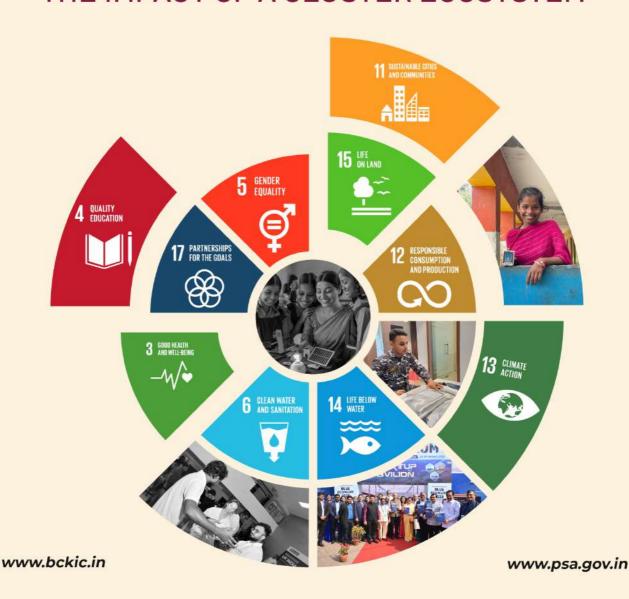




BCKIC FOUNDATION

Bhubaneswar City Knowledge Innovation Cluster (BCKIC) Foundation An initiative of the Office of the Principal Scientific Adviser (PSA) to the Government of India.

THE IMPACT OF A CLUSTER ECOSYSTEM



e-File: G-30011/62/2021-PROJ Prn.SA/Bhubaneswar Hub/2019 Government of India Office of Principal Scientific Adviser to the Government of India

Vigyan Bhawan Annexe Maulana Azad Road New Delhi 110011

Dated: the 20th April, 2022

OFFICE MEMORANDUM

Subject: Bhubaneswar City Knowledge Innovation Cluster (BCKIC) - Establishment of Section 8 Company

The "Office of the Principal Scientific Advisor" to the Government of India has initiated the establishment of City Knowledge and Innovation Clusters in selected cities across the country under the guidance of the Prime Minister's Science, Technology, and Innovation Advisory Council (PM-STIAC). Under this initiative, the Bhubaneswar City Knowledge Innovation Cluster (BCKIC), has been set up at Bhubaneswar, to foster growth and development in the region.

The Bhubaneswar City Knowledge Innovation Cluster is now registered as the Bhubaneswar City Knowledge Innovation Cluster Foundation (CIN U85320OR2022NPL038973), a Section 8 company under the provisions of the Companies Act, 2013 on 18st February, 2022. Bhubaneswar City Knowledge Innovation Cluster Foundation (BCKIC Foundation) is the bonafide legal entity of the Bhubaneswar City Knowledge Innovation Cluster, an initiative of the Office of the Principal Scientific Adviser to the Government of India.

The aim of the city cluster is to seamlessly connect R&D institutions, academia, startups, government institutions and foundations to leverage the complementary strengths towards facilitating innovations and knowledge creation with translational impact. The company will work with a multi-sectorial outreach towards creating a Hub & Spoke Model, to drive the translational innovation and deployment of the technologies for larger public good including creation of shared ecosystem, addressing the local and regional challenges as well as working on projects of national and global importance including:

- Harnessing the knowledge and expertise available in partnering academic, R&D institutions and industries
- To address the various local, regional and national challenges through science and technology interventions
- To stimulate manufacturing and commercialization of research discoveries
- Channelizing interventions and innovation for social impact in close collaboration with academia, industry, government bodies and philanthropic organizations
- To engage in industry oriented applied research to help industries stay competitive and sustainable
- Creating innovation pipeline and pathways for entrepreneurs at institute level
- To support and drive start-up ecosystem through incubators, R&D institutions, industry linkage and capacity building programs
- To promote Atmanirbhar Bharat and nurturing local manufacturing through collaborations and consultancy services.

(Jitendra R Gaikwad)

Deputy Secretary to the Government of India

Tel. No. 011-23022112

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Capt. GS RatheeSpecial Representative, TTAADC

About the Office of PSA and S&T Clusters

The Government of India established the Office of the Principal Scientific Adviser (PSA) in November 1999. The PSA's office aims to provide pragmatic and objective advice to the Prime Minister and the cabinet in matters of Science and Technology. The Office of PSA was placed under the Cabinet Secretariat in August, 2018.

Science and Technology Clusters (S&T Clusters), a flagship initiative of the Office Of the Principal Scientific Adviser (PSA) to the Government of India (GoI), were established after the recommendation of the Prime Minister's Science, Technology, and Innovation Advisory Council (PM-STIAC). Presently, eight S&T Clusters in India, including Bengaluru, Bhubaneshwar, Delhi-NCR, Hyderabad, Jodhpur, Northern Region, Pune and Vizag are striving to solve local problems in a consortium mode.





BCKIC is monitored and mentored through periodic PRMC meetings (Project Review & Monitoring Committee) and regular All-Cluster Meetings, where strategic progress, inter-cluster synergies, and impact dashboards are reviewed in the presence of the Principal Scientific Adviser and other PSA officials. Together, these PRMC reviews and All Cluster meetings constitute a regular and structured mechanism for monitoring, mentoring, cross-learning, and scaling innovation across the entire S&T cluster network.







Fostering Collaborative Innovation: BCKIC's Vision for Societal Impact

The Bhubaneswar City Knowledge Innovation Cluster (BCKIC) Foundation, established as a Section 8 company, is a flagship initiative led by the Office of the Principal Scientific Adviser to the Government of India, under the visionary guidance of the Prime Minister's Science, Technology, and Innovation Advisory Council (PM-STIAC).

BCKIC is not merely an organization; it represents a driving force committed to creating profound social impact. Our mission is to establish seamless connections between research institutions, academia, industry partners, startups, MSMEs, NGOs, philanthropic foundations, state governments, and international organizations, all within a Hub & Spoke Model.

