FREQUENTLY ASKED QUESTIONS



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Sl.	*Questions*	Responses
1.	*Can Indivirtus Ecological Services Pvt Ltd (IESPL) share a detailed cost estimate for implementing this solution on a per-acre or per-waterbody basis?*	Cost is worked out from project to project, after collecting data and a physical site survey, since it is a tailor-made treatment, not an off the shelf solution. However, for the sake of a tentative idea, the best example is for the project of Moradabad in which 6 Waterbodies, spread over a cumulative Water area of 28 acres to be treated for 18 months, I which all the technologies were invited. The H1 bid was ₹30 Cr., while the L2 bid was ₹12 Cr. While our technology was quoted by the L1 bidder @ ₹5Cr. The competing bids included Bioremediation, phytoremediation, DEWATS, Constructed Wetland, and one more bid of combination of Bio & Phyto.
2	*Typical timeframe required to complete the Project by IESPL*	Timelines vary from project-to-project. Team of IESPL need to collect data from the site to determine the cost & duration of the project. This data includes the actual longitude & latitude (map location) to get the agroclimatic zone, number of inlets, type & volume of inlets, aquatic & terrestrial biodiversity, kind of birds flocking around etc. Based on this data a study is conducted, and the findings of the study helps us determine the desired timelines and the cost incurred. Typically, it ranges from 12 to 24 months.
3	*How is project monitoring conducted during & after implementation by IESPL?*	Monitoring is done from different perspectives and dimensions, which include EIA (Environmental Impact Assessment), SEIA (Socio-Economic Impact Assessment) and BIA (Biodiversity Impact Assessment), all of which are 3rd party research studies. Secondly, periodic Water samples are lifted to be analyzed in NABL accredited laboratories. On each day of dosing treatment, Soil, Water and Air quality checks are done at site by hand-held digital meters, and a logbook is maintained for the entire duration of the treatment as well as O&M period. Thirdly, experience of the people living in the vicinity is also recorded as a video testimony, before-intervention, during and post project completion too. A video documentary is created during all the 3rd party study projects, public testimony and the dosing treatments to capture the visual data as well
4	*Has the process of IESPL been validated by any govt / Reputed scientific bodies?*	Many. The technology has been awarded by four central ministries, apart from academia, civil societies, industry as well as industry associations. We can submit our corporate dossier FY 2024-25, if needed.

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5	*How is the 100% botanical extract sourced and tested for quality?*	The Cownomics Extract document can be shared for the process of making, However, please note that there's no standard formula of making because the ingredients keeping on changing based on the phase of treatment, weather conditions, response of the Waterbody to the medication etc.
6	*Can IESPL provide independent lab reports or case studies demonstrating the claimed outcomes (air quality, biodiversity, etc.)?*	The Punjab project case study can be submitted for this. Or else for multiple case studies and details, you can refer this publication by Lucknow Management Association (LMA). https://www.lmalucknow.in/publication_pdf/6682828LMA%20Publication.pdf
7	*Are there any limitations on the type of water bodies (size, pollution level) where this technology can be applied?*	Yes, following are the limitations – 1. It should be completely natural Waterbody, i.e., conjunction point of natural soil, Water and Air. Which essentially means, neither laminated from bottom, nor covered from the top. 2. The minimum area for a pond is required to be 1 acre or above, or for a flowing Water (channel or streams) minimum width of 20 meters and a minimum length of 1 kilometer, carrying a volume of minimum 1 MLD
8	*How do IESPL comply with local environmental regulations?*	In line with the NGT order vide O.A. No. 673/2018, 06/2012, and 325/2015, all our projects have a destination of arriving at IS2296: Class B Water quality. If we are working on multiple Waterbodies in the same city (minimum 50% of the total Waterbodies on the periphery of the city), the air quality destination is to arrive at an AQI of below 80.
9	*Can IESPL show before-and-after data (water quality, biodiversity counts, disease incidence) from past projects?*	Pls refer answer against question No. 6 above.
10	*What metrics or KPIs does IESPL track to measure project success?*	Pls refer answer against question No. 3 above.
11	*What Risk mitigation measures are in place by IESPL, if results fall short?*	Since the customer pays only after verifying the results, there's no need for risk mitigation measures. The customer pays only after verifying the results.

