

# About Us Envisol A part of Arvind Limited

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## Our Business is Water

Arvind Limited, a part of the \$1.7 billion Lalbhai Group was incorporated in 1931 and is in the businesses of Textiles – fabric & garment manufacturing, Branded apparel & Retail, Environment Solutions, Agriculture, Engineering and Real Estate.

Established in 2011, Arvind Envisol has witnessed strong pull from Indian and international market over last few years

AEL is a world class water management company providing end to end solutions for water treatment, industrial waste water treatment, sewage treatment, desalination and **Zero Liquid Discharge (ZLD)** solutions at minimal costs.



100+ Million Litres water and waste water processed per day



150+ Projects executed till date



38 Registered Patents across the globe



END TO END

Offerings in the entire water chain

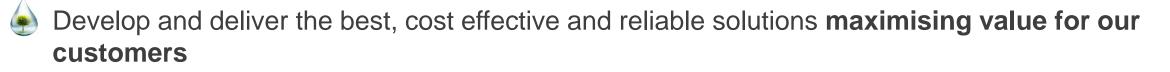
STRONG Pre Qualification References



To become the most preferred organization for all stakeholders by **providing the best sustainable solutions** in the field of water and wastewater treatment and **zero liquid discharge**, making world a better place to live in.



Provide leading edge technology and value-added convergent solutions.





- Invest, collaborate and partner to develop new ideas and technologies that will enhance the future
- Provide best working environment to our employees and vendor partners. Cultivate a high performance people culture.



## Envisol has a global footprint with a modern supply chain and offices spread across 6 continents





## In order to cater to different need segments, Envisol has organized itself into Envisol 3 verticals

#### **Infra Practice**



- Projects on EPC as well as on BOOT basis
- Sectors include:
  - Municipal
  - Industrial

**Textiles** 

- Desalination
- Drinking water
- Hi-purity water

Design, Service & Support (DSS) Practice



- Offerings to clients and partner OEMs through in-house brand
- Products and services include:
  - Components
  - Consumables & Spares
  - O&M / AMC
  - Retrofitting

#### Knowledge Practice



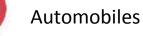
- Niche services offered to customers / Analytics
- Services include:
  - Consulting
  - Training
  - Collaboration & Research







