

RICH Communiqué

A quarterly digest of happenings
at Research and Innovation
Circle of Hyderabad

JANUARY–MARCH 2023



COVER STORY

Green Hydrogen: Fuelling the Future

As nations strive to achieve their net-zero objectives and climate mitigation targets, the use of hydrogen as a fuel is gaining significant traction. Global hydrogen demand in 2021 reached 94 Megatonnes (Mt)—surpassing the historical maximum of 91 Mt required in 2019. In India, hydrogen demand is expected to increase four-fold by 2050, according to a report by NITI Aayog and the Rocky Mountain Institute. But while hydrogen is a clean fuel, is it truly 'green'?



INITIATIVES

Read more on Page 04



EVENTS AND COLLABORATIONS

Read more on Page 07



NETWORKING INITIATIVES

Read more on Page 11



START-UP SPOTLIGHT

Read more on Page 15



COMMUNITY ENGAGEMENT

Read more on Page 06



WORKSHOPS ORGANISED

Read more on Page 10



PROGRAMME UPDATES

Read more on Page 14

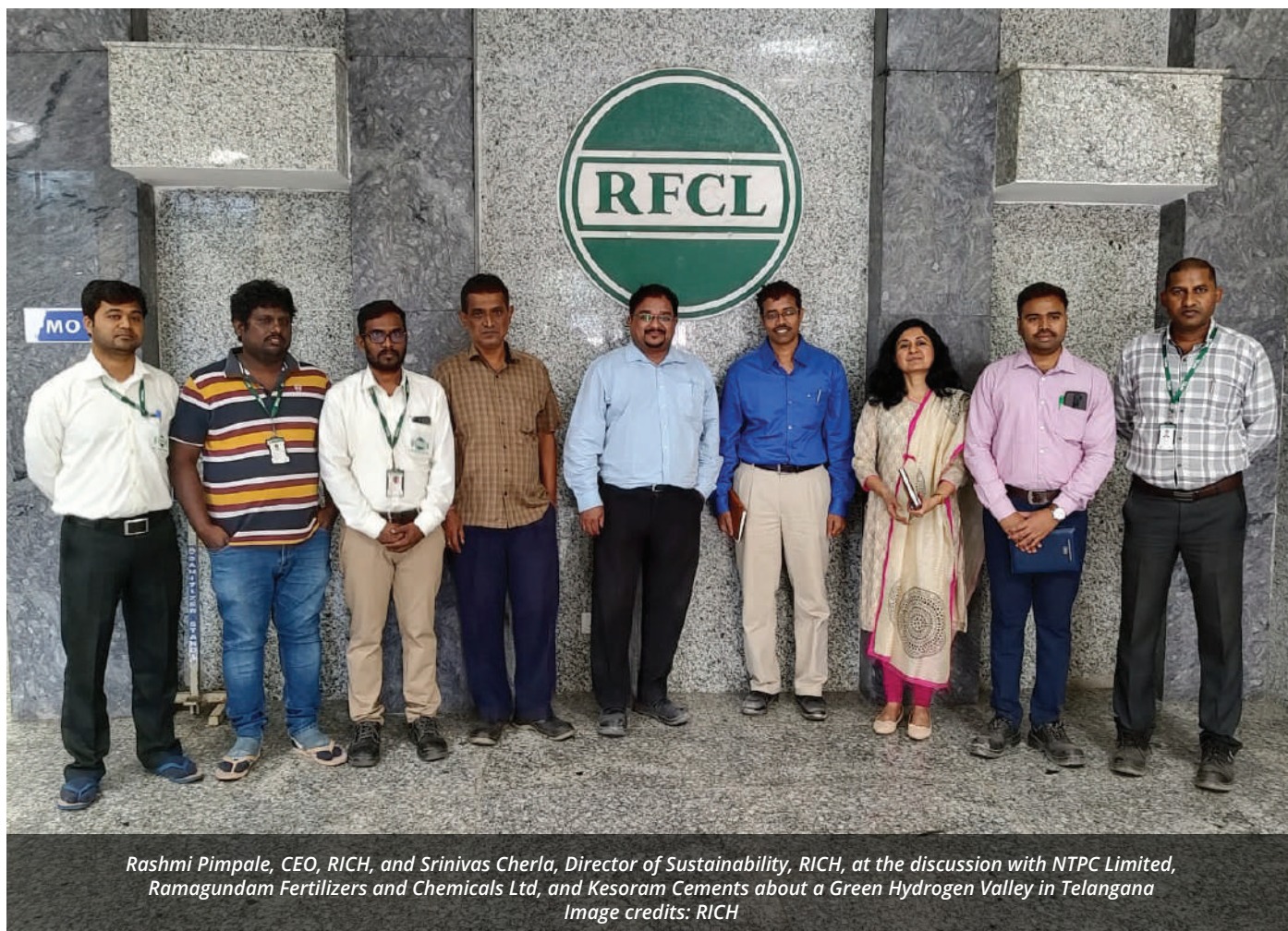


MESSAGE FROM THE CEO

Read more on Page 16

COVER STORY

Green Hydrogen: Fuelling the Future



*Rashmi Pimpale, CEO, RICH, and Srinivas Cherla, Director of Sustainability, RICH, at the discussion with NTPC Limited, Ramagundam Fertilizers and Chemicals Ltd, and Kesoram Cements about a Green Hydrogen Valley in Telangana
Image credits: RICH*

