

TIFAC-SIDBI Technology Innovation Programme (Srijan)
...Catalyzing the scaling up of sector-agnostic indigenous innovations contributing to AtmaNirbhar Bharat

A. Innovations successfully scaled up:

S. No.	Title of Project	Implementing / Collaborating Agency	State	Contact Person with Email	Support from revolving fund (Rs. in Lacs)	Impact
1.	RFID tags for Solar PV module tracking	M/s. IAITO InfoTech Pvt. Ltd., Kanpur Incubated at SIDBI Innovation and Incubation Centre of IIT Kanpur	Uttar Pradesh	Mr. Mushir Siddique (masiddique@iaito.co.in)	52.00	Tags based on RFID technology for providing information on parameters like origin, date of manufacturing, initial efficiency etc. of solar cells and modules at Solar PV installations. It compliances the mandatory requirements of JNNSM under MNRE.
2.	Pouchable Grade battery separator with ribs and discrete dot configuration for flooded lead acid batteries	M/s. Raman FibreScience Pvt. Ltd., Bengaluru	Karnataka	Mr. Raghu Akella (raghuakella@hovo.com)	95.00	Composite battery separator with improved efficiency at lower cost enhancing life of flooded lead acid batteries in two & four wheelers. Product being used by leading battery manufacturers
3.	Design & manufacturing of Inertial Navigation Sensors and Autopilot	M/s. Aeron Systems Private Ltd., Pune (A start up venture)	Maharashtra	Mr. Ashvani Shukla (ashvani@aeronsystems.com)	70.00	Indigenous production of low cost robust customized MEMS sensor system for applications in defence and automotive sector. Product already

						approved by DRDO, ARDE.
4.	Energy efficient cooling & heating systems (HVAC&R) with waste heat recovery	M/s. Mechworld Eco Pvt. Ltd., Nashik Technology transfer from IIT-Bombay	Maharashtra	Mr. Shrenik Shah (shrenik.shah@mechworldeco.com)	75.00	Simultaneous generation of hot water & cold air through heat pumps & desuperheater. Installed at 55 McDonald stores in Maharashtra and Infosys Training Centre, Mysore.
5.	Improved hybrid idlers for conveyor belt systems for application in steel, coke and cement industry	M/s. Jyoti Cero Rubber, Jamshedpur In collaboration with TATA Steel	Jharkhand	Mr. Manoj Kumar (cerorubber@yahoo.com)	95.00	New hybrid idlers with four fold increase in shelf life and improved productivity with reduced maintenance. Product already adopted by Tata Steel in its production line.
6.	Self-Grooving Rubber Rollers for Chromium free Cotton Ginning	M/s. Millennium Rubber Technologies Pvt. Ltd. Thrissur In collaboration with ICAR – CIRCOT, Mumbai	Maharashtra	Mr. Noby Joseph (md@mrtpl.in)	92.00	Provides eco-friendly environment to workers in cotton ginning industry for producing chromium free cotton with higher productivity. Advanced ginning machine Kranti with rubber roller launched.
7.	Value added products derived from sea plants for agriculture, animal husbandry and human application	M/s. Aquagri Processing Pvt. Ltd. Manamadurai Technology transfer from CSIR - CSMCRI, Bhavnagar	Tamil Nadu	Mr. Abhiram Seth (abhiram.seth@aquagri.in)	100.00	First processing plant in India for producing value added chemicals like refined carrageenan from sea weeds. By ensuring buy back of sea weeds through organized cultivation enhances income of rural women in coastal Tamil