Our primary objective is to address regional and global challenges through consortium-based collaborations. We believe in leveraging the collective strengths of our diverse stakeholders, uniting their expertise and technical know-how under a single umbrella. BCKIC nurtures a collaborative ecosystem, fostering innovation, technology development, and deployment, while respecting the autonomy of each participant. Furthermore, BCKIC in Bhubaneswar is not an isolated entity; it is an integral part of a network of seven S&T Clusters across India, including Bengaluru, Delhi NCR, Hyderabad, Jodhpur, Chandigarh, and Pune. These clusters serve as global technology hubs, facilitating the entire spectrum from technology development to the commercialization of solutions. Through our collaborative endeavors, we aspire to drive the growth of the social economy, create livelihood opportunities, and leave a lasting impact on society.



The Need for BCKIC Foundation in Odisha

Odisha, with its diverse challenges and untapped potential, requires a concerted effort to drive socio-economic development. The Bhubaneswar City Knowledge Innovation Cluster (BCKIC) Foundation emerges as a strategic initiative aimed at leveraging scientific expertise and resources to address these challenges effectively. With a significant population and various socio-economic disparities, Odisha faces obstacles such as poverty, natural disasters, and health issues. BCKIC recognizes the need for collaborative innovation to tackle these challenges head-on.

BCKIC serves as a platform for collaboration among entrepreneurs, research institutions, investors, industries, and government bodies. By fostering partnerships and synergy, BCKIC aims to translate research findings into practical solutions that benefit society. Bhubaneswar hosts several renowned research institutions, including the BRIC-Institute of Life Science and IIT Bhubaneswar, CSIR-Institute of Minerals and Materials Technology, National Institute of Science Education and Research Bhubaneswar, ICMR-Regional Medical Research Bhubaneswar, All India Institute of Medical Sciences, Bhubaneswar, and many state Universities like Utkal University, Ramadevi, KIIT University, OUAT, SoA, Ravenshaw, etc which possess advanced research capabilities. However, these efforts independently, leading to fragmented innovation landscapes. To bridge this gap, BCKIC facilitates collaboration and knowledge sharing among stakeholders.

By pooling resources and expertise, BCKIC accelerates the translation of research outcomes into impactful solutions. Through strategic partnerships and targeted support for startups, BCKIC promotes the commercialization of innovative ideas. This, in turn, drives economic growth and creates employment opportunities across the state. Furthermore, BCKIC provides essential training and capacity-building initiatives to empower stakeholders with the skills needed to thrive in the innovation-driven economy.

In summary, BCKIC's mission is to catalyze socio-economic growth in Odisha by facilitating collaboration, innovation, and knowledge exchange. By harnessing scientific expertise and fostering a culture of innovation, BCKIC aims to create a brighter future for the people of Odisha.

GEOGRAPHICAL FOCUS

Empowering East & North East India for Inclusive Growth



BCKIC is committed to addressing regional disparities and promoting inclusive growth, with a particular focus on the East and North East regions of India. These areas, including states such as Odisha, West Bengal, Assam, Manipur, Mizoram, Nagaland, Arunachal Pradesh, Tripura, Sikkim, and Meghalaya, possess immense potential in terms of cultural heritage, natural resources, and human capital. By harnessing these assets and prioritizing initiatives in these regions, BCKIC aims to drive sustainable development and social impact. However, BCKIC recognizes the importance of collaboration and integration on a national scale. Therefore, while initially focusing on specific geographical areas, BCKIC will actively engage with other innovation clusters across India. Through cross-cluster collaboration and knowledge exchange, BCKIC seeks to scale its impact nationally, leveraging synergies and unlocking opportunities for innovation-led growth across diverse geographic regions.





Establishment of BCKIC Foundation

The Bhubaneswar City Knowledge Innovation Cluster (BCKIC) Foundation was initiated on April 12, 2019, during a foundational meeting convened at KIIT University under the leadership of the Scientific Secretary at the Office of the Principal Scientific Adviser to the Government of India.

Attended by representatives from prominent institutions in Bhubaneswar, including the Institute of Life Science, Institute of Physics, and State Higher Education Department, among others, the meeting aimed to assess the city's existing knowledge and innovation potential and identify key challenges.

The discussions underscored the need to broaden research and development metrics beyond conventional indicators such as publications and patents, emphasizing the importance of fostering technological innovations with commercialization potential. Recognizing the significance of regional clusters as drivers of economic growth and innovation. the committee highlighted Bhubaneswar's emergence as a burgeoning startup hub and emphasized leveraging existing infrastructure to propel the city's innovation ecosystem. The unanimous agreement to establish BCKIC underscored the commitment to fostering cross-disciplinary collaborations and creating an enabling environment for innovation and product development.

ALL CLUSTER MEET 2024

Subsequent meetings and brainstorming sessions among key stakeholders further solidified the framework for BCKIC's establishment, aiming to systematically translate knowledge, technology, and innovation into tangible outcomes.







Bridging Innovations and Real-World Impact: Strategic Objectives of BCKIC



FACILITATING STRATEGIC PARTNERSHIPS

BCKIC fosters collaborations among research institutions, academia, industry, and NGOs to address societal challenges like healthcare accessibility, women empowerment, agritech & nutrition, education, and sustainable livelihood development.

Partnerships prioritize innovation and technology to create scalable solutions benefiting marginalized communities and promoting inclusive growth.

NURTURING INNOVATION-DRIVEN ENTREPRENEURSHIP

BCKIC supports startups and innovators focusing on solutions promoting environmental conservation, social equity, and economic resilience.

Mentorship, incubation programs, and funding access encourage the development of socially responsible businesses contributing to the circular economy and sustainable livelihoods.

TECHNOLOGY DEVELOPMENT AND DEPLOYMENT

Emphasis on technology development targeting pressing societal challenges such as healthcare disparities, food insecurity, environmental degradation, and economic inequality.

Facilitates technology transfer, promotes open innovation, and fosters academia-industry collaboration to adopt sustainable technologies improving quality of life and enhancing resilience.

CAPACITY BUILDING PROGRAMS

Conducts programs on sustainable business practices, social entrepreneurship, circular economy principles, and community-led development.

Empowers individuals and organizations with tools and resources to implement sustainable solutions, fostering a culture of innovation, resilience, and inclusivity.

INITIATING IMPACTFUL PROJECTS

Executes projects prioritizing social impact, sustainability, and circular economy principles in areas like renewable energy, waste management, sustainable agriculture, climate resilience, and inclusive economic development.

Demonstrates feasibility and scalability of sustainable solutions to inspire adoption and contribute to positive social change.

ESTABLISHING INNOVATION HUBS

Establishes innovation hubs and centers of excellence fostering social innovation and sustainable development.

