

N.1: One day interaction meeting on “Fostering RRCAT- Industry Partnership with Technology Transfer & Incubation”

A one-day interaction meeting on “Fostering RRCAT- Industry Partnership with Technology Transfer & Incubation” was organized at Convention Centre, RRCAT, Indore on 24th August 2022 as a part of DAE Iconic Week celebration under Azadi ka Amrit Mahotsav. The objective of this interaction meeting was to familiarize the industries with DAE & RRCAT activities and new initiatives towards technology transfer and incubation. Seventy representatives from various start-ups and different industrial sectors working on various domains including automobile, metal-processing, manufacturing, food processing, advanced instrumentations, electrical power supply, solar products, farming, jewellery, software development, participated in the meeting.



Dr. S. V. Nakhe, Director, RRCAT lighting the lamp during the inauguration of interaction meeting.

During the inauguration address, Dr. Shankar V. Nakhe, Director, RRCAT described the recent developments leading to special emphasis on technology transfer and incubation for self-reliance and employment generation through partnership with industries using DAE technologies and expertise. He invited industries to explore the possibilities to work together to deliver right product at right place at right time. Shri Shrikrishna Gupta, Raja Ramanna Fellow presented an overview of DAE contribution for nation building in various domain of life. The special contributions of RRCAT in the field of lasers, accelerators and associated technologies through R&D programmes were highlighted by Shri G. Mundra, Director, Technology Development & Support Group, RRCAT. Dr. C. P. Paul, Convener, Incubation Centre-RRCAT introduced the participants about the DAE Technology Transfer & Incubation Framework. Dr. Paul also spoke about the various partnership opportunities available to the industries through the incubation centre to achieve the mission of 'Atmanirbhar Bharat'. During open interaction session, the participants actively discussed various issues pertaining to special promotion to start-ups, exclusive licencing of technologies, the effect of irradiated food products, and

compact energy storage devices.



Visit to various RRCAT laboratories by interaction meeting participants.

The participants also visited to various indigenously developed facilities such as vacuum brazing facility, liquid nitrogen based refrigeration, laser additive manufacturing, laser cutting and welding, and synchrotron radiation source (Indus-2). This was the first interaction meeting with industries through Incubation Centre to foster strong and long-term relationship to utilize the DAE technology and expertise. Industry participants expressed that they would come up with technology transfer and incubation proposals for the development of commercially viable products.

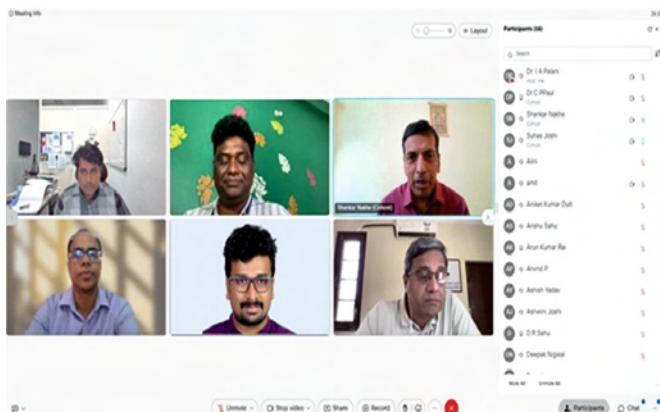
*Reported by:
C. P. Paul (incubation@rrcat.gov.in)*

N.2: Certificate course on “Additive Manufacturing: Principle, Technologies & Applications”

A certificate course on “Additive Manufacturing: Principle, Technologies & Applications” was inaugurated by Dr. S. V. Nakhe, Director, RRCAT, Indore and Prof. S. S. Joshi, Director, Indian Institute of Technology Indore (IITI) on 24th September 2022 at 15.00 hrs. The inauguration session started by welcoming all the dignitaries, participants, and faculty members to the course. 49 participants (excluding participants from host institutes - IITI and RRCAT) registered for the course. Out of which, 16 were from industries, 12 were faculty members from various academic institutions, and 21 were research scholars/ students/ startup entrepreneurs.

