PAWANI ENVIRO PVT LTD

CORPORATE PROFILE

REDUCE, RECYCLE, REUSE







ABOUT

US

PAWANI ENVIRO PVT LTD is one of the leading manufacturers of Automotive/Hospital/Hotel and Industries Service equipment, Pawani is focused on providing innovative equipment solutions in water and wastewater Treatment from Domestic & Industrial. It offers customers Complete solutions through specialized products and services. The company has its headquarters at Lucknow Uttar Pradesh with a manufacturing facility, Engineering centre, ware house for traded goods & services.

Since its incorporation in 2022, the company is growing steadily keeping up with the market growth and achieving better market share year on year. The company is owned and managed by professionals having more than 15 years of industry experience in the field of water treatment and Engineering equipment's.

The core objective of the company is to offer customers innovative solutions at affordable cost achieved through local manufacturing or sourcing from leading companies around the globe.

Through its experienced R&D, PAWANI has introduced products like ETP(Effluent Treatment Plant), STP(Sewage Treatment Plant) with Solar Powered technology, Automatic Car wash (Touchless), Automatic Bike Wash System, Three Wheeler Washing Units, Industrial Vacuum cleaner and So On.

PAWANI has over 15 professionals in Sales and service spread across India. It is committed to offers customers service within 24 hrs. The entire team is well trained through the inhouse training centre situated at Lucknow.

Our in-house engineering, manufacturing and project execution team has a proven track record in offering economical and maintenance free solutions across multiple industries.

Our hand picked team of subject matter experts persistently strive to create eco-friendly, chemical free and self-maintaining water & water treatment system, to maximize the reuse of water.



Manufacturing Unit
Our Manufacturing unit is loccated in
Lucknow Up
This mordern Facility has all the latest
Welding & Cutting Equipment



