WaTTerson Technology Sdn Bhd

www.wattersontech.com

As we did so far, we try to

Ensure Clean Water for our Next Generation

A child playing in polluted water.

- According to the survey done by Food & Water Watch cities that approximately 3.5 billion people in 2025 will face water shortage mainly due to water pollution.

Address

- **Head Office**
  - No 22, Jalan TPP 1/10,
  - Taman Perindustrian Puchong,
  - 47100 Puchong,
  - Selangor, Malaysia
- Tel : 03 – 8051 2310
- Fax : 03 – 8066 6292

- Website: www.wattersontech.com

Watterson Technology Quality Policy

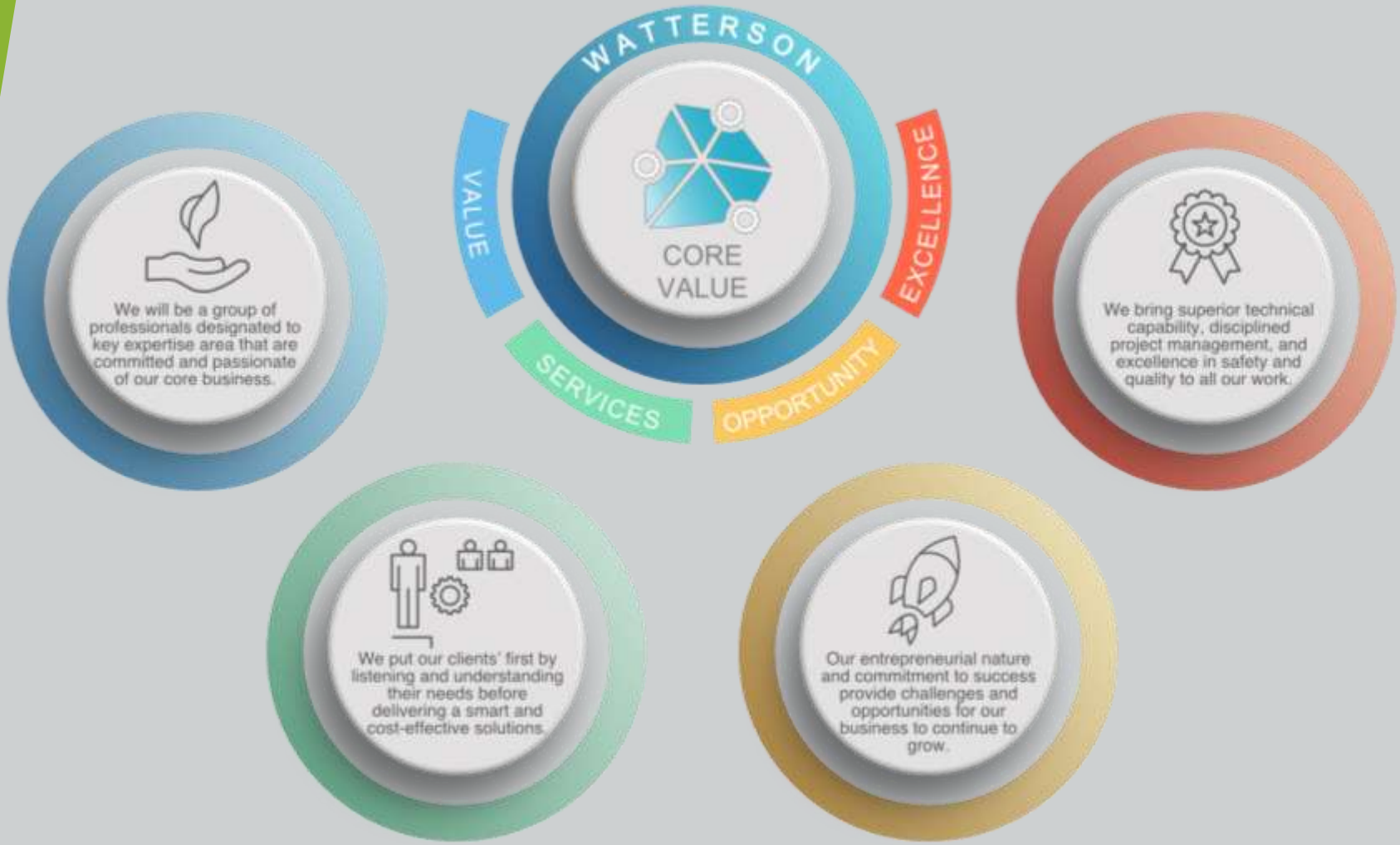
Our Vision

- We are committed to be a leading brand in water and wastewater treatment industry. We aim to be a **group of professionals** who are **committed and passionate** towards our business and core values.

Our Mission

- We are committed to **satisfy requirements** set by our interested parties such as customer, regulatory bodies and other relevant parties.
- We are also committed to **continually improve** our management system to ensure high **customer satisfaction** and provide latest technology and solutions offered in the industry.

Our Core Value



Watterson brings together the experience and know-how of

20 years of water & wastewater treatment expertise.

Certification

AJA EQS CERTIFICATION

STANDARDS MALAYSIA

ISO 9001:2015

No Akreditasi: QS-29072008 CB 08

Cert. No: AJAMY18/1640

SPAN®

Suruhanjaya Perkhidmatan Air Negara

CIDB

MALAYSIA


OUR PRODUCT
Sludge Dryer
Membrane Bioreactor
Dissolved Air Flotation
Moving Bed Bioreactor
Ultra-Filtration
Tilted Plate Oil Interceptor
Vacuum Evaporator
Wastewater Chemicals
Fluoride Removal Chem
OUR SYSTEM
Wastewater Treatment Plant
Fluoride Wastewater Treatment Plant
Raw Water Treatment Plant
Anaerobic Biogas Treatment Plant
D.I & R.O Treatment Plant
Ultrapure Water Treatment Plant
River Water Treatment Plant
OUR SERVICES
Design & Construction
Plant Evaluation
Operate & Manage
Engineering Consultation

Our Capabilities & Services

Design, Build, Install & Commission

Wastewater & Water Treatment System for :

- Ultrafiltration, reverse osmosis,
- Domestic , Ultra Pure water filtration/treatment
- Demineralization (DI Water) and water softener
- Wastewater Chemical treatment (Clarifier & DAF) and Biological System (MBR, MBBR, CAS, ANAEROBIC IC REACTOR)

