



Enabling Clean Environmental Technologies

CONTENT INDEX

Molecular Gas Filters

Emission Classification

PurSafe™ Media

Solutions for Air

Wastewater Filtration Media

PureCODE™-Regenerable Media

Solutions for Wastewater

On-Site Pilot Performance

Exposome Technology

Hydrophobic Coating for PV Panels

Solar Clean Coat & Features

Our Team Contact



PARTICIPANTS/WINNERS IN 2022/2023!



IMPACT STATEMENTS



Increase 0.5 % treated waste-water in India by safe and efficient capture of effluents using 400 tons of molecular filters per month by 2027



15 billion m³ of clean air by deployment of 10,000 molecular filters per month by 2027

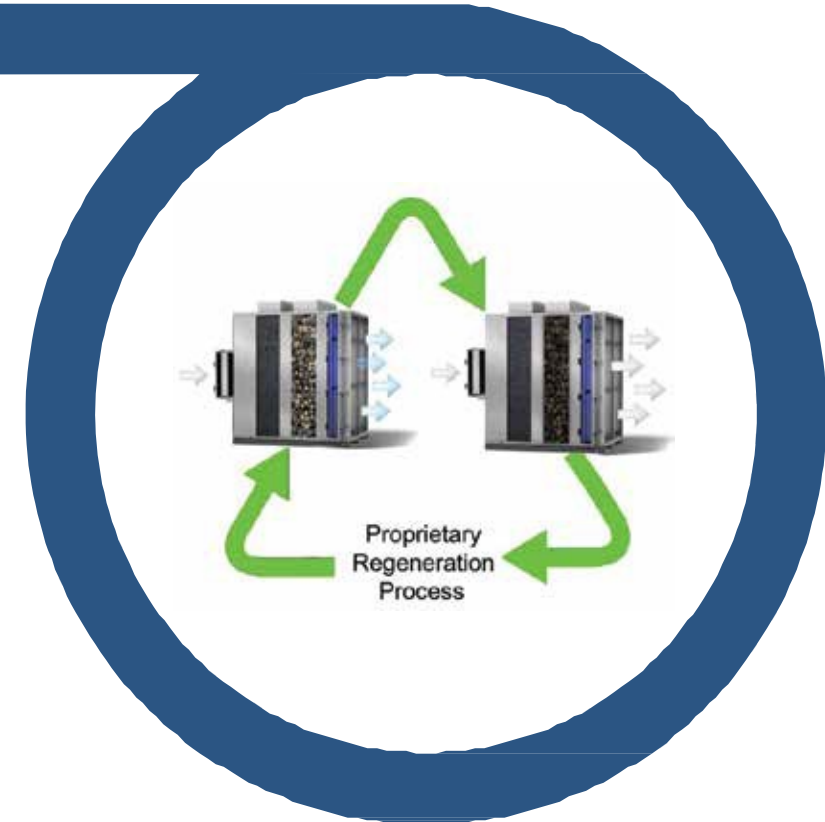
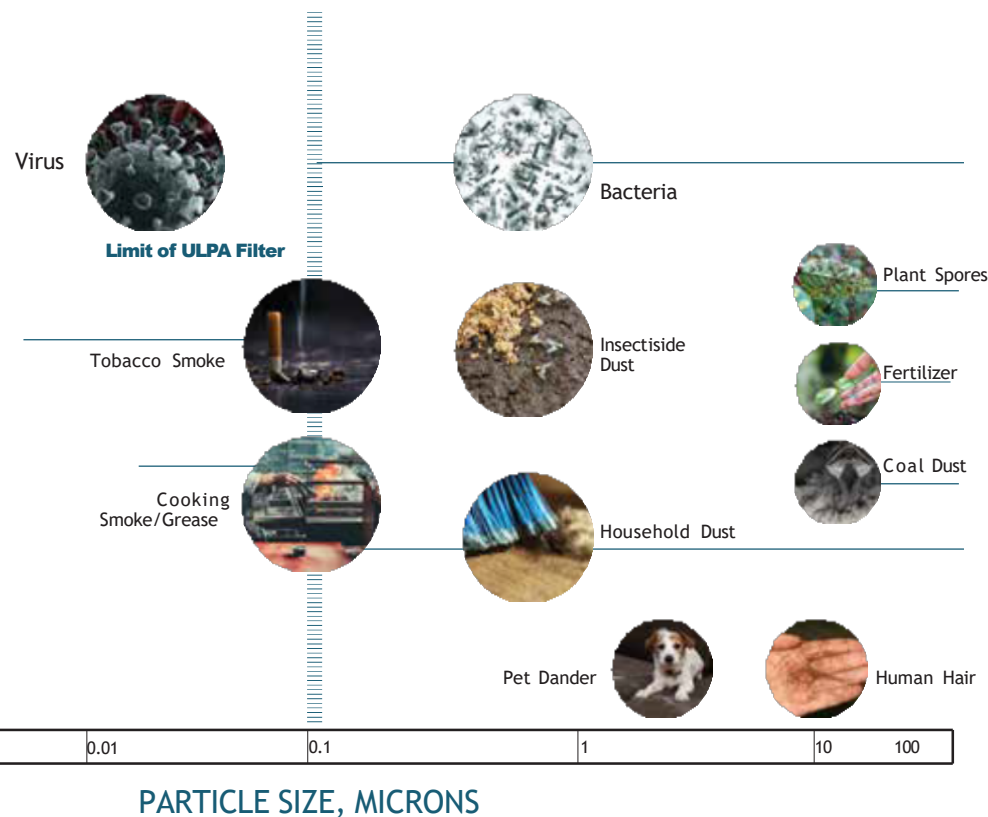