Provides infrastructure, resources, and support services to entrepreneurs, researchers, and community organizations promoting social impact, environmental sustainability, and circular economy principles.

PROMOTING CROSS-SECTOR COLLABORATION

Facilitates networking events, innovation challenges, and collaborative projects integrating social impact, sustainability, and circular economy principles.

Encourages interdisciplinary collaboration and knowledge exchange to co-create innovative solutions addressing complex societal challenges holistically.

Key Benefits for All Stakeholders

For Industries

- Access to customized R&D solutions addressing industry-specific challenges.
- Deployment of technologies in CSR projects for societal benefits.
- Licensing opportunities for innovative technologies from startups and R&D labs.
- Engagement in themed challenges and hackathons to collaborate with innovators.
- Implementation of fair IP sharing framework in joint projects.

For NGOs/Philanthropic Organizations

- Collaboration with a diverse network to magnify social impact.
- Forming strategic alliances with socially-driven startups and research institutions.
- Access to cutting-edge social innovations and initiatives addressing societal challenges.
- Extending social programs to marginalized communities through wider outreach.
- Participating in collaborative learning and knowledge exchange within the cluster.

For Academia

- Engaging in strategic leadership discussions and comprehensive partnerships.
- Leveraging incubator strengths to fortify the entrepreneurship ecosystem.
- Facilitating interdisciplinary R&D projects and knowledge exchange.
- ➤ Contributing to and benefiting from infrastructure enhancement initiatives.
- Establishing global research collaborations and receiving support for team building.

For Startups

- Leveraging incubator strengths and accessing R&D facilities.
- Collaborating with other startups and MSMEs for piloting and commercializing technologies.
- Networking with state leadership and accessing IP & licensing assistance.
- Exploring funding opportunities and enhancing visibility through cluster-led events.
- Leveraging industry connections for market access and scaling up

For Government

- ➤ Catalyst for accelerating regional innovation-led economic development aligned with national missions
- ▶ Evidence-based policymaking through technology deployment with consortium based collaborations
- Facilitating skilling, entrepreneurship, and livelihood generation in priority sectors
- > Strengthens public-private-academia linkages critical for deploying scalable, sustainable solutions
- Bridges the gap between research institutions and industry, fostering commercialization of indigenous technologies

BCKC'S Collaborative Programs and Initiatives

EMPOWERING INNOVATION ECOSYSTEMS FOR SUSTAINABLE IMPACT



FUTURE ECONOMY

- Mission Blue Economy
- Odisha Green Hydrogen Valley
- SCIMITAR: Crtical Minerals Innovation & Technology



International Blue Economy Stakeholder Meeting

Supported By











































BCKIC has taken a strategic lead in positioning Odisha as a national launchpad for the Blue Economy through its flagship Blue Economy Conferences-India's first and second of their kind. These high-impact events brought together over 500 participants, including 100+ industry leaders, investors, policymakers, and global stakeholders from countries like the UK, Sweden, and Taiwan. With a focus on marine biotechnology, aquaculture, seaweed innovation, and offshore energy, the conferences catalyzed the Mission 50 Blue Economy Accelerator, supported the launch of the Blue Economy Startup Compendium, and laid the groundwork for a 20,000 sa. ft. Biofoundry in Odisha.

Impact

- ➤ 500+ participants, 100+ delegates from Industry, Policy Investor, & NGOs, 50+ startups and 20+ institutions engaged
- > 50+ Startups Showcased Blue Economy based Technologies & Innovations
- ➤ Launched Mission 50 Blue Economy Startup Compendium
- Secretary, DBT, Gol announced Establishment of Marine Biofoundary supported under BioE3 Scheme









Mission 50 Blue Economy Accelerator





The Mission 50 Blue Economy Accelerator is a flagship initiative by BCKIC aimed at fostering innovation and entrepreneurship in the marine and coastal sectors. Supported by HDFC Bank CSR, the program selected 50 startups from over 200 applications nationwide, focusing on marine biotechnology, aquaculture, seaweed-based products, marine AI, and offshore energy. The initiative facilitated mentorship, market access, and funding-providing upto ₹30 lakhs each to three top-performing startups. Deployed in regions like Balasore and Jagatsinghpur, these innovations contribute to sustainable livelihoods and ecological balance. The initiative aligns with national Blue Economy goals, establishing Odisha as a hub for marine innovation and policy leadership.

Impact

612

Total Startup
Applications Received

12

Startup Supported for NHS Immersion

12

Startup Supported for NHS Immersion

+08

Strategic Mentorship for Startups

12 Cr+

Grant & Investment Facilitation for Startups

12 Cr+

Grant & Investment Facilitation for Startups







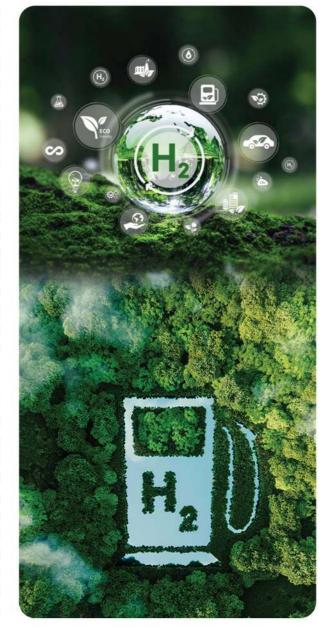


Odisha Hydrogen Valley Innovation Cluster



Hydrogen Valley coordinated by Bhubaneswar City Knowledge Innovation Cluster (BCKIC) and led by IIT Bhubaneswar with other cluster members like - CSIR IMMT, KIIT, TIFR Hyderabad, NISER Bhubaneswar and Industry partners like - Hero Energies, Metsol, OMC, IOCL, JSPL, Oil India and Dalmia Bharat is a pioneering initiative under the Odisha Hydrogen Valley Innovation Cluster, aiming to position Odisha as a national leader in clean energy innovation. Sanctioned by the Department of Science and Technology (DST), Government of India, this initiative focuses on developing indigenous hydrogen production and application technologies through multi-stakeholder collaboration. BCKIC plays a catalytic role by connecting academic institutions, startups, industries, and government agencies to co-develop scalable, sustainable hydrogen solutions across sectors such as mobility, power, fertilizer, and manufacturing.