Team Strength

21 Committed subject matter **experts**, never compromise in quality of **their** deliverables.

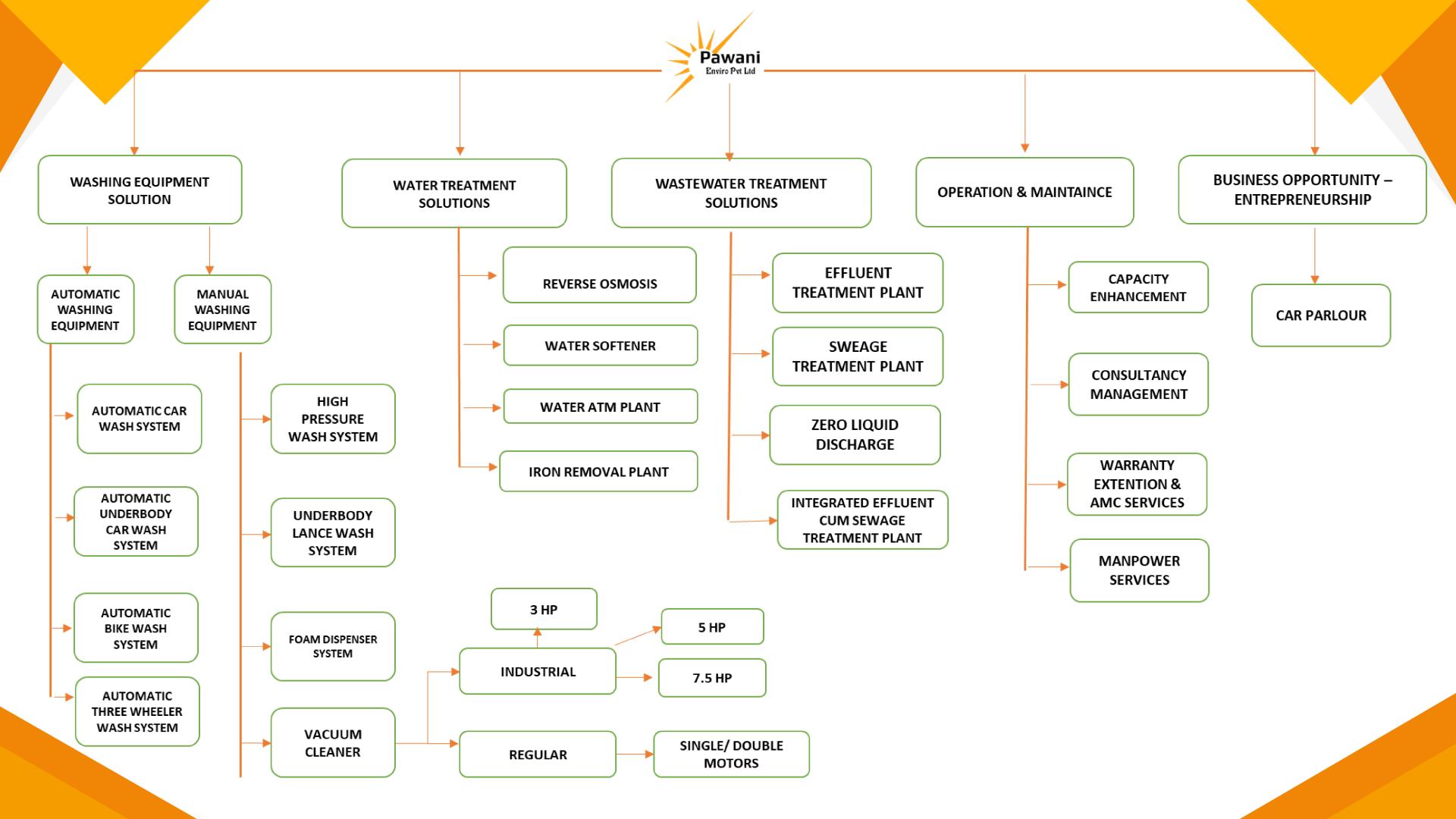


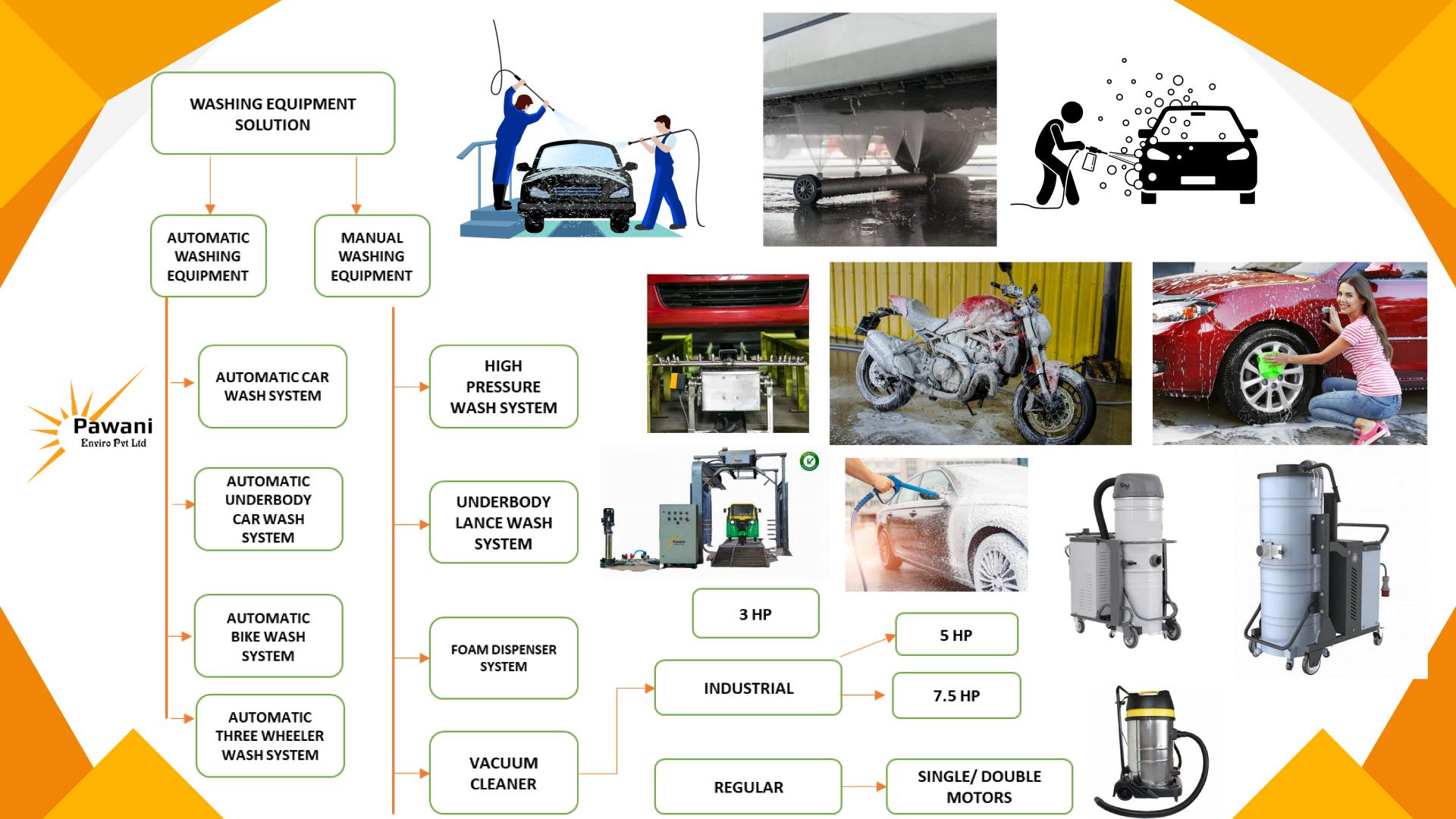


Mission

To provide customers with innovative solutions at affordable cost acheived through local manufacturing.

To exceed our customer's expectations in quality, delivery , and cost through continuous improvement and customer interaction.





WORLD FIRST! INDIA'S FIRST & FIRST IN THREE WHEELER INDUSTRY

AUTOMATION IN WASHING FOR THREE WHEELER INDUSTRY BY PAWANI ENVIRO PVT LTD







An automatic three-wheeler washing system

An automatic three-wheeler washing system is a machine designed to wash and clean three-wheeled vehicles, such as auto-rickshaws, quickly and efficiently. These systems typically consist of a wash chamber or bay where the vehicle is positioned, and various components for washing, Shampoo and rinsing the vehicle.

Automatic three-wheeler washing systems can be designed for either manual or automated operation. In a manual system, the operator uses a spray gun or wand to wash and rinse the vehicle, while in an automated system, the vehicle is washed and rinsed automatically using a series of nozzles and sprayers.

Some of the key benefits of using an automatic three-wheeler washing system include faster cleaning times, more efficient use of water and cleaning solutions, improved cleaning quality, and reduced labor costs. Additionally, these systems can be designed to be environmentally friendly by using water recycling and filtration systems, as well as eco-friendly cleaning solutions.

PRODUCTIVITY

SATISFACTION

RESULT



MANPOWER

ENERGY

COST





REVERSE OSMOSIS - INDUSTRIAL

WATER TREATMENT SOLUTIONS

Pawani Enviro Pvt Ltd

Salient Feature

1. Membrane is the heart of the system

Right Selection of membrane

Micro Filter - Cartridge Filter

Ultra Filtration - Hollow Type Membrane

Reverse Osmosis - Spiral or Disc type Membrane

Best-in-class Quality - Hydraneautics | Suez | Vontron | Dow

- 2. Automation & Control
- PLC based Automation with automatic multiport valve and sensors monitors and control the plant performance without any manual intervention.
- Data logger for collecting water usage data helps in optimizing water use
- Automatic membrane cleaning at specific time
- 3. Design & Engineering

Our team of experts has more then 15 years of experience in design and engineer of Industrial RO system.