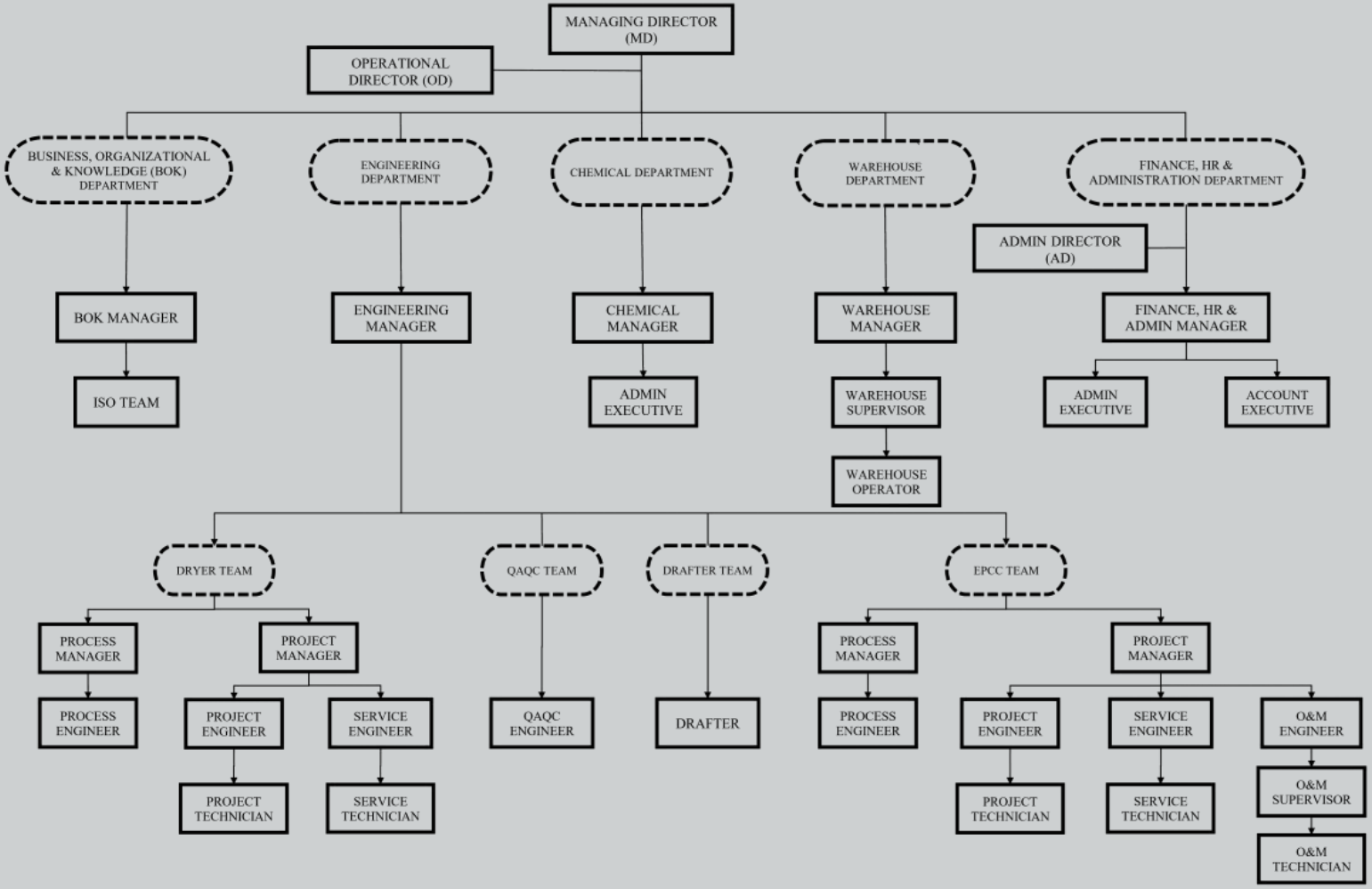
Sludge Management

- Sludge Dryer System
- Sludge collection for energy fuel

Other Services

1. Operation & Maintenance of Plant.
2. Proprietary Chemical Treatment
   - Fluoride removal.
   - Colour removal.
   - Manganese removal.
3. System evaluation for Upgrading, Technical support & trouble shooting
4. Wastewater Characteristics Studies
5. In-house Laboratory
6. DOE Submission

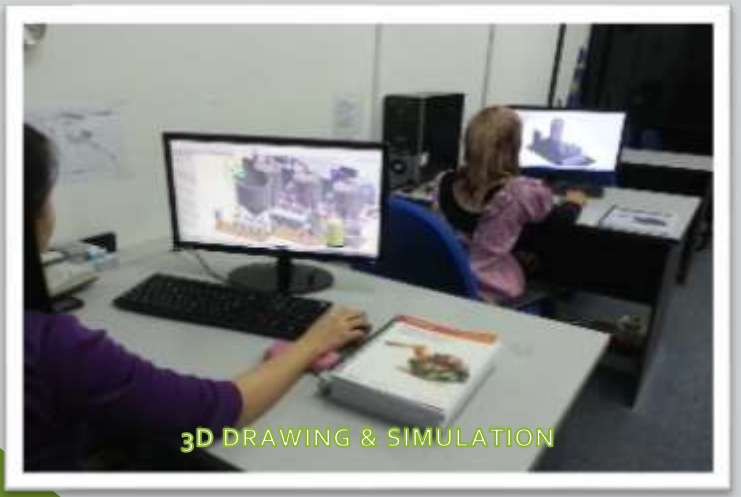
WATTERSON TECHNOLOGY SDN BHD – Organizational Chart