The initiative is designed to address the full hydrogen value chain—from production and storage to distribution and end-use—while also fostering public-private partnerships, capacity building, and policy advocacy. It aims to increase public awareness and industry acceptance of hydrogen as a clean fuel alternative. As part of its strategic outreach, BCKIC is hosting regular networking and stakeholder engagement sessions strengthening global linkages for technology deployment and knowledge exchange. This initiative supports India's broader Green Hydrogen Mission and sustainable development goals.



SCIMITAR: Supporting Critical Minerals Innovation Technology, and Resilience in the UK & India

Supported By





SCIMITAR (Supporting Critical Minerals Innovation, Technology, and Resilience) is a strategic initiative by BCKIC to foster UK-India collaboration in the critical minerals sector, focusing on innovation, sustainable extraction, and circular economy practices. Recognizing the geopolitical industrial significance of critical minerals-such as lithium, cobalt, and rare earth elements-SCIMITAR aims to strengthen bilateral research, technology development, and supply chain resilience. The initiative brings together academic institutions, startups, and industry players from both nations to co-develop clean technologies, promote responsible sourcing, and explore recycling solutions. By enabling cross-border partnerships, policy dialogue, and innovation acceleration, SCIMITAR positions Odisha and India as vital contributors to the global critical minerals supporting ecosystem while green transitions and strategic autonomy in advanced manufacturing sectors.









Impact

30+

10+

UK Delegations Industries Engaged

30+

1 Day

Scientists Engaged Industry Immersion



AFFORDABLE — HEALTHCARE

- UK India Healthtech Bootcamp
- Clinician Peer Support Program



Affordable Healthcare

UK – India Healthtech Bootcamp for Digital Health Startups



The UK-India HealthTech Bootcamp, implemented by Bhubaneswar City Knowledge Innovation Cluster (BCKIC) in collaboration with the British High Commission, is a pioneering endeavour empowering Indian health-tech innovators to scale into the UK market. The UK-India Health Tech Bootcamp is aimed to bridge the gap between Indian innovation and the UK's healthcare ecosystem. The networking events aims to connect NHS stakeholders, providers, UK companies, clinicians, and thought leaders with Indian health tech companies to foster impactful collaborations that support business growth and tackle common challenges for a broader global impact. Held first in March 2023 in Bhubaneswar and followed by a UK immersion tour in November 2024, it comprises a fully funded, three-day program in India for up to 30 startups, and a bespoke five-day UK immersion for six selected companies. Following the resounding success of first cohort, it has been a flagship initiative for the past three years, fostering cross-border innovation in affordable healthcare solutions.









Impact

612

Total Startup Applications Received +08

Strategic Mentorship for Startups

12

Startup Supported for NHS Immersion 12 Cr+

Grant & Investment Facilitation for Startups



Affordable Healthcare

Clinician Peer Support Program

Supported By



As healthcare evolves, clinicians must not only excel in patient care but also contribute to innovative solutions and entrepreneurial endeavours that address pressing healthcare challenges. The Clinician Peer Support Program (CPSP) outlines a comprehensive training program aimed at equipping clinicians with the skills, knowledge, and mindset to become effective innovators and entrepreneurs within the healthcare ecosystem. Through real-world problem-solving, interdisciplinary collaboration, and access to industry expertise, participants will emerge equipped to lead transformative healthcare initiatives.



- Immerse clinicians in the fundamentals of healthcare innovation and entrepreneurship
- Build interdisciplinary collaboration between clinicians, engineers, business professionals, and policymakers
- Build pathway for clinicians to secure government fundings to develop scalable healthcare solutions and entrepreneurial ventures









Impact

80+

50+

Clinicians Engaged

Healthcare Startups Engaged

1.25

12 Cr+

IPs Facilitated for Clinicians & Healthcare Startups Funding Support Provided to Clinicians (in INR Cr)



TECHNOLOGY – DRIVEN SUSTAINABLE LIVELIHOOD

- Chilika Bioresource Centre
- Restore Promise of Water (RPOW)
- Management & Marketing Support Agency for OFSDS, Govt of Odisha
- Women Technology Parks (WTPs)



Management and Marketing Support Agency (MMSA)

Supported By





The Management & Marketing Support Agency (MMSA), established under the Odisha Forestry Sector Development Society's OFSDP-II project, is a collaborative initiative by BCKIC, KIIT-TBI, and the Indian Institute of Entrepreneurship aimed at uplifting forest-fringe communities. Launched on 1 July 2022, MMSA functions as both aggregator and facilitator, building multi-product clusters for locally sourced forest products such as sal leaves, aromatic paddy, and karanj seeds. By organizing product processing hubs, training stakeholders, establishing value-addition infrastructure, and forging market linkages, MMSA enhances income-generating activities among Self-Help Groups and community committees. It also provides capacity-building programs and financial support, ensuring fair prices, timely payments, and sustainable enterprise models-thus empowering sustainable livelihood outcomes while safeguarding ecological balance.

The Odisha Forestry Sector Development Society (OFSDS) has sanctioned Phase II of the MMSA Project with an allocation of ₹3.69 crore to expand, pilot, and strengthen market-driven operations across key forest regions.

Impact

12+

Forest Divisions

40+

Major & Minor Products Identified

1221+

Baseline of VSS Mapped 10 K+

Training and Capacity building beneficiaries











Restore Promise of Water Initiative

Supported By









The "Restore Promise of Water" initiative by BCKIC, launched in partnership with IIT-IIT and community organizations, targets critical water scarcity in Rayagada's Chandrapur block, Odisha. Traditional ponds and tanks were rejuvenated by excavating 10,000⊠m³ of silt across three pilot water bodies, enhancing storage capacity by approximately 52 lakh gallon. The nutrient-rich silt was returned to farmers' fields, boosting soil fertility and reducing fertilizer costs. while also enabling pisciculture-based livelihoods. About 250 farmers benefited directly through the initiative's community-led model that integrates ecological restoration with rural empowerment. Moving beyond pilot sites, BCKIC aims to scale this waterbody rejuvenation model across Odisha, reinforcing groundwater recharge and sustainable agriculture across the region. The project integrates Al-driven monitoring to track water quality, biodiversity, and efficiency, replicable usage creating eco-restoration model that aligns with sustainable development goals and enhances local livelihoods through science, community participation, and climate resilience.