Molecular Gas Filters For Abating Air Pollution

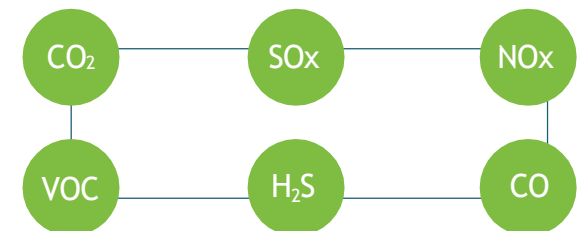
Technical Textiles For HVAC Systems

Types of Emissions & Our Technology

Regenerable Molecular Gas Filtration Media* for 0.001 to 0.0001 micron filtration corrosive molecules



Corrosive Gases



Media & Filters For Air-Exposome PurSafe™

Efficient & Regenerable Media's & Filter units capable of removing large volumes of toxic gas emissions including CO₂. Our technology can also lower the concentration of a specific gas from the flue stack such as nitrogen, H₂S.



Oil & Gas Industry

CO₂ Absorption reducing N₂ in gas bed



Chemical Manufacturing Sector

Tertiary treatment for NO_x from boilers



Resin Manufacturing Unit

Odor control at the shop floor



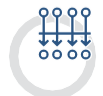
Waste To Energy Sector

Capture the low conc SO_x, H₂S capture



Data Center Storage Area

Cleaning the emissions to longer life of the systems



Future Project

Re-usage the adsorbed/absorbed molecules back in the industry



PurSafe™ SO_x, NO_x



PurSafe™ Chlorine



PurSafe™ H₂S, SO_x, C12



PurSafe™ NO_x, SO_x

Problem Statement & Filtration Solutions

Problems We Solve

- Remove the gaseous contaminants from the air-filter ultrafine airborne particulates, VOCs and toxic, hazardous, corrosive or odorous gases-indoor & outdoor
- Reduce pressure on Regenerative Thermal Oxidizers (RTO)-by capturing VOC at room temperatures
- Increasing the purity of the inlet gas/lowering the concentration of natural gases in a stream such as-nitrogen, H₂S, methane etc
- Increase output of equipment by preventing degradation by corrosion
- Help industries meet emission standards

