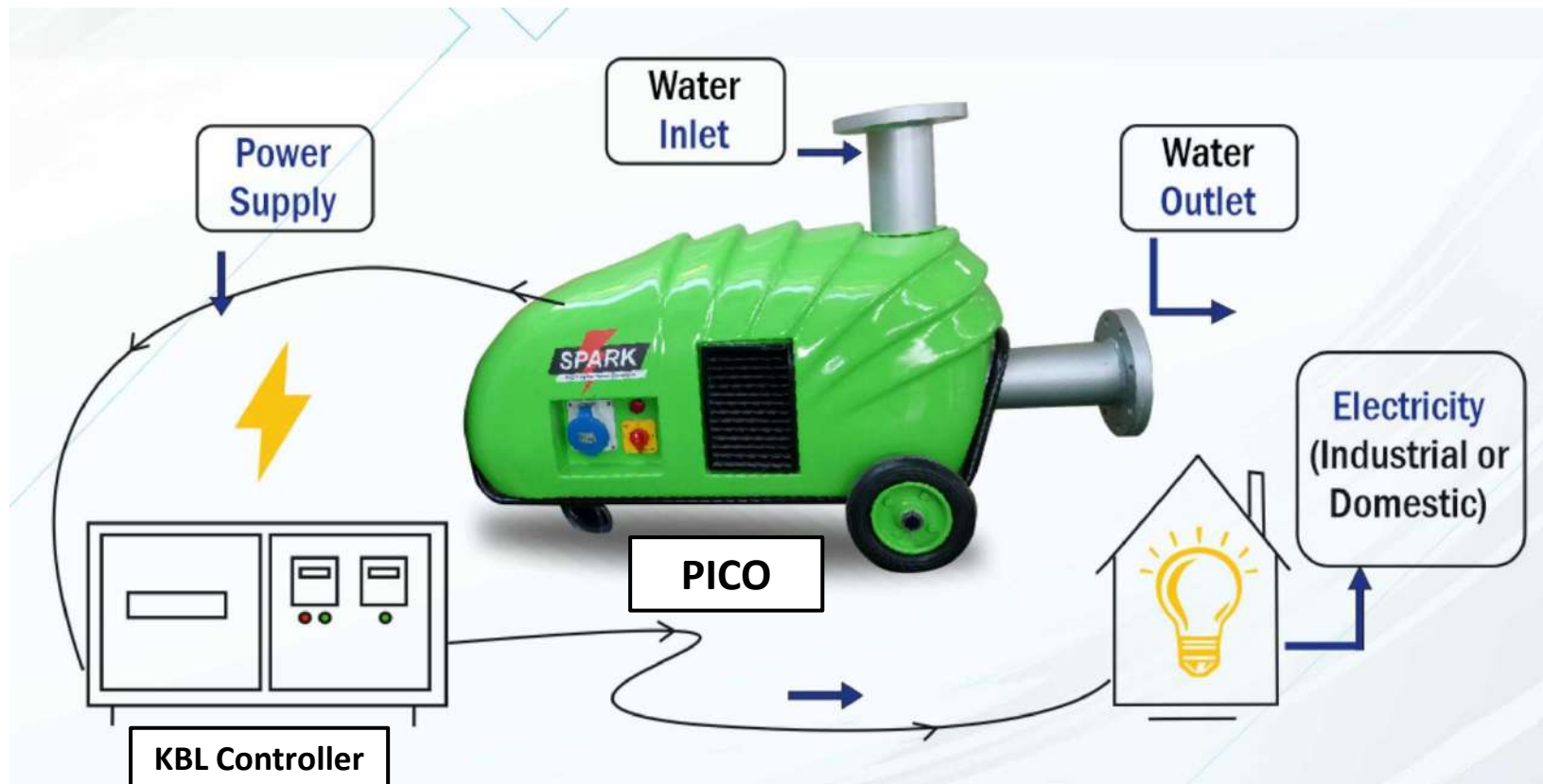


# India's First PICO Set



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PICO (micro hydro power generator) is generally used for meeting smaller energy (up to 5 kW) requirements while Pumps as Turbines (PAT) can be used for meeting comparatively higher energy (up to 300 kW) requirements.



# Fish Friendly Pump



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KBL has introduced one of the world's first fish-friendly pumps. Our team was involved in the creation of the NEN 8775 fish safety standard that defines the method for determining the fish safety of pumps, Archimedes' screws and enclosed water turbines.

Among other things, this NEN 8775 standard provides a calculation method for calculating the survival rate of fish that pass through pumps, Archimedes' screws or enclosed water turbines.







