

NEWSLETTER

JAL JEEVAN MISSION CHALLENGE

BY DEPARTMENT OF DRINKING WATER & SANITATION
MINISTRY OF JAL SHAKTI

Introduction to the program

Department of Drinking Water and Sanitation (DDWS), Ministry of Jal Shakti and Invest India have launched an Innovation Challenge to develop *“portable devices that can be used at the household level; to test the drinking water quality instantly, easily and accurately.”* Keeping in view the source of water, three variants of portable devices will be developed under this program.

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Orientation Session

27th July 2021

This session was primarily to sensitize selected Startups/MSMEs on KIIT-TBI's plan for the incubation program under Jal Jeevan Innovation Challenge, the services that will be provided, and benefits of incubation with KIIT.



Technical & Financial Due Diligence

Exhaustive due diligence was conducted for all 10 Startups/MSMEs. The technical details, including objectives and milestones, were evaluated based on the project requirements. The milestones were realigned to meet the deliverables requested by DDWS.

As a part of legal/financial due diligence the requested budget, company certifications and company documents were verified thoroughly. Only after confirmation from DDWS and Invest India, KIIT-TBI signed an MoU with the Startups/MSMEs as the Incubation Partner.

Engaging Interaction with KIIT-TBI's Analytical Facility

28th September, 2021

11 AM- 2 PM

KIIT-TBI organized a session for all 10 Startups/MSMEs in order to connect them with KIIT-TBI's Analytical Testing Facility, teaming up with Dr. Mrutyunjay Suar (CEO – KIIT-TBI) and Dr. Namrata Misra (Head – Bio-innovation). Experts from Analytical Facility, Mr. Rahul Chatterjee (Operation Manager), Mr. Ajit Kumar Nath (HoD-Food and Water), Mr. Surapratap Nayak (Senior Chemist-HPLC, Gas Chromatography, FAME Analysis) and Mr. Soubhagya Dash (HOD-Mineral Analysis) were a part of the session. Startups/MSMEs discussed the support required with respect to sample/product testing, validation studies of various parameters and device validation.



e-Jal Product Demonstration by Elico Pvt. Ltd. (Physical Meet)

16th September, 2021

Time: 11 AM

Location: Meeting Room 2, 225, 1st Floor, Vigyan
Bhawan Annexe, New Delhi – 110011

A meeting was held between Elico, DDWS, KIIT-TBI, and Invest India to understand from Elico their product's functioning and discuss costing of the product. Elico also demonstrated their product in front of the dignitaries on selected parameters. The physical meeting was attended by Mr. D. Rajshekhar (DDWS), Mr. Dharmendar Rai (DDWS), Dr. Vivek S. Chauhan (DDWS), Pallavi Gupta (Invest India), Sana Dewan (Invest India) and a KIIT-TBI representative. At the end of the demonstration, Elico was requested to develop a new kit priced at INR 10,000/- as part of the Jal Jeevan Innovation Challenge testing selected parameters (Ammonia, Nitrate, Chromium, Phosphate, TSS and Turbidity).