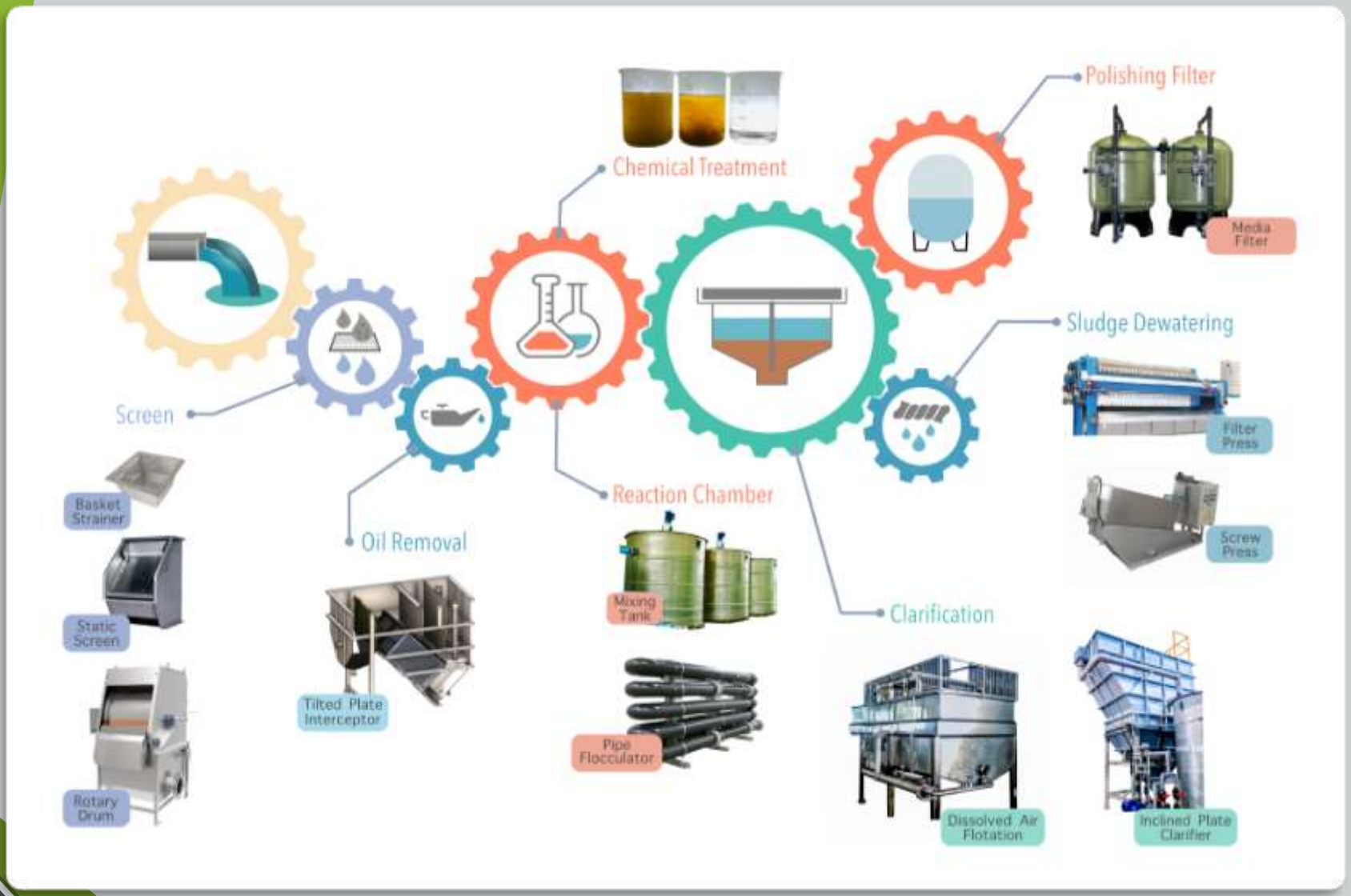
Our Professional Team

Our Engineering team comprises of :

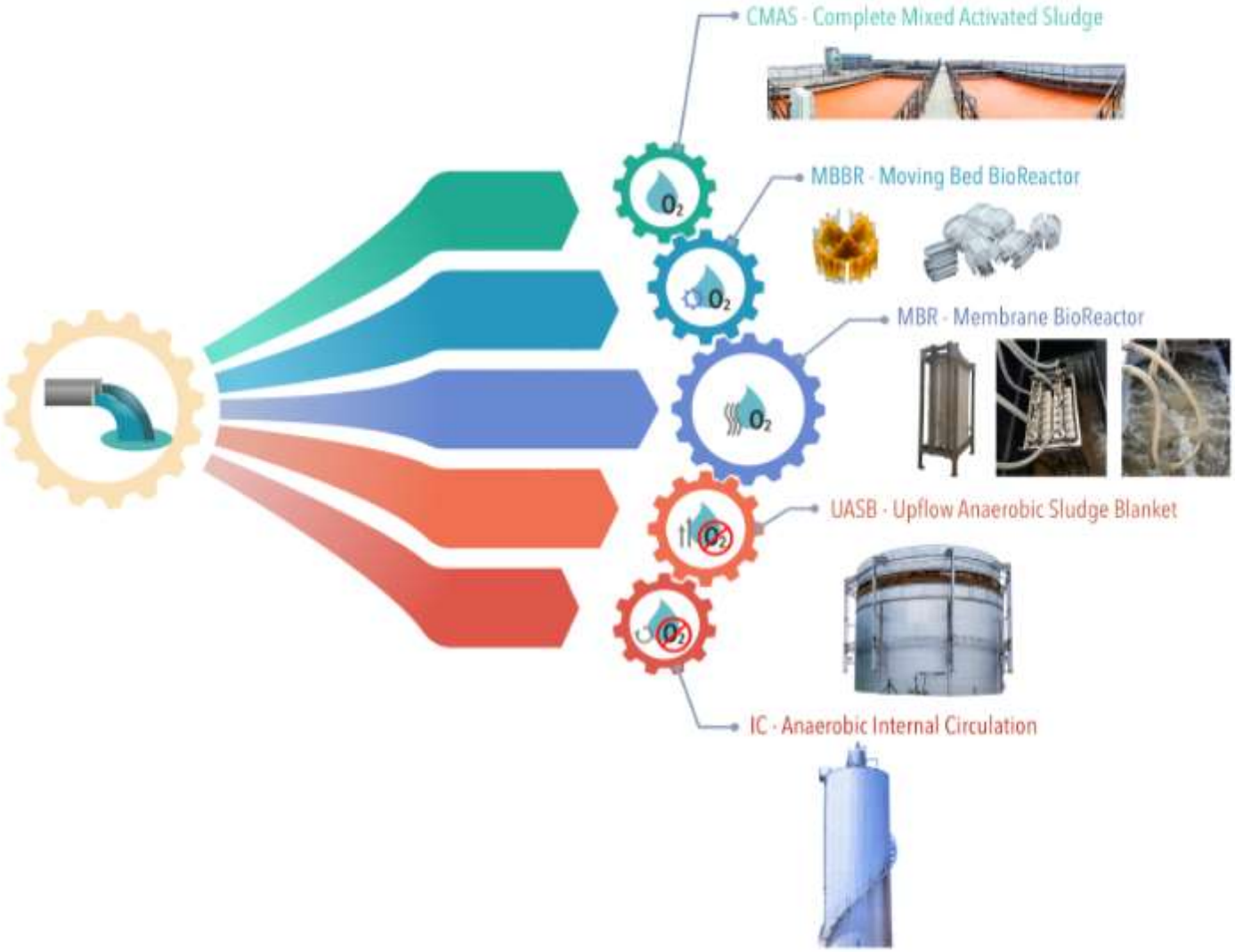
- Process Engineer using Solidworks, Autocad & In-house Design Calculation.
- Site Engineer for site execution
- Chemist for jar test & lab analysis.



