Indira Gandhi Centre for Atomic Research

Annual Report 2022

Government of India
Department of Atomic Energy
Indira Gandhi Centre for Atomic Research
Kalpakkam - 603 102

VI.14 Incubation and Transfer of IGCAR Technologies

DAE Incubation Centre, IGCAR (IC-IGCAR) was inaugurated on 30th October 2020 on the occasion of 111th birth anniversary of Dr. Homi Jehangir Bhabha by Shri. K.N. Vyas, Secretary, Department of Atomic Energy (DAE). IC-IGCAR has a mandate of taking forward Government of India's mission of Atma Nirbhar Bharat and incubate/transfer various DAE technologies to encourage start-ups and commercialise the technologies.

Technology Transfers

Pulsating sensor based conductivity meter is a high performance instrument developed at EIG(Fig. 1).

This device is suitable for real-time monitoring of electrical conductivity of aqueous solutions in plants and field applications apart from its usage in chemical laboratories for analysis and quality control. Performance of this device has been validated with many applications in IGCAR and found to be robust even in demanding environments. The technology has been transferred to two start ups: one in Bengaluru and another in Udaipur (Rajasthan).

A portable high volume air sampler (HVAS) has been developed at SQRMG. It is a light-weight device, made of Fiber Reinforced Plastic (FRP) and has an in built embedded controller to start, stop, log and to calculate the total volume of air sampled. This is employed to collect airborne particulates in a filter paper medium at desired flow rates up to 2800 lpm. HVAS is used in nuclear installations for the collection of air samples to estimate air-borne radioactivity levels. This technology has been transferred to a Bengaluru based start up (Fig. 2).

Autonomous Gamma Dose Logger (AGDL) is a radiation monitor developed at SQRMG to measure environmental radiation in a wide range of 100 nGy/hr to 5 Gy/hr. Currently ~28 numbers of in-house made AGDL systems are operating successfully at DAE Kalpakkam site and connected to the Decision Support System for real-time radiation field inputs. This technology has been transferred to a Chennai based start up as well as to a Hyderabad based industry.

Incubation of Technologies

IC-IGCAR has signed a collaborative incubation agreement with a Mumbai based private manufacturer to complete development of the technology "Replaceable Feed-through Connectors for Glove Boxes". This is IGCAR's first technology incubation agreement with private sector following the DAE Incubation Policy (2021).

Another collaborative incubation agreement has been signed betwen IC-IGCAR and a start-up company based in IIT (Madras) for developing "Hydrogen Sensor" technology. This partnership with the start-up is expected to accelerate development of this IGCAR technology from its current technology readiness level (TRL) of '4' to TRL '8' or '9', suitable for commercialisation, during the incubation period of ~18-24 months (Fig. 3).

IC-IGCAR will continue to play a role of providing the start-ups with necessary guidance, technical support, networking, and facilitating a host of other resources that may be required for them to sustain and scale up.

Fig. 1: Conductivity meter

Fig. 2: Portable Air Volume Sampler

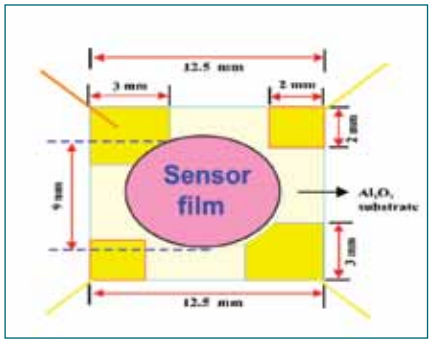

Fig. 3 Schematic of Hydrogen Sensor