						Nadu.
8.	Single release liner carrying label stock on each side	M/s. Hassle Free Technologies, Greater Noida	Uttar Pradesh	Mr. Anuj Bhargava (anuj@kumarlabels.com)	100.00	The new technology reduces 50% raw material consumption resulting in 50% less generation of liner waste material thereby solving disposal issues in labelling industry.
9.	Table top automatic multi- variant dosa making machine	M/s. Mukunda Foods Private Ltd., Bengaluru (A start up venture)	Karnataka	Mr. Eshwar Vikash (eshwar@eshwarvikash.in)	50.00	Table top automatic dosa making machine with capacity of making 1 dosa /minute. It standardizes process of making dosa and also makes dosa in hygienic condition aesthetically by restaurants, small caterers and houses.
10.	Upgradation of ROBOPLAZMA Structural cutting system	M/s. Plazma Technologies Pvt. Ltd., Pune	Maharashtra	Mrs. Arundhati Thomas (arundhati@plazmasolutions.com)	100.00	Precision robotic plazma based steel cutting machine enabling variety of job profiles in single system with 2D and 3D cutting.
11.	Processing of e-waste using thermal decomposition method for precious metal recovery	M/s. Revive Electronic Waste Pvt. Ltd., Navi Mumbai (A start up venture)	Maharashtra	Mr. Siddhrath Shiv Kumar (siddhrath@revive-ewaste.com)	100.00	Modular size e-waste processing plant of 500 kg/day for recovering precious metals like gold, silver and copper from obsolete PCBs in an organized processing facility.
12.	Production of Low Lactose milk	M/s. Madhumita Dairy Products, Bengaluru	Karnataka	Mr. Padmanabhan Babu, (pbabu0@gmail.com)	100.00	Production of cow or buffalo milk with >0.1% lactose content using lactase enzyme for consumption by lactose intolerant population particularly kids.
13.	Coil Edge Protector	M/s. Jyoti Cero Rubber, Jamshedpur	Jharkhand	Mr. Manoj Kumar (cerorubber@yahoo.c	95.00	The new product with unique design minimizes damages of

		In collaboration with TATA Steel		om)		steel rolls during transportation by rail or road. Product already adopted by Tata Steel in transporting steel rolls with reduced damages at the customers end.
14.	Standard rack mountable, SMPS based precision regulated high voltage power supplies	M/s. IONICS Power Solutions Pvt. Ltd., Hyderabad	Telangana	Mr. Arup Kar (info@ionics.co.in)	100.00	Indigenous production of Switch Mode Power Supply system for high voltage precisions equipments used in lab. This will reduce dependence on imported products.
15.	Indigenous development and manufacturing of autopilot for Unmanned Aerial Vehicles (UAVs)	M/s. Sree Sai Aerotech Innovations Pvt. Ltd. Chennai (A start up venture)	Tamil Nadu	Mr. Sai Pattabiram (sai@muav.in)	68.00	Indigenously designed & developed app based low cost autopilot for easy operation of UAV and farm vehicles
16.	Powdered Oil Based Mud Products (POLVO SERIES)	M/s. Gumpro Drilling Fluids Pvt. Ltd. Mumbai	Maharashtra	Mr. Vivek Gupta (vivekgupta@gumprodf.com)	100.00	Powdered form of emulsifier for use in oil drilling operations in sub-zero conditions to avoid preheating. It will reduce the logistic issues of recovering drums in case of liquid emulsifier used conventionally in remotely located oil fields.
17.	ChillerMate Desuperheater Unit for industrial and commercial operations in the Indian market	M/s. Promethean Energy Pvt. Ltd., Mumbai (A start up venture)	Maharashtra	Mr. K.P. Ashwin (aswinkp@prometheanenergy.com)	42.00	Waste heat recovery from industrial air conditioners and air compressors for converting it into useful energy resulting in energy efficiency.
18.	Hollow fiber membranes for sewage and waste water treatment	M/s. Technorbital Advanced Materials Pvt.	Uttar Pradesh	Dr. Sunil Dhole (info@technorbital.com)	80.00	Ultra Filtration membrane technology with low maintenance and higher self

		Ltd., Kanpur				life for treatment of sewage and industrial waste water
19.	Design and Development of hydraulic Directional Control valve	M/s. Shivam Hydraulics, Ahmedabad	Gujarat	Mr. Vijay Shekhavat (vshekhavat@yahoo.com)	100.00	The new design of mono block directional control valve will make product low cost, better quality and higher performance to offer wide range of applications
20.	Portable Automatic Poori making machine	M/s. Mukunda Foods (P) Ltd., Bengaluru with technology licensing from CSIR – CFTRI Mysuru	Karnataka	Mr. Eshwar Vikas (eshwar@eshwarvikash.in)	100.00	The existing poori making machines are semi-automatic whereas the new poori making machine has innovative compact design featuring all operations together in single machine
21.	Extraction of Green Silica from Rice Husk Ash	M/s. Brisil Technologies Pvt. Ltd., Vadodara (A start up venture)	Gujarat	Mr. Tanmay Panday (tanmay@brisil.com)	85.00	Highly dispersible grade of silica extracted from waste material like rice husk ash for use as filler material in tyres to reduce rolling resistance of vehicles for improving fuel efficiency
22.	Ultra filtration ceramic membrane for fluid filtration	M/s. Need Innovation, Kolkata	West Bengal	Dr. Sandeep Sarkar (mail@needinnovation.com)	85.00	The ultra-filtration ceramic inorganic membrane for handling corrosive and non-corrosive liquids in the pH range of 2-13 with a shelf life of 15 years. The membranes are useful for water filtration, waste water treatment, MBR, ETP etc.
23.	Single use dynamic bio-reactor for production of vaccines & biologics	M/s. OmniBrx Technologies Pvt. Ltd.,	Gujarat	Dr. Ravindra Patel (ravindra.patel@omni	100.00	A dynamic bed reactor (DBR) technology incorporated