Impact

20

Modules executed this season 800

Farmers directly benefited

2 Lakh

Cubic meter of soil desilted 52.83 Lakh

Litre of water storage enhanced (in gallon)



Chilika Bioresource Centre

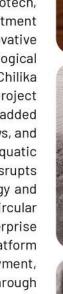
Supported By





KALINGA INSTITUTE OF INDUSTRIAL TECHNOLOGY SCHOOL OF BIOTECHNOLOGY

The Chilika Bioresource Centre Project, coordinated by BCKIC and implemented by School of Biotech, KIIT & CSIR IMMT and supported by the Department of Science and Technology (DST), is an innovative initiative aimed at transforming the ecological challenge of Phragmites karka invasion in Chilika Lake into an economic opportunity. The project focuses on developing sustainable, value-added products such as particle boards, paper, straws, and packaging materials from this invasive aquatic plant, which threatens biodiversity and disrupts livelihoods. By leveraging lab-scale technology and local bioresources, the initiative promotes circular models economy and green enterprise development. The centre also serves as a platform for research, skilling, and technology deployment, directly benefiting local communities through livelihood generation and environmental restoration. The Chilika Bioresource Centre is set to become a hub for eco-innovation, supporting Odisha's broader vision of bioeconomy-led development while aligning with national and global sustainability goals such as SDG 12 (Responsible Consumption) and SDG 14 (Life Below Water).













Impact

1 K

Total Beneficiaries

Number of SC **Beneficiaries**

Direct SC **Beneficiaries**

Indirect SC **Beneficiaries**



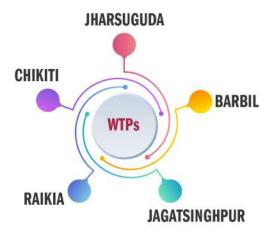
Women Technology Parks (WTPs)

We work to establish The Women Technology Park (WTP) dedicated to empowering women in technology and innovation. Its core objectives include providing skills development, supporting women-led startups, fostering collaboration, promoting research and innovation, advocating for gender inclusivity, and engaging with the community to inspire and support women pursuing careers in technology.



IMPACT	5 Districts Covered	8 Blocks Covered			
1500+ Total Trained	35 Micro Enterprise Established	5 Funding Partners			
6500+ Participants Reached	1220+ SHGs Associated	5 Number of WTPs			

WTP Implementation Sites



Eco-friendly Polymer-based Feminine Hygiene Products for Tribal Blocks of Odisha

Supported By





BCKIC, in partnership with Modulus Housing and supported through CSR funding, has initiated the Establishment of a Sanitary Pad Production Unit aimed at improving menstrual hygiene and empowering rural women. The project was implemented in Katikela village, Jharsuguda district, where a modular production unit was set up to manufacture low-cost, biodegradable sanitary pads. This initiative not only addresses critical health and hygiene challenges but also promotes women-led microenterprises by engaging local self-help groups in production, packaging, and distribution. Training and capacity building were integral components, ensuring sustainable operations and community ownership. By enabling access to affordable and menstrual products creating livelihood opportunities, the project strengthens both public health outcomes and rural entrepreneurship. Aligned with BCKIC's broader mission technology-led social impact, this model is designed for replication across underserved regions in Odisha, contributing to SDG 3 (Good Health and Well-being) and SDG 5 (Gender Equality).











300+

15

Women Sensitized & Engaged **SHGs Engaged**

2K+

15+

Sanitary Pads Produced Training Programs Conducted

STEM

- Bayer "MEDHA" Fellowship
- Catch Them Young & ATL Sarthi
- IP Faclitation & Leadership Talks



STEM Education

Bayer's Fellowship Program "MEDHA"



"Fellowship support for Masters and PhD students of After a meticulous selection differently-abled-were awarded scholarships for Master's and PhD programs.

Economically Weaker Section of Society pursuing Master's/Doctoral studies in Life sciences / Biotechnology / Pharma with special selection criteria being 60% for the female students and 10% for the PWD students." In order to foster and support the next generation of young scholars to learn and grow, Bayer Foundation India in association with Bhubaneswar City Knowledge Innovation Cluster (BCKIC) Foundation, an initiative led by the Office of the Principal Scientific Adviser to the Government of India has launched the flagship initiative Bayer's Fellowship Program "MEDHA" with an aim to provide financial assistance to students from economically weaker section of the society to pursue higher studies such as Master's and Doctoral programs in the field of Life-sciences / Biotechnology / Pharma. scholars-60% of whom were women and 10%

3,186 100 Postgraduate Applications Students Received Supported

120+

Total

Total Fellowship Mentoring Hours Outlay (in INR Cr)

8.40

25 Doctoral Students Supported

Female Scholars Supported

77

Monthly Scholarship: INR 20,000 (Master's, 2 years), INR 40,000 (PhD, 3 years)

Demographics: 60% female scholars, 10% differently abled



Bayer & BCKIC Foundation have been regularly conducting various capacity building programs and workshops like - proposal writing, scientific writing, sensitization on funding opportunities, design thinking, IPR, etc. to develop the skill sets of the supported scholars. Regularly, sensitization cum mentoring session are conducted in collaboration with DAAD to explore scope of research and study opportunities in Germany.

Key Achievement of the MEDHA Scholar

- ➤ Riva Johnson, PhD Scholar, University of Calicut got her Indian patent granted
- ➤ Anurag Bera, PhD Scholar, Tea Research Institute got a job offer from TRI, Guwahati as Research Scientist
- ➤ Pratyush Behera, MSc, KIIT University got a job offer from NIV Pune as Technical Associate
- ➤ Prasanna S, MSc, Tamil Nadu Agri University awarded the Khorana Scholarship 2024 by IUSSTF & DBT, Gol

STEM Education

Catch Them Young: Transforming Minds at ATL Labs

Supported By







The ATL Sarthi & Catch Them Young initiative by BCKIC is a flagship STEM outreach program designed to foster scientific temper, creativity, and innovation among school students across Odisha. In collaboration with Atal Innovation Mission (AIM), NITI Aayog, and local partners, the initiative provides mentorship, hands-on learning, and capacity building support to Atal Tinkering Labs (ATLs) in government and rural schools. BCKIC acts as a mentor and monitoring partner, ensuring effective implementation and usage of lab resources while nurturing student-led problem-solving prototyping skills. The "Catch Them Young" component further deepens engagement through innovation challenges, exposure visits, bootcamps aimed at cultivating future-ready innovators from an early age. The initiative has reached over 100 schools, focusing on inclusivity, access, and regional equity in STEM education. Aligned with NEP 2020 and SDG 4, this program strengthens Odisha's innovation pipeline by creating a foundation of curiosity-driven, hands-on learning for grassroots students.