TYPICAL WASTEWATER PRIMARY TREATMENT

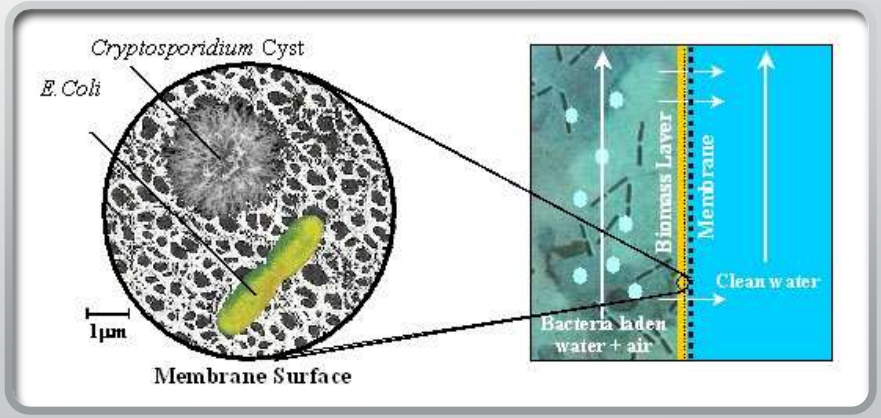


TYPICAL BIOLOGICAL TREATMENT



Membrane Bio Reactor (MBR)

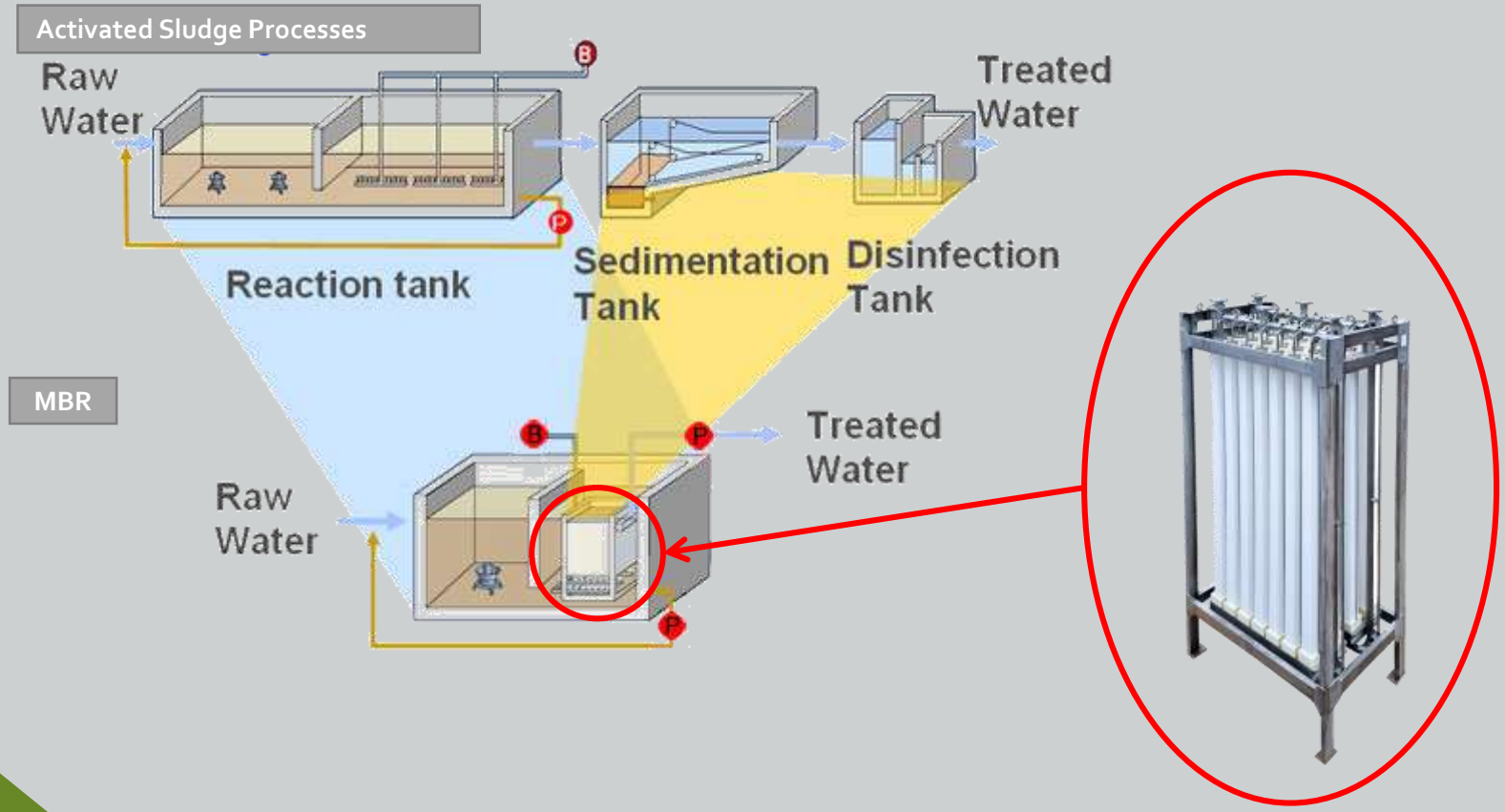
SUMITOMO ELECTRIC



- The Technology
- MBR technology utilizes hollow fibers ultrafiltration submerged membranes integrated in a biological process.
- The MBR Module is submerged directly into the aeration tank. The filtrate is drawn through and out of the membrane filter by a slightly negative pressure.
- A low suction applied to the internal section of fibers, it is possible to achieve an efficient solid separation (outside-inside) without further clarification and tertiary treatments.