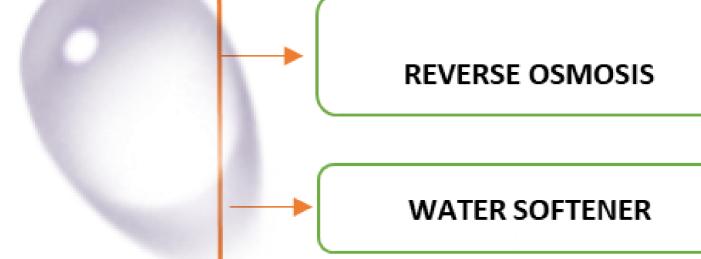


PAWANI 7 Design Considerations To Operate Industrial RO At Maximum Efficiency

- Study of source water is essential to decide filtration stages of pretreatment
- Proper Pretreatment to remove total solids, slit ,hardness , chlorine is the most crucial factor for the success of RO plant
- Membrane selection as per application and flow rate is the core of product
- **Temperature** of feed water need to be maintained because flow rate of RO membrane is directly proportional with temperature of source water
- Growth of Microbiological contaminant need to be address before to avoid fouling & loss of production capacity
- Automation control with health status, alarms and indication is required for smooth plant operation







WATER ATM PLANT

IRON REMOVAL PLANT



WATER SOFTENER

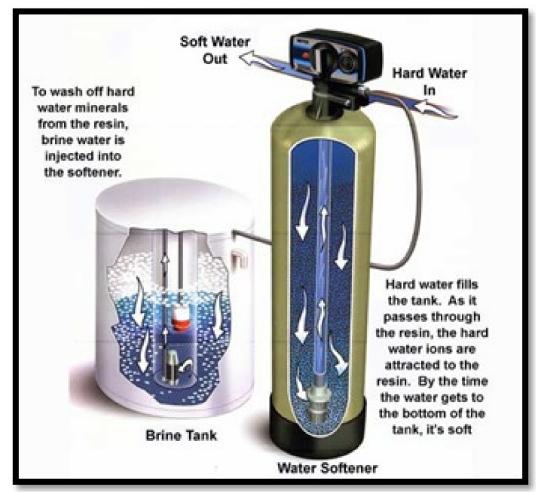


Salient Feature

1. Automatic Operation — Easy & Effective

Conventional Softener has multiple manual valves that need to be operated Manually to carried out Filtration, Backwash, Rinse and Regeneration process. Also, level of tanks need to be checked periodically to start/stop water pumps. A dedicated man-power is required for this purpose to ensure timely operation. That means High Cost, Low Quality and Manpower dependency.

A water softener is designed to remove hardness (a combination of Calcium & Magnesium salts) from the water by a process known as ion exchange. Hard water has many effects on human adverse body, equipments process and metallic components and thus it is very important to remove water hardness before any domestic or industrial use of water.



2. Maintenance Free Design

Robust design and use of proven world class components

- Ion Exchange Resin -
- Vessel -Pentair

3. Consistent Quality

Automatic Process control ensures consistent wa quality and minimum usage of Chemicals and Electricity



Disadvantages of Hard Water?

Domestic Purpose

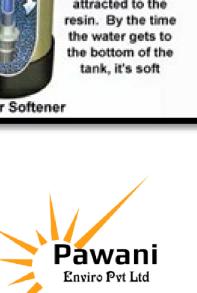
- Not fit for drinking
- Not fit for bathing
- Improper Cleaning
- Plumbing Issue
- High Cost of Cooking -

Industrial Purpose

- High Chemical Cost
- Loss of Energy
- High cost of O&M

- - Adverse effect on digestion system.
 - Causes dry skin and hair fall issues.
 - Stains on utensils / Cloth wear & tear
 - Deposition of Calcium in pipes.
 - More heat is required to heat water

- More detergents is required for cleaning
- More energy is used to heat water in boilers
- More wear & tear of equipments due to scaling



WATER ATM



A water ATM is a self-service automated water vending machine that dispenses clean drinking water. These machines are usually installed in public places such as parks, bus stations, railway stations, and other locations where there is a high demand for safe drinking water.

Water ATMs typically use advanced water purification technologies to treat the water and make it safe for consumption. Customers can insert coins or use prepaid cards to purchase water from the machine, which is dispensed in reusable containers such as bottles or cans.

Water ATMs are an important solution for addressing the global water crisis, as they provide easy access to safe drinking water to people who may not have access to it otherwise. They can also help reduce the use of single-use plastic bottles, as customers can bring their own reusable containers to refill at the machine.

Overall, water ATMs are a convenient and innovative solution to the challenge of providing safe drinking water to people in need.











