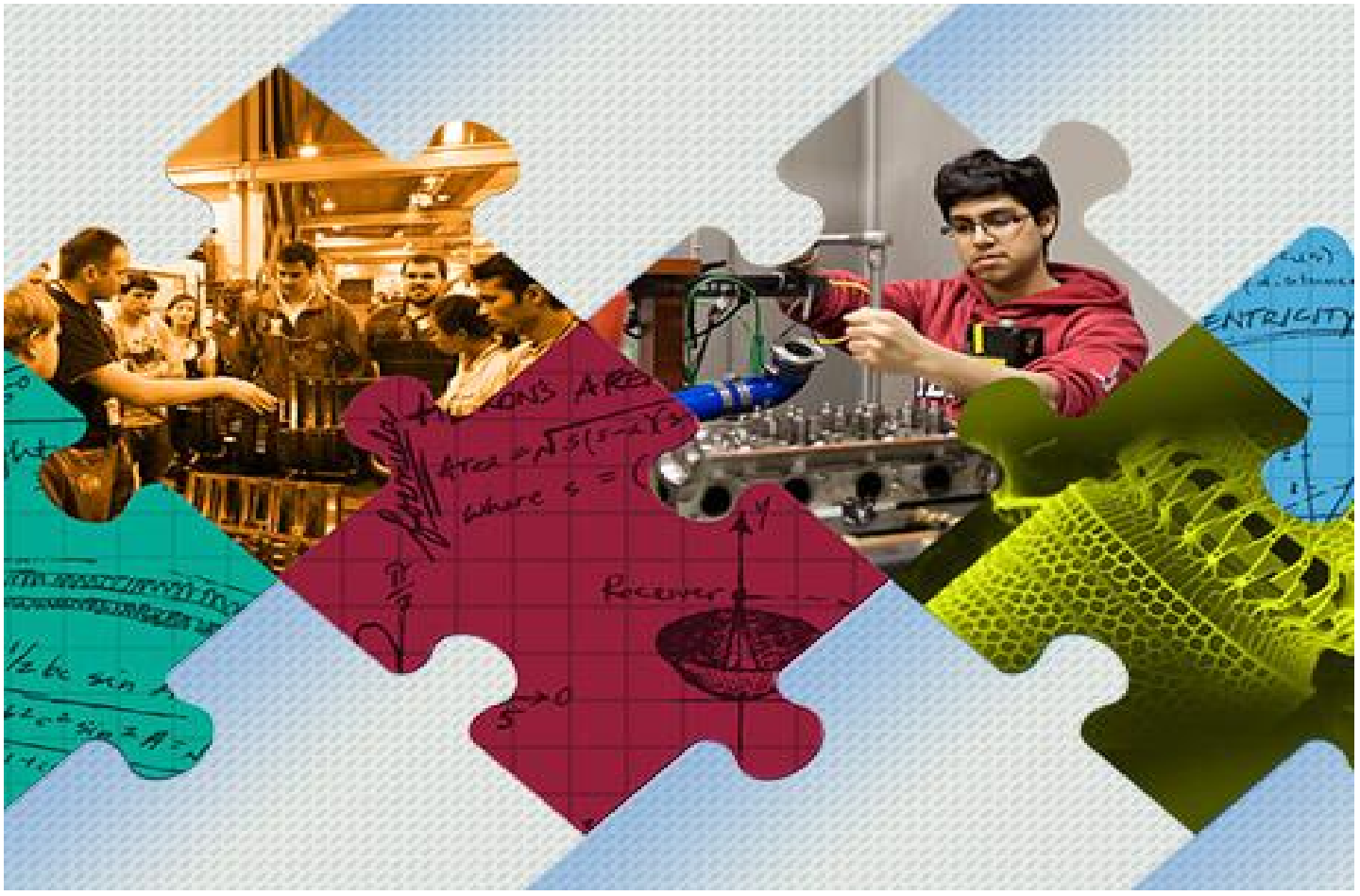
DST-AMRITA TECHNOLOGY ENABLING CENTRE

NEWSLETTER

Jan - Jun, 2023



Technology intervention for Industries & MSME
Interactions with Industrial Associations & Governmental Bodies
Partnership with Academic Institutions
Events Organised
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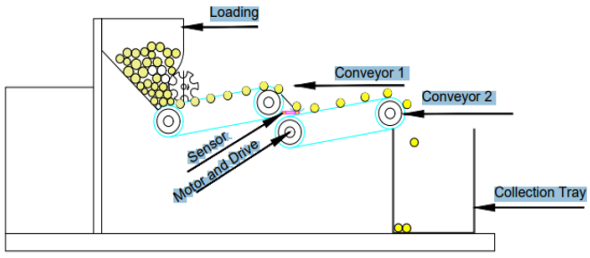
Technology Intervention for Industries & MSME

Development of Cashew Grading Machine development.