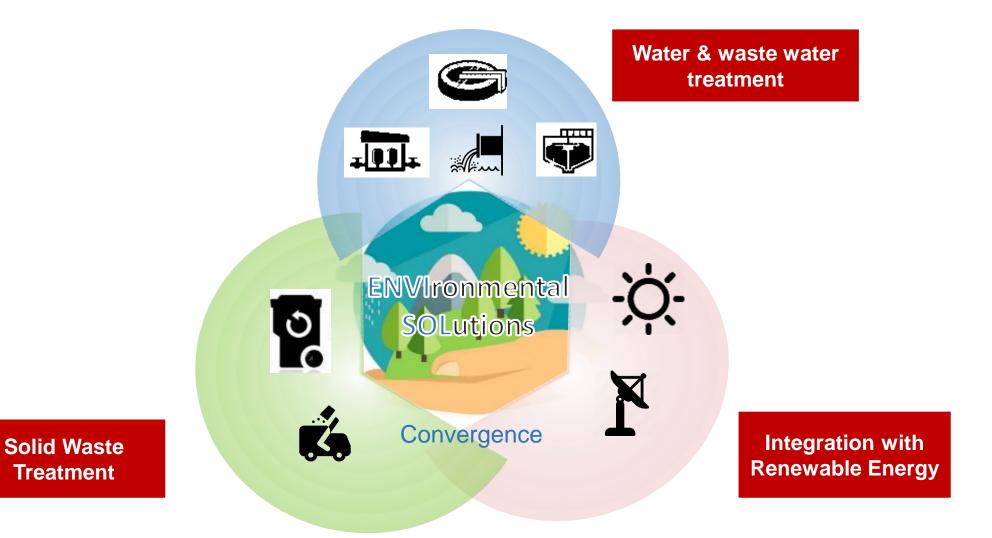


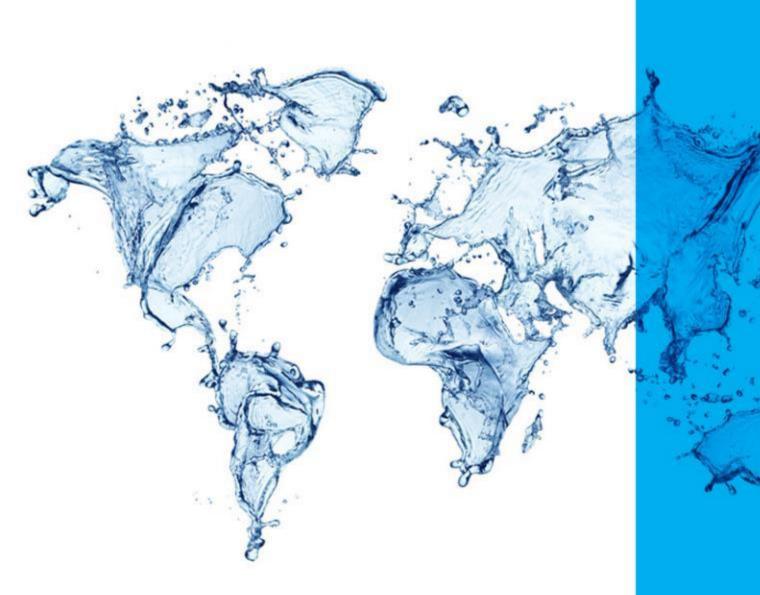


The three verticals offer solutions across water, waste water, solid waste and emission problems employing clean energy



#### **Convergence** Approach

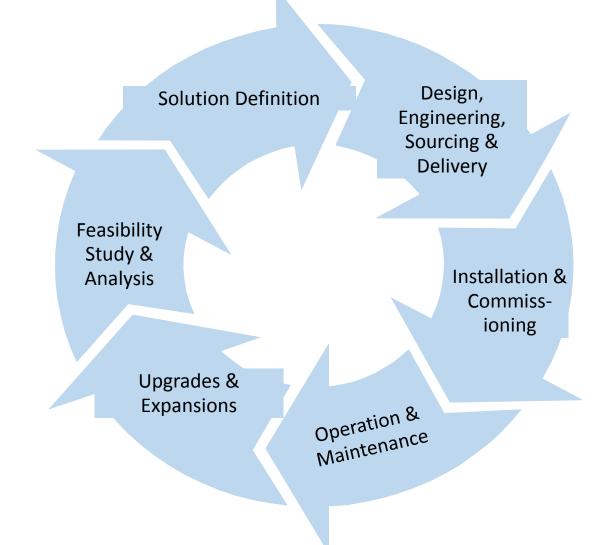




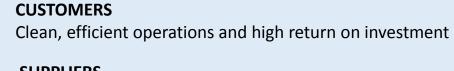
## **Envisol** Infra Practice



#### Turnkey EPC Projects – we enable sustainable operations







Sustainable Outcome



**SUPPLIERS** We build partnerships with our supplies on long term basis



**EMPLOYEES** Meaningful and rewarding jobs

#### SOCIETY

Improved resource efficiency, clean environment, prosperity

#### -11

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SHAREHOLDERS Investing in a responsible company

#### ECOLOGICAL FOOTPRINT

Technologies with low impact



#### Technological Capabilities (1/3)

#### **Primary treatment**

To remove physical impurities like suspended solids, oil and colour



Clarifiers and Clariflcoulators



Tube settlers/parallel plate separators



High rate solid contact clarifiers

#### Secondary treatment (Biological Processes)

Degrading organic material present in waste water/reducing the BOD and COD



Activated Sludge Process (ASP)



Extended Aeration system (EAS)



Upflow Anaerobic sludge blanket reactor (UASB)



Dissolved air floatation (DAF)



**Electro Coagulation** 



Pipe floccuator



Sequential Batch Reactor (SBR)



Moving Bed Bio Reactor (MBBR)



Membrane Bio reactor (MBR)



#### Technological Capabilities (2/3)

**Filtration system** 



Mircon Cartridge Filtration (MCF)



Micron Disc Filtration (MDF)

Membrane based TDS reduction



Nano filtration (NF) Reverse Osmosis (RO) – spiral

#### **Advanced Oxidation**



Ozonation



Activated carbon filter (ACF) and Media Filters



Ultra filtration (UF)



Reverse Osmosis (RO) – disc



Forward Osmosis (FO) System



Envi\_Oxy system



#### Technological Capabilities (3/3)

#### **Evaporation Technologies**



- Mechanical Vapor Recompression (MVR)
- Multi Effect Distillation
   (MED)