IRON REMOVAL PLANT

The principle behind iron removal from water is based on a chemical reaction called oxidation-reduction. Iron in water is typically found in its ferrous (Fe2+) state, which is not visible to the naked eye and cannot be removed by conventional filtration. However, when ferrous iron is exposed to air, it can be oxidized to its ferric (Fe3+) state, which is visible as reddish-brown particles and can be filtered out.

The oxidation process can be accelerated by adding certain chemicals to the water, such as potassium permanganate or hydrogen peroxide, which react with the iron and facilitate its oxidation. Once the iron has been oxidized, it can be removed by passing the water through a filter medium, such as sand or gravel, that traps the iron particles.

In some cases, ion exchange or reverse osmosis may also be used to remove iron from water. These methods involve the use of special resin or membranes that selectively remove the iron ions from the water.

It's important to note that the specific method used for iron removal will depend on the concentration of iron in the water, as well as the presence of other impurities and contaminants. A water analysis should be conducted to determine the most effective treatment method for a particular site





ADVANTAGES:

- 1. Improved water quality: Iron can cause water to have a metallic taste, a reddish-brown color, and can stain surfaces such as sinks, toilets, and clothing. An iron removal system can improve the taste, color, and overall quality of the water.
- 2. Protection of appliances: High levels of iron in water can cause damage to appliances such as washing machines, dishwashers, and water heaters. Iron removal can help protect these appliances and extend their lifespan.
- 3. Health benefits: Iron is an essential nutrient, but high levels of iron in water can have negative health effects, such as gastrointestinal issues. An iron removal system can help reduce the risk of these health issues.
- 4. Cost-effective: Installing an iron removal system can be a cost-effective solution for water treatment, especially compared to purchasing bottled water or replacing damaged appliances.
- 5. Environmental benefits: Iron removal systems can help reduce the environmental impact of water treatment by reducing the need for chemicals and other treatments that can harm the environment.



Pawani Enviro Pvt Ltd WASTEWATER TREATMENT **SOLUTIONS EFFLUENT** TREATMENT PLANT **SWEAGE** TREATMENT PLANT **ZERO LIQUID** DISCHARGE INTEGRATED EFFLUENT **CUM SEWAGE** TREATMENT PLANT

WASTEWATER TREATMENT

Wastewater is any water that has been used in human activities, such as domestic, commercial, or industrial processes, and is no longer suitable for its original purpose. Wastewater can contain a wide range of contaminants, including organic and inorganic matter, bacteria, viruses, nutrients, and chemicals.

Wastewater treatment is necessary to protect public health and the environment.

When wastewater is discharged into the environment without treatment, it can contaminate water resources, harm aquatic life, and potentially spread diseases.

Untreated wastewater can also lead to the eutrophication of water bodies, which

is the overgrowth of algae and other aquatic plants due to an excess of nutrients

in the water. This can lead to oxygen depletion, the death of aquatic life, and the

formation of harmful algal blooms.

Furthermore, untreated wastewater can contribute to the spread of waterborne diseases such as cholera, typhoid, and hepatitis. This is particularly relevant in areas where access to safe drinking water and adequate sanitation is limited.

Wastewater treatment is essential to ensure that water resources are used sustainably and that water is safe for human consumption and recreational activities. It also helps to protect the environment and the health of aquatic ecosystems.

ETP - EFFLUENT TREATMENT PLANT

ETP stands for Effluent Treatment Plant, which is a type of wastewater treatment plant that is used to treat industrial effluent before it is discharged into the environment or reused. Industrial effluent can contain a wide range of contaminants, including organic and inorganic matter, heavy metals, toxic chemicals, and suspended solids, which can be harmful to the environment and human health if not properly treated.