LIVE

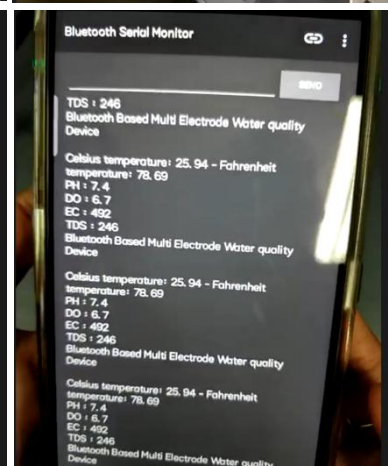
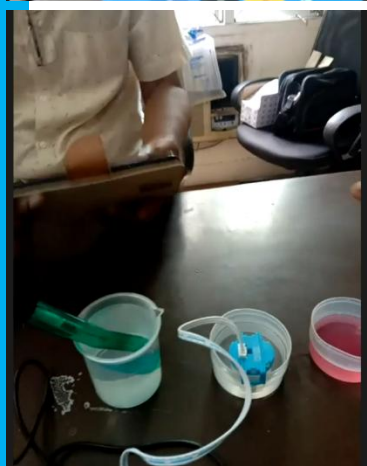
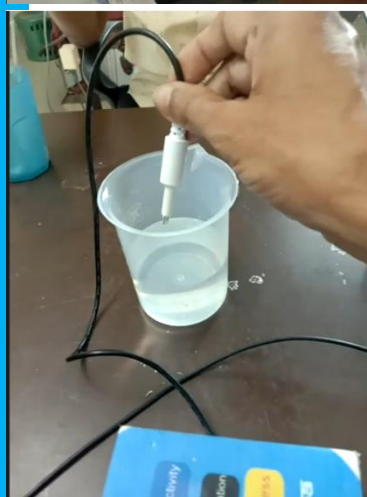
Demonstration of the Workable Device for Showcase Event

28th September, 2021

11 AM- 2 PM

KIIT-TBI conducted a live demonstration of portable-water testing device developed by the selected Startups/MSMEs in the presence of Invest India and KIIT- TBI teams.

Also, eminent experts from the field of water testing and treatment, such as Dr. B.K. Satpathy (Former Executive Director, NALCO), Dr. Suraj Kumar Tripathy (Associate Professor, KIIT school of Biotechnology), and Dr. Sankha Chakroborty (Assistant Professor, KIIT School of Biotechnology) evaluated the device working principle, and provided few suggestions and useful insights regarding their device development.



Product Showcase



2nd October, 2021

Biomimicry Technologies Pvt. Ltd., Earthface Annalytics Pvt. Ltd. and Padmaseetha Technologies Pvt. Ltd. were selected for the PM Showcase scheduled on the 2nd October, 2021 by DDWS, Invest India and KIIT-TBI based on the readiness level, accuracy and reliability of the device/kit. Three promotional videos were prepared for these startups by the KIIT-TBI Design and Development Team. The videos focused on the working of the device and the device deliverables.



Invest India
@investindia

.@jaljeevan_ launched 'Innovation Challenge to Develop Portable Device for Water Quality Testing' in partnership with @startupindia & @investindia, in line with Hon'ble PM @narendramodi's vision to provide safe & adequate drinking water to all households in rural India by 2024.

12:31 PM · Oct 2, 2021 · Twitter Web App

Launch Twitter Post & Promotional Videos

<https://twitter.com/investindia/status/1444195858900156419?s=08>



Product Catalog

KIIT-TBI prepared an informative product portfolio consisting of device/product USP, testing ranges, parameters and product pricing of the Startups/MSMEs under Jal Jeevan Innovation Challenge which will be showcased to important stakeholders for branding and commercialization.

[View Brochure](#)

Milestones Covered by Selected Startups

Earthface Analytics Pvt Ltd

Target Milestone:

The Padma Gen 2 final version can test Color (Optical), pH, Turbidity, TDS (using smart probe), Total hardness, Free residual chlorine, Carbonates, Ammonia Chloride, Fluoride, Nitrate, Nitrite, Total alkalinity, Ammonia chloride, E. coli.

Current Status:

The device is currently ready with all inorganic parameters namely, Colour (Optical), pH (Glass Combination Electrode), Turbidity (Optical), Total Dissolved Solids (TDS-Electrode Cell), Total Hardness, Free Residual Chlorine, Ammonia, Chloride, Fluoride, Nitrate.

Only E.coli test to be standardized and validated.



Biomimicry Technologies Pvt Ltd

Target Milestone:

Jal Shuddhi Mapak is the testing device that is being developed by Biomimicry Technologies Pvt. Ltd. to test Color (Optical), pH, Turbidity, TDS (using smart probe), Total hardness, free residual chlorine.