Amrita TEC has been extending its support to various MSME clusters to develop and implement innovative technology into its business. Cashew Industries is one of the prominent industries of Kerala but is facing stiff competition from international players in terms of price. The industry is facing a lack of technology for automation and high manpower cost. Amrita TEC thoroughly analysed the manufacturing process and the level of automation in each of these processes and is now developing an automation process for a labor-intensive industry and in partnership with MAKS Automation, Kottarakara, is developing an unique machine that automates the cashew nut grading process.



Development of Healthcare Robots with material handling capability.

Amrita TEC has been identifying the problems and facts related to the healthcare of the elderly. Over the next few decades, the elderly population is expected to grow significantly, and robots can play an essential role in providing healthcare support and independent living for the elderly. The World Health Organization has developed a global strategy and action plan on aging.

A nursing Robot is a type of robot that can deliver food and medicine to patients and provide elderly care at homes and help to reduce the burden on healthcare workers and provide more personalized care for the elderly. It is also expected to reduce social isolation and loneliness among the elderly. The development of robots for elderly care is still in its early stages, but there is great potential for this technology to improve the lives of millions of people.

Considering these scenario, Amrita TEC is actively involved in developing a robot for commercial availability, which can assist healthcare workers in taking care of elderly citizens and patients.

India’s First Low-Cost Hybrid Solar-Electric Car

The Technology Enabling Centre (TEC) has been at the forefront of supporting the development and advancement of eco-friendly transportation. As part of the mission to benefit society and combat climate change, TEC has supported the innovation of India's first low-cost hybrid solar-electric car.

With a strong commitment to reducing carbon emissions and promoting sustainable practices, TEC has filed a patent for this groundbreaking hybrid car that can be fitted to the existing IC Engine vehicle. TEC is now exploring the commercialization of this revolutionary vehicle. By harnessing the power of solar and electric energy, the low-cost hybrid car offers an environment-friendly transportation solution that significantly cuts down on carbon emissions. The initiative is towards the vision of our Chancellor, Amma, that "We should indigenously develop and build eco-friendly and electric transportation vehicles that not only benefit the society but also reduce climate change or global warming by cutting down carbon emissions. "

Technological Interventions with Agricultural Consortium

Amrita TEC team had visited the Shoranur Agricultural Implement Consortium (P) Ltd, to understand their problems and to find out a solution for the same. A team of mechanical engineering students led by Dr.Saleeshya visited the cluster and collected data and information. A detailed questionnaire was developed and data was collected from various industries in the consortium. SAICO team was invited to our Coimbatore campus and a detailed presentation was made to them. The SAICO team was very much impressed with the presentation and they need the assistance of Amrtia TEC to help them apply for the grants from MSME and other government bodies.

Interactions with Industries & Industrial Association

Interactions with MADITSSIA, Madurai.

Interactions with NIFT-TEA

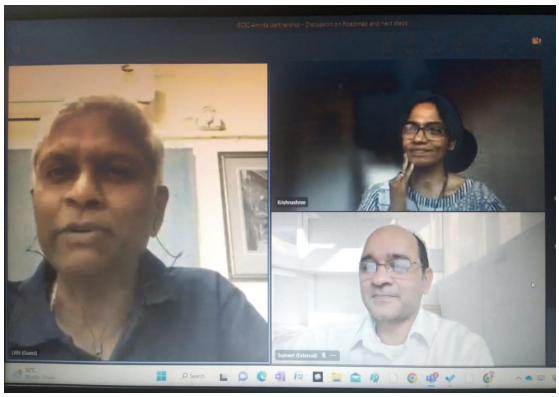
Interactions with ZAR Partners & Spirex Food

Interactions with Janatics

Interaction with Scomode Technologies.

Amrita Technology Enabling Center (Amrita TEC) has been actively engaging with various industry and governmental bodies to promote technology development and collaboration. The Madurai District Tiny & Small Scale Industries Association (MADITSSIA) has seen discussions on organizing seminars, workshops, and training programs. Amrita TEC is exploring opportunities for collaboration with the National Institute of Fashion Technology (NIFT-TEA) to advance the textile industry. Additionally, interactions with ZAR Partners, a micro VC firm, are aimed at fostering early-stage startup growth. The center has also engaged with Spirex Food to understand technology needs in the millet industry. Furthermore, Janatics India Pvt. Ltd. has shown interest in collaborating with Amrita for technology development and transfer. These outreach activities highlight Amrita TEC's commitment to fostering technological innovation and partnerships across diverse sectors.