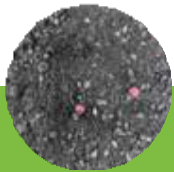


Our Solutions

- Chemisorptive process that eliminates specific contaminant gases by adsorption and chemical reactions
- Unique offering-PurSafe™ REGEN which is a regenerable filter that can remove corrosive gases and CO₂ on a large scale (reduce your carbon footprint with our regen media)
- Tertiary air treatment for low concentration of gases like SO_x, NO_x, chlorine, H₂S, VOC etc
- Replacement media to remove corrosive gases from server rooms of data centers
- Technical laminated textiles capable of arresting radiations, VOC, odor etc. Having applications in mines, radioactive positive areas, HVAC, labs & production areas, specialty masks etc
- Customizable & selective



Regenerable Wastewater Filtration Media- PureCODE™



PureCODE™ Sulphide



PureCODE™ Cyanide



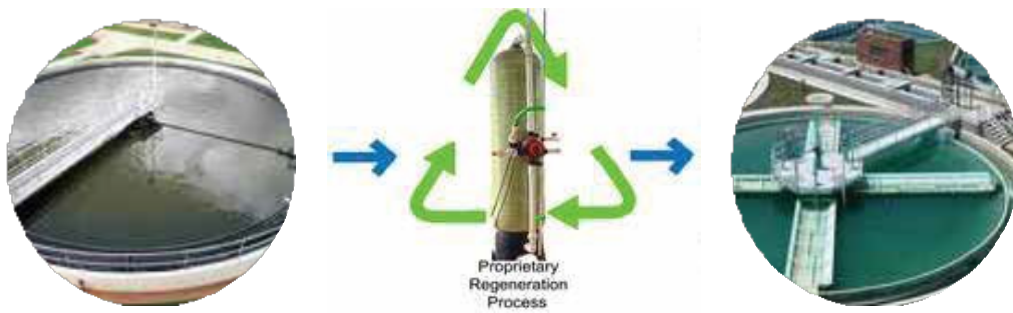
PureCODE™ Sil



PureCODE™ Power

Innovative Wastewater Treatment Media- EXPOSOME PureCODE™

PureCODE™ is an absorbent media for the lowering of recalcitrant COD (fine polishing of tough to treat COD) which subsequently helps in meeting stringent discharge norms in various industries such as textiles, chemical, pharmaceutical etc. This media is also regenerable on-site. It's durable under harsh conditions, temperatures and recycles maximum amount of effluent with negligible rejects!



PureCODE™ specialty media-helps to lower 40 to 90 % COD in a single pass-helps you meet the stringent discharge norms

