





Impact Report

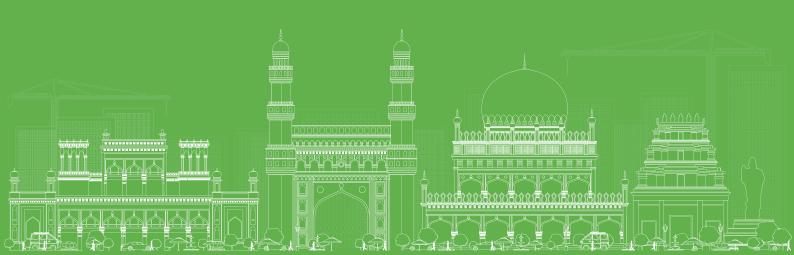
2020-22

INNOVATE | INTEGRATE | IMPACT



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Vision and Mission

Research and Innovation Circle of Hyderabad (RICH) is the nodal agency for the Hyderabad Science & Technology (S&T) Cluster, an initiative of the Office of Principal Scientific Adviser (PSA) to the Government of India. It is a Section 8 company under the Companies Act 2013.

Launched in 2017 by the Government of Telangana, RICH acts as a facilitator and aims to foster greater collaboration between various entities in the research and innovation space. RICH operates in close coordination with the S&T Cluster Apex Committee and the Prime Ministers Science, Technology and Innovation Advisory Council (PM-STIAC).

The Clusters work towards achieving the following broad objectives:

- To increase India's national and global S&T competitiveness.
- To become regional solution providers for local industry and government.
- To create shared S&T ecosystems in India.



Vision

Foster innovation that advances society, through the effective use of science and technology.



Mission

Catalyse an ecosystem that empowers innovators to transform scientific research into impactful solutions that generate wealth and employment and promote social good.



Tagline

13: Innovate. Integrate. Impact.

Values



Collaborative



Creative



Trustworthy



Impactful



Diverse

Who do we work with?

Core Audience

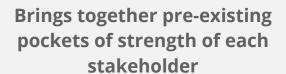
Start-ups and their customers, national and international research/academic institutions, industry, government organisations, Central and State ministries

Secondary Audience

Funders, investors, incubators, regulators, key opinion leaders, and policy makers

Tertiary Audience

General public, students, and NGOs



Fills gaps in the innovation-entrepreneurship -investment ecosystem



A collaborative platform



Drives social and economic transformation in India

Harnesses the full potential of science and technology

2

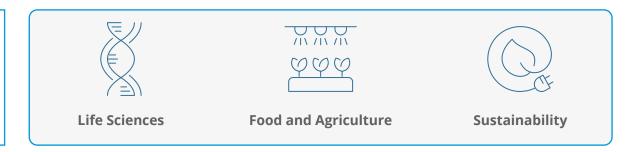
Methodology

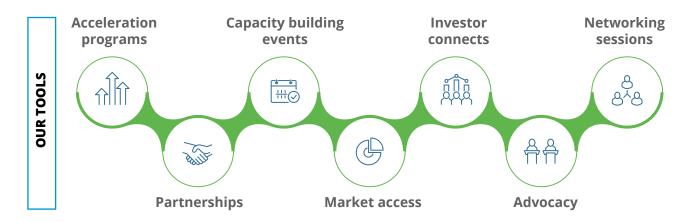


Identify and plug gaps in the innovation ecosystem Create
avenues for
collaboration
between research,
industry and
Government

Demonstrate
a template for
managing
multi-dimensional
projects involving
different
stakeholders

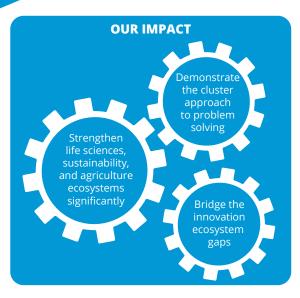
OUR FOCUS AREAS





OUR OUTCOMES





IMPACT REPORT 2020-2022

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RICH at a Glance

Focus Sectors for RICH



Life Sciences

India's pharmaceutical sector is responsible for around 3.6 percent of the global pharma sector by value, and Telangana alone accounted for approximately 30% of the total revenue generated by the Indian life sciences industry in 2020.

Dubbed the "Vaccine Hub of the World", Hyderabad has become India's epicentre of the life sciences industry. It also houses India's largest bio cluster–The Genome Valley. Also known as the Pharma capital of India, Hyderabad has over 600 life sciences companies, which contribute to more than 35% of India's production.

With the government's constant effort to boost the growth in this sector, and the presence of research institutions such as IICT, CCMB, and CDFD, Hyderabad has become one of the hottest innovation and start-up ecosystems in the country. RICH is working towards fostering greater collaboration between key stakeholders in the ecosystem to help accelerate the adoption of new technologies and innovations in this sector.



Food and Agriculture

Agriculture is a priority sector for Telangana as well as India. Telangana was the 6th highest contributor to the country's GDP at current prices in 2021, with the contribution of agriculture being the highest-around 16%.

Technology and innovation are considered to become key drivers of the agricultural economy in the next decade. The entire agritech market is led by more than 1000 start-ups in India. But taking these innovations from inception to the impact stage comes with its own set of challenges, majorly because of the multi-dimensional nature of the agriculture sector.

RICH is working with several stakeholders in the space to foster greater collaboration between various entities in the agriculture ecosystem, enabling easier and faster development, and deployment of newer technologies.

Concurrently, RICH is also working with international organisations like the World Economic Forum and the World Bank in developing solutions to diverse problems in the agriculture sector.



Sustainability

The 2030 SDGs, authored and adopted by the United Nations member states to build a more prosperous world while protecting the environment, consist of 17 goals that cut across various sectors such as agriculture, sanitation, health, and energy.

While India has prioritised key sectors for intervention through policy and funding, several grass-root innovators, development organisations, and scientific institutions have responded to this global call for sustainable development through design and technological innovations.

These innovators face many challenges, such as funding, testing, Intellectual property, and market access, which act as a hindrance in the process of scaling up the technological innovation. RICH intends to help technology innovation through the value chain to quicken the process of implementation.

Advisory Committee



DEEPANWITA CHATTOPADHYAY

Chairman and CEO, IKP Knowledge Park



JAYESH RANJAN

IAS, Principal Secretary, (IT, I&C), Government of Telangana



DR. GITANJALI YADAV

Lecturer, University of Cambridge



DR. RAJ REDDY*

Professor, Computer Science and Robotics, Carnegie Mellon University



DR. JACQUELINE HUGHES

Director General, ICRISAT



DR. RAKESH MISHRA

Director, Tata Institute of Genetics and Society



DR. JAANUS PIKANI

Surgeon in Head and Neck Oncology, Hospital Manager, National Cancer Centre & Tartu University Hospitals



DR. R. A. MASHELKAR*

National Research Professor



DR. SHANNON OLSSON*

Global Director, The Echo Network



DR. SRIVARI CHANDRASEKHAR*

Secretary to the GOI, Department of Science and Technology



SIVAKUMAR

Group Head, Agri and IT Businesses ITC Limited



VENKAT NARSIMHA REDDY

Vice Chairman and Managing Director, TSIIC



DR. K SRINATH REDDY

President, Public Health Foundation of India

^{*} Board Members

Team RICH



Director General



RASHMI PIMPALE

Chief Executive Officer



JONATHAN PHILROY

Director, Food & Agriculture



SRINIVAS CHERLA

Director, Sustainability



SUSHMITH*A* SUNDAR

Head, Lifesciences



ABOLI INGLE

Business Associate



ARAVIND PEDDINTI

Manager, Lifesciences



ATHIRA NAIR

Manager, Food & Agriculture



AZHAR AZIM

Communications Manager



NEERAJA SUNKARA

Information Analyst



PRIYANKA KOTHAPALLY

Business Affairs Manager

Impact Figures



30+

Research and Academic Institutions Onboarded



20+

Business Alliances Forged



50+

Incubators Onboarded



250+

Start-ups and Entrepreneurs supported



14+

Partner Hospitals



10+

International Partnerships



1700+ lakhs

Funds Raised by Start-ups



340+ lakhs

Funds in Pipeline



1733+ lakhs

Funding Raised for Projects

Message from the Principal Secretary's desk

RICH has been a critical catalyst in bridging the gap between researchers, scientists, start- innovators and industry in Telangana.

About six years ago when we brought out our industrial policy, we introduced the concept of RICH with the belief that in order to achieve sustainable technological growth, academia - the primary generator of knowledge, and industry - where knowledge is put to use for innovative product development, should work in tandem. We have an amazing array of R&D institutions in the State; some of the best in the world are located in Hyderabad, so our goal was to ensure that both industry and institutions benefit from each other's presence. Also, Innovators, especially start-ups, find it difficult to reach out to R&D institutions, industry or government departments. RICH has played a vital role in identifying the best startups, especially in the Agriculture and Lifesciences sector and nurturing them to move ahead in their development cycle. Several of these startups have been founded by women entrepreneurs. Furthering the mandate of promoting science and technology in the country and making it more inclusive to diverse groups, RICH is also actively supporting marginalised women students in the STEM fields through internship and scholarship programmes.

Recognising the existing gaps in the innovation-entrepreneurship-investment ecosystem, RICH has been able to bring together a diverse set of stakeholders including research and academic institutions, industry, startups, NGOs, investors and citizens on a common platform. We aimed at creating an environment where innovation is encouraged, formation of new enterprises and growth of existing enterprises is promoted. RICH is successfully taking the mandate forward by fostering collaboration to support impactful solutions that generate wealth and employment and create societal good.

Telangana has always been at the forefront of leading the way in promoting innovation in the State. With the three pillars of Innovation, Infrastructure and Inclusivity, we hope to create a lasting impact on the lives of our people.

I am happy to learn that O/o PSA is supporting the formation of City Clusters, which will be instrumental in placing India on the global map as an innovation-driven nation. I congratulate RICH on the milestones achieved and wish the team greater success in their future endeavours.



JAYESH RANJAN

IAS, Principal Secretary, (IT, I&C), Government of Telangana

Message from the Director General's desk

The last almost three years have been a big challenge across the world. Looking back, this difficult time also brought out the best in collaboration among research and academic institutions, industry, governments, innovators and civil society. While we regret the immense sufferings and losses in the world, we also feel vindicated by the demonstration of the value of multi-disciplinary collaboration for the greater public good.

While that has been accepted for significant global challenges, collaborative working still needs to be changed when it comes to daily operations. The focus of RICH has been on identifying areas where collaboration with multiple entities has to be created to ensure high benefits to all participants. To do this, we have focused on identifying and filling gaps in the ecosystem, undertaking projects that need multi-organisational working, and demonstrating the power of a collaborative approach on transformational issues that have a big, long-term impact. In the agritech and the life sciences sectors, we identified major ecosystem gaps, primarily in responsible and reliable validation of technologies, and implemented new solutions to plug the gaps. While we now have a big ecosystem to support innovation, there still needs to be more resistance among the incubation players to collaborate seamlessly.

Similarly, in sustainability, we realise the need to link cutting-edge research with translational research and application. We, therefore, are helping build Centres of Excellence in e-waste, green hydrogen, and other key areas of sustainability. This, too, requires bringing together multiple, diverse stakeholders to achieve a shared objective. There are many practical challenges, like sharing effort, costs, and benefits. A lot more work needs to be done, working with Government agencies like the O/o PSA, Niti Aayog, DST, DBT, etc., to create collaboration facilitating practices and measures. During the last two years, I am grateful that RICH was able to play a small part in the global and national effort to mitigate the losses.

The O/o PSA-initiated reagents initiative enabled the country to be self-sufficient in CoVid testing relatively quickly. At the state level, we could screen and identify various technologies for tracing, sanitising people and premises, and identifying suppliers. The use of technology also got a massive boost in the aftermath of the lockdown and travel restrictions. We identified 86 appropriate technologies for use in the Agriculture sector. There is now a growing acceptance that agritech start-ups can help the farmer. There is, however, no reliable validation of the efficacy of these start-ups in the field. Our work has been to build groups of farmers, suppliers, buyers, evaluators and government agencies to prove that the start-ups benefit the founders and the farmers.

Our recently completed work with a UN agency to identify and document climate-resilient, robust agricultural practices brought together farmers, government agencies, NGOs, and the scientific community. Our similar collaborative work in revitalising public water bodies is a small contribution to the sustainability of our world.

India has seen enormous benefits from its Unique Identity and UPI. A unique Farmer Identity and an open, public agri-data stack will benefit small and marginal farmers. We will continue working with the State and Central governments, Industry, Innovators, and National Research and Data institutions like MNCRC, NRSC, etc., to achieve this goal.

I want to thank the O/o PSA, the Telangana State Government, Niti Aayog, and all our partners in the research, academia, industry, and civil society for enthusiastic participation in the nation-building efforts. I look forward to us creating a bigger impact in the future.



Message from the CEO's desk

RICH was launched in 2017 as a one-of-its-kind initiative by the Telangana government with the goal of mining innovations from research labs and bringing them to market. Since its inception, our work has focused on identifying the gaps in the ecosystem, engaging various stakeholders to create a network of individuals and organisations that could solve regional and national problems, and bringing them together to work towards that common goal. In this process, we aim to improve the local and global connectedness of the research and innovation ecosystem players and drive a lasting change.