Interaction with Industrial Association Bangalore Chamber of Industry and Commerce, BCIC.



A team of delegates from BCIC, Bangalore, headed by Dr.L.Ravindran, President, BCIC visited Amrita TEC, and interactions were arranged between various centers of excellence at Amrita. BCIC team keen tie-up with Amrita TEC for various activities such as industry access, market access, prototype of product development, skill development, mentoring start-ups and working closely with the Amrita TBI.

Interaction with Government Bodies

Dr. Prashant R. Nair of DST-Amrita TEC engaged with Mr. Jeet Vijay, CEO of MeitY Startup Hub, fostering innovation collaboration at the G20 DEWG meeting. In another partnership initiative, DST-AMRITA TEC is on the verge of signing an MoU with

CODISSIA Defence Innovation and Atal Incubation Centre (CDIIC) in Coimbatore, focusing on research and technology development.

Amrita membership with Confederation of Indian Industry

A prominent industry-led organization with a rich history spanning over a century, dedicated to advancing India's development, has joined forces with Amrita as a National Member. Discussions with key CII representatives unveiled a wide-ranging collaboration agenda. The shared vision includes supporting MSMEs, nurturing the startup ecosystem, and tapping into Amrita's academic prowess to address common challenges. This partnership is set to make significant contributions to India's future growth and development.

Partnerships with Academic Institutions

Amrita Technology Enabling Center (TEC) is actively fostering academic partnerships with esteemed institutions, focusing on technology enablement. Collaborating with SNS College of Engineering, Kalaignar Karunanidhi Institute of Technology, and RVS College of Arts & Science, Amrita TEC is dedicated to advancing the ideas, prototypes, and innovations of students, researchers, and faculty. These collaborations aim to facilitate technology mining, co-creation, development, transfer, and commercialization. Moreover, TEC plays a vital role in evaluating the Technology Readiness Levels (TRL) of numerous innovations, providing valuable insights and mentoring to its partners.

Through these initiatives, Amrita TEC is forging strong connections with academic institutions, nurturing innovation, and supporting partners in their journey towards technological excellence.

Snaps of collaboration and activities organised with academic partners.

Events Organised for Technology Enablement

DST-Amrita Technology Enabling Center (TEC) - Techfair

DST-Amrita Technology Enabling Center (TEC), led by Dr. Krishnashree Achuthan, organized a Techfair during the annual Anokha 2023 techfest at Amrita Vishwa Vidyapeetham, Coimbatore. In partnership with C20 and the university's Innovation Council, the event showcased 50 projects aligned with C20 priorities. Dr. Sasangan Ramanathan inaugurated the fair, and top innovations included a composite bulletproof jacket, AI hand wash monitoring system, and a smart attendance system. These projects will receive support for technology enablement and business incubation. The event provided a platform for students to showcase their technical skills, interact with industry experts, and stay updated on the latest technological developments, coinciding with India's G20 presidency.

Technology Enablement Meet

DST-Amrita Technology Enabling Center (TEC), headed by Dr. Krishnashree Achuthan, Dean, Amrita Vishwa Vidyapeetham, organized a Technology Enablement Meet & Exhibition at the premises of its academic partner, KPR Institute of Engineering & Technology (KPRIET), Coimbatore on 11th March 2023. With the focal theme of Technology for Societal Empowerment, this meet was organized in association with the Technology, Security & Transparency (TST) Working Group of Civil20 (C20) official engagement group of G20. 30 innovations with a societal & humanitarian focus from DST-Amrita TEC's academic partners and student startups were showcased at the exhibition. Mr. K.K. Pillai, Authority Member, Agricultural & Processed Food Products Export Development Authority (APEDA) under the Ministry of Commerce & Industry, Government of India, inaugurated the meet & exhibition, and Dr. Sasangan Ramanathan, Dean-Engineering, Amrita Vishwa Vidyapeetham along with Mr. Divyanshu Verma, CEO, Redinent Innovations distributed prizes & awards to the top 10 innovations of the meet. These innovators will be mentored for technology enablement and pre-incubation support by DST-Amrita TEC. All projects on display were evaluated by a jury and presented with a Technology Readiness Level (TRL) certificate by DST-Amrita TEC. Dr. Akila M., Principal, KPR Institute; Dr. Prashant R. Nair, DST-Amrita TEC fellow; Dr. Ravi Kumar K. and Prof. Navaneethakrishnan Ramanathan,

heads of centers for Innovation & Entrepreneurship @ KPR, also addressed the participants. Jury members included Dr. Vinodh Kumar, GM, CODISSIA Defense Innovation Hub & Mr. Sriram TRN, Director, Everstage Technologies, along with DST-Amrita TEC team members, Mr. K.N. Surendran, Mr. Mahesh Mohan, Mr. Venkatesh R., and Mr. Rathina Balaji.