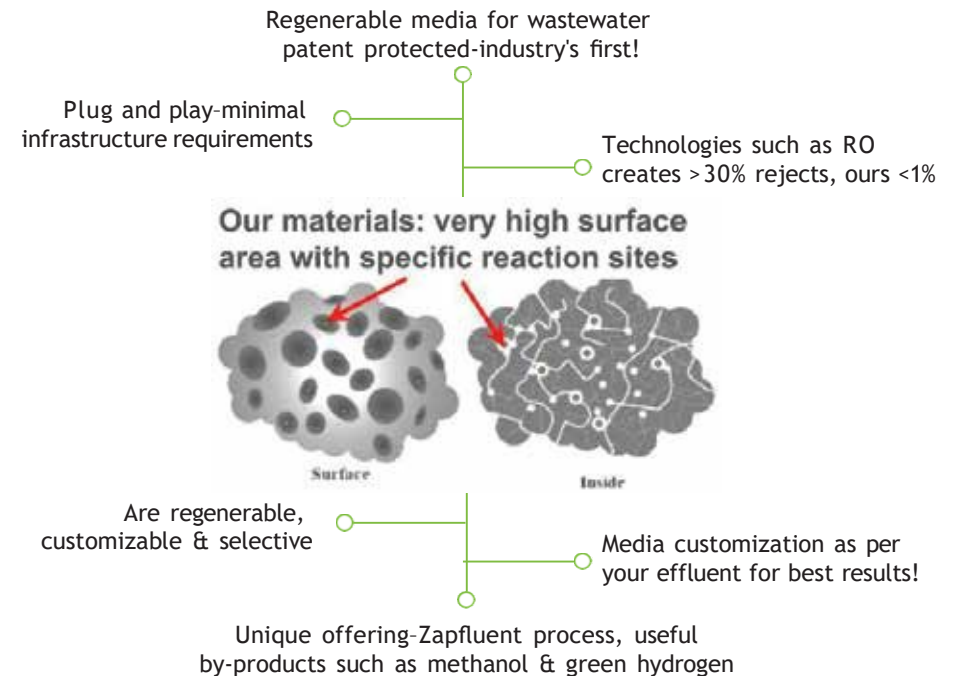
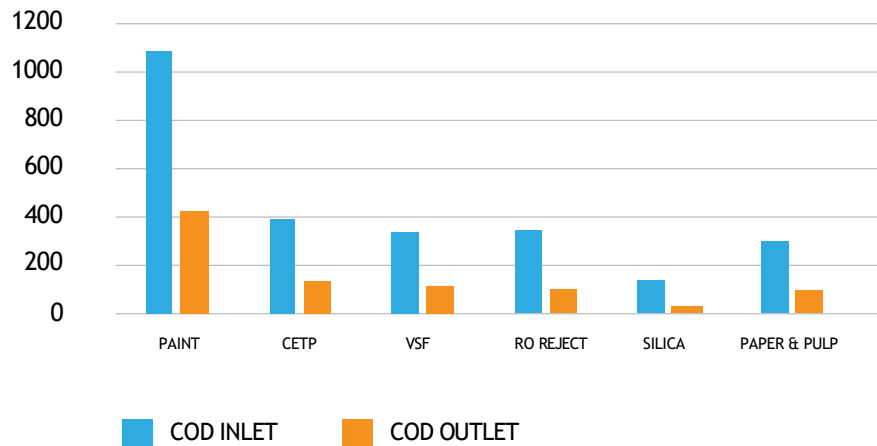


Testimonials: Wastewater Pilot Results

INDUSTRY FOCUS	INITIAL TRIALS	INITIAL COD	FINAL COD	REDUCTION %
Oil & Gas	Yes	ZAPFLUENT PROCESS	NIL	100
Pharma	Yes	2160 ppm	~200	90
Food Beverages	Yes	Yellow Color	Light Straw	More than 50
Textiles Processing	Yes	284 to 300 ppm	0 ppm	100
Textiles Manufacturing	Yes	470 ppm	190 ppm	59
Paints & Pigment	Yes	12840 ppm	2160 ppm	83
Multiple CETP'S	Yes	375 ppm	175 ppm	53
Glass (Hardness)	Yes	5120 ppm	680 ppm	86

- Selective removal technology-heavy metal, TOC, chlorine, iron, radioactivity, sulphates, pesticides etc.-technology next!
- Impregnated and custom media's available as per requirement

PureCODE™ PILOT IN-FLOW MODE



Case Study: PureCODE™ Power

POINTERS for the PILOT SETUP:

- Media in trials: 100 Kgs of PureCODE™ power
- Pilot setup done by: Pure Water Enterprise Pvt Ltd.
- Media efficiency & regeneration study

POINTERS for the W.O.R Effluent:

- Inlet COD: 12000 to 13000 mg/l
- Appx. 1.0 KL tested/day in flow mode



Pilot Setup



1.0KL Effluent



Outlet Water

ON SITE PAID PILOT RESULTS

Trial Results								
Effluent sample/type/Date	Feed COD	first pass COD at 300 lit	first pass COD at 1000lit	% Reduction after 1st pass	Second pass COD at 300lit	Second pass COD at 1000 lit	% Reduction after 2nd pass	Remarks
IBC 1 (14/0/2022)	12800	NA	4160	67.5	5840	3968	58.4	1000lit and 1000LPH flow
IBC 2 (15/09/2022)	12960	7440	7520	41.97	7200	6800	68	1000lit and 1000LPH flow
Regeneration done for 90 mins. On 16/09/2022								
IBC 3 (30/09/2022)	12400	7200	6240	49.67	6480	5040	50.4	1000lit and 1000LPH flow
Overnight soaking in regeneration chemical on 08/10/2022								
IBC 4 (12/10/2022)	12000	4560	4240	64.67				1000lit and 500 LPH flow



Inlet Water



Complete Pilot Plant Installation

Exposome Technologies

COST EFFICIENT TECH

Locally produced
Low capex
Low residue products
3X to 20X cheaper than competing technology

EFFLUENT WATER TREATMENT

Our media can remove selective molecules from effluent stream-such as persistent organics, silica, recalcitrant COD, cyanides, heavy metals like aluminum, orthophosphites, copper, sulphides etc.

CO₂ REGEN

Regenerable mass scale
CO₂ capturing media

PATENT PROTECTED

7 patents on product and process

RECYCLO

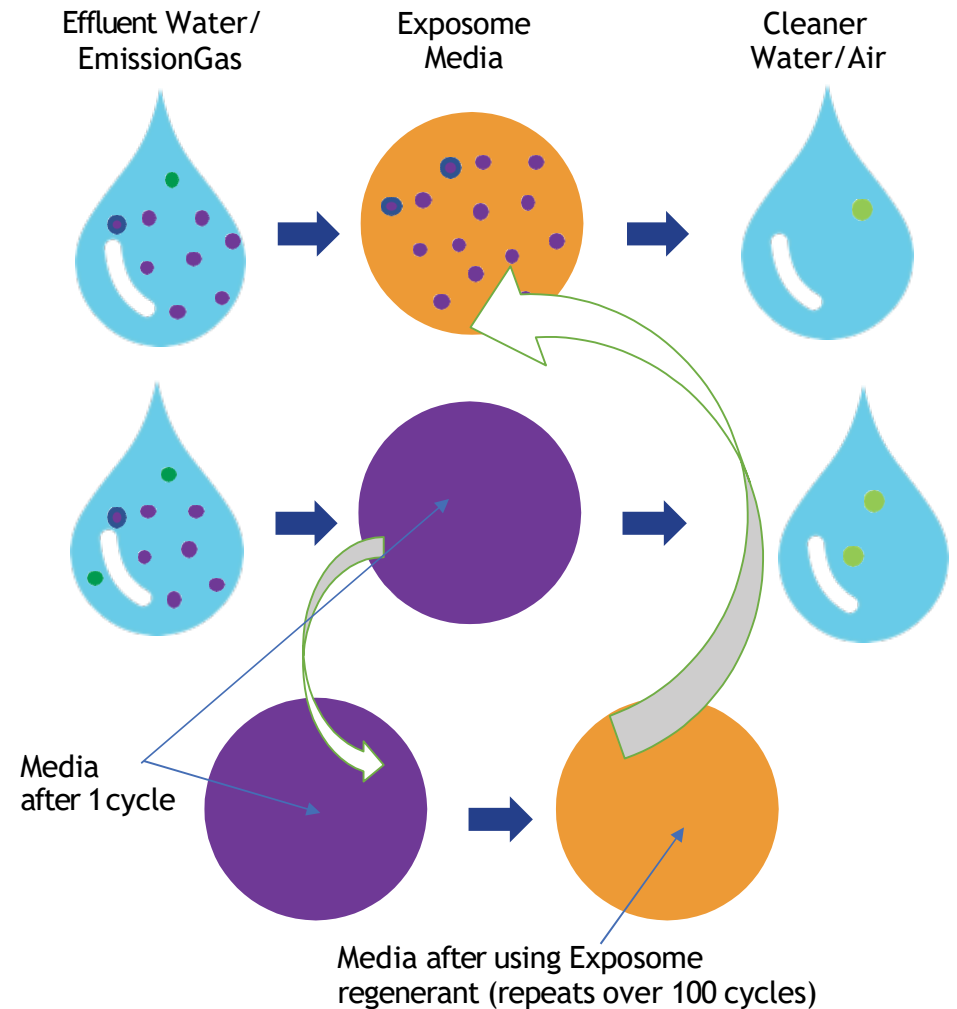
Safe separation, storage and reuse of expensive high purity gases