During his inaugural address, Dr. S. V. Nakhe, Director, RRCAT emphasized that additive manufacturing (AM) is going to play an important role in the Indian industry in a major way and nurturing AM experts is important. At present, unlike conventional manufacturing processes, there is a dearth of trained manpower in AM. Therefore, this certification course on additive manufacturing by expert teams from RRCAT and IITI is going to contribute in a big way to this AM-evolving

ecosystem in India.



Snapshot of online inauguration of certificate course on additive manufacturing.

Prof. S. S. Joshi, Director, IITI appreciated this effort and termed this joint effort as one of its own kind in the country, where a national lab (RRCAT) and IIT came together for a certificate course. He emphasized the importance of additive manufacturing and laser-based manufacturing in the present era. He highlighted the collaborative efforts between RRCAT and IIT Indore in various areas including additive manufacturing. He invited the participants to initiate/continue a long-lasting relationship with these host intuitions to achieve higher technological goals. Prof. S. K. Sahu, Head, Department of Mechanical Engineering, IIT Indore shared in brief about the various programs being offered by IITI.

Dr. C. P. Paul, Convener, Incubation Centre-RRCAT and Course Coordinator for certificate course on AM, presented the course structure and evaluation criteria to pass the certificate course. He mentioned that the course will also have interactive sessions with industrial experts/entrepreneurs discussing the real-life challenges in the AM domain.

The inauguration session was concluded with the vote of thanks by Prof. I. A. Palani, IITI. He thanked both the Directors for providing the support to conduct this course. He further thanked the course faculty members for agreeing to support the course and course participants to join the course.

*Reported by:
C. P. Paul (incubation@rrcat.gov.in)*

N.3: RRCAT inks agreement for incubation of KIRTI-1010

RRCAT has developed a new, powerful 10 MeV, 10 kW electron linear accelerator (Linac), which is named as KIRTI-1010 (कीर्ति - कीटाणु रहित्तीकरण त्वरक इकाई). This linac will be used for electron beam radiation processing and has added to the “आत्मनिर्भर भारत” capabilities in this high-tech area. It has the highest operating beam power level in the country and has been tested extensively at RRCAT. In order to take this high-

tech Indian technology for wider application in the society, it is first necessary to test this system in Indian industrial environment. This is an extremely important step towards building confidence in indigenous technologies and systems. The purpose also includes generating industrial operational feedback and performance data, which will be used for refining and ruggedizing the system design and for developing maintenance management systems, which are important for such complex technology equipment. For the above purpose, the expression of interest from industries was invited by the Incubation Centre-RRCAT and M/s Microtrol Sterilization Services Private Limited, Mumbai was chosen for the above incubation.

In the beginning of Signing Ceremony, Dr. C. P. Paul, Convener, Incubation Centre-RRCAT welcomed all to the ceremony and informed that incubation of Linac is being carried out to meet three objectives- long term process operation in Indian industrial environment, development of product recipe based integrated facility operation control system with a single control interface, and ruggedization of fail-prone subsystems.



Dr. S. V. Nakhe, Director, RRCAT and Shri Vikram Kalia, Director, Microtrol during Signing Ceremony of the incubation agreement.

In the opening remark, Dr. S. V. Nakhe, Director, RRCAT said, “It is a new beginning, where RRCAT is signing agreement with industry for the incubation of high-value high-tech machine for further value addition based on the industrial feedback. It is a unique initiative towards “Atmanirbhar Bharat”, as the machine will be operated by an industrial partner far away from RRCAT in Bengaluru. RRCAT developed Linac is first of its kind in the country, and the technology and capacity of building such Linacs is available with only a few developed countries.” He further informed that RRCAT followed a transparent procedure for identifying the incubatee and certainly Microtrol was the most deserving incubatee.