Multi Effect Evaporators
 (MEE) and Crystallizers

#### Sludge Management Technologies



Sludge Digester



Incinerator



**Screw Press** 



Multi Stage Flash (MSF) Evaporators



Agitated Thin Film Dryer (ATFD)



Centrifuge



**Filter Press** 



**Belt Press** 



#### **Installation Reference**



11 MLD Zero Liquid Discharge Plant at Hawassa Industrial Park, Ethiopia



#### Recommendations

## CCECC ETHIOPIA CONSTRUCTION P.L.C.

Ref. No. : CCECC/ETHIO-HIP/ED/2016-048

#### Date: 30th September, 2016

Arvind Envisol Private Limited, Hawassa, Ethiopia

#### "TO WHOMSOEVER IT MAY CONCERN"

This is to certify that **M/s. Arvind Envisol Private Ltd.**, India, has done the Design, Engineering, Construction, Supply, Installation, Testing and Commissioning, of our 11 MLD capacity Textile and Sewage Waste Water Treatment Plant for our Hawassa Industrial Park Project, Ethiopia based on recycling and Zero Liquid Discharge (ZLD) technology with its project value of \$ 11,160,000 (USD Eleven million and one sixty thousand dollars) including Erection & Commissioning.

The Sewage Treatment Plant of the aforesaid Zero Liquid Discharge System with processing capacity of 3000 m3/day was handed over to us on 30<sup>th</sup> September 2016, to our satisfaction.

Zhu Lei Project Manager CCECC Ethiopia Construction P.L.C.



#### TO WHOM SOEVER IT MAY CONCERN

This is to certify that water treatment plant (RO Plant of capacity – 6MLD UF + 6 MLD RO) has been successfully designed. Supplied and installed by Arvind Envisol Pvt Ltd.

The system is also commissioned and working continuously since  $1^{\mbox{st}}$  May 2016.

The system is now under an O & M contract since  $01^{\rm st}$  May, 2016 for two years with Arvind Envisol Pvt Ltd.

We are satisfied with their support, services and wish them success in their endeavors.

अध्यक्ष बासोतरा वाटर पोल्यूजन कन्ट्राल ट्रीटमेस्ट एण्ड रिसर्च फाउण्डेणन ट्रस्ट बालोतरा जिला बाटमे र



#### TO WHOM SO EVER IT MAY CONCERN

This is to certify that M/s.Ipca Laboratory Ratlam had Awarded the Contract to M/s.Arvind Envisol PVT Ltd, Ahmedabad for Design, Engineering, Procurement, Supply, Testing, Installation & Commissioning of MVRE Plant. The Capacity of MVRE Plant is designed at 400 KLD as feed.

The Project has been recently installed and commissioned by M/s.Arvind Envisol PVT Ltd.

We are satisfied with their support Services and wish them success in their Endeavors.

Thanking You

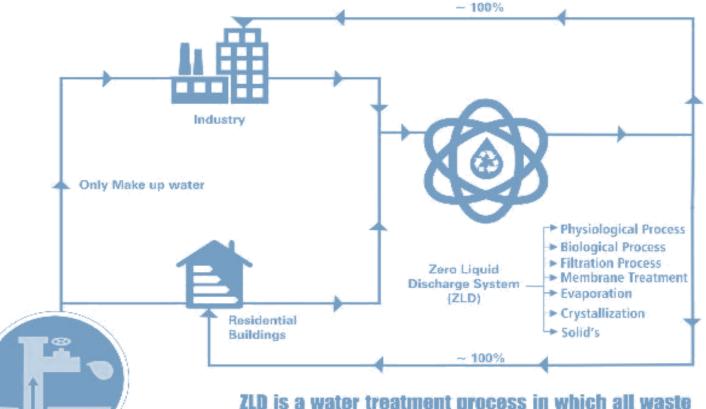
Your faithfully

For IPCA Laboratory Manoj Kumar Mittal Vice President (Corp.) EHS



#### Zero Liquid Discharge

Envisol's heart drum to purify and recycle waste water through patented technologies



ZLD is a water treatment process in which all waste water is purified and recycled leaving zero discharge at the end of treatment cycle.