The process of effluent treatment involves several stages, including:

- 1. Preliminary treatment: In this stage, large solids and debris are removed from the effluent to prevent damage to downstream equipment.
- 2. Primary treatment: The effluent is then passed through a settling tank or clarifier, where heavier solids settle to the bottom and are removed as sludge. This process reduces the amount of suspended solids in the effluent.
- 3. Secondary treatment: The effluent is then subjected to biological treatment, where microorganisms are used to break down organic matter in the effluent. This process reduces the amount of organic matter and nutrients in the effluent.
- 4. Tertiary treatment: In this stage, the effluent is subjected to further treatment to remove any remaining contaminants, including nutrients, bacteria, and viruses. This can include processes such as filtration, disinfection, and chemical treatment.
- 5. Sludge treatment: The sludge that is removed during the primary treatment stage is treated separately to reduce its volume and remove any harmful pathogens or contaminants. This can include processes such as digestion, dewatering, and composting.

The specific effluent treatment processes used will depend on the characteristics of the effluent and the desired level of treatment. Advanced treatment processes, such as membrane filtration and reverse osmosis, may be used in some cases to produce high-quality treated effluent for reuse purposes.

Effluent treatment is necessary to ensure that industrial effluent is safe for discharge into the environment or reuse. It helps to protect water resources and aquatic ecosystems and ensures that industries comply with environmental regulations and standards







STP-SEWAGE TREATMENT PLANT

STP stands for Sewage Treatment Plant, which is a facility designed to treat domestic sewage or wastewater before it is discharged back into the environment or reused. Sewage can contain a variety of contaminants, including organic and inorganic matter, nutrients, bacteria, viruses, and suspended solids that can be harmful to the environment and human health if not properly treated.

The process of sewage treatment typically involves several stages, including:

- 1. Preliminary treatment: In this stage, large solids and debris are removed from the sewage to prevent damage to downst eam equipment.
- 2. Primary treatment: The sewage is then passed through a settling tank or clarifier, where heavier solids settle to the bottom and are removed as sludge. This process reduces the amount of suspended solids in the sewage.
- 3. Secondary treatment: The sewage is then subjected to biological treatment, where microorganisms are used to break down organic matter in the sewage. This process reduces the amount of organic matter and nutrients in the sewage.
- 4. Tertiary treatment: In this stage, the sewage is subjected to further treatment to remove any remaining contaminants, including nutrients, bacteria, and viruses. This can include processes such as filtration, disinfection, and chemical treatment.
- 5. Sludge treatment: The sludge that is removed during the primary treatment stage is treated separately to reduce its volume and remove any harmful pathogens or contaminants. This can include processes such as digestion, dewatering, and composting.

The specific sewage treatment processes used will depend on the characteristics of the sewage and the desired level of treatment. Advanced treatment processes, such as membrane filtration and reverse osmosis, may be used in some cases to produce high-quality treated sewage for reuse purposes.

STPs are essential to public health and the environment as they help to protect water resources and aquatic ecosystems, ensure communities have access to safe sanitation services, and help to reduce the spread of waterborne diseases. They are typically operated by municipal or local authorities, and in some cases, private companies.











ZLD-ZERO LIQUID DISCHARGE

ZLD stands for Zero Liquid Discharge, which is an advanced wastewater treatment process that involves the recovery of all wastewater produced and converting it into usable water and solids. In a ZLD system, wastewater is treated through various physical, chemical, and biological processes, resulting in the separation of water and solids. The treated water is then reused, while the solids are either disposed of or used as a resource.

The ZLD process typically involves the following steps:

- 1. Pret patment: Wastewater is pretreated to remove large solids and other contaminants that could damage downstream equipment.
- 2. Primary treatment: Wastewater is subjected to physical and chemical processe, such as coagulation, flocculation, and sedimentation, to remove suspended solids, oils, and greases.
- 3. Secondary treatment: Wastewater is treated through biological processes, such as activated sludge or membrane bioreactors, to remove dissolved organic matter and nutrients.
- 4. Tertiary treatment: Wastewater is treated through advanced physical, chemical, or biological processes, such as reverse osmosis, evaporation, or crystallization, to remove remaining contaminants and produce high-quality water.
- 5. Solids treatment: Solids that are removed during the treatment process are dewatered and processed to produce a dry, solid material that can be used as a resource, such as fertilizer.