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KBL at a Glance

Our Joint ventures  
and Subsidiaries

Our Business

R&D, Manufacturing  
& Quality  
Assurance

**Notable Work**

Giving back to  
society



## Pelubang Water Supply Scheme, Malaysia

KBL supplied 8 Nos Horizontal Split Case Pumps (Bottom Suction, Side Delivery)

Head: 98m

Flow: 570.6 m<sup>3</sup>/hr

RPM: 993 rpm

Motor Rating: 988 HP





# Water Resource Management (Cont...)



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Hunter Water Corporation,  
South Wales,  
Australia

KBL supplied  
2 Vertical Turbine  
Pumps (BHQ70),  
Motor 872 HP



# Building & Constructions



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## **Mumbai International Airport - T2 Terminal**

KBL supplied 27 pumps for the maintaining systems at the Airport.

**Maximum flow :** 1703 m<sup>3</sup>/hr

**Maximum head :** 27.5 meters

**Maximum Speed :** 2900 RPM

# Building & Constructions (Cont...)



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## **Gujarat International Finance Tec-City (GIFT)**

Presently under construction to cater to India's large financial services potential by giving global MNCs a world-class infrastructure and facilities.

**KBL supplied 12 pumps for its district cooling systems.**

**Maximum flow: 3407 m<sup>3</sup>/hr**

**Maximum head : 90 meters**

**Maximum Speed : 1492 RPM**



# Irrigation



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## **Sardar Sarovar Narmada Nigam Ltd. (SSNNL)**

KBL's concrete volute pumps and vertical turbine pumps support the world's largest pumping system.

**Liquid :** Water  
**Flow :** 72,000 m<sup>3</sup>/hr.  
**Head :** 16.3 MWC  
**Speed:** 200 RPM  
**Motor :** 6035 HP



# Helping Bring a Global Green Revolution



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Laos



Cambodia



Cambodia



Egypt

After supporting the Green Revolution in India, our pumps made Senegal & Laos self sufficient in food and facilitated the transformation of the arid desert belt across the river Nile in Egypt into a lush green farmland. Kirloskar pumps are operational in one of the world's largest pumping schemes, Sardar Sarovar Narmada Nigam Limited, irrigating 540,000 hectares of land and providing drinking water to over 30 million people.

**“ A Pump is called Kirloskar in Egypt”**



# Pumps for Nuclear Power



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Primary & Secondary  
Sodium Pump,  
Bhavini

We are the first and leading manufacturers of critical pumps in India. We have supplied primary and secondary sodium pump to Bhavini and specialised pump sets for the ITER (International Thermonuclear Experimental Reactor) project in France, the world's largest magnetic confinement plasma physics experiment. Our pumps made India self sufficient in production of heavy water.



# Association with Some of the Most Iconic Global Buildings



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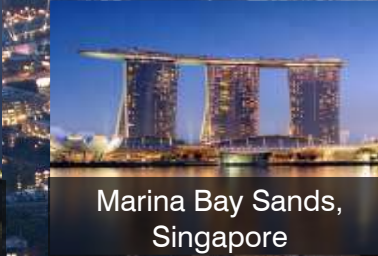
The Shard, UK