Current Status:

The MVP is ready with parameters like pH, TDS, Turbidity, Color, Hardness and the validation studies are ongoing.

KIIT-TBI Analytical Facility will be performing the cross validation studies as per the gold standard.



Plastisurge Industries Pvt Ltd

Target Milestone:

The Device- Jal Prayogshala is designed to test Colour, pH, Turbidity, TDS, Total hardness, Free residual Chlorine, Ammonia, Chloride, Fluoride, Iron, Nitrate, Sulphate, Phosphate, Nitrite, Potassium, Alkalinity, Calcium, Magnesium, Arsenic, Selenium, Zinc, Mercury, Lead, Selenium, Zinc, Mercury, Lead, Cyanide, Copper, Chromium, Nickel, Cadmium, Manganese, Uranium, Arsenic.

Current Status:

Presently the device is ready to test 14+ parameters namely Ammonia, Phosphate, Chlorine, Nitrate, Iron, Nitrite, Boron, Potassium, Sulphate.

Product Design to be optimized along with the device validation.





Elico Pvt Ltd

Target Milestone:

As per the DDWS and the Program Mandate the finalized low cost product to be developed under the Jal Jeevan Misson Challenge will be testing Ammonia, Nitrate, Chromium, Phosphate, TSS and Turbidity.

Current Status:

Working prototype with all the above 6 parameters **is ongoing**.

EyeNetAqua Solutions Pvt Ltd

Target Milestone:

The Digital Field Test Kit will be capable of analyzing pH, Colour, Turbidity, TDS, Free residual chlorine, Fluoride, Iron, Nitrate, Total hardness, Alkalinity, Phosphate, Nitrite, Lead, Mercury, Copper, Ammonia, Sulphate

Current Status:

Optimized 7 parameters that are Fluoride, Nitrate, Hardness, Alkalinity, Phosphate and Nitrite **out of 18 listed parameters**.



Hueristics Devices Pvt Ltd

Target Milestone:

The Water Testing Device is smartphone based and will be testing pH, Fluoride, Iron, Nitrate, Sulphate, Chloride, Residual Chlorine, Ammonia, Total hardness, Total alkalinity, Copper, Chromium, Manganese, Zinc, Phosphate.

Current status:

Prototype is ready with 18 parameters standardized.

SOPs and Validation studies will be conducted with the assistance from KIIT TBI Analytical Facility.

Cluix LLP

Target Milestone:

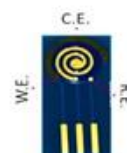
Cluix LLP is the company incorporated by the individual innovator Robin Singh. The testing device would test Lead, TDS, EC and Temperature

Current Status:

3 way validation to be conducted by KIIT-TBI ATF. The innovator will also **incorporate heavy metal testing** other than Lead along with the other parameters.



a.) Reader



b.) Test Strip

Fabetto Ecotech Pvt Ltd

Target Milestone:

The low cost Testing Kit will be designed to test pH, Fluoride, Iron, Nitrate, Sulphate, Chloride, Residual Chlorine, Ammonia, Total hardness, Total alkalinity, Copper, Chromium, Manganese, Zinc, Phosphate.

Current status:

Validation study by KIIT-TBI will be conducted on Lead, Iron and phenolic compound Testing. **E.coli testing will be standardized** with support of KIIT-TBI.



Indriya Sensotech Pvt Ltd

Target Milestone:

Jalavimalata is IoT and Cloud based Water Management System to analyse pH, Turbidity, TDS, Total Hardness, Chlorine, Fluoride, Iron, Nitrate, Zinc, Copper, Chromium, and Manganese.

Current Status:

The workable device is ready for testing pH, Turbidity, TDS, Total Hardness and the respective UI is under development.

KIIT-TBI will help standardize the SOPs.