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12	*Are there ongoing operational costs after the initial intervention?*	Depends upon the customer's contract / agreement. The government projects (in line with their guidelines) are released with an initial restoration / rejuvenation duration, followed by O&M. although it isn't mandatory. Once all the three phases of treatment are completed, the Waterbody can sustain itself, for as long as the inlet volume remains the same on which it has been calibrated during phase -III. Usually in Bharat, the inlet gets uncontrolled during monsoon, therefore the government projects come with O&M period as well, to be on the safer side.
13	*What is the funding model—one-time cost, annual maintenance, or PPP (Public-Private Partnership)?*	All options can be worked out. The funding again varies from project-to-project and customer-to-customer. The project study is conducted and the proposal is submitted, based on which customer can arrange for funds, be it a national project (funded by central government through state or ULB like AMRUT2.0 or Mission Amrit Sarovar) or a ULB fund project, or a PSU's CSR, or a Corporate CSR / EGS project. Once the project is finalized, the customer signs and agreement with monthly milestones for the project and the O&M period. Every month, the milestones are achieved, and reports are submitted to the customer along with the invoices. Customer verifies the results and makes the payment on a monthly basis.
14	*Are there any subsidies or schemes available for government bodies adopting your solution?*	No. Although we've been commended by **Ministry of Housing & Urban Affairs (MoHUA)** as technology and implementation partner for AMRUT2.0, certified by **Jal Shakti Mantralaya** amongst the 1st Water Heroes of the country (in October, 2019), awarded by **MNRE (Ministry of New & Renewable Energy)** as the ESG enabler technology of the year 2023 and appreciated by **NIDM**, under aegis of **MHA**, but there's no subsidies given by any central ministries for adopting our solutions.
15	*Can IESPL provide references or contact details of municipalities or agencies where this technology has been implemented?*	The corporate dossier, mentioned in answer to question 4, will contain the data for this as well. Apart from this, https://youtu.be/bvFoRoZ0W5Q?t=1024 – "Jal Nayak ki prakriti ko anupam Bhet" – A documentary on Vaidic Srijan LLP by Doordarshan aired on DD Kisan channel on 06.04.2024, contains the testimony of an IAS officer, Municipal Commissioner of Moradabad.

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16	*Whether IESPL or its Technology Partner (Vaidic Srijan LLP) is empaneled with any state or central government bodies for water restoration projects?*	Answered in question 14 above. Though our technology Partner M/s Vaidic Srijan, has been commended by Ministry of Housing & Urban Affairs (MoHUA) as technology and implementation partner for AMRUT2.0, certified by Jal Shakti Mantralaya amongst the 1st Water Heroes of the country (in October, 2019), registered with DPIIT (MCA), registered with Startup India, nominated by Startup India and AIM to represent Bharat in Startup Shikhar 20 under aegis of G20, NITI Aayog to represent Bharat in SLUSH2023, invited in COP28: Dubai, COP29: Baku, CBD COP16: Cali, UNCCD COP16: Riyadh and UN Convention of Wetland's COP15: Victoria Falls, Zimbabwe to represent Bharat, but since we do not execute the project, we (as **Vaidic Srijan LLP**) don't get registered for project implementation, it is done by Implementation partners, one of such Implementation partners is Indivirtus Ecological Services Pvt Ltd. (IESPL)
17	*Who is current technology partner of IESPL (besides Vaidic Srijan)?*	None, other than Vaidic Srijan. In our setup, Vaidic Srijan LLP is the technology partner and Indivirtus Ecological Services Pvt Ltd is the implementation partner.
18	*Training of staff to maintain quality and consistency across multiple sites?*	Staff of Indivirtus Ecological Services Pvt Ltd (The Implementation partner) has been trained by Vaidic Srijan LLP on their technologies on a regular basis. The most recent training happed on 22.08.2025.
19	*Whether IESPL or Vaidic Srijan has tied up with any NGOs or CSR wings of corporates to fund pilot projects?*	We have done 9 projects done as CSR like Ujjain Mahakal Temple Kund, Kabir Praktya Sthali Lahartara Lake (Varanasi), Mansi Ganga Talaab (Mathura), Lal Digghi Lake (Ayodhya ji). Some Projects were done in association with NGOs like NOC Foundation, Community Friendly Movement (CFM), Society for Advancement of Human Endeavour (SAHE), and a few more.
20	*Whether IESPL offers co-funding models where govt pays part & CSR/NGOs pay part?*	Sure, can be worked out, depending upon the project-to-project
21	*Whether IESPL is open to conduct a free/subsidized pilot project with govt support t o demonstrate effectiveness?*	Free – Unfortunately No. Subsidized – can be worked out, depending upon the project-to-project. Please refer attached case study on Lahartara lake, Varanasi to see the effectiveness of the process