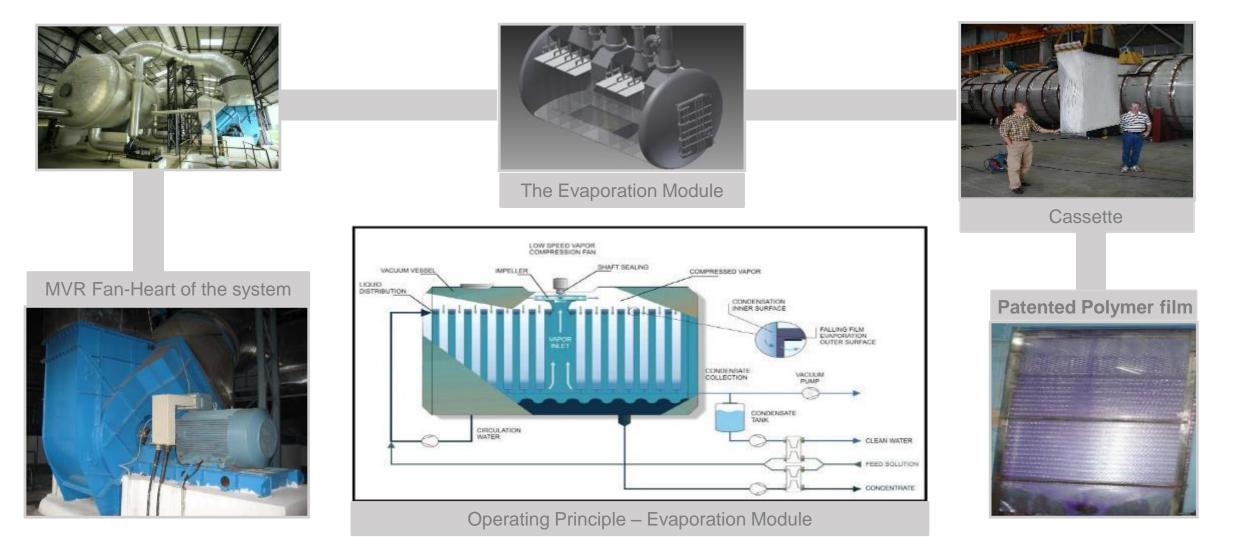


**Ground Water** 



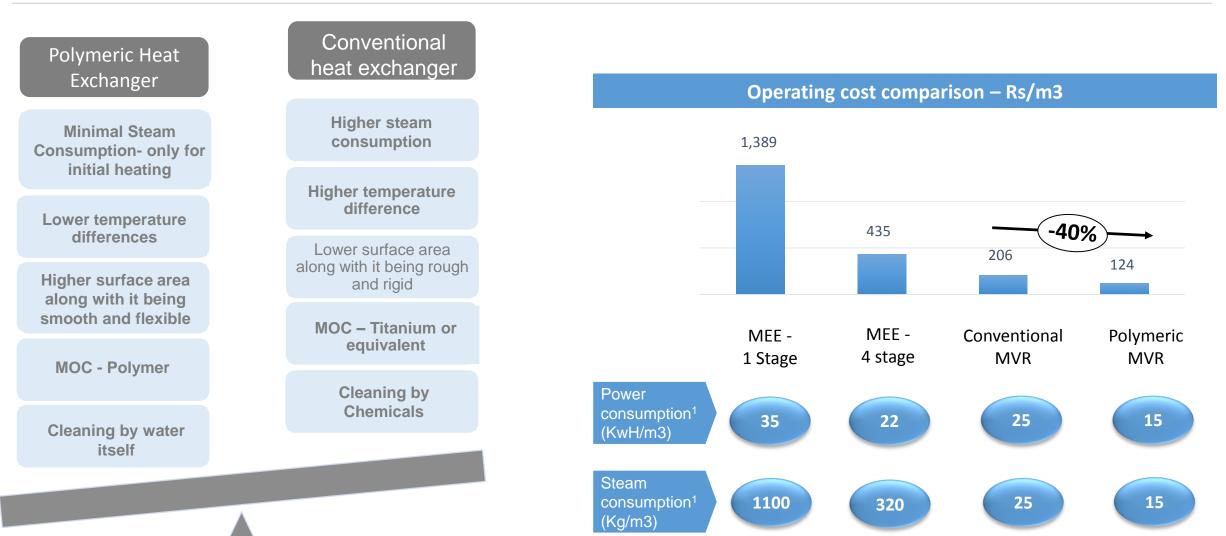
#### Patented Technology – Polymeric MVRE

Patented heat transfer polymer element enables efficient heat transfer at lower temperatures Improves efficiency and uses MVRE for reduction of costs and maintenance



#### Significant advantages in operating costs can be achieved through Polymeric Film Evaporation Technology







#### Crystallizer Unit & Salt Recovery Application







#### Why "KaiGO"

## Making 'ZLD/ETP' affordable

ZLD and effluent treatment technologies have been historically very expensive since all know-how and technologies are imported. KaiGO aims to break the shackles by localization of technologies, making it more affordable and worthwhile for Indian industries to invest in.