As nations strive to achieve their net-zero objectives and climate mitigation targets, the use of hydrogen as a fuel is gaining significant traction. Global hydrogen demand in 2021 reached [94 Megatonnes](#) (Mt)—surpassing the historical maximum of 91 Mt required in 2019. In India, hydrogen demand is expected to increase four-fold by 2050, according to a [report](#) by NITI Aayog and the Rocky Mountain Institute. But while hydrogen is a clean fuel, is it truly ‘green’?

What could make hydrogen an eco-friendlier fuel?

Today, most hydrogen fuel manufacturing approaches employ fossil fuels. Green hydrogen, on the other hand, is produced by splitting water molecules into hydrogen and oxygen using energy from renewable sources or biomass. At end of 2021, almost [47%](#) of the global hydrogen production came from natural gas, and only 4% was ‘green’. If we are to move towards a cleaner, more eco-friendly economy, we need to adopt green hydrogen in a more widespread manner.

To this end, the Government of India launched the National Green Hydrogen Mission on 4th January 2022. The mission seeks to promote green hydrogen as a key energy carrier that can substitute fossil-fuel based energy, decarbonise the economy, and ultimately make India the global hub for the production, use, and export of green hydrogen and its derivatives.

How is RICH contributing?

At the beginning of 2023, in collaboration with the Department of Science and Technology (DST), Government of India, RICH organised the Green Hydrogen Stakeholder Consultation. The consortium, which saw participation from major players in the hydrogen value chain—such as producers, consumers, original equipment manufacturers, system integrators, research institutes, and state enablers—was a part of DST's larger effort to investigate the potential for establishing a Green Hydrogen Valley in Telangana, that is, a place where green hydrogen can be produced, transported, stored, and utilised on a massive scale by various sectors.

So far, we have had several insightful discussions with key industry stakeholders like NTPC Limited, Bharat Heavy Electricals Limited (BHEL), the Nuclear Fuel Complex (NFC), the Heavy Water Board (HWB), the International Advanced Research Centre for Powder Metallurgy and New Materials (ARCI), and Indian Railways, to identify their sector-specific use cases. Additionally, we have started discussions with Ramagundam Fertilizers and Chemicals Limited, Kesoram Cements, CII, and IIT Hyderabad to create a compendium of use cases from various industry sectors and conceptualise a Green Hydrogen Valley with industries in the region. We are now working on the techno-economic analysis of green hydrogen production so that it can be shared and used by various stakeholders to contribute to the larger Mission. We are also working on a Centre of Excellence for Green Hydrogen and a Green Hydrogen Technology Accelerator in collaboration with Xynteo.

With collaboration being at the core of what we do, we welcome individuals, industry players, and government bodies who are engaged in the field of green hydrogen to collaborate with us and explore potentially impactful solutions. Together, we can further these discussions and work towards our shared goal of transitioning towards a cleaner, greener, more eco-friendly future.

You can read about our social media series on Green Hydrogen here:

www.linkedin.com/company/rich-hyd/?originalSubdomain=in

INITIATIVES

Enhancing the MedTech Start-Up Ecosystem



RICH has supported multiple MedTech start-ups through diverse initiatives. Our vast experience has demonstrated the tremendous value of partnerships between start-ups and clinicians in bringing innovations from the laboratory to the market. Medical practitioners play an indispensable role in the success of a start-up's journey, providing crucial assistance in clinical validation, mentorship, and guidance.

At RICH, we foster collaboration between medical professionals and entrepreneurs in the healthcare industry through a range of engagement activities, including workshops and networking events. In furtherance of this objective, we recently partnered with the Young Doctors Organization to engage with some of the top clinicians in Hyderabad. Additionally, we hosted a sensitization workshop to showcase the success of the MedTech start-ups we have supported over the years. Startoon Labs and Monitra Healthcare, two of our supported start-ups that have developed innovative medical devices with significant impact, were also present at the workshop to facilitate the discussions.