In pursuit of our purpose to drive social and economic transformation in India, we have strategically conceptualised the working areas of RICH - Lifesciences, Food and Agriculture, and Sustainability. The Life Science vertical's primary objective is to strengthen Hyderabad's position as the Lifesciences capital of Asia, with a particular focus on medtech innovations. The agriculture vertical was conceptualised keeping in mind Hyderabad's distinction of being the seed capital of India, and with an objective to position Hyderabad as a global leader in precision agriculture—one that supplies quality seeds to farmers in a sustainable and eco-friendly manner and empowers farmers with climate-resilient technologies. The sustainability vertical focuses on the energy, electric vehicles (EVs), and waste management.

I am pleased to share that we are working on several projects in the core segments at the frontier of innovation and have emerging use cases in the industry. While we are making good progress in meeting our targets, we continue to strengthen our focus on those areas where we have yet to achieve our targets fully. RICH is working to identify reliable sources of key data, define a universal template for public data sets that is more comprehensive, and, wherever necessary, engage institutions and government departments to provide access to data sets that are notoriously hard to find, owing to their sensitivity and data privacy concerns.

As a convenor and enabler of the innovation ecosystem, RICH coordinates interactions between all incubators and accelerators in Telangana by organising monthly meetups and knowledge-sharing sessions as part of our efforts towards consolidating the strength and expertise of the local ecosystem. We also work closely with our Telangana state ecosystem partners - T-Hub, TSIC, TASK, WeHub, T Works, and Emerging Technologies Wing. This stems from our core belief that greater impact is created when we collaborate. I want to extend my gratitude to the O/o PSA, Telangana State government, Board of Directors and all our partner organisations for their support and cooperation. With collaboration as our guiding principle, we are geared to making greater strides in advancing science and technology in the country.



CEO, RICH

Executive Summary

RICH concentrates on three verticals - Life Sciences, Agriculture, and Sustainability to enable an increase in global and national competitiveness, the development of regional solutions to big problems, and the building of a shared innovation ecosystem. The reason for focusing on these three verticals is that Hyderabad has a large number of research institutions, a diverse industry base, and startups in these verticals.

India is recognised for the innovative abilities of its industries and start-ups to be world-class players. At the same time, there is a general perception among global start-ups and companies that India is a difficult place for doing business.

As an S&T cluster, RICH is focused on resolving entry barriers and enabling firms to do business in Telangana and India. RICH provides market entry support to firms from various global regions and demonstrates the attractiveness and ease of entering the Indian market. Over the past two years, RICH has launched seven initiatives with international agencies like JICA, UKRI, EU, Smart Innovation Norway, and Lukasiewicz Research Network of Poland, and are currently working with 11 start-ups and companies through these initiatives.

RICH enables collaborative research opportunities between Indian and global research institutions. Few examples highlighting these efforts are; the ARCI–Manchester University connection for Graphene, the Indian Railways–Poland connection for rail bogies design, and the project with UNDP to identify climate resilient best practices in agriculture so that researchers globally can study them and adopt suitable practices.

At the national competitiveness level, the O/o PSA-led initiative during the COVID-19 pandemic, where all clusters worked together

to build the national competitiveness for manufacturing RT-PCR kits and reagents, is a prime example.

Telangana state aspires to be the preferred destination for all aspects of the life sciences industry. The state is globally recognised as the leaders in vaccine manufacturing, generic drugs, and tertiary health delivery hospitals. However, Telangana is not yet competitive in medical diagnostics and devices. Therefore, RICH has, in collaboration with research institutions, academic institutions, and hospitals, started Accelerator and Validation programs (AID and Tej) for start-ups in this sphere. These programs not only bring all stakeholders together but also plug the gaps that are holding back start-ups from commercialising.

Another national initiative of the O/o PSA, managed by RICH is KisanMitr, a common platform for agri-product and service providers, including start-ups and industry to make agricommerce more profitable for farmers.

While we have curated 86 very successful agritech start-ups (out of over 200) during the last two years, we noticed that they struggle to obtain data. Agriculture data are predominantly with the states, while weather data are mainly central or global. There are no common standards or definitions for the data either. RICH is working with the Telangana State government, voluntary organisations across the country, and national research institutions to support and work with the Government of India agencies on an agriculture stack and an open database for use by start-ups.

The same issue is also being faced by life sciences start-ups. RICH's aim is to identify and fix generic gaps in the ecosystem. There is an acute scarcity of reliable beneficiary or patient data that can be used by device makers. Scientists also lack access to samples and data

for drug discovery and other research. RICH is working to identify reliable sources of key data, define a universal template for more comprehensive public datasets, and wherever necessary, engage with institutions (such as hospitals) to provide access to datasets that are notoriously hard to find owing to their data privacy concerns. One example is building Biobanks in public hospitals so that reliable Indian data will be available for research and validation. The AID and Tej programs mentioned above were also created to plug the gaps in the innovation ecosystem and has onboarded 14 hospitals to work with start-ups and validate new products.

RICH also identified the need to conduct pilot demonstrations for agritech start-ups at a regional level, to successfully validate the claims on the ground. This will enable the State to create a template for a larger rollout at the State level. A number of agriculture innovation projects are being tested together with the State Agriculture University, State Horticulture and Agriculture departments, and farmers.

Women and children, especially in tribal areas, suffer from chronic malnutrition. By partnering with a large number of national research institutions, NGOs, and government agencies, RICH hopes to demonstrate sustainable ways of improving nutrition levels in one district of Telangana State and provide learnings that can later be applied nationally.

In life sciences, two collaborative research projects, the Indian Cancer Genome Atlas and the Metabolic Profiling are examples of regional projects that have national importance.

Regionally, start-ups faced serious setbacks during the COVID-19 pandemic. The members of the Hyderabad innovation ecosystem got together to rejig the start-up focus, and more recently, to help start-ups fast-track 10X with ecosystem support.

To strengthen the research and innovation ecosystem, RICH focuses on enhancing cross-collaboration between research institutions

and industry, particularly in emerging areas of science and technology. One proven approach for this is through an industry-facing Centre of Excellence (CoE) that focuses on applied research for industry problem statements. RICH has helped set-up a CoE on E-Waste at CMET, Hyderabad, and are now working on setting up a CoE on Clean Technologies and Green Hydrogen Technology Accelerator Program with industry partners. RICH has been able to garner funding of INR 7 Cr from Greenko for the CoE on E-Waste and are working to raise around INR 30 Cr for funding other programs in the next 5 years.

As a nation, we have many initiatives such as Startup India, which facilitates a large number of start-ups. However, many tier 2 academic institutions do not have the capability and expertise to set up incubation and acceleration programs. RICH developed an incubator playbook, conducted 11 capacity building workshops, and organized/participated in 20 seminars and events, with the intent to help support these institutions.

In addition to the work on the ground, in the last 6 months, RICH has made efforts to increase its online presence organically throughout social media platforms such as LinkedIn, Twitter, and Facebook using content in the form of newsletters, blog posts, creative series posts etc. to make more citizens aware of its initiatives. The RICH website has been revamped, multiple theme-based blogs have been added and are in the process of adopting a newer logo that is more representative of what RICH does. All these activities have helped RICH in establishing connections with international research clusters from the EU and Poland such as EU Innocenter, Smart Innovation Norway, and Lukasiewicz Research Network.

We thank the O/o PSA, the Apex Committee, the PRMC, and our Advisory Board members for their continuing guidance and encouragement.

We will continue to extend this outreach in our target areas as we go forward.

National and Global S&T Competitiveness



14
Total



2 Completed

Projects



/ Active



5 In pipeline

Funds raised

₹182 Lakhs

SDGs Contributed

























Hyderabad Reagents Consortium



Rationale

One of the major challenges faced during the COVID-19 pandemic was the need to import RT-PCR kits, which were expensive and in short supply. RICH worked with the national consortium initiated by the O/o PSA, GoI to support indigenous testing kits, reagents, and components available from Indian MSMEs and start-ups.

Collaborators

Companies:

- Research Partners: CSIR-CCMB
- Industry Partners: Huwel Lifesciences Pvt. Ltd., Sapala Organics Pvt. Ltd., BioArtis, BioServe, Promea Therapeutics, Richcore Lifesciences Pvt. Ltd., and others
- Funding Partner: FIND India, supported by the Bill and Melinda Gates Foundation

Role of RICH

- Identified 20+ MSME manufacturers of components, reagents, and kits
- Actively assisted these MSMEs with quality testing, validation, and capacity building

Alignment with national initiatives

- Atmanirbhar Bharat
- · National Biopharma Mission

Impact

- 100% of the local demand for affordable testing kits and high-quality reagents and components is now met by indigenous manufacturers
- A consortium of MSMEs was established to enable them to cater to the national and global demand
- Demonstrated proof of concept and a model for replicating the interventions for molecular diagnostics in disease areas other than COVID-19
- Created and streamlined the operational network of all key stakeholders

Stage/Timeline	Funding	Sector
Completed	INR 105 Lakhs	Life Sciences

Scholarship and Mentorship Programme for Women in STEM Education and Careers



Rationale

The programme is a holistic scholarship and mentoring programme that focuses on the promotion of STEM education and skill development of marginalised female students. The programme will provide the students with an opportunity for experiential learning through internships in labs of premier R&D institutions or industries.

Collaborators

- Funding Partners: Biocon Foundation and Syngene International Ltd.
- Research Partners: Centre for Cellular and Molecular Biology (CCMB) and Dr. Reddy's Institute of Life Sciences (DRILS)
- Industry Partners: Bharat Biotech and Dr. Reddy's Laboratories (DRL)

Role of RICH

- Identification and selection of stakeholders
- Designing program outreach and activities, including selection and onboarding of students and arranging group mentorship activities, seminars, and industry visits for the students
- Overall program management and its monitoring and evaluation

Alignment with national initiatives

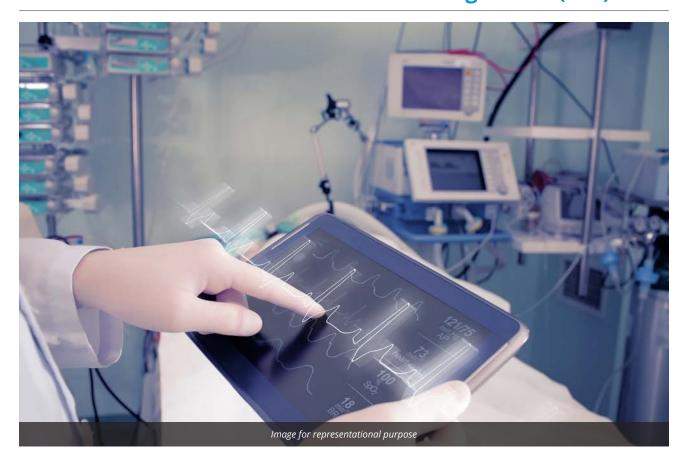
- National Mission for Empowerment of Women (NMEW)
- Support to Training and Employment Program (STEP) for Women

Impact

- 25 women students identified for programme
- Promotion of entry and retention of women from marginalised communities in STEM
- Awareness of higher education and career opportunities and giving encouragement to women students to take up a career in STEM
- Empower female students with sector knowledge, opportunities, and financial independence

Stage/Timeline	Funding	Sector
Ongoing	INR 30 Lakhs O/o PSA facilitated the collaboration between the funding agency and RICH	Life Sciences

Acceleration Initiative for Devices and Diagnostics (AID)



Rationale

Telangana is committed to being the location of choice for all life sciences-related activities. One current gap is that the state does not have a strong diagnostics and devices industry. RICH aims to address this gap through its Acceleration Initiative for Devices and Diagnostics (AID) program. The AID program identifies and nurtures the best start-ups in the medical devices and diagnostics domain for local, national, and global impact, and provides them with structured support for clinical advice, regulatory advice, go-to-market strategy, access to funding, and market access through workshops and one-on-one mentoring.