ZAPFLUENT


Patented Electrochemical Technology for wastewater treatment. The process also releases beneficial by products like green hydrogen and methanol

Phase I : Our current offering

 Selective Removal



Phase II : Our future offering (recover the precious effluent contaminants for re-use)



Hydrophobic Nano Coating Application
For PV Solar Panel

Hydrophobic Coating Application on PV Solar Panels



Accumulation of dust causes lower generation of power

- Environmental soiling
- Harsh material deposition
- Weather change
- Increased cleaning frequency leading to use of excess water & manpower

Solutions

Robust hydrophobic coating application on installed PV panels-

- Reduces maintenance cost by 30-40 %
- Cleaning frequency-down by 50 %
- Reduce the usage of expensive & corrosive cleaning chemicals
- Prevents hard settlement of heavy particles
- Increases PV lifecycle
- Prevents the seasonal lowering of power generation



WHO WE ARE?

Founded in 2020, Exposome is a deep-tech startup focused on manufacturing reusable media & filters that mitigate industrial & commercial air pollution and treating industrial wastewater effluent.



Dr. Prerna Goradia

PRESIDENT & CEO

Total 20 Yrs: Leadership roles various Global Material and Chemistry Domains-2013-2020
8 Yrs.-Director Applied Materials (Amat) NRC Associate
CDC-NIOSH, Cincinnati-2005 #R&D #funding
#Chevening Scholar Oxford Business Woman

#Entrepreneur #Clean Tech #Innovator #Growth
#PhD in Chemistry and Env.Toxicology, Michigan State



Mr. Ashish Daga

COO

New Business Development
Post Graduate
Diploma in Chemical Technology
12+ years prior experience of running
chemical manufacturing business