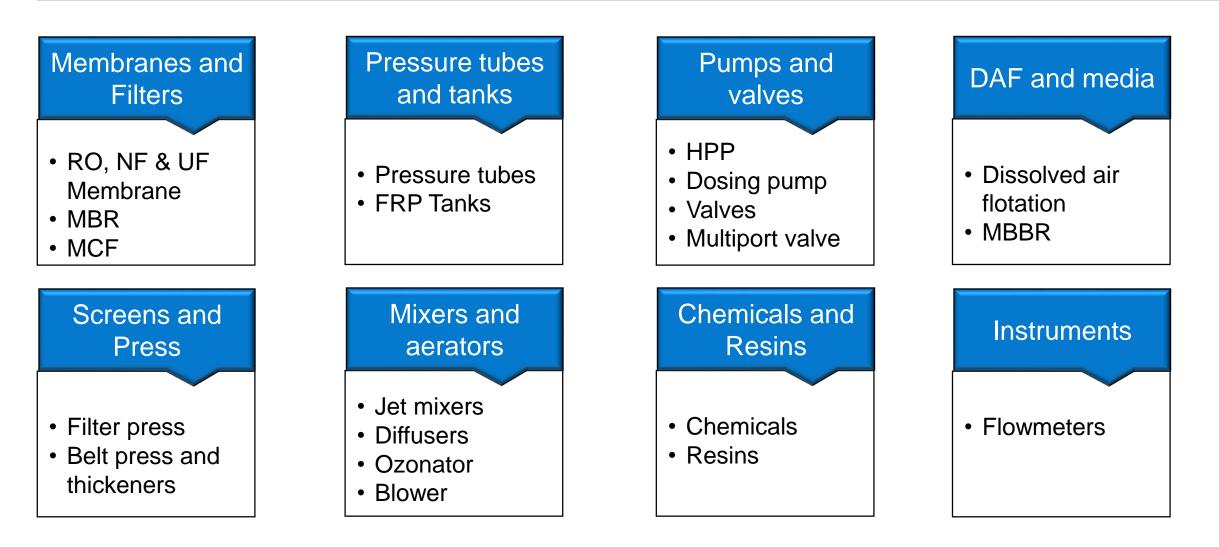
Agile supply chain, shorter lead times

Time is money, a fact Indian industries are acutely aware of on account of high cost of capital, time taken for compliances etc. A byproduct of localization is that we give upto 50% shorter lead times.

Genuine service, no lock-in With single window resolution and localized manufacturing, no longer do you need to fire fight separately for different components. We are democratic and confident in our product designs and service. Our standard products will not lock you into unreasonable maintenance contracts. If you are not happy with our service, you can easily migrate to any other provider.



#### KaiGO has a diverse and rapidly expanding range of products





#### Overview of selected products in Arvind KaiGO



YDRANAUTICS Nitto Group Company

#### **RO, UF and NF Membranes**

KaiGO is an authorized distributor for Hydranautics membranes. It is highly energy saving and low fouling on account of its composite polyamide membrane.



#### **FRP tanks**

KaiTANKs, used to hold filter media, are manufactured with high quality FRP resin, suitable for drinking water, light in weight and 100% hydro tested with certificate.



#### MBR (Membrane Bio Reactor)

KaiMBR is a combination of membrane processes like UF with the ASP process. It has a small footprint, easy retrofit and enables upgrade.



#### **Motorized Dosing pump**

KaiDOSE motorized dosing pumps are suitable for larger volume dosing application. Mechanical, hydraulic & plunger options available.



#### **Pressure tubes**

KaiTUBE FRP pressure vessels are membrane housings for industrial and commercial water treatment applications such as desalination and reverse osmosis (RO).



#### **High pressure pump**

KaiPUMP can be used for both positive and negative displacement application. USPs include pump casing thickness of 1.5 mm, top and bottom casings of SS304, cartridge & split type mechanical seal etc.