Collaborators

Start-ups: 27

 Aikenist, AIDIA Health, BRIOTA Technologies, Primary HealthTech, Enrich Bioscience, Sparcolife, Medtra Innovative Technologies, Healthkon, Medzak Healthcare, Onward Health, Urvogelbio, PsyPack, VisBiotech, Ameliorate, BioAssistant, Vivalyf Innovations, InMed Prognostics, Intignus, HeartHealth Technologies, Symbionic, Akumen Artificial Intelligence, Kan Innovations, Alfaleus Technologies, Chemioptics Healthcare, Transform SciTech, DeNovo BioInnovations, Padmaseetha Technologies

Incubator Partners:

- AIC-CCMB
- I-Venture@ISB

Role of RICH

- Screening, evaluation, and incubation of selected start-ups in association with academic and research institutes, industry, and clinical and funding partners
- Shadow mentoring through experts from the MedTech domain, preferably start-up founders, mapped to each start-up along with need-specific domain mentors
- Workshops and individual mentorship to guide start-ups on technology, regulations, clinical validations, and fundraising
- Access and connections to test beds at hospitals for clinical validation of the product, usability assessment, and feasibility studies through RICH's Project Tej programme
- Access to government bodies, industry associations, and investors for clinically-validated technologies to enable market access, pilot batch manufacturing, scale-up, and funding, followed by a five-year need-based market entry support

Alignment with national initiatives

- National Biopharma Mission
- BioScience for Human Health Mission
- Accelerating Growth of New India's Innovations (AGNII)
- Atmanirbhar Bharat Abhiyaan (Self-Reliant India)

Impact

- Incubated 27 start-ups from across India in the medical devices and diagnostics space
- Increased adoption of innovations in clinical and resource-limited settings
- Developed an ecosystem to spur indigenous manufacturing in the medical devices and diagnostics sector via reinforced collaborations among stakeholders

Stage/Timeline	Funding	Sector
Ongoing/3 rd Cohort Collaborators	INR 35 Lakhs	Life Sciences

Project Tej



Rationale

RICH aims to accelerate late-stage health-tech innovations by providing support through clinical validations, industrial mentorship, and market access

Collaborators

Start-ups: 27

- CareNx Innovations
- NemoCare
- BRIOTA Technologies

Industry Partners:

- Cyient
- Xynteo

Clinical Partners

- AIG Hospital
- Fernandez Hospital
- Kauvery Hospital
- Krishna Institute of Medical Sciences (KIMS) Hospital
- L V Prasad Eye Institute (LVPEI)
- Malla Reddy Health City
- MNR hospitals
- MSMF–Narayana Hrudayalaya
- NICE Hospital
- Smiline Dental Hospital

Role of RICH

- Identifying the problem statements from clinical partners and scouting potential start-ups
- Evaluating start-ups for product readiness to conduct clinical validation studies and connect them with clinical test bed partners
- Assisting start-ups with market access

Alignment with national initiatives

- National Biopharma Mission
- BioScience for Human Health Mission
- Accelerating Growth of New India's Innovations (AGNIi)
- Atmanirbhar Bharat Abhiyaan (Self-Reliant India)

Impact

• Increased adoption of innovations in clinical and resource-limited settings.

Stage/Timeline	Sector
Ongoing	Life Sciences

KisanMitr



Rationale

KisanMitr is an initiative of the O/o PSA, GoI, that aims to make Indian farmers more self-reliant by giving them insights and recommendations based on information from various data sources from different Government departments. The platform intends to tap the energies of the start-up ecosystem in India to solve and address some of the key social development challenges in the agricultural sector

Collaborators

Indian CST and Samunnati Foundation

Role of RICH

 To onboard agritech start-ups and Farmer Producer Organizations (FPOs) on KisanMitr platform, and extend technical services such as technology evaluation, technology management, and technology licensing

Alignment with national initiatives

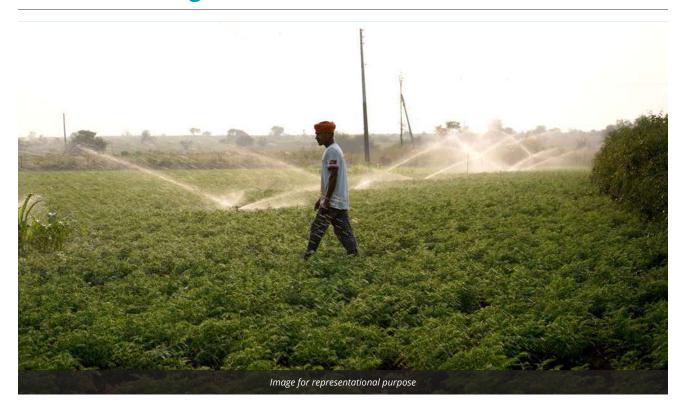
- Pradhan Mantri Kisan Sampada Yojana
- Rashtriya Krishi Vikas Yojana (RKVY)

Impact

- Benefitting farmers with market access, link-up with FPOs, access to information related to agricultural technologies and the latest innovations
- Connecting agritech start-ups with the market, promoting their technology-based products, and facilitating pilots and market access
- Helping FPOs with market assistance at a pan-India level, access to market information, and B2B trade
- KisanMitr currently has 423 Agri technologies on the portal

Stage/Timeline	Funding	Sector
Ongoing/September 2021-ongoing	NA	Food and Agriculture

Development of Knowledge Products and Field Validation of Data Insights Generated Towards Mainstreaming Climate Resilience and Data-driven Approaches in Agriculture Policies of Telangana



Rationale

RICH was tasked by the United Nations Development Program (UNDP), India to identify climate-resilient agricultural practices in Wetland, Dryland, and Gardenland across Telangana

The purpose was to include these in the UNDP-Data on the Climate Resilient Agriculture (DiCRA) platform to make them available for scientists and practitioners to identify suitable practices for adoption across the world

Collaborators

- United Nations Development Program (UNDP), India
- Department of Agriculture, Government of Telangana
- Aranya Agricultural Alternatives
- Krishi Vigyan Kendra (KVK) of Malyal and Kampasagar

Sector

Food and Agriculture

Stage/Timeline

• Ongoing/May–December 2022

Funding

INR 12 Lakhs

Role of RICH

- Conduct capacity-building workshops for 100 citizens/scientists to assist with the identification and documentation of the practices
- Facilitate field validation and develop a compendium of field stories on better practices in climate-resilient agriculture adopted by farmers in Telangana
- Design knowledge products (videos, newsletters, field stories, etc.)

Alignment with national initiatives

- National Action Plan for Climate Change (NAPCC)
- National Mission on Strategic Knowledge for Climate Change (NMSKCC)
- National Innovations on Climate Resilient Agriculture (NICRA)

Impact

- Identified 25 best climate-resilient practices from three cropping regions in Telangana.
- Held extensive focused group discussions with farmers/citizen scientists and CSOs at sites identified for the project.
- Designed knowledge products (videos, newsletters, field stories, etc.) for onward dissemination in other states and regions in the UNDP network.

Stage/Timeline	Funding	Sector
Ongoing/May-December 2022	INR 12 Lakhs	Food and Agriculture

The Agri-Collaboratory (TAC)



Rationale

One way of increasing farmer income is to use appropriate technology across the agricultural value chain. The creation of an agri-data stack, like the United Payment Interface (UPI), will be of immense help in technology adoption. The TAC is a voluntary, not-for-profit group of individuals and organisations that support the initiative of the Government of India towards the creation of an open-source agri-stack and agri-database.

Collaborators

• The Agri Collaboratory (TAC)

Role of RICH

- Member of the TAC core team for agri-data collection and data standardisation efforts.
- Support TAC with access to the Open Data Network platform of Telangana and any national Data repository, including KisanMitr data.
- Link agritech start-ups with TAC across all areas in agriculture and allied sectors (for example, agri-data, agri-credit, sustainability, and skills and research), and evaluate the effectiveness and value of using data in agriculture.

Alignment with national initiatives

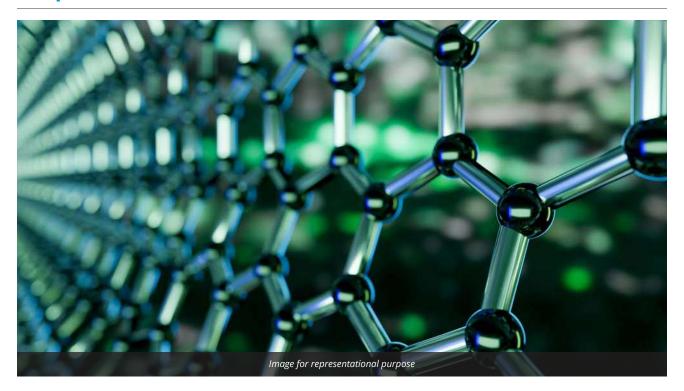
- National eGovernance Plan in Agriculture (NeGPA)
- Rashtriya Krishi Vikas Yojana (RKVY)

Impact

• To develop an open-source, good digital public agri-stack, and develop use cases for the overall development of the agriculture sector and improve the livelihoods of farmers.

Stage/Timeline	Funding	Sector
Pipeline/Initial phase	NA	Food and Agriculture

Graphene Centre of Excellence



Rationale

Given the keen interest of Telangana state to evaluate the use of graphene as an emerging technology, RICH undertook a study to assess the technical feasibility and economic value of setting up a Centre of Excellence (CoE) on Graphene through market research.

Collaborators

- Research Partners: The University of Manchester
- Industry Partners: Versarien PLC and Nanospan

Role of RICH

- Interacted with multiple stakeholders from academia and industry to assess the graphene value chain from production to its application stages.
- Developed market research report on the availability and price analysis of graphene and graphene-derived materials and research work on graphene. Identified opportunities and challenges in the value chain from production to application of graphene.

Alignment with national initiatives

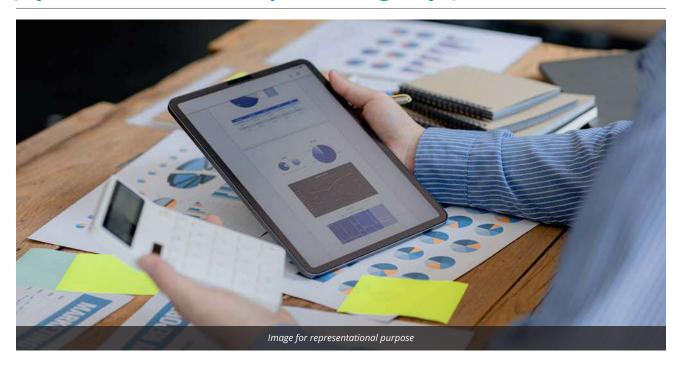
- National Semiconductor Mission
- National Programme on Advanced Chemistry Cell (ACC) Battery Storage

Impact

• The potential to be a market leader in the commercial application of Graphene.

Stage/Timeline	Sector
Completed	Sustainability

Social Innovation Concierge of Japan (SICJ) Initiative of Japan International Cooperative Agency (JICA)



Rationale

In general, foreign firms are sceptical about the ease of doing business in India and struggle to navigate the local business contours. RICH, as the knowledge partner for the innovation ecosystem in the Life Sciences, Agriculture, and Sustainability sectors in Telangana, is working with Japanese companies in their market validation and market entry process under the Social Innovation Concierge of Japan (SICJ) initiative of Japan International Cooperative Agency (JICA).

Collaborators

Companies:

- Life Sciences: Yasec, AIM, NEC; OPExPARK
- Food and Agriculture, and Sustainability: Murata Manufacturing Co. Ltd.

Partners:

- Ecosystem Partner: Telangana State Innovation Cell (TSIC)
- Anchoring Partner: Deloitte Tohmatsu Group (Deloitte Japan)
- Government Partner: Telangana Life Sciences
- Knowledge Partner: RICH
- Academic Partner: Sreenidhi Institute of Science and Technology
- Industry Partner: Incumed, Neumeric Technologies Corp, Healthkon
- Clinical Partners: Yashoda hospitals, AIG hospitals
- Regulatory Partners: Freyr Solutions, Symbiorph Clinical Trialogy
- Independent consultants

Role of RICH

Mentoring support for market validation and designing the go-to-market strategy

For Life Sciences companies:

- Assist with connecting with industry and independent experts for regulatory compliance
- · Assist with connecting with clinical partners for clinical validation studies

For Food, Agriculture companies:

- Facilitate access to farming communities, organise technology awareness programs, and link up with industries, department officials, and scientists/institutions.
- Facilitate field trials using select crops and different soil types prevalent in the state to test the problem statement and its feasibility.

For Sustainability companies:

• Identify start-ups or research institutes in India with commercial technologies for recycling Multi-Layered Ceramic Composites (MLCC) and ceramic-coated PET films.

Impact

• Demonstrating the ease of doing business and partnering with Indian counterparts to the companies, Deloitte (as the advisor to JICA), and JICA representatives.

Stage/Timeline	Sector
Ongoing/Market validation	Life Sciences, Sustainability, and Food and Agriculture

EU-India Innocenter



Image for representational purpose

Rationale

The Telangana Government is keen to attract high-quality global companies under the Invest India Scheme. RICH works with start-ups of EU-India Innocenter to help them understand the Indian market and develop their market entry strategy.

Collaborators

- Start-ups: HiberGene, Skinive, Arete Medical Technologies
- Industry Partners: Xynteo, Cyient
- Clinical Partners: Kauvery Hospitals

Role of RICH

- Evaluating start-ups for product readiness to conduct clinical validation studies.
- Connecting with partner hospitals for clinical validation studies.

Impact

• Demonstrating the ease of doing business in India for EU-based small companies.

Stage/Timeline	Sector
Ongoing/Market validation	Life Sciences

Indo-Poland Research Collaboration



Rationale

Explore research and technology collaborations between Indian and Polish companies in several areas like Energy, Life Sciences, and Agriculture to improve India's global competitiveness.