Membrane Bio Reactor (MBR)

MBR Vs CAS



MBR Advantages

Small Foot Print

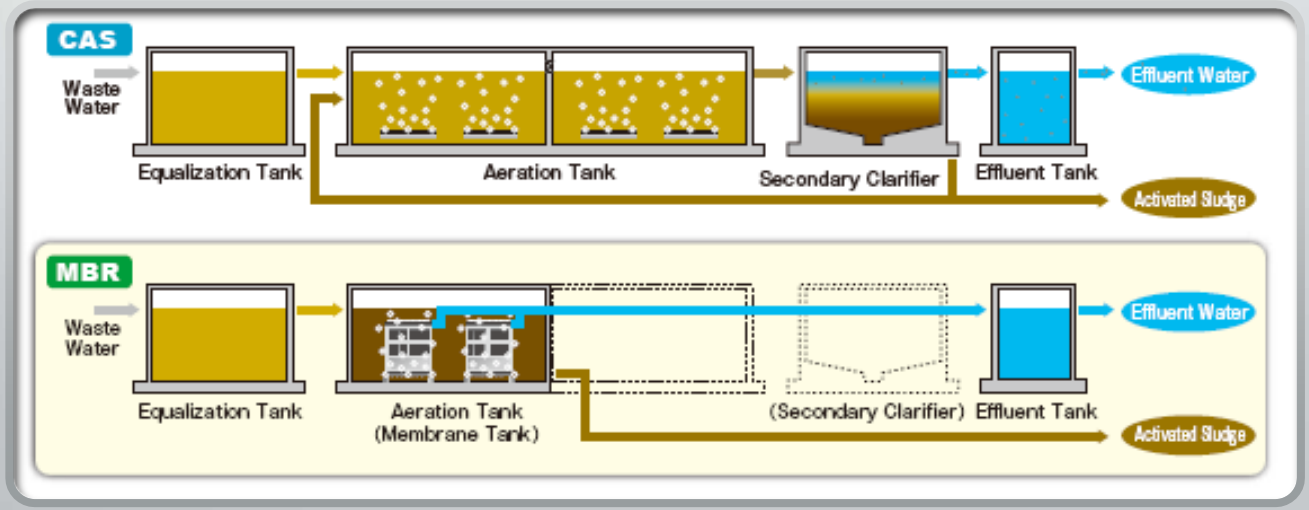
- MBR footprint is 75% smaller than that of a conventional activated sludge (CAS) system
- MBR operate upto **4.4kg BOD/m³/day** compare to CAS 0.7kg BOD/m³/day i.e. Aeration tanks for MBR is only 15-25% of CAS.

Excellent Treated Water Quality

- MBR Permeate COD < 50ppm, BOD < 20ppm

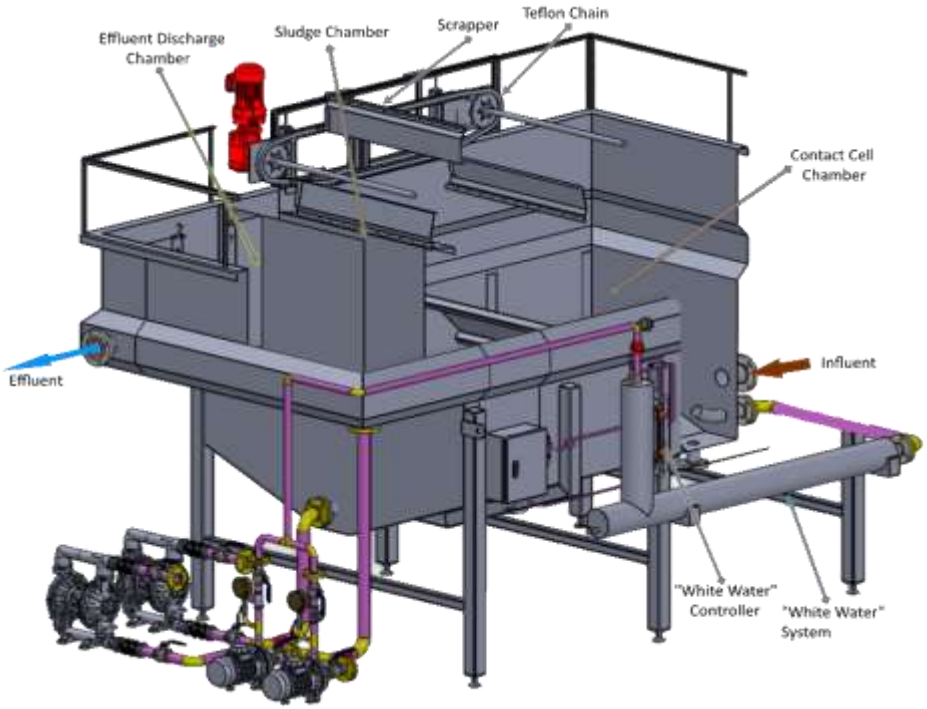
Stable biological operation

- Able to receive high COD shock load without upset



Dissolved Air Floatation (DAF)

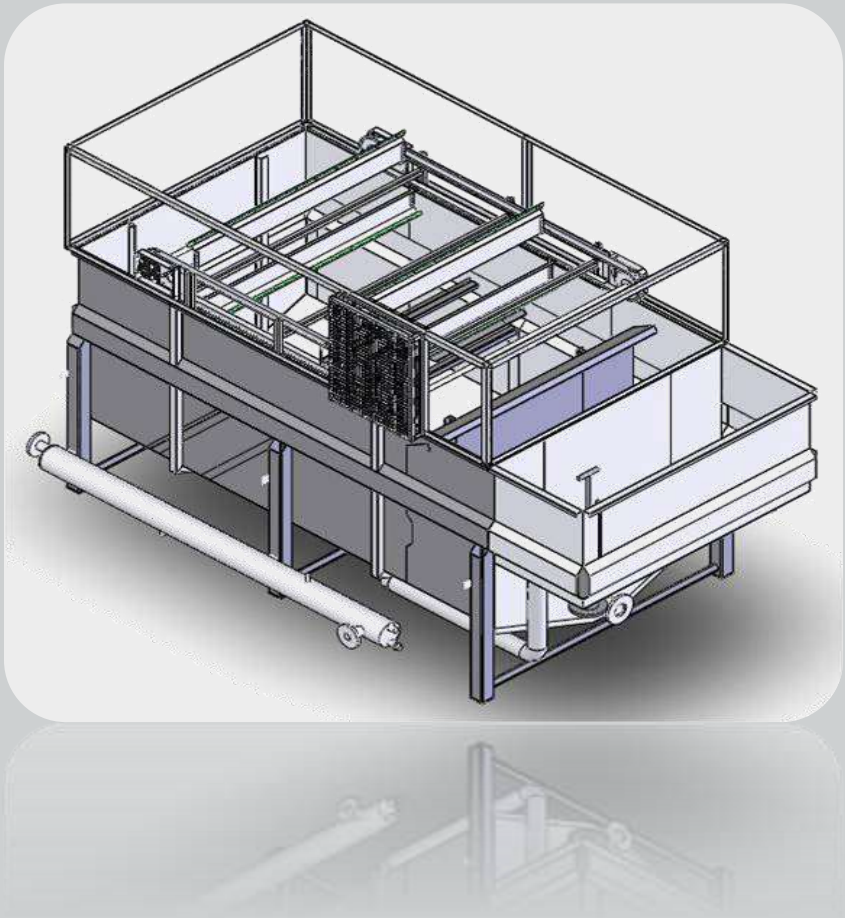
- The Technology
- DAF is the process of removing suspended solids, oils and other contaminates via the use of air bubbles floatation.
- The bubbles and contaminants rise to the surface and form a floating bed of material that is removed by a surface skimmer into an internal hopper for further handling.
- A percentage of the clean effluent is recycled into the saturation vessel, where it is mixed together with air; the mixture is pressurized until reached certain level and then it is injected into DAF separation chamber where the dissolved air is released in the form of micro bubbles that attach to the contaminants.