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22	*What is the Hydraulic retention time (HRT) for effectiveness of treatment process.*	This is applicable on an STP or and ETP. Our Technology is only for natural Waterbodies and the focus is on 'resurrection of native ecology' of the Waterbodies / wetlands in order to restore the 'ecosystem services' from them to their respective vicinities. Therefore, HRT isn't calculated here
23	*If sludge is not removed, it will not improve storage capacity*	Sludge is not physically removed but gets decomposed by the metabolic activities of the single celled organism. In the second phase of the treatment the focus is on sludge decomposition only, in order to re-establish the soil capillaries. The broken-down sludge into nutrient elements, is rearranged by nature to boost the production of planktons, which is the natural fish feed.
24	*If sewage /industrial effluents are not stopped or treated at the inlets, how long your treatment will be effective?*	In the 3rd phase of the treatment, we calibrate the daily digestion capacity of the Waterbody with the daily inlet. After all the three phases are completed, the Waterbody will remain fresh, for as long as the inlet type (contaminant components) and inlet volume remains the same.
25	*Quantitative results of pre- and post-treatment for water bodies rejuvenated by IESPL/ Vaidic Srijan (pls share scientific publications, if any). These ponds are seasonal (water availability for how many months) or perennial*	There are five publications in process in different journals. We can share, once they get published. Meanwhile for case studies and details, you can refer this publication by Lucknow Management Association (LMA). https://www.lmalucknow.in/publication_pdf/6682828LMA%20Publication.pdf
26	*Why is it necessary to use freshwater from the same agro-climatic zone when preparing the homogeneous mixture?*	Water retains the distinct energetic and mineralogical "fingerprint" of its source. Utilizing water from the same **agro-climatic zone** ensures biological and vibrational compatibility. This alignment optimizes the receptivity of the host water body, facilitating seamless integration and enhancing the overall rejuvenation potential of the treatment.
27	*Why must the homogeneous mixture be introduced into the water body specifically at sunrise?*	The timing is strategically aligned with the **diurnal cycle** of the aquatic ecosystem. The mixture requires approximately 3–4 hours to achieve uniform distribution. By introducing it at sunrise, the medicine is fully integrated by mid-morning. As solar intensity peaks (from 11:00 AM onwards), the influx of **photons** catalyzes the synthesis of the medicine, triggering the biochemical resurrection of the ecosystem.

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28	*What is the mechanism behind the decomposition of contaminants and the resurrection of microbiota?*	The Cownomics® concentrate acts as a high-density donor of **free electrons**. These electrons facilitate a reductive chemical process that dissociates complex contaminant molecules into their elemental forms, releasing dissolved oxygen in the process: **Phosphates (PO^4)** → Phosphorus (P) + Oxygen (O_2) **Sulphates (SO^4)** → Sulphur (S) + Oxygen (O_2) **Nitrites/Nitrates (NO^2/NO^3}** → Nitrogen (N_2) + Oxygen (O_2) Simultaneously, the electrical charge of these electrons (approx. 1.6 x 10^{-19} coulombs) provides a "bio-electric stimulus" to dormant indigenous microbiota. This charge restores cellular function, effectively "restarting" the biological engine of the water. The resurrected microbes then thrive by consuming the liberated elemental Phosphorus, Sulphur, and Nitrogen, supported by the newly released Oxygen.
29	*How does this decomposition facilitate long-term water quality improvement?*	The dissociation of contaminants leads to a significant increase in **Dissolved Oxygen (DO)**, which naturally drives down **Biological Oxygen Demand (BOD)** and **Chemical Oxygen Demand (COD)**. As the molecular structure of the water shifts, there is a measurable reduction in **Total Dissolved Solids (TDS)** and **Total Suspended Solids (TSS)**. Key Benefits Include: • Reduced viscosity and elimination of noxious odors. • Depletion of the nutrient surplus that fuels invasive weeds and mosquito breeding. • Significant mitigation of water-borne and vector-borne pathogens. • Restoration of natural water clarity and color.
30	*Does the treated water meet potable (drinking) standards?*	While the primary treatment restores the water body to **Category B standards** (per IS 2296), it is not immediately potable. Category B water is safe for **organized bathing, animal husbandry, and high-quality agricultural irrigation**. However, this rejuvenated water serves as a superior feedstock that can be easily filtered or treated through standard purification methods to achieve drinking water quality.
31	*What is the mass balance equation in Cownomics® technology*	Cownomics® operates on the principle of **ecological assimilation** rather than a closed-loop laboratory experiment. Because the dissociated elements (P, S, N) are immediately sequestered and consumed by the resurrected aquatic life cycle, the process does not follow a traditional linear Mass Balance (where LHS must equal RHS in a static state). Instead, the "mass" is transitioned from harmful pollutants into beneficial biomass.