#Lead Generator #Problems Solver
#Learner for Life #Operations



Dr. Amit Goradia

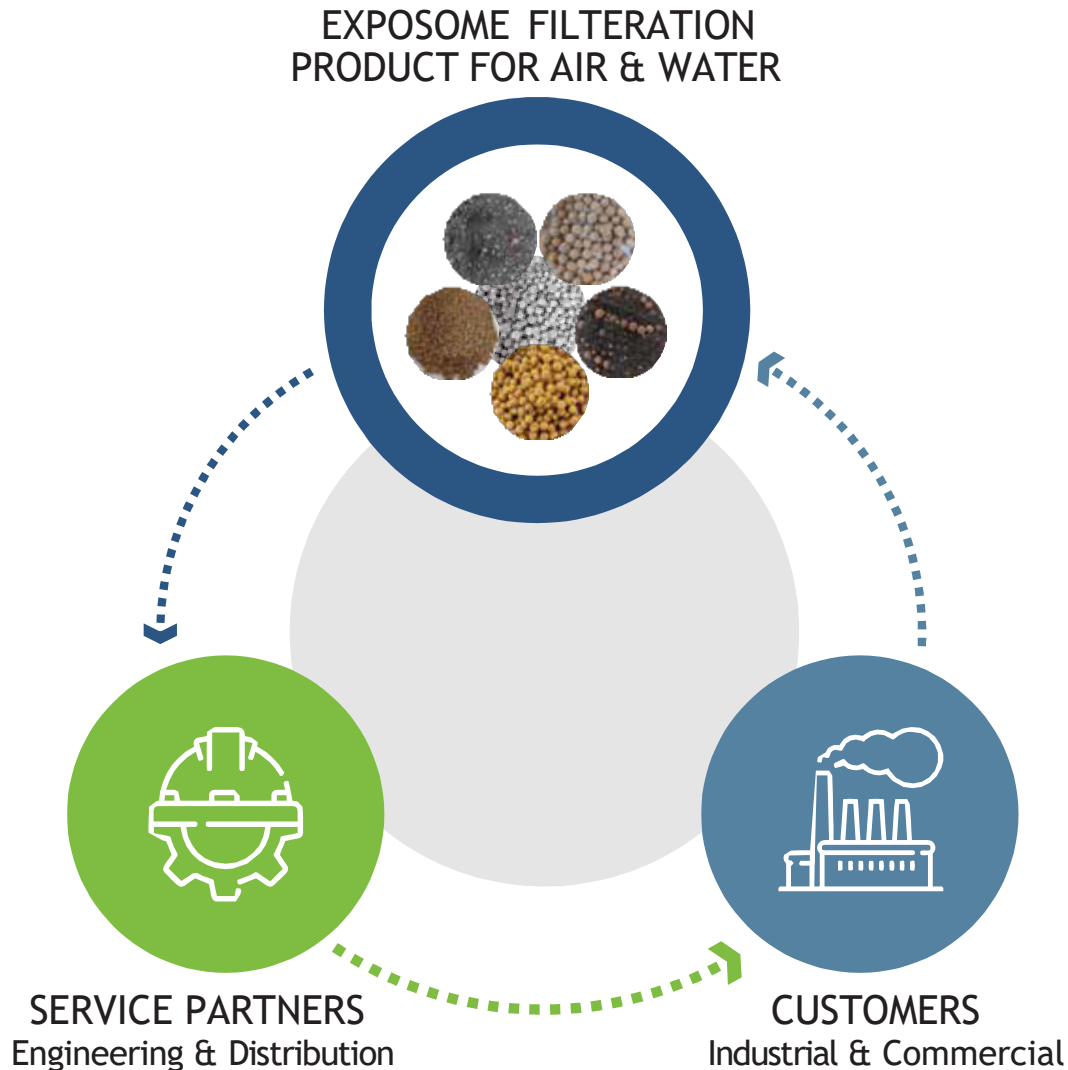
TECHNOLOGY DIRECTOR,
SCALE-UP & DATA/SENSORS

Technology Director Automata Systems-2009-2022
2 Yrs: Director R&D Techno CNC, USA-2006-2008
8 Yrs: Director EP CNC Defense Projects
4 Yrs: Founding Director, Accelus Robotics-2018-2022

#Technology #Leadership #Scale-Up
#Automation #Serial Entrepreneurship

Molecular filters yielding higher efficiency to meet industrial compliance norms

Business Model & Focus Areas



Focus area in Wastewater Treatment

- # Chemical Manufacturing # Pharmaceuticals
- # Paint & Pigment Mfg # Oil Refineries
- # Cement # Thermal Power Plants
- # Textile # CETP # Paper Mfg
- # Anodizing Industry
- # Semi-Conductor Mfg
- # Fertilizer & Heavy Metal Arrest

Focus area for Air Filtration for

- # HVAC Industry
- # Thermal Power Plants
- # Oil Refineries # VOC Removal
- # Paints & Pigment Industry
- # Textile Industry # Data Centre's
- # Cement Industry
- # Chemical Mfg
- # Low Conc Filtration



Lets Get To Carbon Neutral-Fast & Together!



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