ZLD systems are used in a wide range of industries, including power generation, oil and gas, chemical manufacturing, and food and beverage production. They offer several benefits, including:

- 1. Reduced water consumption and wastewater discharge: ZLD systems recycle wastewater and eliminate the need for discharge into water bodies, reducing the impact on the environment.
- 2. Increased resource recovery: ZLD systems recover valuable resources, such as water and solids, that can be reused or sold as a product.
- 3. Compliance with regulations: ZLD systems help industries meet regulatory requirements for wastewater discharge and protect the environment and public health.

While ZLD systems are expensive to install and operate, they offer long-term cost savings and environmental benefits for inducries that require sustainable water management practices







INTEGRATED EFFLUENT CUM SEWAGE TREATMENT PLANT

An effluent cum sewage treatment plant is a type of wastewater treatment facility that is designed to treat both industrial effluent and domestic sewage. These plants are typically used in areas where industrial wastewater and sewage are both generated, such as in urban or industrial zones. Effluent from industries often contains various pollutants such as heavy metals, chemicals, and organic compounds that can be harmful to the environment if discharged untreated. Sewage, on the other hand, contains organic matter and pathogens that can pose a risk to public health if not treated properly. Therefore, an effluent cum sewage treatment plant is designed to remove these pollutants and contaminants from the wastewater before it is released into the environment. The treatment process at an effluent cum sewage treatment plant typically involves several stages, such as screening, grit removal, primary treatment, secondary treatment, and disinfection. During primary treatment, physical and chemical processes are used to remove solids and some organic matter from the wastewater. Secondary treatment involves biological processes that break down organic matter further using microorganisms. Disinfection is typically the final stage of the treatment process, and involves the use of chemicals or UV radiation to kill any remaining pathogens.

Effluent cum sewage treatment plants play an important role in protecting the environment and public health by ensuring that wastewater is treated to a safe and acceptable standard before it is released into waterways or reused for other purposes.



OPERATION & MAINTAINCE CAPACITY **ENHANCEMENT** CONSULTANCY Pawani MANAGEMENT WARRANTY **EXTENTION &** AMC SERVICES **MANPOWER SERVICES**

OPERATION AND MAINTENANCE

Operation and maintenance are crucial aspects of any project, as they ensure that the project remains functional and productive over its intended lifespan. Here are some key considerations for operation and maintenance of projects:

- 1. Develop an O&M plan: An O&M plan should be developed during the planning and design phase of a project. It should outline the specific activities, procedures, and schedules for maintenance, operation, and repair of all project components. The plan should also identify the responsible parties for each activity and define the necessary resources and tools.
- 2. Regular maintenance and inspection: Regular maintenance and inspection are essential to ensure that the project remains in good condition and operates efficiently. This includes routine checks and servicing of equipment, cleaning of facilities, and monitoring of performance indicators.
- 3. Training and education: Proper training and education of project personnel are necessary to ensure that they have the necessary knowledge and skills to operate and maintain the project components. Training should cover both routine maintenance and emergency response procedures.
- 4. Record-keeping: Accurate and comprehensive record-keeping is necessary to track maintenance activities, identify areas of concern, and schedule future maintenance tasks. This includes maintenance logs, repair records, and performance data.
- 5. Safety considerations: Safety is a critical aspect of operation and maintenance. Safety procedures should be developed and communicated to all project personnel, and regular safety inspections should be conducted to identify potential hazards.
- 6. Budgeting: Adequate funding must be allocated for the operation and maintenance of a project. A well-planned O&M budget should include all necessary resources, such as personnel, equipment, supplies, and contracted services.

By implementing these considerations, project owners and operators can ensure that their projects remain productive, efficient, and safe over their intended lifespan.

BUSINESS OPPORTUNITY - CAR PARLOUR

Car detailing is a specialized service that involves cleaning, polishing, and protecting a car's exterior and interior surfaces to restore and maintain its original condition. If you are considering starting a car detailing business, here are some key considerations:

- 1. Business plan: Develop a business plan that outlines your services, target market, pricing strategy, and marketing plan.
- 2. Location: Choose a location that is easily accessible, visible, and has sufficient space for parking and working on cars.
- 3. Equipment and supplies: Invest in high-quality equipment and supplies to ensure that you can provide high-quality services to your customers. This may include car wash equipment, detailing tools, cleaning products, and protective coatings.
- 4. Staffing: Hire skilled and experienced detailers who are knowledgeable about car care and have good customer service skills.
- 5. Marketing and advertising: Develop a marketing and advertising plan to promote your services to potential customers. This may include online advertising, social media, flyers, and promotions.
- 6. Pricing: Set competitive pricing that reflects the quality of your services and the local market conditions.
- 7. Customer service: Provide exceptional customer service to ensure customer satisfaction and repeat business.
- 8. Legal and regulatory compliance: Comply with all legal and regulatory requirements, including licenses, permits, insurance, and safety regulations.