Impact

30+

District Footprints

ATL Schools Engaged

10+

30+

Total Student Engaged 1 Day

ATL Managers Engaged

STEM Education

IP Facilitation & Leadership Talk Series

Supported By



BCKIC's IP Facilitation and Awareness Initiative is aimed at nurturing a culture of innovation and safeguarding intellectual assets among startups, researchers, and academic institutions in Odisha. Through a series of IP Clinics, BCKIC has enabled over 100 innovators to receive direct support on patent filing, prior art search, IP strategy, and commercialization pathways. In collaboration with patent experts and legal advisors, the initiative offers end-to-end mentoring and subsidized IP filing assistance-bridging critical gaps in early-stage innovation protection. These efforts are particularly impactful for grassroots entrepreneurs and student innovators working on tech-led solutions in sectors like healthtech, biosciences, and sustainability. Complementing this, the BCKIC Talk Series serves as knowledge-sharing platform, hosting discussions with national and international thought leaders on topics such as research translation, deep-tech entrepreneurship, and IP policy. Together, these initiatives strengthen Odisha's innovation ecosystem by empowering stakeholders to protect, scale, and commercialize their ideas effectively.











300+

125+

IPR Consultations Done

Patents Filed

30+

20+

Institutes Engaged

Patents Filed for Startups



NORTH-EAST IMPACT

Manipur Technology Innovation Hub



Building Northeast Ecosystem

Manipur Technology Innovation Hub (MTI Hub) & BIRAC SPARSH Centre

Supported By





BCKIC's Northeast initiatives, including the MTI Hub and SPARSH Social Innovation Program, aim to underserved communities through technology-driven, sustainable livelihood solutions. The MTI Hub in Manipur, established in collaboration with local partners, serves as a regional anchor for deploying grassroots technologies processing, climate-resilient agriculture, and rural enterprise development-particularly benefiting women and tribal communities. Complementing this, the BIRAC-SPARSH program supports social innovations under the themes of "Farm to Plate" and "Health for All," focusing on inclusive biotech solutions for the Northeast ecosystem. Furthermore, over 30 innovators have been supported across areas such as banana fibre crafts, pearl farming, nutraceuticals, and insect protein. These initiatives offer not just funding but also mentoring, incubation, and market linkages, creating a scalable model of community-based innovation.









Impact

10K

Sq ft Built up Area 1 K

Innovators Reached 60+

Startups Supported 15+

Institutional Collaborations 3.6 Cr+

Funds Raised by Startups

07

Products Launched

50+

Training Programs Conduted 300+

Total Mentoring Hours for Innovators 16

District Footprints in Manipur 500+

Rural Women Empowered

Technologies Pivotal

towards

SOCIAL IMPACT



Combating Anemia through Non-Invasive Hemoglobin Screening Devices

BCKIC, in collaboration with EzeRx HealthTech Pvt. Ltd., is transforming community health screening through the deployment of "EzeCheck" – a non-invasive hemoglobin detection device that provides rapid, needle-free anemia diagnosis. Designed for ease of use and portability, EzeCheck uses spectrometry-based technology to deliver accurate hemoglobin readings within seconds, eliminating the fear and risks associated with blood-based testing.

Implemented across underserved regions of Odisha, the initiative focuses on early anemia detection among adolescent girls, pregnant women, and children – groups most vulnerable to iron deficiency. In Koraput and Keonjhar districts, community health workers have successfully screened thousands using EzeCheck, resulting in early diagnosis and timely referrals. In schools, the device is enabling mass screenings under health camps, ensuring no child is left undiagnosed due to infrastructural or logistical barriers.

This initiative not only reduces diagnostic time and costs but also empowers frontline workers with real-time data. The project aligns with public health goals to combat malnutrition, supports national anemia eradication missions, and promotes preventive care, ultimately improving health outcomes and strengthening community-level healthcare delivery systems.













Reviving & Rejuvenating Water Bodies with IoT based Device

BCKIC Foundation, in collaboration with Bariflo Cybernatic Pvt. Ltd., is spearheading efforts to rejuvenate water bodies using cutting-edge sensor-based IoT technologies and Al-driven data analytics. These smart systems monitor critical water health indicators such as dissolved oxygen, pH, turbidity, and nutrient levels in real-time. The initiative empowers local communities with timely data to take corrective actions, enabling restoration of aquatic ecosystems and ensuring long-term sustainability.

One notable success is the rejuvenation of a neglected pond in the Ganjam district, where continuous monitoring and aeration interventions improved water quality, enabling fish farming and restoring biodiversity. In another case, a waterbody in Khurda was revived through a community-driven model using Bariflo's dashboard insights, leading to a reduction in pollution levels and improved groundwater recharge.

These efforts not only enhance water security but also foster social impact by improving livelihoods, community awareness, and ecosystem services. The project model emphasizes participatory planning, technology transfer, training, and community ownership, making it scalable and sustainable for nationwide replication.











Transforming Water Quality Monitoring with Decentralized IoT Analyzers

BCKIC introduces a portable digital water quality analyzer, CLIUX C011, which streamlines water testing processes and delivers swift results for crucial parameters. Currently measuring 8 parameters, it aims to expand its capabilities to meet IS 10500 standards, incorporating fluoride, nitrate, arsenic, and microbiological factors through software updates. CLIUX C011, utilizing IoT technology, evaluates water quality parameters, offers geolocation capabilities, and transmits results to a Web Dashboard for real-time monitoring. Validated by NABL approved labs for results within the standard deviation as per APHA guidelines with over 98% accuracy, these analyzers ensure safe drinking water, mitigating health risks and promoting sustainable development. Key differentiators include portability, real-time monitoring, multi-parameter analysis, affordability, community engagement, and a Web Dashboard with Mobile App. The significance of decentralized water quality monitoring lies in addressing global demands for safe water, offering a user-friendly solution accessible even in rural areas. This approach leads to faster detection of contamination. reduced operating costs. prevention through early intervention, and for impactful and cost-effective scalability solutions. The detailed work plan involves project planning, deployment, training, monitoring, and evaluation, ensuring effective implementation and assessment. The project, implemented collaboratively, aims to improve public health, empower communities, promote environmental sustainability, and build local capacity while community engagement and project advocacy.