Padmaseetha Technologies Pvt Ltd

Target Milestone:

Jalavimalata is IoT and Cloud based Water Management System to analyse pH, Turbidity, TDS, Total Hardness, Chlorine, Fluoride, Iron, Nitrate, Zinc, Copper, Chromium, and Manganese.

Current Status:

The workable device is ready for testing pH, Turbidity, TDS, Total Hardness and the respective UI is under development.

KIIT-TBI will help standardize the SOPs.





Dr. B.K. Satpathy

Former-Executive Director, NALCO, Visiting Scientist, IIT (BBSR), Director-ASIA (ICSOBA), State Level Member, SEAC (Odisha)

Visiting Scientist, Indian Institute of Technology, Bhubaneswar, Member, SEAC (State level Environment Appraisal Committee, Govt of Odisha), Consultant (Bhubaneswar City Knowledge Innovation Center), Syndicate Member, Utkal University. He has 40+ years of experience in SAIL, DSIR (IMMT), NALCO and is associated with setting up of Nalco Research & Technology Centre (NRTC) of NALCO, from conception stage. He has expertise in Industrial Chemistry, MIS, Marketing and Business Development, and has 21 patents to himself.

Dr. Sankha Chakraborty

Assistant Professor
School Of Biotechnology, KIIT University



Dr. Sankha Chakraborty has done his PhD from NIT Durgapur in the year of 2017 as a DST INSPIRE FELLOW. He has also successfully done his Post Doctorate work from CSIR-CMERI as a National Post Doctorate Fellow in the year of 2019. Now, Dr. Chakraborty is working as Assistant Professor and also working as a leading researcher in the field of environmental engineering, membrane technology and green technology in the KIIT School of Biotechnology/Chemical Technology. His specialization is in water treatment technology, with an experience of more than ten years. He has published his research work in more than 22 SCI journals and also filed 6 Patents based on his research development – one of them has already been granted. Moreover, he has 3 book chapters in his name. He has recently published one book as a Co-Editor.



Dr. Chinmay Kumar Sarangi

Principal Scientist
CSIR-institute of Minerals & Materials Technology,
Bhubaneswar

Dr. Chinmay Kumar Sarangi has been working as a scientist for last ten years in the Hydro and Electrometallurgy Department at CSIR-IMMT, Bhubaneswar. Before joining CSIR-IMMT, he was working as a scientific officer in Bhabha Atomic Research Centre (BARC), Mumbai. His work is extensively useful for non-ferrous metal industries in developing suitable technologies to extract desirable metals from their respective primary and secondary resources. The processes and flowsheets developed for the recovery of valuable metals are useful for the commercial plants dealing with metal production. It is also useful for the entrepreneurs, who intend to set-up small scale industries with low capital investment. He has published patents and SCI publications in several international journals.

**Dr. Suraj Kumar Tripathy**

Associate Dean

KIIT School of Chemical Technology , KIIT University.

Dr. Suraj currently leads Chemical & Bioprocess Engineering Lab at KIIT School of Biotechnology. He has more than 15 years of experience in processing of nanomaterials for water treatment, heterogeneous catalysis and biomedical applications. He works closely with chemical and mineral industries for development of sustainable technologies for industrial waste management. He gives lectures on unit operations, chemical thermodynamics and plant design.

Dr. Shaon Ray Chaudhuri

Associate Professor

Tripura University, Agartala



Dr. Shaon Raychaudhary is an Associate Professor at the Department of Microbiology, Tripura University. She is also the Founder Director of RCM Biosolutions Pvt. Ltd. and the Founder Partner of Waste to Wealth Innovative Technologies LLP. In the past 5 years, she has published 10 book chapters, 11 papers, filed 15 patents and proposed 15+ research projects successfully. She has a Ph.D. degree from Calcutta University and her area of expertise is genetics, molecular biology, and biophysics. She is extremely passionate about helping social enterprises deliver impact and achieve commercial success.