Starting and running a successful car detailing business requires careful planning, investment, and hard work, but with the right approach, it can be a profitable and rewarding venture. Additionally, it is important to continuously improve your skills and knowledge in the field, stay up to date with the latest techniques and products, and maintain a strong reputation for quality and customer service





Accessories and Consumables

Drinking & Process Water Consumables



Media & Filter

- Resin
- ■Sand Media
- ■Carbon Media
- ■Cartridge
- Filter Vessels



Membranes

- RO Membrane
- Micro Cartridge
- Ultra Membrane
- Spiral Membrane
- Hollow Membrane



Disinfectants

- UV Unit
- Ozonator
- Liquid Chlorine
- Other Chemicals

Waste Water Consumables



Industrial Chemicals

- Coagulants
- Flocculants
- Anti scalant
- pH boosters



Bioreactor Media

✓ MBBR Media ✓ FBBR Media



Diffusers

- Disc Type
- Tube TypeClarifier
- Tube Media
- Lamella

Electrical & Mechanical Consumables



Electronics

- Sensors
- Multiport Valve
- PLC unit
- Flow Meter
- pH Controller
- TDS Meter
- Conductivity
- •Measuring Instruments



Electrical

- Pumps
- MotorsSwitchgear
- Air Blowers
- Rectifiers
- Control Panel



Mechanical

- Bar Screen
- Oil Skimmer
- Filter Press
- Diffusers
- Agitators
- SS Vessels

Product Images



FILTER MEDIA

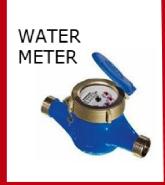


FBBR MEDIA





AUTO VALVE



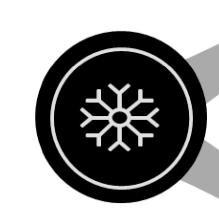


Our Design Philosophy



Analyze & Inspect

ou cannot improve those things which you can not evaluate". nalyze Water or Waste Water Parameters. pect site to check availability of Space and utilities.



Understand Application

Our Sales professionals will take detailed n your requirement & challenges. Factors lik Future expansions, end use of Water and V depletion rate plays a very important role product designing.



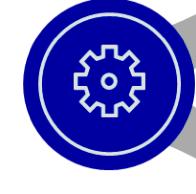
Technology Selection

"Wrong selection may save you some penn initially but take out far more during operat & maintenance".

Thus, technology selection considering the soaring prices of Electricity, Man-power, Sp chemical and consumables is essential.

Design & Manufacturing

standard procedure we first make to-the-3D design of entire project with plumbing other connections. After discussing it with : we starts manufacturing tailor made unit in our state-of-the-art facility.



Quality Inspection

Our Ever plant has to go through the string Quality test, where we test the strength of fabrication, Anti-Corrosion coating, Dimens Water leakage test and product finishing.



Experienced Team

Entire team possess average Industrial Experience of 7+ Year and have proven track record .



Concept to Commissioning

In-house team for Design, Engineering, Manufacturing, Execution and Service support gives full control over project ownership and quality



CHOOSE US?

Tailor Made Solutions

Our wide experience of solution design in multiple technologies enable us to choose technology that is most economical and efficient in long run.



Future Ready Products

Automation is the heart of every Pawani product. Our products performance can be monitored from remote location.



Comply Pollution Norms

Our design philosophy and documentation is in line with guidelines set by legal authorities. We provide support to take required approvals from pollution department.



Life Cycle Management

We can take complete responsibility of product operation, maintenance, upgradation and comply latest pollution control board norms.

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