Collaborators

- Lukasiewicz Research Network (LRN)
- Railway Designs and Standards Organization (RDSO)

Role of RICH

- Identifying suitable technologies and appropriate Indian partners for Polish technologies
- Coordinating discussions between LRN, Poland and multiple Indian research organisations and industries in India
- Facilitate LRN and RDSO, Lucknow discussions on technical collaboration in:
 - Designing high-speed railway coaches and articulated coaches
 - Designing railway infrastructure (bridges, tracks, and electrical)
- Exploring potential collaboration between LRN and other ecosystem players (C-MET, CSIR-IICT, etc.) for e-waste, sustainable fuels, and active pharmaceutical ingredient (API) for generic drugs

Alignment with national initiatives

• PM Gati Shakti-National Master Plan for Multi-modal Connectivity

Impact

- · Enhanced technical capabilities of Indian Railways in High-speed Rail design and testing
- Long-term engagements with Poland on novel container wagons and freight wagon designs

Stage/Timeline	Funding	Sector
Pipeline/Proposal	NA	Sustainability

Demand Side Energy Management Pilot Demonstrations



Rationale

Demonstrate applications of technology for demand-side energy management

Collaborators

• RICH, IIMA, Smart Innovation Norway, Utility companies

Role of RICH

- Define the scope of pilot demonstrations in India along with utilities
- · Coordinate with implementation agencies engaged in the pilots in India
- Policy and regulatory advocacy

Alignment with national initiatives

- National Smart Grid Mission (NSGM)
- Ujwal Discom Assurance Yojana (UDAY)
- Revamped Distribution Sector Scheme (RDSS)

Impact

- Blueprint for the large-scale roll-out of demand-side energy management in India
- Incentive mechanisms for encouraging participation of end consumers in demand-side energy management

Stage/Timeline	Funding	Sector
Pipeline/Proposal	INR 615 Lakhs Donor: Norwegian Embassy	Sustainability

Indo-Norway Collaboration-Market Evaluation



Rationale

Enhance collaboration between Norwegian and Indian start-ups and corporations in the Clean Technology domain

Collaborators

RICH, Smart Innovation Norway, Norwegian Start-ups

Role of RICH

- Connect start-ups, research centres, and industries
- Refine go-to-market strategy along with start-ups
- · Liaise with Government agencies as required

Alignment with national initiatives

Others

Impact

- Better awareness of the Indian market among Norwegian start-ups and Industries
- Technological collaborations between Norwegian and Indian start-ups and companies

Stage/Timeline	Funding	Sector
Pipeline/Proposal	INR 60 Lakhs	Sustainability
	Donor: Research Council of	
	Norway	

UKRI-Market Evaluation



Rationale

Enhance collaboration opportunities for start-ups and companies from India and the United Kingdom in the Clean Technology domain

Collaborators

• RICH, UKRI (UK Research & Innovation), UK Start-ups

Role of RICH

- Refine go-to-market strategy along with start-ups
- Liaise with Government agencies as required

Alignment with national initiatives

Others

Impact

- Better awareness of the Indian market among the UKRI start-ups and Industries
- Technological collaborations between UKRI players and Indian start-ups

Stage/Timeline	Funding	Sector
Pipeline/Proposal	Consulting is to be charged on a case-by-case basis after a free look-in period of 6 months	Sustainability

Regional Solution Provider to Industry & Government



14
Total
Initiatives







Funds raised

₹1066 Lakhs

SDGs Contributed





















Rejig Hyderabad Start-ups



Rationale

Rejig Hyderabad start-up Initiative was powered by the innovation ecosystem enablers and incubators of Hyderabad to support selected start-ups with mentoring and access to industry and investors during the tough times of the COVID-19 pandemic-induced lockdowns.

Collaborators

- Ecosystem Partners: TSIC, T-Hub, WE-Hub, T-Works
- Incubator Partners: CIE-IIIT Hyderabad, IKP, AIC-CCMB, ICRISAT, Nutrihub

Role of RICH

RICH worked with 13 start-ups (mostly in the health tech space: Chrogene Aarogyam Biotech, StaTwig, Sapien Biosciences, NexRea, Varada Research Laboratories, MayaMD, CloudPhysician, Schrocken, Lamark Biotech, Reseda Lifesciences, etc.) and 4 mentors to hand-hold for a month

- RICH organised 3 mentoring sessions with all 13 start-ups and 4 mentors
- RICH along with others facilitated the Demo Day of all start-ups (125 in total) to a larger audience and experts

Alignment with national initiatives

- · Atmanirbhar Bharat
- National Biopharma Mission

Impact

• Repositioned start-ups during the pandemic through mentoring, industry connects, and investor connects for survival and sustainability

Stage/Timeline	Sector
Completed/July-October 2020	Life Sciences

Developing IoT Device for Real-time Monitoring of Mosquito Population



Rationale

The Shah Family Global Innovation Lab at Purdue University provided a grant for developing an IoT device for real-time monitoring of the mosquito adult population (6 species). Given the menace posed by the mosquito population as a vector for many other diseases, the project is envisaged as a comprehensive vector control program for Hyderabad

Collaborators

Purdue University; Marut Dronetech; Greater Hyderabad Municipal Corporation (GHMC); HMC;
 CSIR-Indian Institute of Chemical Technology (CSIR-IICT); PJTSAU; ICMR-Vector Control Research Centre (VCRC)

Role of RICH

Project management and stakeholder engagement

Alignment with national initiatives

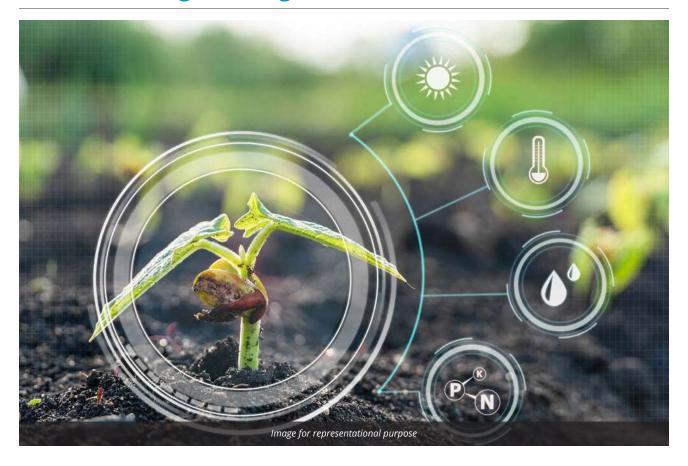
- National Centre for Vector-borne Disease Control
- Malaria and Dengue Eradication

Impact

• The feasibility of the prototype has been demonstrated

Stage/Timeline	Funding	Sector
Completed/July 2020–December 2021	INR 40 Lakhs	Food and Agriculture

Artificial Intelligence 4 Agricultural Innovations



Rationale

The Telangana state government is committed to improving farmers' income through the use of technology. This project:

- Identified farming challenges and relevant emerging technologies
- Built pilot technology solutions in districts of Telangana and demonstrated their impact
- Established Agri Data Exchange for use by all stakeholders

Collaborators

- World Economic Forum
- Government of Telangana: Emerging Technology Wing; Department of Agriculture

Role of RICH

- Studying potential farming challenges in Telangana
- Preparation of emerging technology compendium
- Providing technical expertise in identifying potential emerging technologies for major farming problems
- Deploying multiple technologies and demonstrating their impact in increasing the yield of specific crops in any identified district
- Identifying agricultural data sources, onboarding and acquiring data from partners (research agencies, academic institutions, government agencies, and start-ups), and establishing the Agri Data Exchange
- Developing policies on emerging technologies for agricultural development

Alignment with national initiatives

• National e-Governance Plan in Agriculture

Impact

• Demonstration of the potential of emerging technologies to create greater awareness among farmers, ultimately leading to larger adoption of the technologies, and increasing farm incomes. The Agri Data Exchange structure established under the project will be a model to adopt across all the states

Stage/Timeline	Funding	Sector
Completed/July 2020– December 2021	N/A	Food and Agriculture Developed policy on large-scale adoption of emerging technologies across the state

Agricultural Data Standardisation Project



Rationale

The aim of the project was to develop standardised data sets to provide qualitative and quantitative information to scientists, policymakers, researchers, academia, innovators, trading houses, and students to develop models on various aspects of agriculture, including crop planning, pesticide disease forecasting, market prices, insurance, and performance of welfare schemes

Collaborators

- NASSCOM
- T-AIM
- · Government of Telangana: Department of Agriculture, Department of Horticulture

Role of RICH

- Develop standardised agriculture data formats and conduct a pilot study in one of the districts of Telangana
- Facilitate, co-create, monitor the pilot study, and evaluate the Agri data sets

Alignment with national initiatives

National e-Governance Plan in Agriculture

Impact

- Deployment of standardised data formats across all agriculture divisions
- Better utilisation of data for season/crop planning and implementation
- Better utilisation of data for policy-making and budgeting
- Efficient resource management
- Integrated crop performance management
- Easy and quick report generation (user dashboard)

Stage/Timeline	Funding	Sector
Completed/July 2020– December 2021	N/A	Food and Agriculture

Agricultural Innovation Pilots (AIP)



Rationale

RICH and Ag-Hub of Professor Jayashankar Telangana State Agricultural University (PJTSAU) jointly initiated an Agritech Innovation Pilot that provides agritech start-ups with a platform to undertake on-field trials with the University and validate their technology claims

Collaborators

- Program partners: Ag-Hub and PJTSAU
- Start-ups: KrishiTantra; Marut Dronetech; Satyukt; TraceX Technologies; Transity; X-Machines; SuperZop; Thanos Technologies

Role of RICH

- Developed a compendium of 86 Agri-tech start-ups covering 10 emerging technology domains
- Co-designed the AIP program in consultation with Ag-Hub
- Assessment of the start-up technology for the pilots.
- M&E of the eight AIPs

Alignment with national initiatives

- National eGovernance Plan for Agriculture (NeGPA)
- Rashtriya Krishi Vikas Yojana (RKVY)

Impact

- Eight start-ups were selected after a critical assessment and formed part of the first cohort. The start-ups that had been a part of AIPs had a clear advantage both in terms of validated technology and real on-ground experience
- The state government, based on these validation pilots, will encourage farmers in the state to adopt these technologies; several agri-tech initiatives have already begun using them

Stage/Timeline	Funding	Sector
Completed/1st cohort	N/A	Food and Agriculture
(December 2020–March 2022)		

Mission 10X-DeepTech and MedTech SIG



Rationale

A collaborative initiative of the Telangana Incubators and Accelerators group to support early revenue stage start-ups by providing market access, corporate connects, and funding opportunities for scale-up

Collaborators

- Ecosystem Partners: TSIC, T-Hub
- Incubator Partners: IKP, AIC-CCMB, CIE-IIIT Hyderabad, CfHE-IIT Hyderabad, and BITS-TBI Hyderabad

Role of RICH

- RICH is the co-anchor institute and programme management partner
- Facilitating workshops and mentoring sessions for go-to-market strategy, corporate connects, customer connects, and funding opportunities

Alignment with national initiatives

- Atmanirbhar Bharat
- National Biopharma Mission

Impact

Enabling start-ups to grow in scale and contribute to the nation's economy

Stage/Timeline	Sector
Ongoing	Life Sciences

Emerging Technologies for Agricultural Development in Telangana



Rationale

National e-Governance Plan in Agriculture (NeGPA) of the Ministry of Agriculture & Farmers Welfare, Government of India aims to achieve rapid development and deployment of Information & Communication Technology (ICT) for timely access to agriculture-related information for the farmers in each state.

In Telangana, RICH is leading a multidisciplinary team for five sub-projects sanctioned under NeGPA. The focus is on identifying and demonstrating emerging technology solutions to solve major challenges in farming:

- Crop planning (using geospatial technology)
- Irrigation management (using IoT)
- Soil Nutrient Management (using IoT)
- Farm Automation (using robotics)
- Produce quality assaying (using machine learning)
- Traceability (using blockchain)

Collaborators

- Government of Telangana: Department of Agriculture, Department of Emerging Technologies, and Telangana State Technology Council
- PJTSAU

Role of RICH

- Identifying agritech start-ups operating in select emerging technology domains
- Providing technical support to start-ups during the project implementation phase.
- Monitoring and evaluating the plan for each project with the support of the Department of Agriculture, Government of Telangana
- Promoting the technology pilots through blogs, short films, and technology reports
- Developing strategy document on large-scale adoption of emerging technologies by the Government of Telangana

Alignment with national initiatives

• National e-Governance Plan in Agriculture

Impact

- Wider adoption of emerging technologies in agriculture for the efficient utilisation and management of resources.
- Facilitate scale-up of six emerging technologies and target:
 - Irrigation Management: to increase water savings by 20%
 - Nutrient Management: Reduce fertiliser usage by 15 to 20%
 - Prepare crop plan for a selected district
 - Demonstrate the use of robots for weeding over 100 acres
 - Improve quality assaying efficiency of Civil supplies department by 10%
 - Implement traceability in Telangana State Seed Development Corporation and one private seed company to ensure the supply of genuine seeds to farmers.
- Irrigation management and nutrition management sub-projects have been completed; analysis is underway

Stage/Timeline	Funding	Sector
Ongoing/August2021-Ongoing	INR 310 lakhs	Food and Agriculture

Improving Water Security Through Rejuvenation of Community Ponds in Telangana



Rationale

Water will be a scarce resource throughout the world. The traditional local water resources in Telangana have degraded over time. The project works with local NGOs and communities to scale up the rejuvenation of water bodies and restore water for the community. It also focuses on building collective ownership of the common good (water bodies) and building the capacity of NGOs in scaling up the program

Collaborators

IIT-IIT and Aranya Agricultural Alternatives

Role of RICH

- Designated as overall state facilitator for the pilot project and scale-up.
- Facilitate ground activities, liaise with local officials, identify partners, and mobilise funding events to support scale-up

Alignment with national initiatives

- Atal Mission for Rejuvenation and Urban Transformation (AMRUT)
- Pradhan Mantri Krishi Sinchayee Yojana (PMKSY)
- Mission Amrut Sarovar

Impact

- Two panchayats in the Nirmal district in Telangana were selected for the project; 200 farmers benefited and over 28,000 m3 silt carted from the tanks
- 117 water bodies have been identified for rejuvenation in the next year

Stage/Timeline	Funding	Sector
Ongoing/May 2022-ongoing	N/A	Food and Agriculture

Centre of Excellence on E-Waste



Rationale

Promote industry-facing research and IP generation in E-Waste management.