**Dr. Kali Sanjay**

Chief Scientist – Head

CSIR-institute of Minerals & Materials Technology,
Bhubaneswar

Dr. Kali Sanjay is having twenty seven years of experience in the field of extractive metallurgy, specifically in process flowsheet development to recover non-ferrous metals from low-grade ores/secondaries, design and scale-up of hydrometallurgical plants, solid waste remediation, utilization of industrial effluents and computational fluid dynamics. Additionally, he has been working as a Professor, Faculty of Engineering Sciences at CSIR-IMMT, Bhubaneswar for Academy of Scientific and Innovative Research (AcSIR) since 2011, teaching a postgraduate course on 'Recycling of Material Resources' and supervising M.Tech/Ph.D thesis works. Dr. Sanjay has been associated with 50 projects as a project leader, coordinator, or as activity in-charge, successfully liaising with external agencies, project planning, and implementation. At present, he is leading projects on strategic, industrial, government, and CSIR projects at CSIR-IMMT, Bhubaneswar with a budget of above Rs 50 crores for a period of three years.

Think Tank

IP Experts



Mr. Bijay Sahoo

Regional Manager,
NRDC

NRDC-IPFC Dr Bijay Kumar Sahu earned his M. Phil and PhD from Jawaharlal Nehru University, New Delhi specialized in intellectual property rights, medical biotechnology and technological capabilities with special references to India. Dr. Sahu recently conferred and received Global IP Convention Awards by GIPC. Dr Sahu has facilitated a few hundred patents and IP of various universities and also transferred and commercialized many lab scale technologies to MSMEs and industries, and coordinated as many as more than 300 IPR workshops, seminars and conferences in the country. Recently, he was invited as a key note speaker at a United Nations program (UNESCO-EDTECH 2018) on "IP, Innovation in Educational Curriculum."



Mr. Asutosh Nanda

Lead-Technology Enabling Centre,
KIIT University

Mr. Ashutosh Nanda possesses more than 18 years of total work experience, mostly in patents and research. He is an entrepreneur and IP management professional. He is an inventor, owns 4 design patents, has drafted more than 200 national and international patent applications, and conducted more than 5000 IP searches. He is a mechanical engineer, did his masters in patent information science from CSIR, New Delhi. He also possesses an LLB and an MBA degree. He is skilled in several patent and non-patent databases; also having good knowledge in various fields of science & technology. He prefers to innovate and encourage innovations and their protection. He was Vice President in TT Consultants, a global IP firm before starting his own venture. Currently, he is the owner of FasPat, and simultaneously working as Lead of KIIT-TEC, Bhubaneswar to disseminate his IP knowledge to the society.



Dr. Lipika Sahoo

Founder & CEO, Lifeintellect

Dr. Lipika Sahoo is a registered Indian Patent and Trademarks Agent with 16 years of experience in academia and industry in the areas of technology, innovation & intellectual property. She has rich experience in patent drafting, IP office actions, IP analytics, training and developing teams, project development/management, co-ordination and networking with scientists/inventors/business owners from different parts of the world.



Dr. Guruprasad Kuppu Rao

Director & Mentor
Imaginarium India Pvt Ltd

Technocrat with over 30+ years of experience, including product design and development, business development, design research, corporate development, business operations, digital fabrication and strategy. Currently, he is the Director & Mentor at Imaginarium India, the most diverse 3D-printing company located in Mumbai. His current focus is on Life and DfAM besides technology mentoring, building Imaginarium life, Imaginarium Academy and Technology partnerships across domains. Before Imaginarium, he was a Professor and Chief Co-Coordinator PLMCC at JSSATE, Bengaluru. Primarily focused on product design, jewellery design and PLM. Previously, he has served in key roles at Crompton Greaves, Titan, and Tanishq.