Population Health Screening

Non-communicable diseases (NCDs) such as diabetes, cardiovascular conditions, cancers, and anemia account for over 63% of deaths and nearly 70% of the disease burden in India, with the WHO reporting 4 million NCD-related deaths annually—1.7 million of which are premature. Karnataka mirrors this national trend, with NCDs responsible for over 60% of its disease burden. In Bangalore, rapid urbanization and the coexistence of communicable diseases exacerbate the NCD crisis, especially in low-income and slum communities. Within these vulnerable areas, poor sanitation, low health awareness (only 27.4% have good knowledge), and limited access to nutritious food elevate NCD risks. Anemia, especially among women and children, and diabetes, projected to increase by 172% by 2045, are of particular concern in these communities.

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Corporate Social Responsibility (CSR) initiatives can be instrumental in addressing this health challenge. By focusing on anemia and diabetes awareness and prevention, CSR efforts can drive community education, promote healthier behaviors, and enhance healthcare access.

A collaborative project with MedTel exemplifies this approach, deploying an All-in-One Health Kit for door-to-door NCD screening in slums. Trained health workers perform tests and report results instantly, ensuring timely diagnosis and referrals. A centralized dashboard supports data-driven planning and tracking.

The project's scalable model, rooted in needs assessments and robust standard procedures, aims for replication in rural areas. With loT-enabled tools, local partnerships, and diversified funding, the initiative strives to bridge healthcare gaps and build healthier communities.











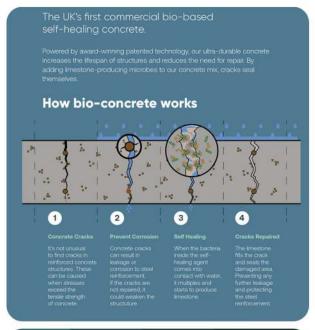


Self healing Concrete Technology from Fly Ash for Shoreline Management

Bhubaneswar City Knowledge Innovation Cluster Foundation (BCKIC) proposes to protect the cost line of eastern India with innovative, patent-protected bio-based self-healing concrete structures.

We aim to construct shoreline protection structures along the coastline to prevent erosion and promote marine biodiversity by building resilient structures utilizing fly ash generated from industries, otherwise considered as waste. Bulk utilization of fly ash in the structures will address the problem of fly as accumulation as well. We use the lowest proportion of cement possible in our products reducing the amount of embedded carbon in retaining structures by half of the conventional structures. The structure is tested to have enhanced sustainability and durability. The self-healing property extends the lifespan of the structures, significantly reducing maintenance costs. We focus on creating eco-engineered, resilient marine structures that not only withstand harsh marine environments but also promote biodiversity.

The project involves a comprehensive survey, including shoreline vulnerability assessment, tidal patterns analysis, and coastal geomorphology study, coupled with an Environmental Impact Assessment (EIA) evaluate ecological implications and water quality impacts. Utilizing field surveys, remote sensing, and GIS for data collection. We emphasize stakeholder engagement, incorporating inputs from local communities, government agencies, and NGOs to improve the society as whole.







Transforming Tomorrow

Support for Creating a first of its kind Innovation & Impact Hub in Eastern and Northeastern India

A transformative innovation hub that transcends mere infrastructure to become a beacon of positive change in our region.

Platform for Deep Tech Innovation

On the first floor, we envision the creation of a cutting-edge facility dedicated to deep tech innovation. This space will house the prestigious BCKIC Think Tank Club, serving as a hub where experts and innovators converge to tackle society's most pressing challenges. Additionally, we plan to establish a state-of-the-art hall for product showcases, providing startups and entrepreneurs with a platform to exhibit their innovative products. A Technology Readiness Level (TRL) maturation center will also be established to facilitate product testing, refinement, and validation. Moreover, Intellectual Property (IP) & Tech Transfer office and an Office of Regulatory Affairs will streamline the transition of innovations into the market.

Platform for Technology Showcase

The fourth floor of our innovation hub will be dedicated showcasing cutting-edge technologies and innovative products developed within our ecosystem. This floor will serve as a dynamic platform for stakeholders experience firsthand the transformative power of innovation across various sectors. From healthcare to agriculture, waste management to circular economy solutions, visitors will have the opportunity to interact with working prototypes, demos, and exhibits, gaining insights into the practical applications and benefits of these innovations. Additionally, this floor will facilitate collaboration and knowledge exchange, enabling stakeholders to leverage these technologies for further research, development, and implementation in their respective fields.

Platform for Societal Innovation

Moving to the second floor, we aim to create a catalyst for societal innovation, empowering communities and preserving cultural heritage. Here, initiatives such as the Women Technology Park (WTP) training center and the preservation of tribal knowledge and art will take center stage. By providing skill development and support for women in technology and innovation, as well as preserving the rich cultural heritage of our region, we aim to create sustainable livelihood opportunities and bridge the gap between innovative solutions and potential markets.

Platform for Manufacturing Hub

Recognizing the importance of translating innovation into tangible products, the third floor our innovation hub will house a state-of-the-art manufacturing hub. This hub cater to the development manufacturing of Make in India innovative products aimed at addressing challenges in healthcare, agriculture, waste management, food security, and circular economy. Equipped with advanced manufacturing technologies and facilities, this floor will serve as a launchpad for turning innovative ideas into scalable solutions that positively impact society. From prototype development to mass production, manufacturing hub will support startups, entrepreneurs, and innovators in bringing their ideas to fruition, driving economic growth and job creation in the process.

Measuring Impact and Sustainability:

Key Metrics for BCKIC's Social, Environmental, and Economic Contributions



1 Social Impact Metrics

- Reduction in healthcare disparities and improvement in health outcomes among underserved communities.
- ➤ Empowerment of women and marginalized groups through skill development, entrepreneurship opportunities, and access to resources.
- Strengthening of social cohesion and community resilience through collaborative initiatives and capacity-building programs.
- ➤ Enhancement of educational opportunities and academic achievement, particularly in STEM fields, leading to socioeconomic mobility.

2 Community Engagement & Outreach

- Expansion of community participation in decision-making processes and project implementation, fostering a sense of ownership and empowerment.
- Facilitation of dialogue & collaboration between stakeholders from diverse backgrounds, promoting inclusivity and social cohesion.
- Provision of platforms for community-driven initiatives and grassroots innovation, amplifying local voices and addressing unique community needs.
- Establishment of community centers and outreach programs to promote awareness, education, and advocacy on pressing social issues.