DST-Amrita TEC organised Umagine Catalyst'23

DST-Amrita Technology Enabling Center (TEC), headed by Dr. Krishnashree Achuthan, Dean, Amrita Vishwa Vidyapeetham, was an event partner for the Umagine Catalyst'23 roadshow of StartupTN held at KPR Institutions, Coimbatore on 15th March 2023. Umagine Catalyst roadshow, an innovation expo for Tech Startups, was inaugurated by the Hon'ble Minister of Information Technology and Digital Services of the Government of Tamil Nadu, Shri Mano Thangaraj. During the event, Shri Mano Thangaraj also released the compendium of the top 10 innovations of the Technology Enablement Meet & Exhibition of DST-Amrita TEC by handing over the first copy to Dr. Akila M., Principal, KPR Institute, and Dr. Prashant R. Nair, DST-Amrita TEC fellow. Some of the innovations of the student startups supported by DST-Amrita TEC, such as IoT Based Smart Agribot and ATHENA - The healthcare assist, were showcased at the roadshow, and they also got an opportunity to interact with the minister. This roadshow is part of a series of events to promote Umagine Chennai 2023, one of the largest annual technology, entrepreneurship, and skill summits in Asia organized by Electronics

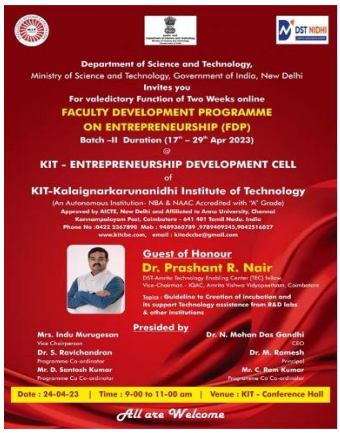
Corporation of Tamil Nadu Limited (ELCOT) with an objective to showcase the thriving technology and innovation ecosystem in Tamil Nadu.

Awards & Achievements

Amrita Technology Enabling Center (TEC) made a significant mark at IMTEX 2023, held in Bengaluru from January 19 to 25. This exhibition, focused on cutting-edge metal machine tools and advanced manufacturing technologies, provided a platform for Amrita TEC to showcase their collaborative work with Holmarc Opto-Mechantronics. The highlight of their participation was the award of a consolation prize for their innovative Cost-effective Universal Form Tester. The event also generated promising leads for potential manufacturing and sales opportunities for this technology. Amrita TEC's active involvement in these activities underscores its commitment to driving technology commercialization and industry partnerships.

Trainings programs organised by DST Amrita TEC

Innovation & TRL Webinar for Working Professionals



DST-Amrita Technology Enabling Center (TEC) continues to be a beacon of knowledge dissemination and skill development through a spectrum of training programs. Dr. Prashant R. Nair, the esteemed DST-Amrita TEC fellow and Vice-Chairman of IQAC at Amrita Vishwa Vidyapeetham, has orchestrated a series of transformative events. These include a webinar on "Innovation & Technology Readiness Level (TRL)" that equipped over 30 working professionals pursuing their MBA with profound insights into the nine Technology Readiness Levels, distinguishing Proof of Concept, Prototype, and Minimum Viable Product, and elucidating the services offered by DST-Amrita TEC. Additionally, a Faculty Development Program (FDP) on Entrepreneurship, sponsored by

the Department of Science & Technology, catered to more than 50 faculty members, fostering an understanding of TRLs, technology assistance from R&D labs, and incubation facility creation. Further, a comprehensive one-day workshop on Intellectual Property Rights (IPR) engaged 400+ research scholars and faculty, unraveling the intricacies of IPR and technology enablement. An "IPR Overview" webinar for over 100 students delved into patenting processes, various IP types, and services by DST-Amrita TEC, while a seminar on Technology Readiness Levels (TRL) illuminated the nine TRLs and their distinctions before 100+ students. Moreover, a Design Thinking Certification course witnessed the participation of 100+ faculty members, and a Design Thinking Workshop for 600+ engineering students offered insights into design thinking and innovation. These programs epitomize DST-Amrita TEC's dedication to bridging the gap between knowledge and practical application, fostering a culture of innovation and entrepreneurship.

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