		Ahmedabad		brx.com)		<p>intocellbrx bioreactors to overcome existing problems like scalability, efficiency and affordability. The DBR technology offers very large surface area for adherent cell growth in small culture volume and innovative design offers mixing to ensure homogenous nourishment and mass transfer while scaling up. Technology has been identified by M/s. Bharat Biotech Ltd., Hyderabad for contract manufacturing of 'Covaxin' and also got contract for supply of SUBs to M/s. Serum Institute of India, Pune for production of 'Covishield'.</p>
24.	Bio-animal repellent cum growth promoter	M/s. Provimi Products Pvt. Ltd., Erode	Tamil Nadu	G.V. Sudarshan (vae_provimi@rediffmail.com)	80.00	<p>A herbal formulation "Herboliv" to repel the wild animals destroying farm crops near forest fringes. The formulation combines multiple functions like wild animal repellent, crop growth promoter, pest control, fungal disease control etc. in a single bio product. Field demonstrations by KVK has shown that Herboliv has helped farmers to reduce crop damages due to rodents, wild</p>

						boar, peacock and achieved 10-15% additional crop yield. ICAR-KVK, Hanumangarh district of Rajasthan has tested very positive antifeedant efficiency of Herboliv+ from desert locust swarms without any crop damage.
25.	Waterless intelligent solar panel cleaning robotic system	M/s. Aegeus Technology Pvt. Ltd., Bangalore	Karnataka	Sh. Suraj Vernekar (suraj.v@aegeus.in)	100.00	The unique air wash technology with two robotic products i.e. Unicorn and Shreem to eliminate the need of water or harmful chemicals for cleaning the solar panels for both the ground mounted as well as roof top installations
26.	Design and manufacturing of medical grade patient specific 3D printed Surgical guides and bone models	M/s. Jajal Medical Services OPC Pvt. Ltd., Vadodara	Gujarat	Mr. Ketan Jajal (ketan.jajal@jajalmedical.com)	45.00	The design and development of unique 3-D printed customized surgical drill guides for different applications like shoulder implant replacement and acetabular fractures etc. which would save precious time of surgeons to plan surgeries. Technology has been successfully piloted on 50+ patients in hospitals and has achieved design validation in real time surgeries. The company has got contract from Army Hospital (Research & Referral), New Delhi to deliver 50 numbers of patient specific

						surgical guides for jaw reconstruction surgeries over a period of 2 years.
--	--	--	--	--	--	--

B. Impact of the scheme:

- 26 MSMEs/ start-ups/ entrepreneurs have been benefitted by way of getting fund from the scheme. Other than direct funding, the entrepreneurs are also getting funding / rewards from other Govt. Schemes. Industry associations and VC's based on TIFAC recommendations.
- The Scheme has helped in creation of jobs to the extent of at least 2-3 folds of existing manpower in the enterprises though absolute number of job creation is being worked out.
- The beneficiaries have appreciated the mechanism of TIFAC towards faster processing of proposal in terms of technical appraisal. The assessment and recommendations of TIFAC has helped the beneficiaries in getting recognitions under other schemes of funding from Govt. or VCs or in getting awards under various Govt. Programmes like UNIDO-MSME Cleantech Programme, DST-LOCKHEED Martin award, MSME awards etc.
- The majority of scaled up technologies are in areas of national importance like Energy efficiency, waste heat recovery, e-waste processing & management, clean water technologies, value added products etc.