The workshop has elicited a significant level of interest from clinicians who are keen to explore opportunities to engage with start-ups, provide mentorship and advisory services, and facilitate

clinical validation studies. The support of seasoned clinicians can make a critical difference for start-ups, and we are heartened to observe such an enthusiastic response from the medical community in Hyderabad.

We believe that this collaboration between innovators and clinicians will not only drive innovation in the healthcare industry, but also take the most-needed innovations across the last mile to patients across the country and the rest of the world. We look forward to working closely with all these clinicians and stakeholders in the industry, to fulfil our aim of creating a better future for all.



COMMUNITY ENGAGEMENT

Driving Agricultural Progress through Innovation, Communication, and Collaboration



India's largest trade fair for agriculture—KISAN—organised its agricultural technology expo in Hyderabad, Telangana, from 3rd to 5th of March 2023.

The event drew 12,800 farmers from across the state and featured 167 exhibitors—ranging from start-ups to larger corporations—in the domain of agricultural technology. Participating entrepreneurs were given a chance to present their innovations to an audience consisting of not only farmers, but also Indian government officials, policymakers, and media representatives. In particular, start-ups were provided with an exclusive space to generate visibility for their products and services.

RICH was the conceptual sponsor for KISAN's expo. So, not only did the event allow us to showcase our Start-Up India Seed Fund Programme, but it also enabled us to highlight several initiatives such as the 'Prajwala Challenges' hosted by the Ministry of Rural Development, Government of India; and the AgriTech Innovation Pilots, which support innovations that can potentially transform the rural economy. We were able to speak to more than 30 start-ups about the funding landscape in the agri-tech ecosystem and the challenges that they face. We also had informative discussions with farmers about pressing issues such as the market for millet produce in India and abroad, the menace of wild boars destroying sugarcane and groundnut crops, the importance of establishing more Farmer Producer Organisations, and more.

More than 50% of our country's workforce is engaged in agricultural activities. This three-day event truly reinforced the importance of fostering innovation and entrepreneurship in the agriculture sector to drive sustainable growth and development. We are glad to have been a part of this event and look forward to continuing collaborations with start-ups and farmers for the development of the agriculture sector by bringing out viable, impactful technological solutions in the state and the country.

EVENTS AND COLLABORATIONS

Interactive Session on the Ayushman Bharat Digital Mission

Recently, RICH organised an interactive session in collaboration with the AIC T-Hub Foundation to provide an overview of the architecture of the Ayushman Bharat Digital Mission (ABDM) and shed light on the importance of this initiative for India's healthcare sector.

The Guest Speaker was Shri Kiran Gopal Vaska, Director of the National Health Authority (NHA)—which is the implementing agency for ABDM. He spoke of the various ways in which healthcare providers, medtech start-ups, and innovators can leverage the platform's facilities to create an improved healthcare ecosystem within the country.

ABDM aims to streamline healthcare service delivery and enhance affordability and accessibility to healthcare

services for all citizens of India. It offers a range of digital services such as teleconsultation, e-pharmacies, and health information exchange to healthcare providers, start-ups, and innovators.



Session held on Ayushman Bharat Digital Mission for healthcare providers and innovators
Image credits: RICH

EVENTS AND COLLABORATIONS

Consortium to Revolutionise Demand Side Energy Management



Signing of the agreement by the consortium members in the presence of His Excellency Hans Jacob Frydenlund, Norwegian Ambassador to India, and Shri Dinesh Jagdale, Joint Secretary of the Ministry of New and Renewable Energy (MNRE)
Image credits: RICH

Smart Innovation Norway, a renewable energy manufacturing company, is conducting an industry and research consortium to demonstrate Demand Side Energy Management, in collaboration with RICH, Indian Institute of Management Ahmedabad (IIMA), BSES Yamuna Power Limited (BYPL), BSES Rajdhani Power Limited (BRPL), and Noida Power Company Limited (NPCL).

The consortium will focus on one of the many projects under the Indo-Norwegian Task Force on Energy, the Demand Response Driven Energy Advancement (DREAMS) project, which aims to use digital technology and social sciences to showcase how intelligent and automated load management through Demand Response can improve energy access, renewable energy penetration, and energy efficiency for consumers and energy utilities. The results from the project will help policymakers and utilities implement Demand Response programs on a larger scale across India.

EVENTS AND COLLABORATIONS

RICH Collaborates with Key Industries to Explore Green Hydrogen Possibilities



Representatives from RICH and the Confederation of Indian Industry held discussions with NTPC Limited, Ramagundam Fertilizers and Chemicals Ltd., and Kesoram Cements to understand their decarbonisation plans. The teams also explored potential use cases for transitioning to green hydrogen. All three industries expressed interest in collaborating with us for exchanging information for detailed techno-commercial evaluation for a Green Hydrogen Valley. With this support, we look forward to working towards realising a green hydrogen valley in the region.