White House,  
Washington



Hong Kong-Zhuhai-  
Macau Bridge



Marina Bay Sands,  
Singapore



Petronas Towers,  
Kuala Lumpur



ICONSIAM,  
Bangkok

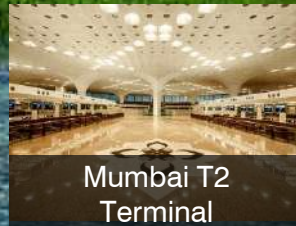
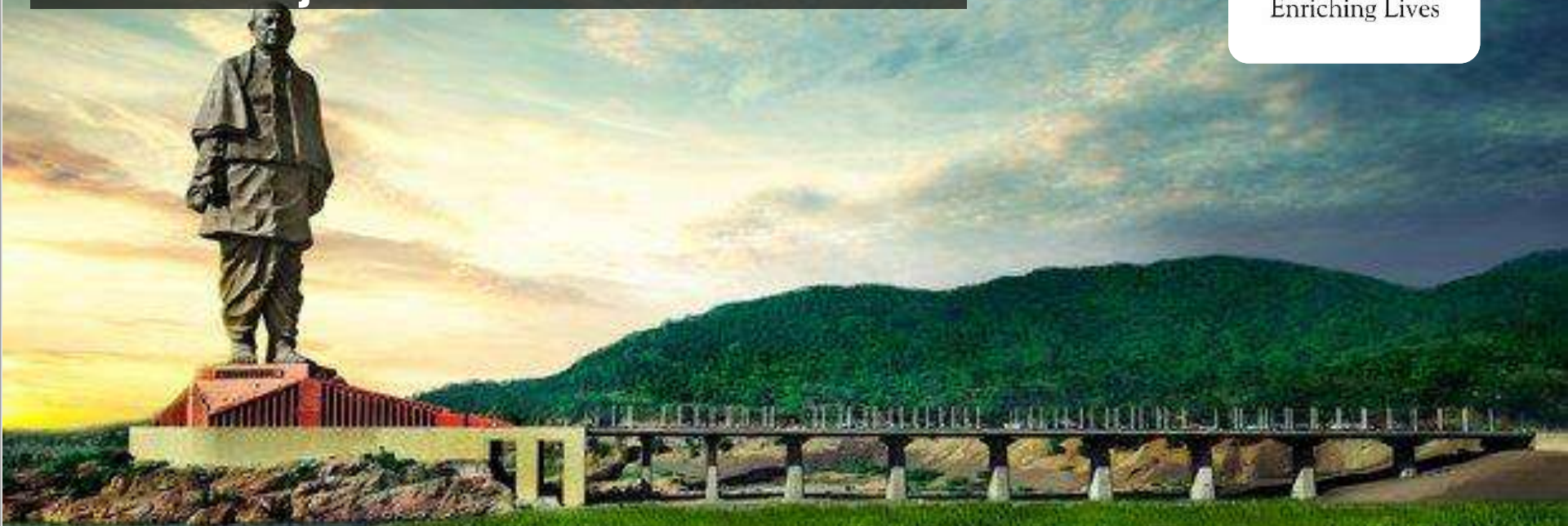
KBL's pumping solutions are operational in many of the world's iconic buildings



# Association with Some of the Most Iconic Projects in India



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KBL's pumping solutions are in operation in many of India's iconic projects like Sardar Sarovar Narmada Nigam Ltd, Statue of Unity, Atal Tunnel, Kartarpur corridor, PSUs, Metro trains, Airports, major municipal corporations, leading power plants, etc.

# Pump trusted by millions, everyday.



Enriching Lives



Our wide range of agricultural and domestic pumps cater to the daily needs of millions of people across the globe by irrigating their farmlands and ensuring an uninterrupted water supply in their households.





**Bharat Petroleum Corporation Limited, Mahul-Mumbai**  
1<sup>st</sup> pump of KEPL supplied in 1989, which is still running satisfactorily.

**Model :** UCW 350 X 200  
**Liquid :** Naphta  
**Flow :** 1000 m<sup>3</sup>/hr.  
**Head :** 115 m

**Speed :** 1490 rpm  
**Temp :** 70°C  
**Motor :** 469 HP



**Reliance Industries Limited, Hazira-Gujarat.**  
KBL pumps used for Fench water application

**Model :** BB1 (KBAD)  
**Liquid :** Water and hydrocarbon  
**Flow :** 1300 m<sup>3</sup>/hr.  
**Head :** 137

**Speed :** 1470 rpm  
**Temp :** 90°C  
**Motor :** 1342 HP





## Saudi Aramco Base Oil Company (Luberef)- Saudi Arabia

**Model :** BB5 150 X 100 (A) DCD

**Flow :** 1300 m<sup>3</sup>/hr. to 1800 m<sup>3</sup>/hr.

**Head :** 1603.9 m

**Speed :** 4483 rpm

**Capacity :** 92 m<sup>3</sup>/ hr.

**Motor :** 900 kW



## Indian Farmers Fertiliser Cooperative Limited, Kalol- Gujarat

KBL supplied Unit + HPRT + Clutch + Driven Pump + Motor

Model : 400 X 300 SPD 2 GT

DRIVEN PUMP	
Head	203 m
Capacity	1399 m <sup>3</sup> /hr.
Speed	1700 rpm
BKW	1471 kW
Temp.	73°C

HPRT	
Capacity	1636 m <sup>3</sup> /hr.
Pressure	30 kg / cm <sup>2</sup>
Power Generated	1080 HP

# Valves



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**KBL's valves supports  
Massachusetts Water  
Resources Authority,  
Boston, USA**