Dissolved Air Floatation (DAF)

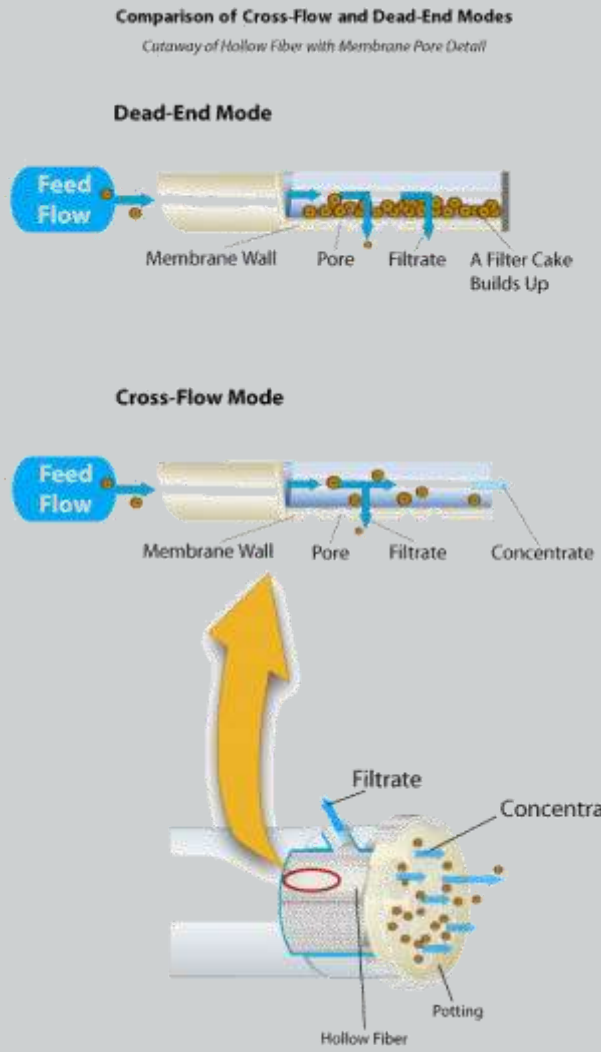
- Clarification rates **as high as 97%** or more can be achieved using DAF systems combined with the right allocation of chemicals.
- From previous projects the following reductions have been achieved:

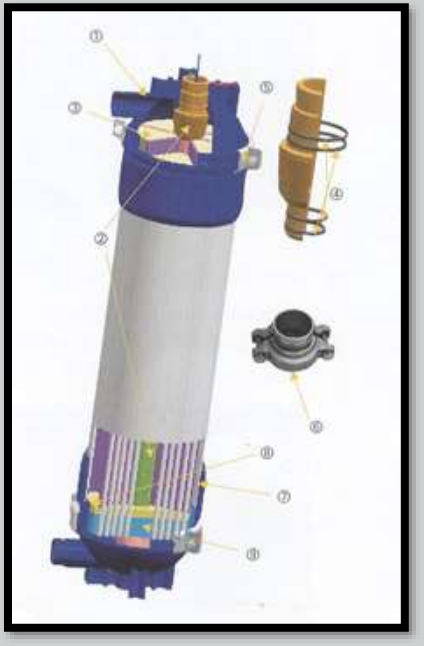
Variables	% Reduction
BOD	20 – 70%
COD	10 – 60%
SS	50 – 95%
O&G	70 – 95%



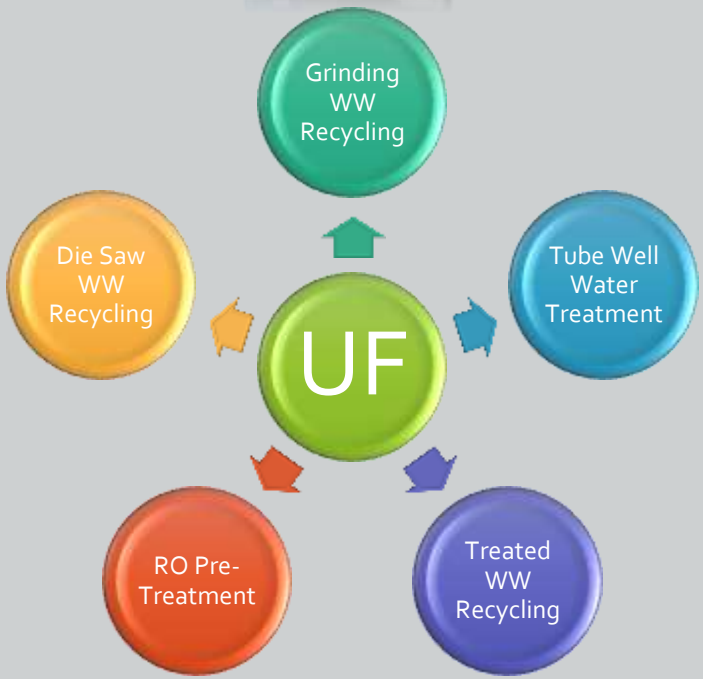
DAF Advantages

- Very small or light particles that settle slowly can be removed more efficiently and much shorter time leading to an increasingly smaller tank volume and footprint;
- Smaller foot print compared to clarifier
- Suitable for oily sludge or natural floating sludge nature.
- Can be started up quickly;
- Simple to operate and maintain;
- Excellent quality result.