Collaborators

• CMET Hyderabad, Greenko, RICH

Role of RICH

- · Coordinating between industry and government agencies for raising funding for CoE
- Representation on the Board of CoE and monitoring the progress

Alignment with national initiatives

- Swachh Bharat Mission
- Waste to Wealth

Impact

- Wealth from waste as useful materials can now be economically recovered from e-waste.
- The country will be better prepared to handle future e-waste, such as solar panels, lithium-ion batteries, and permanent magnets, and recover the wealth.

Stage/Timeline	Funding	Sector
Ongoing/September 2019–25	INR 716 Lakhs (MeitY (Gol), Govt. of Telangana, Greenko)	Sustainability

Indian Cancer Genome Atlas (ICGA)



Rationale

Breast, cervical, oral, stomach, and lung cancers are the most common malignancies observed in our country. In recent years, with technological developments and the availability of funding, a lot of research progress has been made to understand breast, cervical, and oral cancers. However, there is an extreme paucity of genetic data related to stomach and biliary tract malignancies.

The project aims to conduct whole genome, epigenome, metagenome, and transcriptome sequencing of Indian patients with stomach and biliary duct malignancies to uncover the whole mutational, immunological, and infection landscape, which will help in identifying actionable mutations and elucidate functional or clinical implications of these identified mutational signatures.

Collaborators

Potential partners identified:

- CSIR-CCMB
- Indo-American Cancer Hospital
- AIG Hospital
- KIMS-Ushalakshmi Centre for Breast Diseases

Role of RICH

• RICH to act as a facilitator in achieving the objectives of the project.

Alignment with national initiatives

- National Mission for Bioscience for Human Health
- National Department of Health Research, Government of India

Impact

- Next-generation sequencing of gastric carcinoma and biliary duct tumours and control tissue will help to understand the events involved in the onset and progression of gastric cancer and the identification of new targets for drug development.
- Identification of pathogenic and driver mutations, characterization of the molecular profile of tumours, and prediction of clinical outcomes for the patients
- Identification of genetic, epigenetic, and metagenomic disease-modifying factors
- Development of risk scores for prognostication/therapy.

Stage/Timeline	Funding	Sector
Pipeline/Initial phase	N/A	Life Sciences

Creation of Biobank at Public Hospitals



Rationale

As the world of medicine moves towards personalised medicine and data-driven expediting of research, India has a huge opportunity to create a large data box of samples. Today, all pathological samples are destroyed after evaluation. While a few private hospitals like Apollo and AIG have their own bio-bank for research, there is no public bio-bank that can be used by researchers.

The project aims at creating a disease-oriented bio-bank to store bio-specimens that are annotated with not only medical data but also epidemiological data to understand treatment patterns and identify the best interventions to increase the survival outcomes of patients with cancer.

Collaborators

- The Foundation for Innovative New Diagnostics: Integrated Biobank
- LEPRA

Role of RICH

- RICH to identify a government/public hospital with an operational quality management system
 and continuous control of the methods used for diagnostic purposes for the creation of
 infrastructure for the biobank in the hospital premises
- RICH will rope in experts/clinicians from other hospitals and researchers/scientists from premier research institutions in Hyderabad for any expertise required for the project
- RICH will monitor the overall activities of the implementation team

Alignment with national initiatives

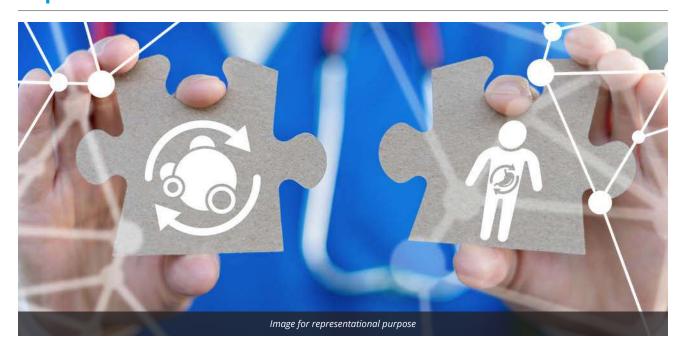
- National Mission for Bioscience for Human Health
- National Department of Health Research, Government of India

Impact

- Preservation of digitised health records and samples of a large number of patients, truly representative of the population
- Open data sets of disease trends, patient demographics, medicine prescriptions, and samples of pathology, radiology, and other labs
- Effective Government funds allocation and policymaking for researchers to identify big problems, and for innovations to be tested and fast-tracked
- National and international universities, and industry collaborations for research purposes
- Generation of employment for high-skilled biotech professionals

Stage/Timeline	Funding	Sector
Pipeline/Initial phase	N/A	Life Sciences

Population Level Metabolic Research and Intervention



Rationale

A population-based research study to understand and correlate metabolic profiles with metadata, genomics, epigenetics, and microbiota data. Followed by intervention and policy advocacy to address the nutritional and health needs of public health as a part of a futuristic personalised medicine initiative.

Collaborators

- Research Institution: CSIR-CCMB, IIIT-H, CDFD, TIFR, ICMR-NIN, IMTech
- · Academic Institution: University of Hyderabad
- Industry: INAI-Intel

Role of RICH

RICH is the facilitator in achieving the objectives of the project

Alignment with national initiatives

• POSHAN Abhiyaan/National Nutrition Mission (NNM), National Mission for Bioscience for Human Health, National Department of Health Research, Government of India

Impact

• Research-based knowledge and intervention creation for population-level metabolic and health data to enable next-generation precision medicine and public health resource management.

Stage/Timeline	Sector
Pipeline	Life Sciences

Agri-Nutri Connect for Promoting Dietary Diversity and Addressing Malnutrition Among Vulnerable Populations in Telangana



Rationale

- To develop sustainable food production methods
- To encourage communities to adopt healthier agricultural/livestock production and nutrition choices
- To build a scalable model to address the malnutrition problem in the country

Collaborators

- Institutions: ICMR-NIN; ICAR-NRCM; ICRISAT, World Vegetable Centre;
- Start-ups: Nice Foundation; Grameen Mall Foundation; NutrifyU; and Millet Bank
- Government: Department of Agriculture, Women Development & Child Welfare, Government of Telangana

Role of RICH

- Conducted validation studies on the nutritional status of women and adolescent girls in Vikarabad, Telangana
- Documented food habits and food preparation methods of tribal communities
- Identified technologies available at the research institutes to integrate them for the nutritional intervention study.
- To facilitate stakeholder engagement towards technologies mapping necessary for project execution
- To undertake community programs for technology adoption
- To conduct skill development and awareness programmes for local entrepreneurs, women, and others

Alignment with national initiatives

 National POSHAN Abhiyaan, Anaemia Mukt Bharat program, Giri Poshana program, Ministry of Women and Child Development

Impact

- The introduction of nutrient-rich millets, legumes, vegetable varieties/hybrids, improved animal breeds, and high biomass-producing fibre-rich fodder through Farmer-Participatory Varietal Selection (FPVS) approach will help the tribals to improve their nutritional levels
- A self-sustaining seed system within the community will ensure long-term benefits to the community
- Nutrient intake by the inclusion of nutrient-enriched foods in the dietary plan of beneficiaries and formulation of nutrient-rich food will improve the health of women and children
- The establishment of integrated scalable cereal and animal food processing units by increased participatory mode will provide long-term economic incentives

Stage/Timeline	Funding	Sector
Pipeline/Project approved for funding	In pipeline	Food and Agriculture

Deposit Return Scheme (DRS)



Rationale

Demonstrate an interdepartmental and cross-collaboratory project on circular waste management especially for e-waste and plastics.

Collaborators

RE Sustainability, Recykal, GHMC

Role of RICH

- Form the consortium comprising OEM's, recycling companies, and municipalities.
- Project conceptualization, monitoring, and reporting agency

Alignment with national initiatives

Waste to Wealth

Impact

- Creates a national template for circularity in dry waste management (e-waste, plastic waste)
- Drives the EPR implementation to its logical end

Stage/Timeline	Funding	Sector
Only pilot costs would be sought from	Pipeline/Proposal	Sustainability
the government		

Shared S&T Ecosystem Promotion

Monthly Telangana Incubators and Accelerators Meetup



Rationale

The vision of RICH from its inception has been to bring the stakeholders of the innovation ecosystem together and identify the challenges and provide necessary interventions. As an S&T cluster, RICH hopes to create strong linkages between existing networks of academic institutions and national research laboratories, along with the relevant ministries, industry partners, state governments, philanthropic foundations, and international institutions of excellence. Facilitating these meetups enables RICH to collaborate and work with the institutes through the incubators and their relevant networks

Collaborators

• Ecosystem Partner: Telangana State Innovation Cell

Role of RICH

RICH is the co-facilitator for the monthly meetups

Impact

- Effective and directional growth of the innovation ecosystem in the state of Telangana
- 15 Incubator meetups organised by the Ecosystem partners
- Ecosystem has 57 incubators* in Hyderabad and Tier 2 Locations
- Telangana State has shown remarkable performance through 'Institutional Support', 'Incubation Support' and 'Capacity Building for Enablers'. The range of impact generated through 'Fostering Innovation and Entrepreneurship', 'Access to Market', and 'Funding Support'
- Telangana has been categorised as one the top performers in State Startup Ranking 2021

Stage/Timeline	Sector
Ongoing	Sector Agnostic

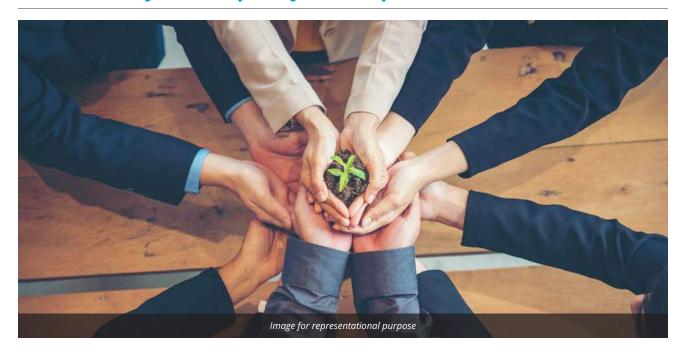
* List of Incubators

- AFI iTIC Foundation Social Entrepreneurship Accelerator (AISEA)
- 2. AgHub at PJTSAU
- 3. Agri-Business Incubator of ICRISAT
- 4. AIC-IIITH
- 5. AIC Octo Spaces Incubator Services
- 6. AIC-CCMB
- 7. Apollo Health And Education Research Foundation (AHERF)
- 8. ARCI Advanced Technology Incubator (AAMTI)
- 9. Ashoka Innovazi
- 10. ASPIRE–Technology
 Incubation and
 Development of
 Entrepreneurship,
 University of Hyderabad
- 11. Association for Innovation
 Development of
 Entrepreneurship in
 Agriculture (a-IDEA) at
 NAARM
- 12. AIC-ALEAP Women Entrepreneurs Hub
- 13. Bala Vikasa
- 14. Big Innovation Centre India
- 15. CII-Center of Excellence for Innovation, Entrepreneurship and Start-ups
- Centre for Innovation and Agripreneurship (CIA) at MANAGE
- 17. DeepTech Incubator– Center for Innovation and

- Entrepreneurship at IIIT Hyderabad
- 18. Dlabs-I-Venture@ISB
- 19. EdVenture Park
- 20. Fabless Chip Design
- 21. Foundation for Center for Healthcare Entrepreneurship (CfHE) at IIT Hyderabad
- 22. G. Narayanamma Institute of Technology and Science for Women (GNITS)–TBI
- 23. GMR Innovex
- 24. Hatch & Mark
- 25. IKP Knowledge Park
- 26. Incubation Centre Warangal
- 27. IT hub Khammam
- 28. IT Hub Mahboobnagar
- 29. IT Incubation Centre Karimnagar
- 30. IT Tower Nizamabad
- 31. i-TIC Foundation-TBI IIT-H
- 32. JLabs Spoorthy Engineering College
- 33. JNTU Innovation Hub (J-Hub)
- 34. JNTU-TBI (J-TBI)
- 35. LORDS TBI
- 36. LVPEI-BioNEST
- 37. Mahindra e-hub
- 38. MANAGE AC&ABC INCUBATION CENTRE
- 39. MJ-HUB
- 40. MNR Foundation for Research & Innovation (MNR–FRI)
- 41. MRCET-R&D/TECHNOLOGY INCUBATOR

- 42. NASSCOM 10000 start-ups
- 43. NSAKCET IIIC
- 44. Nutri Hub, IIMR
- 45. OU Idea Labs-Osmania TBI
- 46. Paristi Incubator and Technologies Foundation
- 47. Society for Biotechnology Incubation Centre (SBTIC)
- 48. SR Innovation Echange (SRiX) TBI
- 49. Sustainability Innovation Centre (SINC) - IKP Knowlege park
- 50. TBI BITS Pilani Hyderabad Campus
- 51. T-Hub Foundation
- 52. TiE Hyderabad
- 53. T-Works
- 54. Vaagdevi Incubation and Business Accelerator
- 55. Vignana Jyothi Foundation for Entrepreneurial Excellence–VJHUB
- 56. WE Hub Foundation
- 57. Women FLO–CIE IIIT Hyderabad

Shared EcosystemCapacity Development



Rationale

Developing the incubation and innovation ecosystem in Telangana with the primary focus on developing the capacity of key stakeholders in creating a conducive environment and equipping them with the tools and techniques towards entrepreneurship promotion.