Size of valves = 2.1 m  
Type of valves = Butterfly  
Valves



**KBL's valves supports  
TNEB. India Project :  
Periyar Vaigai Project**

Size of valves = 3.0 m  
Type of valves = Turbine  
Inlet



**KBL's valves supports  
industrial projects like  
Jaypee Nigrie TPP**

Size of valves = 3.8 m  
Type of valves = Butterfly



## Sonshi Mines

- Design, manufacture and supply of Pontoon mounted, Autoprime Pumping system with Automation for pit dewatering
- |                 |                         |
|-----------------|-------------------------|
| <b>Head</b>     | 450 m <sup>3</sup> /hr. |
| <b>Capacity</b> | 160 m                   |
| <b>Motor</b>    | 422 HP                  |
- The pump solution included complete electric system, instruments for recording discharge, flow, pressure, power record, safety system, protection devices, alarms, stoppage under dry running, over loading, etc.
  - It also included GSM based alarm system.



EPC For Sea Water Pumping  
System Of CCWS, Sohar,  
Oman

**Liquid :** Sea Water

**Pump Type :** Vertical mixed flow

**Qty :** 3 Sets

**Design Capacity :** 15,000 m<sup>3</sup>/hr

**Total Head :** 35 m

**Speed :** 490 rpm

**Motor Rating :** 2548 HP



# Marine & Defense



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- Presence in projects of national interest like nuclear submarines and Indian naval warships
- Kirloskar systems installed in Shipyards and dry docks such as MDL, GRSE, Pipavav
- Unique solutions:
  - Water Mist Firefighting system
  - Axial flow pumps and Containerized pumps
  - Jet propulsion pumps for the coast guard
  - High head pumps

*Indian Warship INS VIRAT*



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# Corporate Social Responsibility



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KBL conducts an array of activities and campaigns throughout the year. Primarily, the company focuses on three areas for its CSR contributions: **Education, Healthcare, and Environment**, through the Vikas Charitable trust and Sou. Radhabai Trust.



Kirloskar High School



Hospital



Kerala Flood Relief Operation



WaSH Program



Skill Training Program



Flood relief operation, Sangli

# CSR activities in India



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**Supporting creation of clean water source for underprivileged school kids**

**Self-employment awareness campaign amongst unemployed youths**

**Health-check, eye-check camps and Vaccination camps**

**Provision & Up-gradation of education facilities for underprivileged school kids**

**Tree Plantation**

**Save girl-child campaigns and Sponsoring foods for orphaned kids**

**Donating first aid boxes and water pumps to schools of underprivileged school kids**

**Awareness campaign for young farmers relating cultivating and cattle breeding best practices.**



# Recognitions to KBL's dedication for society



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## Overall excellence Award – Amity CSR Conclave 2012



**KBL Dewas won the Award of “The Best Corporate Social Responsibility Practices”**  
**Organized by World CSR Congress, Mumbai.**  
Almost 500+ companies from 30 countries had participated.



# World CSR Congress recognizes KBL as India's Most Ethical Company



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KBL bags 'India's Most Ethical Company' award by World CSR Congress



## THE FINANCIAL EXPRESS

### Kirloskar Bros gets award for ethical manufacturing

Kirloskar Brothers (KBL), a global fluid management company, has been honoured with the World CSR Congress 2014 award under the category 'India's Most Ethical Company in Industrial Manufacturing'. The