Ultrafiltration System



UF Application

T500

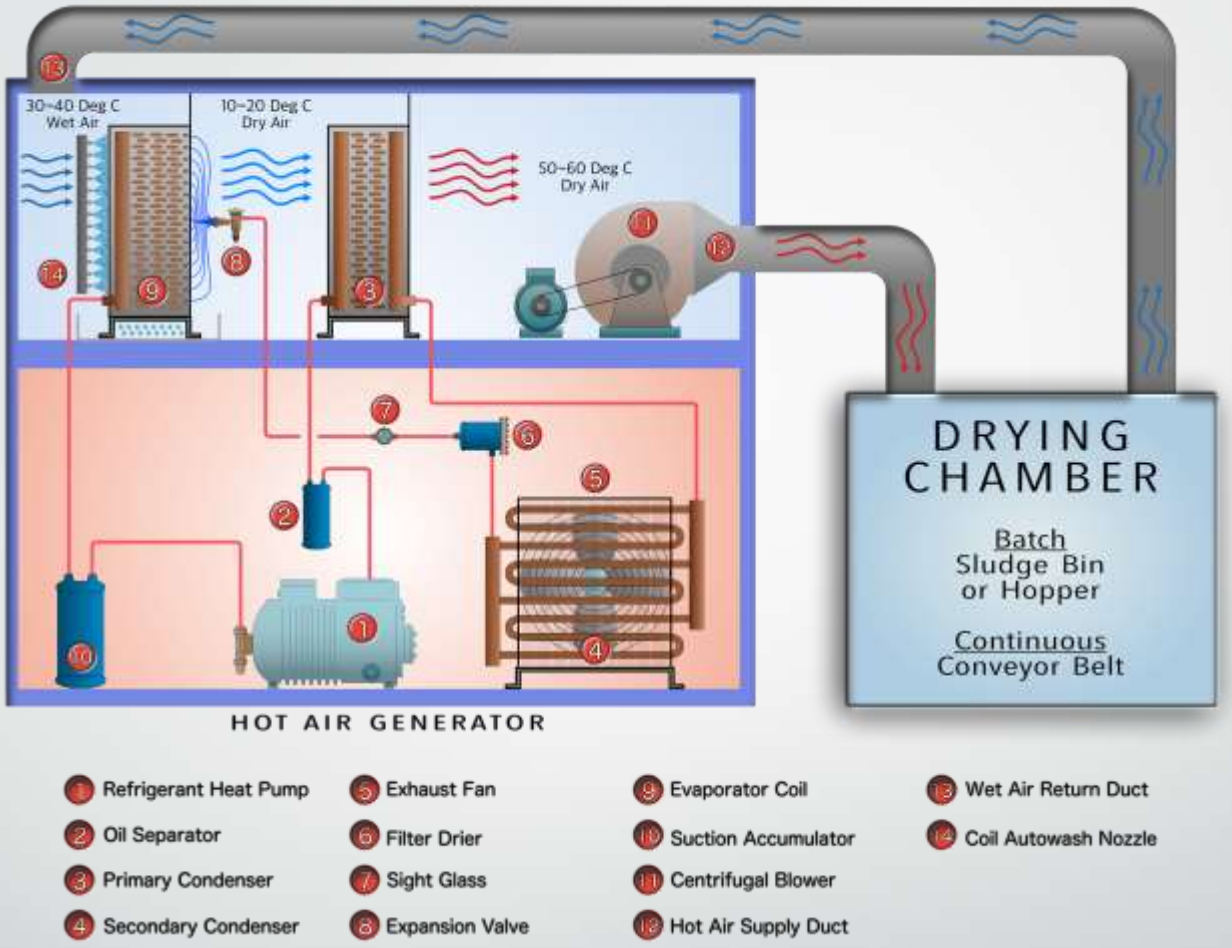
T1500

C3000

Sludge Dryer

PROJECT REFERENCES

Application of Sludge Dryer



Hot Dry Air by Refrigerant Heat Pump

Okada Drying Concept

PROJECT LIST

1.Coca Cola Bottling Malaysia – Waste Water Treatment (RM7 million)
- •Waste Water System – Membrane Bioreactor

2.MATC Electronics, Melaka – Plating Wastewater (RM500k)
- •WWTP consisting of Physical Chemical Treatment

3.L&S Toiletries & Cosmetic Sdn Bhd
- • 5m^3/hr DI water System (RM300k)
- • 5m^3/hr Upgrade WWTP – Clarifier and MBR System (RM400k)

4.ANFI Textile Industries, Batu Pahat - Dyeing Wastewater
- •WWTP consisting of Physical-Chemical and Aerobic Biological. (RM600k)

5.British American Tobacco, PJ – Tobacco wastewater
- •Wastewater Recycling consisting of UF-ACF (RM700k)

6.Green Pulp Paper, Melaka – Paper pulp wastewater
- •Wastewater Recycling consisting of Physical-Chemical and Filtration

7.Delloyd Industries, Shah Alam – Spray Booth Wastewater
- •Wastewater Recycling consisting of Physical-Chemical and Filtration

8.Saitama Industries Sdn Bhd, JB – Copper Plating Wastewater
- •Wastewater consisting of Physical-chemical Treatment

9.Lo Sam Manufacturing Sdn Bhd, Ampang – Tofu Manufacturing
- •Wastewater consisting of Physical-Chemical and Aerobic Biological.