Collaborators

• Ecosystem Partners

Role of RICH

- Developed the incubator playbook for institutions/industries interested in setting up an incubation ecosystem
- Mapping the facilities and infrastructure available with the institutes for the maximum deployment of available facilities
- Carry out planning, development, and implementation of a business incubator
- · Capacity building and training programs on business incubation operations
- Develop and implement customised incubation service modules
- Provide mentoring and guidance to the incubation team to ensure the self-sustenance of the incubator

Impact

- The playbook created can be used by any new incubator
- Supported the establishment of the Vaagdevi Incubator and Business Accelerator (VIBA) for developing the Research and Innovation ecosystem at the Vaagdevi group of colleges
- Reviewed the business model and advised the establishment and management of the LVPEI incubator for its establishment
- Conducted research roundtable event and agri-hackathon event for building research ecosystem and innovation ecosystem at Vaagdevi

Stage/Timeline	Sector
Ongoing	Sector Agnostic

CSR Funding Database



Rationale

Under schedule VII of the Companies act 2013, companies must provide 2% of their net profit towards CSR. Investments made under CSR are limited to certain sectors, with the S&T sector getting relatively lower contributions. The O/o PSA is exploring ways to link the industry/ companies and its CSR support with its S&T cluster and helping the cluster design targeted CSR-oriented project interventions aimed at societal development.

Collaborators

• RICH, interns from SBI Youth for India Fellowship, and students from IIT Delhi

Role of RICH

- Designed a template for collating information on CSR funding.
- Guided and monitored interns in collating the information, reviewed datasets, and submitted the final master sheet to the O/o PSA.

Impact

- Curated a CSR database of 1869 companies featuring theme/focus areas and contributions made during FY 2019-20.
- Mobilised funds and resources for targeted socio-economic development interventions at the cluster level.

Stage/Timeline	Sector
Completed (17 th May 2021 to 18 th September 2021)	Sector Agnostic

Start-up India Seed Fund



Rationale

Developing the incubation and innovation ecosystem in Telangana with the primary focus on developing the capacity of key stakeholders in creating a conducive environment and equipping them with the tools and techniques towards entrepreneurship promotion.

Collaborators

Ecosystem Partners

Role of RICH

- Developed the incubator playbook for institutions/industries interested in setting up an incubation ecosystem
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- Carry out planning, development, and implementation of a business incubator
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Impact

- The playbook created can be used by any new incubator
- Supported the establishment of the Vaagdevi Incubator and Business Accelerator (VIBA) for developing the Research and Innovation ecosystem at the Vaagdevi group of colleges
- Reviewed the business model and advised the establishment and management of the LVPEI incubator for its establishment
- Conducted research roundtable event and agri-hackathon event for building research ecosystem and innovation ecosystem at Vaagdevi

Start-up/Industry Partners

Life Sciences

Partnerships and Collaborations



Start-ups

- 1. 30M Genomics
- 2. Adiro
- 3. Aidia Health
- 4. Aikenist Technologies
- 5. AIM
- 6. Akumen Al
- 7. Alfaleus technologies
- 8. Althion Tech
- 9. Ameliorate BioTech
- 10. Ameya Life
- 11. Aodh Lifesciences
- 12. Bio-Assistant
- 13. BRIOTA Technologies
- 14. CareNX
- 15. Chemioptics
- 16. Chrogene Aarogyam Biotech
- 17. Comet labs
- 18. DeNovo BioInnovations
- 19. Docturnal

- 20. Enrich Bioscience Inc.
- 21. Healthkon
- 22. HeartHealth Technologies
- 23. Huwel Lifesciences
- 24. In-Med Prognostics
- 25. Intignus
- 26. Joly Al
- 27. Kan Innovations
- 28. Lamark Biotech
- 29. Medtra Innovative Technologies
- 30. Medzak Healthcare
- 31. Monitra Healthcare
- 32. NadiPulse Prognostics
- 33. Nanohealth
- 34. NEC
- 35. Nemocare Wellness
- 36. Onward Assist
- 37. Padmaseetha Technologies
- 38. Primary Healthtech

- 39. PsyPack
- 40. Reseda Lifesciences
- 41. Sapien Biosciences
- 42. Schrocken
- 43. Sparcolife Digital Healthcare Technologies
- 44. Startoon Labs
- 45. StaTwig
- 46. Subtlai
- 47. Sunfox Technologies
- 48. Symbionic
- 49. Transcell Biologics
- 50. Transform Scitech
- 51. Urvogelbio
- 52. Vaccine on Wheels
- 53. VisBioTech
- 54. Vivalyf Innovations
- 55. Wafer Chips
- 56. YASEC
- 57. ZedBlox

Industry Partners

- 1. Aragen Life Sciences
- 2. Aurobindo Pharma
- 3. Bharat Biotech
- 4. Biocon Foundation
- 5. Cyient
- 6. Cytiva
- 7. Dr. Reddy's Lab
- 8. Endiya Partners
- 9. GV Connect
- 10. GVK BioSciences
- 11. Incumed Manufacturing
- 12. India Health Fund

13. Indq

14. KeyGene

15. Laurus Labs

16. Medtronics Labs

17. NATCO Pharma

18. Novartis

19. Pharmexil

20. Piramal Swasthya

21. RxPropellent

22. Shantha Biotech

23. Sipra Labs

24. Social Alpha

25. Syngene

26. W-Health Ventures

27. Xynteo

Hospital Partners

1. AIG Hospital

2. Apollo Home Health Care

3. Fernandez Hospital

4. Global Hospitals

5. Kauvery Hospital

6. KIMS Hospital

7. LVPEI

8. Malla Reddy Health City

9. Mediciti Hospital and Share Foundation

10. MNR Medical College and Hospitals

11. MSMF–Narayana Hrudayalaya

12. NICE Hospital

13. Smiline Dental Hospital

14. Star Hospital

15. Vaatsalya Hospital

Research/Academic/Institutional Partners

1. Apollo Health and Education Research Foundation (AHERF)

2. Blue Peter Health and Research Foundation– LEPRA Society

3. Centre for Cellular and Molecular Biology (CCMB)

4. Centre for Cellular And Molecular Platforms (C-CAMP)

5. Centre for DNA Fingerprinting and Diagnostics (CDFD)

6. Dr. Reddy's Institute of Lifesciences (DRILS)

7. Indian Institute of Chemical Technology (IICT)

8. Indian Institute of Public Health-IIPH-PHFI

9. Indian Institute of Technology, Hyderabad (IIT-H)

10. Indian School of Business (ISB)

11. International Institute of Information Hyderabad (IIIT-H)

12. Malla Reddy Health City (MRHC)

13. MNR Medical Foundation

14. National Institute of Animal Biotechnology - (NIAB)

15. National Institute of Nutrition (NIN)

16. National Institute of Pharmaceutical Education and Research, Hyderabad (NIPER)

17. Sreenidhi Institute of Science & Technology, Hyderabad (SNIST)

18. St. Pauls College of Pharmacy

19. Tata Institute of Fundamental Research, Hyderabad (TIFR)

20. University of Hyderabad (UoH)

Sustainability

Partnerships and Collaborations



Start-ups

- 1. 3R Zero Waste
- 2. Agasty Energy
- 3. Atlast
- 4. Bintix
- 5. Boltron
- 6. Carbon Dynamicsx
- 7. ColdStream
- 8. Eco-Orbit Technologies Limited
- 9. Electric One

- 10. Electron EV
- 11. Elemantra
- 12. EV Chargeman
- 13. Gaist
- 14. Greenko
- 15. HAiDro
- 16. Joule Point
- 17. Marut Drones
- 18. Munera Engineering
- 19. Nanospan

- 20. Powered Horse
- 21. Quolt Design
- 22. RAP Eco Motors
- 23. RC Labs
- 24. Recykal
- 25. Retron Energies
- 26. Sinnovance
- 27. Wate Ventures
- 28. ZPN Energy
- 29. Zumen

Industry Partners

- 1. BSES Rajdhani Power Limited (BRPL)
- 2. Calcutta Electric Supply Corporation (CESC)
- 3. Noida Power Corporation Limited (NPCL)
- 4. RE Sustainability (RE)
- Research Design Standard Organization, Lucknow (RDSO)
- 6. Sieger Technologies
- 7. Tata Power (TP)
- 8. Xynteo

Research/Academic/Institutional Partners

- 1. Administrative Staff College of India (ASCI)
- 2. Alliance France
- 3. For Materials For Electronics Technology Hyderabad (C-MET)
- 4. Indian Institute of Management, Ahmedabad (IIMA)
- 5. Indian Institute of Technology, Gandhinagar (IITGN)
- 6. Indian Institute of Technology, Hyderabad (IITH)
- 7. International Advanced Research Centre for Powder Metallurgy and New Materials (ARCI)
- 8. Lukasiewicz Research Network, Poland (LRN)
- 9. National Institute of Micro Small and Medium Enterprises (NI-MSME)
- 10. Smart Innovation Norway (SIN)
- 11. UK Research and Innovation (UKRI)

Food and Agriculture Vertical

Partnerships and Collaborations



Start-ups

- 1. 63Ideas Infolabs
- 2. Aegis Consulting Services
- 3. Agmart Agro Services
- 4. AgricxLab
- 5. Agrirain Agro Industries
- 6. Agrowbook.com
- 7. Agstack Technologies
- 8. Aheadrace Software Development
- 9. Amvicube
- 10. Aquastride Technologies
- 11. Arya Collateral Warehousing Services
- 12. Aryadhan Financial Solutions
- 13. Aspagteq Technology
- 14. ATGC Biotech
- 15. Ayata Intelligence
- 16. Behtar Zindagi
- 17. BhaPra BioSolutions
- 18. BharatRohan Airborne Innovations
- 19. BigHaat
- 20. Bioprime Agri Solutions
- 21. Bioseed Research India
- 22. Bynark Engineering
- 23. CropIn
- 24. Delta Agrigenetics
- 25. Digi Agri Technologies
- 26. Ecozen Solutions
- 27. eFresh Agribusiness Solutions

- 28. Evato Technology
- 29. Farm Green Agritech India Pvt. Ltd.
- 30. GramCover
- 31. Gramworkx Agrotech
- 32. Greenizon Agritech
- 33. Hope Blessing
- 34. I-GENIX International
- 35. Icognitive Global
- 36. Indicold
- 37. IntelloLabs
- 38. JyoSH AI Solutions
- 39. Kaiinos Geospatial Technologies
- 40. Kamatan Farm Tech
- 41. Key Gene
- 42. Kheyti Tech
- 43. Krishitantra
- 44. Kritsnam Technologies
- 45. Leancrop Technology Solutions
- 46. Lyo Florals
- 47. Marut Dronetech
- 48. MedC Pharma
- 49. Millet Bank
- 50. Millet Bowl
- 51. nanoPix ISS
- 52. NewAgeKisan
- 53. Nutreco Salvor
- 54. Our Food
- 55. OXYFARMS Agro
- 56. Pals Agri Econnect

- 57. Piatrika Biosystems
- 58. Privi Life Sciences
- 59. Proximal Soilsens
- 60. RAAV Techlabs
- 61. Retranz Infolabs
- 62. Samunnati Agro Solutions
- 63. SatSure Analytics
- 64. Satyukt Analytics
- 65. Segri Tech
- 66. Shivrai Industries
- 67. Shree Gajanan Industries
- 68. Sickle Innovations
- 69. Smart IMS India
- 70. SourceTrace Systems India
- 71. St. Judes
- 72. Star Agribazaar Technology
- 73. Staragri
- 74. StaTwig
- 75. Stellapps
- 76. Thanos Technologies
- 77. ThinkCube Ideas
- 78. TraceX Technologies
- 79. Transity Digital Solutions
- 80. TurtleMonk Technologies
- 81. Unnati
- 82. Vassar labs
- 83. Vasudhaika Software
- 84. Vivaan Group
- 85. Vlinder labs
- 86. Wevio Global
- 87. Whrrl Fintech Solutions
- 88. Xmachines