## Sakal Times

### KBL bags 'Most Ethical' firm award

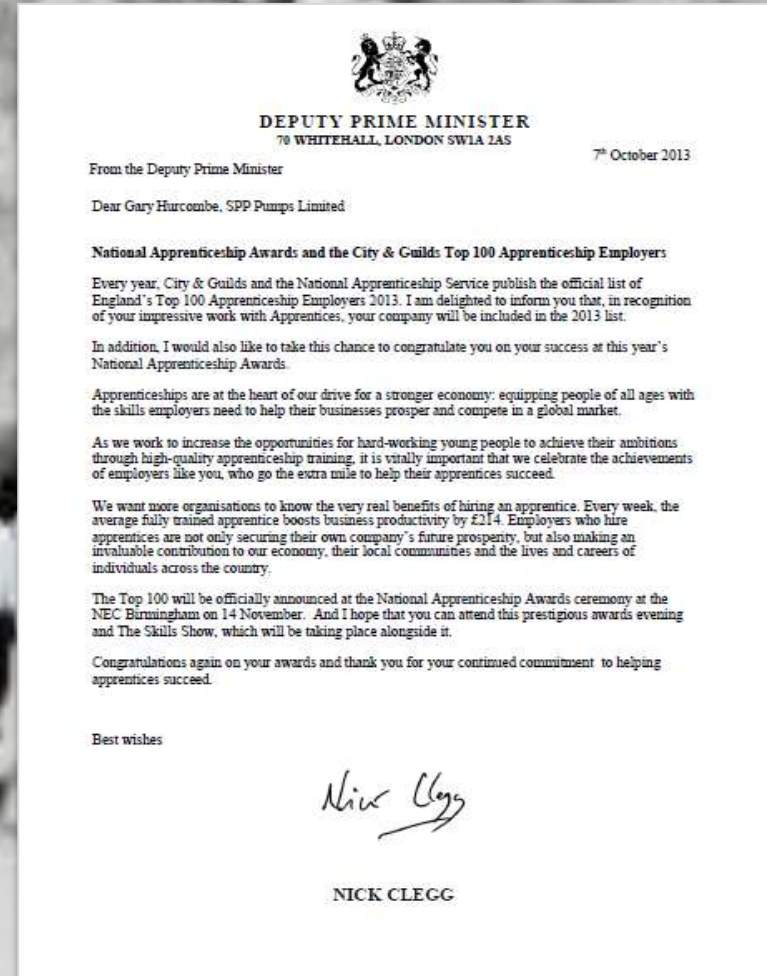
# International CSR Activities



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- Listed in England's top 100 apprenticeship employers by City & Guilds and the National Apprenticeship service
- Work with the Hero's First Foundation in the USA to raise money for war veterans of the Iraq and Afghanistan campaigns which is donated to hospitals and skill building institutions
- Sponsor skill building programs in the Republic of South Africa
- 2% of average net profit for preceding 3 financial years are invested in CSR activities

SPP Pumps has been recognized as one of United Kingdom's best Apprenticeship Employers in the regional final of the National Apprenticeship Awards 2013





# CSR Activities undertaken by SPP Pumps during Covid-19 Pandemic



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- Great Oaks Hospice, is situated close to SPP main manufacturing centre at Coleford, and like so many of hospices nationwide, are unable to take day patients due to the current situation. Instead they are doing home visits, whilst these home visits take place, SPP provides each patient with a special food package.



- SPP work closely with several volunteering programmes and charities. Working along with The Forest Foodbank, part of the UK wide Trussell Trust, SPP distributed between two and three tonnes of food each month to local families to provide a lifeline to people who live in the area around SPP Coleford manufacturing facility.



- SPP donated laptops to students of Coalway Junior School, located near main manufacturing plant, to ensure they have access to suitable devices to continue learning from home during the lockdown.

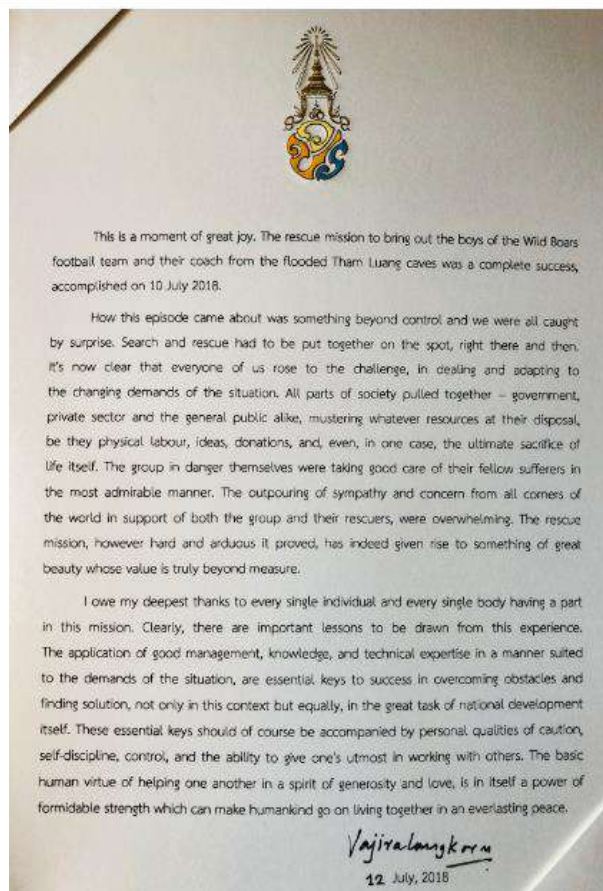




# Thai Cave Rescue



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During Thai cave rescue, KBL sent our multi-national team of experts comprising of members from KBL (India), KBTL (Thailand) and SPP Pumps (UK), who were present on-site at the Mae Sai cave to offer their technical expertise during the rescue operation to support the Thai government and fly the Indian flag



Enriching Lives



# Thank You

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