10.Sumitomo Electric Sdn Bhd, Shah Alam – Copper Wire Manufacturing
- •Reverse Osmosis System

11. PT Evans, Jakarta – Palm Oil Mill
    - •Deionized Water System – Cation & Anion DI System.
12. Cabot Sdn Bhd, Port Dickson − Carbon Black Manufacturing
    - •High Pressure Filter Press System
13. PureCircle, China − Stevia extract
    - •Wastewater Treatment Plant − UASB Anaerobic & Aeration System
14. Eng Kah Enterprise − Household product
    - •Wastewater Treatment Plant − Chemical Treatment & MBR System
15. SME Ordnance Sdn. Bhd., Batu Arang − Bullets Manufacturing
    - •Wastewater Treatment Plant − Chemical Treatment System
16. Krubong, Melaka − Sanitary Landfill
    - •LeachateTreatment Plant − SBR & Chemical Treatment System
17. Ace Coat (M) Sdn. Bhd., Shah Alam − ED Coat
    - •Wastewater Treatment Plant − Chemical Treatment System
18. CED Industries Sdn. Bhd., Johor Bahru − ED Coat
    - •Wastewater Treatment Plant − Chemical Treatment & Biological System
19. Disya Resources Sdn. Bhd., Miri − Petronas Cleaning Chemical Waste
    - •Wastewater Treatment Plant − Chemical Treatment & Thermal Evaporator System
20. Mewah Datu Bhd., Lahad Datu − Oleochemical & EFB Juice Waste
    - •Wastewater Treatment Plant − Anaerobic Biogas, Chemical & MBR System

PROJECT LIST

21. PureCircle, Malaysia – Stevia Extract(RM6 million)
    - Wastewater Treatment Plant – MBBR, MBR, Chemical Treatment System
22. DRB-HICOM – Automotive Manufacturer(RM1.8 million)
    - DI Water Treatment Plant
23. MTL Engineering Sdn Bhd – Metal Fabricator
    - Wastewater Treatment Plant – Chemical Treatment System
24. Sime Darby BioDiesel Sdn Bhd – BioDiesel (RM250k)
    - Fat-Trap System
25. PureCircle, Malaysia – Stevia Extract
    - Food grade Water System – Reverse Osmosis (RM1 million)
26. United Plantation Sdn Bhd – Palm Oil Mill
    - UFRO Water Treatment System (RM1.2 million)
27. KATO Manufacturing Sdn Bhd – Cigarette Flavoring Capsule Manufacturer
    - Wastewater Treatment System(RM6.5 million)
28. Petron Philippine – Oil and Gas Refinery
    - Lube Oil Wastewater Treatment System (RM600k)

PROJECT LIST

1.Panasonic Energy Malaysia – Solar Panel and Electronic Wafer Manufacturer
- OKADA C3000 x 2

2.CCD Singapore – Chemical Manufacturer
- OKADA T1000 EX-Proof

3.Hartalega Ijok Malaysia – Glove Manufacturer
- OKADA T3500 .

4.Perodua Manufacturing Sdn Bhd – Automotive Manufacturer
- OKADA T1500 x 2 units

5.Bluescope Steel, Kapar – Metal Industry
- OKADA T1500

6.KL-Kepong Oleomas Sdn Bhd - Oleochemical
- OKADA T1500

7.Riverstone Resources – Glove Manufacturer
- OKADA T1500

8.NS Uni-Gloves – Glove Manufacturer
- OKADA T1000 x 2 units

9.Nippon Kayaku Malaysia – Airbag Inflator Manufacturer
- OKADA T1000

10. Petronas Sabah Ammonia Urea – Chemical Manufacturer
- OKADA C4000

OKADA DRYER LIST

11. Hartalega Sepang Malaysia – Glove Manufacturer
    - OKADA T3500 x 10 units
12. Canon-Opto Malaysia – Lens Manufacturer
    - OKADA T1000 x 2 units
13. Hitachi Global Storage, Western Digital – Electronics
    - OKADA T3000
14. Penfabric Malaysia – Textile Manufacturer
    - OKADA T2000
15. Darco Water – Pharmaceutical Manufacturer
    - OKADA T1000
16. Panasonic Home Appliances – Air Conditioning Manufacturer
    - OKADA HT1000
17. Dairen Chemical (M) Sdn Bhd – Chemical Manufacturer
    - OKADA HT1000
18. Sandisk Storage Malaysia Sdn Bhd – Hard Disk Manufacturer
    - OKADA HT1000
19. Fatty Chemical Malaysia Sdn Bhd – Oleochemical Manufacturer
    - OKADA HC3000

OKADA DRYER LIST

1. Coca-Cola Beverage Malaysia Sdn Bhd
2. KATO Manufacturing Sdn Bhd
3. Puteri chilli sauce manufacturing plant.

Operate and Manage (O&M)Plant List





PROJECT REFERENCES

Purecircle Wastewater Treatment Plant
Chemical + MBR +MBBR Treatment System





PROJECT REFERENCES

Chemical (DAF) + MBR System + Anaerobic Biogas
Oleo Chemical Plant - Mewah Datu Sdn Bhd

PROJECT REFERENCES

MBR System

Beverages Plant – Coca Cola Bottler(M) Sdn Bhd

PROJECT REFERENCES

Chemical Treatment and MBR System
Household Product – Eng Kah, Negeri Sembilan

PROJECT REFERENCES

Biological Treatment and MBR System
Sweeteners – PureCircle, Negeri Sembilan

PROJECT REFERENCES

Chemical Treatment and MBR System
Household Products – L&S, Rawang

PROJECT REFERENCES

Wastewater Treatment Plant – UASB Anaerobic & Aeration System
Stevia Extract -Purecircle-China

PROJECT REFERENCES

Wastewater Treatment – Chemical DAF + UASB + Aeration Tk
Biodiesel Sdn Bhd






PROJECT REFERENCES

Chemical & Biological Wastewater Treatment Plant
Textiles - Anfi Industries




PROJECT REFERENCES

Chemical Treatment System
Bullets – SME Ordnance, Batu Arang

PROJECT REFERENCES

SBR and Chemical Treatment System
Leachate Treatment Plant (LTP) – Krubong, Melaka





PROJECT REFERENCES

Chemical Wastewater Treatment Plant
Automobil – Delloyd Industries

PROJECT REFERENCES

Panasonic 6ton/day [2 x C3000 OKADA Sludge Dryer]

PROJECT REFERENCES

Perodua 3 ton/day [2 x T1500 OKADA Sludge Dryer]

PROJECT REFERENCES

DRB-HICOM AUTOMOTIVE
DI WATER TREATMENT PLANT

PROJECT REFERENCES

DI Water System
Palm Oil Mill - PT. Evans

PROJECT REFERENCES

DI Water System
Automotive– Inokom, Kulim




PROJECT REFERENCES

Wastewater Recycling
Paper Packaging – Green Pulp Paper, Melaka

PROJECT REFERENCES

UF + DI System for Rinse Wastewater Recycling
Automotive – Tan Chong Assembly





PROJECT REFERENCES

UF-RO Wastewater Recycling Plant
Oleochemical – Jomalina