WORKSHOPS ORGANISED

BIRAC Funding Opportunities for the Validation and Pre-Commercialisation of Healthcare Products and Technologies: Insights from Dr. Zahoorullah S. MD, Founder of Dr Z Labs



Exploring MedTech Investment Opportunities from an Angel Investor's Perspective with Rathnakar Samavedam, Investment Director and CEO, Hyderabad Angels



NETWORKING INITIATIVES

Hosting an Agritech Start-up Interaction Session for the IFC Team



*Team Food and Agriculture—Jonathan Philroy and Athira Nair at the agritech start-up interaction session
Image credits: RICH*

In February, RICH organised a dynamic agritech start-up interaction session for a team from the International Finance Corporation (IFC), as a key component of their impact evaluation design workshop. We handpicked six top-performing start-ups in the agritech space to showcase their innovative products, share their remarkable growth stories, and discuss the challenges they have faced along the way. The session provided an interactive

platform for the IFC team to gain valuable insights into the cutting-edge technologies and trends currently shaping the agritech landscape in India.

T-Incubators and Accelerators' Meet-Up



*A glimpse of the T-incubators and accelerators meet-up organised by RICH
Image credits: RICH*

RICH hosted a meet-up at Sreenidhi Ascend—the incubation centre of the Sreenidhi Institute of Science and Technology, Hyderabad—in association with the Telangana State Innovation Cell. At the event, industry leaders oriented students on the opportunities available in the current innovation ecosystem within our

country, and opened their eyes to career prospects as a start-up or an entrant into the system.

Sensitisation Session with Students from AMPH



*A team of experts from RICH shared insights on cutting-edge technologies in healthcare at the sensitisation session
Image credits: RICH*

RICH hosted an interactive sensitisation session for the students of the Advanced Management Programme for Healthcare at the Indian School of Business, Hyderabad. The attendees were provided with a unique opportunity to delve into some of the latest technological innovations in the healthcare sector and understand how they can play a key role in driving these innovations forward to enhance healthcare

delivery and patient outcomes.

PROGRAMME UPDATES

Start-ups graduate from the Mission 10X market access programme



Our heartiest congratulations to the start-ups who were part of the Mission 10X (DeepTech and MedTech SIGs) market access acceleration programme!

After three months of receiving intensive guidance on market access strategy from resident mentors Dr. Ambuj Chaturvedi and Mr. Bhanu Prakash Reddy Varla, the start-ups successfully pitched their innovations to leaders from VC firms and corporations on Demo Day. The event was organised by Telangana State Innovation Cell, RICH, T-Hub, IKP Knowledge Park, CIE-IIIT Hyderabad, and Atal Incubation Centre-CCMB. We are honoured to have supported these start-ups in their journey and wish them all the best for the future.

START-UP SPOTLIGHT



Healthkon, part of the first RICH-AID Cohort, was among the top five start-ups at BioAsia 2023.

Know more here: www.healthkon.com/



Three start-ups associated with the RICH-AID programme, Briota Technologies, Urvogelbio, and Primary Healthtech, were selected among

the top 8 teams for the ZS Prize—a prestigious healthcare innovation award recognising outstanding achievements in healthcare.

Know more here: www.briota.co
www.primaryhealthtech.com
www.linkedin.com/company/urvogelbio-private-ltd/?originalSubdomain=in



*Drobots Tech Pvt. Ltd. receiving the Start-up Seed Fund
Image credits: RICH*

Drobots Tech Pvt. Ltd. became the first start-up to be onboarded by RICH under the Start-Up India Seed Fund Scheme—an initiative by the Department for Promotion of Industry and Internal Trade, Government of India, to provide critical financial assistance to start-ups, particularly for proof of concept, prototype development, product trials, market-entry, and commercialisation. As one of the implementing incubators under the scheme, we look forward

to collaborating with more start-ups in the future.

Know more here: www.drobotstech.com/

Message from the CEO

As an organisation at the forefront of fostering innovation and growth in the science and technology ecosystem of Telangana, RICH has undergone a transformative evolution over the years. To mark this, at the beginning of the year, we unveiled our new logo. The logo reflects our core value of collaboration, and represents a vibrant, contemporary, and forward-looking spirit to symbolise our commitment to encouraging new ideas and perspectives to address both old and new challenges.

We transitioned to our new logo with a renewed spirit of scientific and technological advancement, so that the benefits of science and innovation can be multiplied and used for the betterment of society. With this logo, we re-emphasise our commitment to encourage and support the potential and interests of diverse groups of people, to contribute to bridging the gaps in regional and national development, and strengthen the innovation-entrepreneurship-investment ecosystem that is key to driving socio-economic transformation in Telangana and India.



Rashmi Pimpale
CEO, RICH