Dr. Suresh Nair

Chief Technology Advisor at Social Alpha.
Founder and CEO of Design Alpha

Dr. Suresh Nair is an alumnus of IIT Bombay. He co-founded Design Alpha with the support of Social Alpha and Tata Trusts. Design Alpha supports entrepreneurs working on products and technologies in the domains of health, environment, agriculture and education.

He's an active supporter and promoter of academia-industry collaboration for new technology development. He passionately mentors young entrepreneurs. In his professional journey, he has designed and developed an extensive array of novel products with excellent global market acceptance. With 30 years of multi-industry experience, he's a pioneer in advocating product designs and strategies.

Dr. Nair's ideology and expertise are reflected in his founding of Biophoton Technologies & co-founding Design Alpha. Since his initial career at R&D Lab of Ministry of IT and NeST as Chief Technology Officer, he's been at the forefront of various councils and boards, including various bodies of government R&D, Kerala State IT Mission, CUSAT, Kerala Startup Mission and several others.



Mr. Malay Mohapatra

Technical Associate
KIIT-TBI

Experienced in Design & Prototyping for Startup incubation system, Mr. Malay Mohapatra is a skillful, proactive strategist with significant experience in designing innovative product prototyping and managing FabLAB activities. His core competencies and professional strengths include expertise in CAD design and rendering 3D-Printing & post processing prototype development and quality inspection.



MetaConnect Consulting is a global one stop solution provider for all business research, strategic advisory and mentorship needs. They have a dedicated team of experienced professionals who work round the clock in the journey to solve challenging business problems and ease decision-making processes. They employ innovative and customized business solutions to help the clients accelerate their growth and value creation. They have built a two-way strategic partnership with all clients by first understanding & shaping their business requirements, and then strategically working with them to discover meaningful and powerful insights which are crucial to simplify, expedite and enhance (SEE approach) their decision-making processes.



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AKD Holding contributes in the areas of quality, health, safety and environment by providing value added services to their customers with consulting services for certification, auditing, inspection, high quality laboratory setups, regulatory compliances, training and testing, creating opportunities for their employees and generating sustainable value for their stakeholders

KIIT TBI Analytical Testing Team (Water Quality Testing)



Rahul Chatterjee

Operations Manager

Expertise: ISO certification, Regulatory compliances, Quality management



Ajit Kumar Nath

HOD – Food and Water

Expertise: HPLC, Process development, Quality analysis



Dr Soumik Sarkar

HOD – Microbiology

Expertise: Microbiology, QA/QC



Surapratap Pattanayak

Senior Chemist – Food and Water Lab

Expertise: HPLC, Gas Chromatography, FAME analysis



Soubhagya Dash

HOD – Mineral Analysis

Expertise: FTIR, COD Digester, Mineral testing and analysis



Naveen Kumar

HOD – Pesticide and Residue Analysis

Expertise: LCMS/MS, GC-FID/ECD, ICP-OES, Sulfa drug analysis



पेयजल एवं स्वच्छता विभाग
जल शक्ति मंत्रालय
भारत सरकार

DEPARTMENT OF DRINKING WATER AND SANITATION
MINISTRY OF JAL SHAKTI
GOVERNMENT OF INDIA

सत्यमेव जयते

jalshakti-ddws.gov.in

Jal Jeevan Mission is envisioned to provide safe and adequate drinking water through individual household tap connections by 2024 to all households in the rural India. The program will also implement source sustainability measures as mandatory elements,, such as recharge and reuse through grey water management, water conservation, rain water harvesting.

Implementing Agency



investindia.gov.in

The most awarded investment promotion agency in the world, Invest India is the advisor, guide, and facilitator to every investor looking to make a home in India. It is the first point of contact for global companies whom they handhold from the day they start exploring India as an investment destination and at every step of the way throughout their journey in the world's most liberal investment destination.

Implementing Agency



kiitincubator.in

More than 10 years into promoting innovations and entrepreneurship in the country, KIIT-TBI has now evolved into a potential center of relevance and excellence in the eastern and northeastern part of India.

Contact Us

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