#### Overview of selected products in Arvind KaiGO



#### **Electronic dosing pump**

KaiDOSE is a positive displacement pump. It pumps a very precise flow rate of a chemical into a tank. USPs – Air relief valve, solid PTFE diaphragm, Double NRV check valves, min SPM of 120



#### **Filter press**

KaiPRESS is specially designed to de-water sludge. It has various plate MOCs (PP/CI/SS), range of sizes, option for manual/hydraulic operation.

#### Valves

KaiVALVES control the flow and pressure within a system or process. Available from 1" to 40" in size and 150# to 2500# Class. Types available Gate/ Glove/ Check/ Butterfly/ Ball/ NRV/ Diaphragm



#### **Belt press and thickeners**

KaiBELT is rapidly turning out to be a good alterative to the manual Filter press. Fully automatic with option for thickener, it gives upto a 30% solid consistency at outlet.



#### MBBR





KaiMBBR has 3 variants – PVA, Biochip and PU media, with surface areas ranging from 3000 m2/m3 to 47000 m2/m3. Reduces tank footprint, life > 5 years, highly resistant to wear and tear.



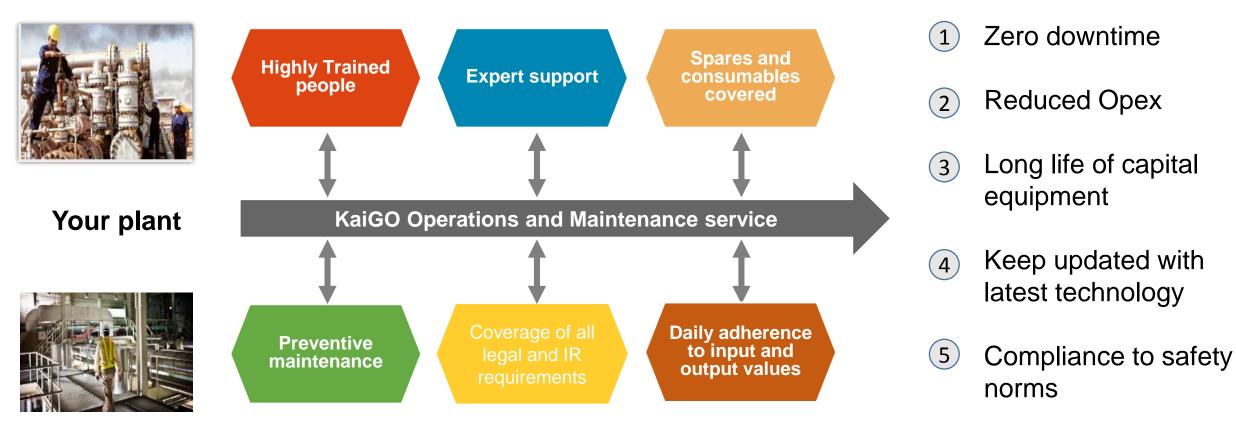
#### **ETP and RO Chemicals**

KaiCHEM offers several chemicals for water treatment

- Color removing chemicals
- Coagulants
- Polyelectrolytes
- RO antiscalants, cleaning and biocides

## KaiGO offers precise and dependable Operations and Maintenance services





6 No budgetary risk

## **Engage** Service practice

## Envisol can be your thought partner to keep you updated with the best water practices the world over





#### Water audit and consulting

- Project management consulting and assessment
- Review of existing design parameters and quality of source
- Recommendation to enhance the performance and longevity of the existing plant.
- Regular scorecard to accredit compliance to best practices



#### Water testing

- Envi Lab facility to test the customer's source water
- Effluent and report the required parameters.
- Spectrometer



#### Training, R&D and skill development

- Training packages and courses
- Government approved training centers
- Studies cover both theoretical and practical knowledge applications
- R&D facilities to help you design new offerings



#### What makes Envisol a preferred partner?

- One stop place for all type of water and waste treatment related customer requirements Projects, Spares, Services
- 2. Single window for best globally available technologies across entire water treatment spectrum (either through own patents or licensed partners)
- 3. An extensive technology portfolio along with in house R&D Center
- 4. Proven process know how and experience
- 5. Experience as a reclamation plant operator
- 6. Multinational experience, which ensures an understanding of different local needs
- 7. Strong team of over 400 people ; Industry veterans, respected by customers, vendors and competitors



#### Some of our valued Customers



## Thank you!

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