Industry Partners

- Access Livelihoods
 Consulting India Limited
- 2. ACIC-CBIT
- 3. Advanta Seeds
- 4. Aranya Agricultural Alternatives
- 5. Bioseed Research
- 6. CII
- 7. Corteva Agriscience

- 8. Delta Agrigenetics
- 9. Dr. Reddy's foundation
- 10. FICCI
- 11. FTAPCI
- 12. GHMC
- 13. Grameen Foundation
- 14. Indian CST
- 15. ITC
- 16. KeyGene

- 17. Nagarjuna Fertilisers and Chemicals
- 18. NASSCOM
- 19. NICE Foundation
- 20. Prasad Seeds
- 21. Samunnati Foundation
- 22. UNDP

Research/Academic/Institutional Partners

- Anurag University, Hyderabad
- 2. Chaitanya Bharathi Institute of Technology, Hyderabad
- 3. ICAR–National Research Centre on Meat (NRCM)
- 4. ICAR-Directorate on Poultry Research
- 5. Indian Institute of Chemical Technology (IICT)
- 6. Indian Institute of Millets Research (IIMR)

- 7. Indian Institute of Rice Research (IIRR)
- 8. International Crops
 Research Institute for the
 Semi-Arid Tropics (ICRISAT)
- National Academy of Agricultural Research Management (NAARM)
- National Institute of Agricultural Extension Management (MANAGE), Hyderabad
- 11. National Institute of Animal Biotechnology (NIAB)

- 12. National Institute of Nutrition (NIN)
- 13. National Remote Sensing Centre (NRSC)
- 14. Professor Jayashankar Telangana State Agricultural University (PJTSAU)
- Sreenidhi Institute of Science & Technology, Hyderabad (SNIST)
- 16. Vaagdevi Group of Colleges, Warangal (VGC)

Partnerships/Institutional Engagements

Organisation Name	Partnership Objective	
Indian Institute of Chemical Technology (IICT)		
National Institute of Pharmaceutical Education and Research, Hyderabad (NIPER)	To identify, nurture, incubate, and commercialise the IP from Research and Academic Institutions for encouraging innovation and entrepreneurship, creating jobs, and benefitting society	
Aurobindo Pharma		
SIPRA Labs		
Medtronics Labs		
NATCO		
St. Pauls College of Pharmacy	To foster a collaborative environment to strengthen research and	
Mazumdar Shah Medical Foundation (MSMF)	innovation ecosystem activities of both the organisations	
LEPRA–Blue Peter Health and Research Foundation		
Xynteo	To collaborate to achieve the objective of strengthening the healthcare innovation ecosystem in India, and support MedTech innovators to improve their access to the last mile	
Cyient		
Malla Reddy Health City		
Kauvery Hospitals		
Fernandez Hospitals		
NICE Foundation	To explore opportunities for offering structured clinical validation support to start-ups in health-tech and med-tech space via the	
LVPEI BioNEST	Project Tej platform	
Smiline Dental Hospitals		
MNR Medical Foundation		
Vaatsalya Hospitals		
I-Venture@ISB	To foster a collaborative environment to support the start-ups under the AID program	
NI-MSME	To establish a Training Centre on Clean Technologies as a part of the CoE in Clean Technologies and promote entrepreneurs in the areas of life sciences, agriculture, and sustainability	
Biocon Foundation	To support scholarship and mentorship programme for Women in STEM Education and Careers	
ACIC-CBIT	To promote entrepreneurship amongst unserved and underserved communities in Telangana	
VIBA	To assist Vaagdevi Incubation and Business Accelerator with developing its R&D and innovation ecosystem	
The Agri Collaboratory	To accelerate the development of an open-source information sharing ecosystem	
National Institute of Nutrition	To collaborate and work towards nutritional intervention strategies amongst the underserved communities and sections of the society	

Organisation Name	Partnership Objective
ICRISAT	To foster a collaborative environment to actively facilitate the process of taking the research to market and create an innovative and entrepreneurship environment in the Food and agriculture ecosystem
IIMR	To advance development in millet food production by facilitating the research to market and develop an entrepreneurship environment
Aranya Agricultural Alternatives	To enable implementation of various farming projects, support and upskill farmers with the latest technologies, and assist start-ups with technology validation
Samunnati Foundation	To provide start-ups supported by Samunnati Foundation with assistance in product and technology validation, mentorship, and commercialisation
Indian Centre for Social Transformation (CST)	To onboard agritech start-ups on the KisanMitra platform, assist with product commercialization, and facilitate link-up with funders and incubators
	To onboard a database of start-ups and Farmer Producer Organizations (FPOs) and extend technical support regarding product evaluation and development of market plans
AgHub-PJTSAU	To establish a close partnership for supporting Innovators, start-ups, students, and women entrepreneurs in the field of agriculture and food
British Council	To facilitate greater research and innovation in aerospace, defence, life sciences and pharma, food and agriculture, and sustainability

RICH Mentors

Name	Designation	Organisation
Abhijit Mukherjee	Former COO	Dr. Reddy Laboratories
Bhanu Prakash Reddy Varla	Partner & Director	Graylogic-EdifyPath
Dr. Aman Iqbal	CEO	Vantage Enterprises
Dr. Ambuj Chaturvedi	Senior Vice President	IKP
Dr. Anthony Vipin Das	Opthamologist	LVPEI
Dr. Ashwin Nayak	Founder	Manah Wellness
Dr. Chinnababu Sunkavalli	Clinical Director-Surgical Oncology	Yashoda Hospitals
Dr. Dayakar Rao	CEO	Nutri-hub, IIMR
Dr. Kalpana Sastry	Managing Director	Ag-Hub, PJTSAU
Dr. Mahesh Joshi	Physician	Apollo Home Health Care

Name	Designation	Organisation
Dr. Nita Sachan	Ex VP	Endiya Partners
Dr. Radha Rangarajan	Director	Central Drug Research Institute
Dr. Rakhi Nair	Director-Programs	NICE Foundation
Dr. Ramesh Byrapaneni	MD	Endiya Partners
Dr. Ramjee Pallela	Chief Operating Officer	AIC-CCMB
Dr. Sarang Deo	Executive Director	Max Institute of Healthcare Management
Dr. Suresh Munuswamy	Dy. Director–Digital Health + Health Informatics + Tech Innovations @ Hi Rapid Lab	IIPH-PHFI
Dr. Venkat Ramana	CEO & Co-Founder	Excell Hospitals
Dr. Vinayendar Tulla	Executive Director	Aditya Hospitals
Harini Calamur	Head-Impact Sciences	Cactus Communications
Jay Krishnan		Mantra Capital
Kannan Narayanaswamy	Mentor, coach, founding advisor	Independent Advisor
Lakshmi Kant	Director–Finance	Antler India
Mahesh Iyer	Head	PAREXEL, India
Mukesh Sharma	Co-Founder	Menterra
Namit Chugh	Investment Professional	W Health Ventures
Nisha Vempalle	Director, Global Regulatory Affairs	Freyr Solutions
Prof. Ramesh Loganathan	Professor–Co-innovations	IIIT Hyderabad
Pulkit Agarwal	Investment Professional	Social Alpha
Ram Dhulipala	Senior Scientist–Digital Agriculture and Innovation	ILRI
Rama Devi Lanka	Director–Emerging Technologies Officer on Special Duty (OSD)	Govt. of Telangana
Rama Devi Lanka	Director-Emerging Technologies Wing-Officer on Special Duty	Govt. of Telangana
Ravi Narayan	Former CEO	T-Hub
Shriram	Partner	Clinfinite Solutions
Siddharth Jain	CEO	Symbiorph Clinical Trialogy
Sivakumar Palanaswamy	AVP	start-upTN
Tushar Sadhu	Investment Professional	W Health Ventures
Varun Trivedi	Medical Devices and Regulatory Consultant	
Vineeta Wadhwani	VP Investments	SucSEED Ventures

Events

Organised

ACIC-CBIT



RICH, in association with the Atal Innovation Mission by the Atal Community Innovation Centre at Chaitanya Bharathi Institute of Technology (AIM–ACIC–CBIT), organised a community outreach programme at Zahirabad, on 11th April 2022. The goal was to first identify farmers' challenges in light of the rapidly degrading landscapes and chalk out areas in which innovative technological solutions can be the answer. Community Outreach Programmes (COPs) were conducted to support and uplift underserved sections of the community. Their needs were assessed, and appropriate resources were made available to them to ensure a better quality of life.

Through this event, we were also able to suggest to the farmers certain best practices, such as using farm mechanisation tools for better yields. Ultimately, from the discussion, we were able to screen and shortlist problem statements that could be solved using engineering technologies. Students, innovators, and start-ups in the region were then roped into the solutioning process, via an ideathon/hackathon.

United Nations 2021 Food Systems Summit

The drylands contribute around 42 percent of the total food grain production in India. More than two-thirds of the 97 million farm holdings in the country comes under dryland farming. In Telangana, close to 63 percent of the crops grown are under rain-fed conditions. Farmers suffer from lower yields and crop losses due to poor resilience to climate change, which has a multiplier impact on the local economy and national productivity.



Research Roundtable



To explore the agro-industry in Warangal in more detail and identify specific problems in this industry, RICH decided to conduct a series of Industry Research Round tables in specific focus areas of Food and Agriculture. RICH collaborated with its partner organisation–Vaagdevi Group of colleges, Warangal to conduct the first Industry Research Roundtable at Warangal. The roundtable focused on identifying problems in agriculture. Ideas were discussed that can then be considered for further research by the researchers of Vaagdevi or can be used as problem statements for developing innovative technological solutions.

The event was conducted on 28th April 2021 at Vaagdevi Institute with the participation of 51 researchers, 40 farmers, 4 industrialists, and 20 agriculturists.

By the end of this extensive roundtable, which had contributions from almost all the stakeholders in the agro-industry value chain, 40 farming problems/challenges were identified.

Agri-Hackathon (VIBA)



After successfully identifying a set of problem statements from the agri-industry research meet, RICH decided that the best way to find innovative solutions for these problems was to conduct an agri-hackathon. To conduct the hackathon, RICH partnered with the Vaagdevi Group of Colleges and ACIC-CBIT.

A list of ten challenges was picked from the 40 challenges identified in the agro-industry research meet as problem statements for this agri-hackathon. The agri-hackathon was conducted on the 14th and 15th March 2022 at Vaagdevi colleges, Warangal. Start-ups, researchers, farm innovators, NGOs, students, and other agencies from across the country participated in the event with their innovative technologies. Incubation and mentorship support at VIBA and ACIC–CBIT were extended to the winners.

Government officials committed to supporting the pilot and commercialising four innovations as a part of the agri-hackathon. Building and nurturing a research, development, and innovation ecosystem such as this can identify solutions that can be implemented in the field to create a market-viable product.

Sustainability and Digitalisation Roadmap for Chemical Industry

RICH, in partnership with Dr. Reddy's Institute of Life Sciences and the Royal Society of Chemistry, organised an online conclave to help the chemical industry achieve its United Nations Sustainable Development Goals (UN SDGs), which serve as a blueprint to achieve a better and more sustainable future for the world. The objective of the conclave was to discuss innovative design, creation, processing, and usage, through which the chemical industry can play a major role in helping humanity to meet current environmental, economic, and societal challenges without compromising the progress and success of future generations.



RICH, in association with Cyient and Xynteo, organised a workshop on "Requisites for Conducting Clinical Validation Studies for Medical Devices/Diagnostics Start-ups". This event was led by Dr. Biju Jacob, Director, Health, Social Alpha and Country Director, India, UN Health Innovation Exchange.





Non-Dilutive Funding Opportunities for Deep Science Tech Start-ups

RICH, in association with Venture Center at Pune, organised a workshop for Deep Science start-ups on Non-Dilutive Funding Opportunities. This workshop was led by Ms. Soma Chattopadhyay, Head, Incubation & Mentoring at Venture Center, Pune.



HealthCare Technology Investment Scenario-Challenges and Opportunities: An Investors' Perspective

RICH, in association with W-Health Ventures, organised a session on HealthTech Investment scenarios and trends by Mr. Tushar Sadhu, Investment Professional at W Health Ventures. The session also highlighted various funding opportunities available for start-ups, the various approaches to reach the VCs, and the parameters that investors consider while evaluating start-ups for investment.



Enabling Collaboration

Research and Innovation Circle of Hyderabad (RICH) hosted teams from the Office of the Principal Scientific Advisor (O/o PSA) and NITI Aayog as part of its engagement with the different stakeholders in the researchacademia-start up ecosystem of Telangana. Gracing the event were Prof. K. VijayRaghavan, Principal Scientific Adviser to the Government of India, Dr Rajiv Kumar, Vice Chairman, NITI Aayog and Shri. Jayesh Ranjan, Principal Secretary of the Industries & Commerce (I&C) and Information Technology (IT) Departments, Government of Telangana, and Dr K. Rajeswara Rao, IAS, Special Secretary, NITI Aayog.