3 Environmental Impact Metrics

- ➤ Mitigation of environmental degradation through sustainable land use practices, reforestation efforts, and habitat restoration projects.
- ➤ Reduction in greenhouse gas emissions and carbon footprint through the adoption of renewable energy solutions and energy-efficient technologies.
- Conservation of natural resources, biodiversity, and ecosystems through habitat preservation, conservation initiatives, and sustainable resource management.
- Promotion of waste reduction, recycling, and circular economy principles to minimize environmental pollution and resource depletion.

Technology Readiness Level (TRL) Progression

- ➤ Advancement of technology readiness levels through research, development, testing, and validation of innovative solutions.
- ➤ Transition of promising technologies from early-stage prototypes to market-ready products through TRL maturation centers and validation programs.
- ➤ Collaboration with industry partners and regulatory agencies to navigate the path to commercialization and regulatory approval.
- ➤ Monitoring of TRL progression metrics to track the maturity and viability of technologies, guiding investment decisions and resource allocation.

4 Number of Startups Supported

- Acceleration of entrepreneurial growth and innovation ecosystem development through support for startups and SMEs.
- Provision of mentorship, funding, infrastructure, and networking opportunities to enable the growth and success of early-stage ventures.
- Cultivation of a diverse portfolio of startups spanning various sectors, including healthcare, agriculture, renewable energy, and technology.
- ➤ Facilitation of market access and commercialization support to help startups scale their innovations and reach wider audiences.

6 Number of Innovations Developed

- Creation of a pipeline of innovative solutions addressing key societal challenges such as healthcare accessibility, agricultural productivity, and environmental sustainability.
- ▶ Development of novel technologies, products, and services with the potential to disrupt industries, drive economic growth, and improve quality of life.
- Promotion of interdisciplinary collaboration and knowledge exchange to catalyze innovation and foster cross-sectoral solutions.
- ➤ Identification and prioritization of high-impact innovation opportunities based on market demand, technological feasibility, and social relevance.

7 Employment Generated

- ➤ Generation of direct and indirect employment opportunities across various sectors, including technology, healthcare, agriculture, and environmental management.
- Creation of skilled jobs in emerging industries such as renewable energy, digital health, sustainable agriculture, and green manufacturing.
- Empowerment of youth, women, and marginalized communities through training, capacity-building, & job placement programs.
- ➤ Contribution to economic resilience and inclusive growth by diversifying the labor market and reducing unemployment rates.

9 Long-term Sustainability

- ▶ Integration of sustainability principles into project design, implementation, and evaluation processes to ensure long-term viability and resilience.
- ➤ Adoption of holistic approaches that balance economic prosperity, social equity, and environmental stewardship in decision-making and planning.
- Engagement with stakeholders and communities to foster a culture of sustainability and shared responsibility for natural resource management and conservation.
- ➤ Development of governance structures, policies, and incentives that promote sustainable development practices and mitigate risks associated with climate change and environmental degradation.

8 Sustainability Assessment

- Evaluation of projects and initiatives based on their adherence to sustainability criteria, including environmental impact, social equity, and economic viability.
- ➤ Monitoring of key performance indicators and impact metrics to assess progress towards sustainability goals and identify areas for improvement.
- ➤ Implementation of monitoring and evaluation frameworks to track the long-term effects of interventions on ecosystems, communities, and economies.
- Collaboration with stakeholders, experts, and regulatory bodies to conduct regular audits, reviews, and assessments of sustainability performance and compliance.
- ➤ By prioritizing these impact metrics and assessments, BCKIC Foundation can maximize its contributions to social development, environmental conservation, and economic prosperity, while ensuring the long-term sustainability and resilience of its initiatives.



"BCKIC nurtures and deploys technologies which are adaptable, affordable and scalable"

Driving Sustainable Practices



1 Ecosystem Integration

Foster collaboration and integration across diverse stakeholders including research institutions, academia, industry partners, startups, MSMEs, NGOs, and government agencies to create a cohesive innovation ecosystem.

3 Innovation Acceleration

Implement strategies to accelerate innovation and technology deployment across various sectors, driving economic growth, social progress, and environmental sustainability.

2 Sustainable Development Goal Alignment

Align initiatives and interventions with the United Nations Sustainable Development Goals (SDGs) to ensure that BCKIC's activities contribute directly to global efforts for sustainable development.

4 Capacity Building

Focus on capacity building initiatives to enhance the skills, knowledge, and capabilities of individuals and organizations, empowering them to drive innovation-led growth and create sustainable livelihoods.

5 Entrepreneurship Promotion

Promote entrepreneurship and startup culture by providing support, mentorship, and funding to aspiring entrepreneurs, fostering a conducive environment for innovation and economic empowerment.

6 Partnership and Collaboration

Forge strategic partnerships and collaborations with local, national, and international entities to leverage resources, expertise, and networks for maximum impact and scale.

7 Inclusive Innovation

Prioritize inclusive innovation by ensuring that technological advancements benefit all segments of society, particularly marginalized communities, and address pressing challenges such as poverty, inequality, and climate change.

8 Policy Advocacy

Advocate for supportive policy frameworks and regulations that facilitate innovation, entrepreneurship, and technology deployment, creating an enabling environment for sustainable development and growth.

9 Impact Measurement & Evaluation

Establish robust systems for measuring and evaluating the impact of BCKIC's initiatives, using data-driven insights to continuously improve strategies and optimize resource allocation.

10 Scale and Replicability

Design initiatives with scalability and replicability in mind, aiming to expand successful models and interventions to new geographic areas and sectors, maximizing reach and impact for sustainable change.

11 Systems Strengthening

Strengthen existing systems and develop new mechanisms to ensure that no one is left behind, particularly focusing on marginalized communities and vulnerable populations, to promote equity and inclusivity in all aspects of BCKIC's work.



2025 **BCKIC FOUNDATION**

BCKIC Foundation Stakeholders

INDUSTRY & CORPORATES



























































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Statutory Documents of BCKIC Foundation





BCKIC Foundation, Section 8 Company is the bonafide legal entity of Bhubaneswar City Knowledge Innovation Cluster, an Initiative of the Office of the Principal Scientific Adviser to the Government of India.

Email: chairman@bckic.in | ceo@bckic.in

www.bckic.in