Session on Opportunities for Women in STEM Education and Careers

RICH, in association with Syngene and Biocon Foundation, organised a Panel Discussion on the topic–Essential steps required to promote more participation of women in STEM education and careers. The panel comprised renowned professionals from both Academia and Industry.



T-Health Cafe

RICH, in association with OJAS BioNEST at CIE-IIIT Hyderabad, has been organising a monthly event by engaging the MedTech consortium of research/academia institutes, hospitals, start-ups, incubators, investors, and industry to enable the MedTech, Healthcare, and Life Sciences innovation ecosystem.



Session on Understanding Regulations in India and Beyond

RICH organised a workshop for startups working in the medical devices and diagnostics space on regulatory requirements in India (and abroad). The workshop was spearheaded by Mr. Varun Trivedi, Medical Device Quality and Regulatory expert.



Workshop on Lean Start-up and MVP-Design Thinking

RICH, in association with St. Pauls College of Pharmacy, organised a session on Lean start-up and Design Thinking for Students. The session was delivered by Dr. Sushmitha Sundar, Head, Life Sciences at RICH



Science and Technology Mega Cluster Launch

Led by RICH (Research and Innovation Circle of Hyderabad), the S&T Mega Cluster aims to bolster nationwide scientific collaboration in the innovation hub of the country – Hyderabad.

Hyderabad, a hub of innovation, has been selected for setting up a Science and Technology Cluster, an initiative of the Prime Minister's Science, Technology and Innovation Advisory Council (PM-STIAC).



Celebrating the Spirit of Entrepreneurship

RICH, in collaboration with Ag-Hub of Professor Jayashankar Telangana State Agricultural University, organised the Hyderabad leg of the 'Flame of Entrepreneurship' to celebrate the spirit of entrepreneurship and innovation in the state, in connection with the launch of T-Hub 2.0. The state-wide relay run involving other ecosystem enablers was aimed at recognising and celebrating the entrepreneurial spirit of Telangana's robust innovation ecosystem.



Support Available to Innovators and Start-ups at the Regional and National Level

RICH, in association with St. Pauls College of Pharmacy, organised a session on opportunities available for student entrepreneurs during their product development by Mr. Aravind Kumar, Project Manager at RICH



T-Innovation Mahotsavam

RICH, in association with Telangana State Innovation Cell, organised T-Innovation Mahotsavam on the occasion of World Creativity and Innovation Day.



Participated

Lessons from the Pandemic-Fast-tracking India's "Atmanirbharta" in Healthcare

Ms. Rashmi Pimpale, CEO at RICH, participated in the panel discussion organised by FIND Diagnostics to discuss strategies to strengthen India's healthcare ecosystem.



International Conference on Green Energy

RICH gave a keynote address on the role of MSME players in the green energy transition of the nation, and the upcoming opportunities for players in this sector. The event was organised by the National Institute of Micro Small and Medium Enterprises (ni-MSME) and Chandradeep Solar Research and Training Institute on 24th and 25th March 2022.



Sustainable Coal Pathways for India

RICH participated in a panel discussion on the role of Energy 4.0 technologies in the emerging energy sector opportunities in the context of Sustainable Coal Pathways. The event was organised by IDDRI, France, Indian Institute of Management Ahmedabad, and PMRC, Dhanbad on 11th and 12th October 2022.



National Seminar on FDI in R&D

The National Seminar on FDI in R&D was organised by FICCI and the Office of Principal Scientific Advisor to the Government of India to provide a platform to various stakeholders such as government functionaries, representatives from states and countries, academia, think tanks, and industry members to deliberate on the various challenges faced by India in attracting FDI in R&D in diverse sectors. Dr. Sushmitha Sundar, Head, of Life Sciences, from RICH participated in the panel discussion at the event.



A Digital Transformation in Terms of Governance, Habitat, and Mobilities

RICH gave a presentation on the role of emerging technologies in the context of Smart Grids. The various technology enablers for smart grids and the emerging use cases of these technologies were discussed. The workshop was organised by Alliance Francaise of Hyderabad on 8th and 9th November 2022.



Ecosystem Testimonials



The RICH team helped us refine the idea and product offering, connected us with anchor customers, helped develop a business plan, and demonstrate prototypes in the field.

ABHISHEK GORLE

CEO & Co-Founder, Eco Orbit Al Solutions Pvt. Ltd.



We are very thankful to RICH for its numerous contributions to the growth journey of Marut to date, and its continued support in our transformation into a leading drone player in India.

PREM KUMAR VISLAWATH

Founder & CEO, Marut Dronetech Pvt Ltd



Munera Engineering is pleased to give this testimonial to RICH on the excellent work and support they have provided. We were very impressed with the on-the-ground knowledge of the RICH team and the practical suggestions they provided for our problems.

NANDAKISHORE

Managing Director, Munera Engineering



We appreciate the Research and Innovation Circle of Hyderabad (RICH) for their immense support and ongoing contributions towards establishing the Centre of Excellence (CoE) on E-Waste Management at C-MET Hyderabad.

DR. R. RATHEESH

Director, C-MET



Carbon Dynamix was first introduced to Srinivas Cherla from RICH as he was assigned as a mentor to Carbon Dynamix in the Lab32 program in partnership with AIC-T Hub. Apart from the regular technical and strategic mentoring, he helped us connect to legal and financial consultants to resolve a few issues in incorporating our start-up and other compliance issues that we were facing.

S. K. KATHIRESH

Founder and CEO, Carbon Dynamix



Having the strongest innovation ecosystem in Telangana, we would like to appreciate the team of Research and Innovation Circle of Hyderabad (RICH, Hyderabad S&T Cluster) for actively engaging with the Innovation ecosystem stakeholders in the State.

DR. RAMJEE PALLELA

COO, AIC-CCMB



I would like to appreciate the team of Research and Innovation Circle of Hyderabad (Hyderabad S&T Cluster) for their active work in bringing together Academia, Hospitals, Research Organisations, Industry Partners, and Innovation Ecosystem players.

DR. CHINNABABU SUNKAVALLI

Clinical Director, Surgical Oncology at Yashoda Hospitals and Founder of Grace Cancer Foundation



We have been working with RICH since the time of its inception and have been a part of the journey involving various programmes with stakeholders from research institutes, universities, industries, and start-ups.

SRINIVAS ORUGANTI

Director, Dr. Reddy's Institute of Life Sciences



Through collaboration with Research and Innovation Circle of Hyderabad (RICH), we are now able to address the critical goal of gender diversity in the higher education system.

DR. ANUPAMA SHETTY

Mission Director, Biocon Foundation



India is getting richer with Industries, Research Institutes, Academia, Venture Capitalists, Angel Investors, and Incubators; however, start-up entrepreneurs face multiple challenges in reaching out to them.

DR. RAMESH KEKUNAYA

Director, Centre for Technology Innovation (CFTI), Child Sight Institute (CSI) and Network Director, LVPEI



RICH has played a pivotal role in improving the medices. 2003,000 facilitated us to work with several start-ups this year and we had an enriching experience RICH has played a pivotal role in improving the Meditech Ecosystem in Telangana. It has in the whole processes initiated by RICH.

DR. TEJO PRATAP OLETI

Head, Department of Neonatology Head, Scientific committee Fernandez Hospital



LEPRA-BPHRC has garnered a productive partnership with RICH for the past few months.

Our interaction with RICH started as a brief informal conversation that was built into a solid partnership that led to productive networking through the life sciences division of RICH.

DR. APARNA SRIKANTHAM

Head-Research and Director-Lab LEPRA-BPHRC



I have been associated with RICH: Research and Innovation Circle of Hyderabad (Hyderabad S&T Cluster) since its inception. And its philosophy even before, hearing the passionate case made by Ajit sir on all the locked national treasures in the various research labs.

PROF. RAMESH LOGANATHAN

Professor, Co-Innovation & Outreach IIIT Hyderabad



My association with RICH (Research and minoration charter) has been since its inception. It has been true and honest to its objectives to My association with RICH (Research and Innovation Circle of Hyderabad-Hyderabad S&T facilitate collaborations in the space of research and innovation.

DR. PADMANABH M REDDY

CEO/Director, NICE Foundation/NICE Hospital for Women, Newborns and Children



RICH has been a great strength to Alunya by opening as a networking. They have supported our initiatives and have helped us build strong RICH has been a great strength to Aranya by opening us to multiple streams for connections with powerful organisations and great human beings.

PADMA NARSANNA

CEO,

Aranya Agricultural Alternative



Forged right at the very peginning of the start of our fourth, start on Pilot (AIP). This catalyzed the seeding of our flagship programme, Agritech Innovation Pilot (AIP). This Forged right at the very beginning of the start of our journey starting in 2020, RICH is a first-of-its-kind and unique program to pilot agtech start-up technologies at the grassroots level, leading to technology and user validation by scientists and farmers.

DR. KALPANA SASTRY

Managing Director, AgHub of PJTSAU



We at XMachines have been working with Nich since 2020.

association, RICH has been proving to be a valuable partner for our company. RICH We at XMachines have been working with RICH since 2020. Since the beginning of our has always acknowledged the innovative work we do at XMachines and has helped in recommending us to various agri-eco system partners.

TRIVIKRAM KUMAR D

Founder & CEO. Flic Farm Pvt. Ltd.



We are grateful to RICH for getting the Restore i ronner of the 2022 season. Although it was a Water Bodies program kickstarted in Telangana for the 2022 season. Although it was a We are grateful to RICH for getting the Restore Promise of Water via Rejuvenation of short preparatory period, the team's knowledge and networks enabled credible partner onboarding and successful execution.

JOSEPH FERNANDES

President and Co-Founder, IIT-IIT



We have been fortunate to have worked closely with RICH since 2020 and have received good insights into the ways of working and strong connections in the seed industry. RICH has also provided us valuable inputs on funding raising for our Seed Round investment.

PHANI YARLAGADDA

Co-Founder. Piatrika Biosystems Pvt. Ltd.



from the guidance and mentorship provided by Mr Srinivas Cherla from the Research and Electron EV is an electric truck manufacturing start-up and has benefitted immensely Innovation Circle of Hyderabad (RICH).

GANESH BABU

Chief Executive Officer, Electron EV

RICH Outreach and Communications

In the News



Syngene and Research and Innovation Circle of Hyderabad (RICH) launch scholarship program for women in STEM



Our CEO Rashmi Pimpale gets featured in Biospectrum June edition



Start-up India-Top Performer

More features:

- RICH has created a supportive ecosystem for innovators in agri-tech space
- Our initiatives are aligned to help Telangana flourish in the life sciences sector
- Fostering Research and Innovation Across Industry Sectors Published in Pharma Bio World
- Why inducting more women in research and innovation in India is a long haul Published in India Today

Social media presence

Platform	Linked in	twitter	facebook
Followers as of November 2022	3,965	4,959	951

LinkedIn and Twitter

Series Name	Description	
enRICHing Fridays	One interesting factoid on each of the 3 sectors is researched and posted on our social media every Friday	
Innovators Corner	All the start-up stories/innovations from AID/agri and sustainability goes under this hashtag	
Announcements	This includes posting announcements, MoU signings, workshop registrations, and more.	
In conversation Series	In conversation video series with our stakeholders to bring out interesting conversations on our social media. (In Pipeline)	

Newsletters







Blogs



Improving Maternal and Child Health, Forging a Brighter Future



Electric Vehicles: Renewing Our Modes of Transportation on Our Way to a Greener Society



The Energy Sector: Current State of Affairs and the Road Ahead



On the Road to a Green Future: Making the Electric Vehicle Life Cycle Better



The Energy Sector: Our Current Grid and a Framework for the Future



An Innovation Born Out Of Hardships—A Mechanical Weeder For Small Farmers Everywhere



Balancing Exploitation and Environment



What is the point of innovation if it does not contribute to social good?



5 Essential Data Sources for Agritech Start-ups



Union Budget 2022: Top Agriculture Takeaways

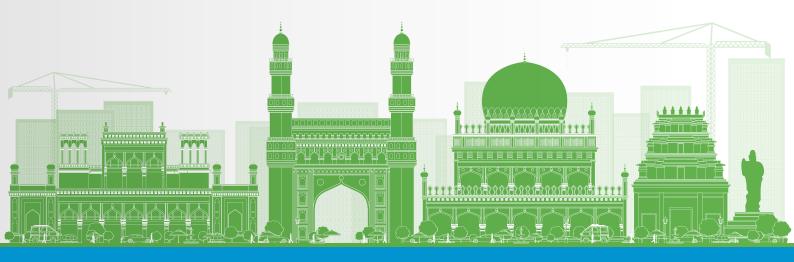


Remote Sensing: A New Way to Assess Farm Losses And Insurance Claims





Research and Innovation Circle of Hyderabad



- www.facebook.com/RICHCC/
- in https://www.linkedin.com/company/rich-hyd
- www.twitter.com/rich_hyd/
- www.rich.telangana.gov.in

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