Shri Narendra Modi
Hon'ble Prime Minister of India

Department of Scientific and
Industrial Research
Ministry of Science and Technology
Government of India

Creative India

FROM MIND TO MARKETPLACE | 50 IDEAS Nurtured under PRISM

Promoting Innovations in Individuals, Start-ups and MSMEs (PRISM)

2025

Department of Scientific & Industrial Research (DSIR)
Ministry of Science & Technology, Government of India
Technology Bhavan, New Mehrauli Road, New Delhi, 110 016

www.dsir.gov.in

Department of Scientific and
Industrial Research
Ministry of Science and Technology
Government of India

Creative India

FROM MIND TO MARKETPLACE | 50 IDEAS Nurtured under PRISM

Promoting Innovations in Individuals, Start-ups and MSMEs (PRISM)

2025

Department of Scientific & Industrial Research (DSIR), Ministry of Science & Technology,
Government of India, Technology Bhavan, New Mehrauli Road, New Delhi, 110 016

www.dsir.gov.in

For any information please contact:

DSIR TECHNICAL TEAM
The Head, Shri. Vinay Kumar, PRISM scheme
Member Secretary, Dr Tripta Garg, PRISM Scheme
Department of Scientific & Industrial Research (DSIR), Technology Bhawan, New Mehrauli Road, New Delhi 110 016
Email: vinaykumar@nic.in ; tripta.garg@nic.in

Compiled & Developed by:
Dr Tripta Garg, DSIR
Mrs. Anushree Gupta, SIIC IIT Kanpur

Design & Layout:
Mrs. Anushree Gupta, SIIC IIT Kanpur
Mr. Rishabh Pandey, SIIC IIT Kanpur
Mr. Sarthak Srivastava, SIIC IIT Kanpur
Ms. Himanshi Kushwaha, SIIC IIT Kanpur

Acknowledgement
The resurrection of this publication would not have been possible without the dedicated efforts of the PRISM Outreach Centre at Startup Incubation and Innovation Centre (SIIC) at IIT Kanpur. The Department of Scientific & Industrial Research (DSIR) places on record its deep appreciation for the SIIC, IIT-Kanpur for their meticulous role in curating this issue. Their commitment to nurturing high impact startups mirrors our department's vision for a technologically sovereign nation. We extend our heartfelt gratitude to every contributor, mentor, and innovator who made this volume possible.

Disclaimer
The contents of Creative India are compiled based on information furnished by the TOCICs and innovators. While due care has been taken to ensure accuracy, DSIR does not accept any responsibility or liability for the completeness or correctness of the information, and any omissions are unintentional. The data and views presented are those of the respective contributors and do not necessarily reflect the views of DSIR. Maps included are for illustrative purposes only and do not depict authentic political boundaries.

DSIR PRISM Team

S. No.	Name	Designation
1	Mr. Vinay Kumar	Scientist-F & Head
2	Dr. Tripta Garg	Scientist-E & Member Secretary
4	Dr. Sarika Madan	Scientist-E
5	Dr. Anil Kumar	Scientist-D
6	Mr. Purushottam Kumar	Scientist-D
7	Dr. S.P. Verma	Scientist-C

Department of Scientific and
Industrial Research
Ministry of Science and Technology
Government of India

PRISM

Promoting Innovations in Individuals, Start-ups and MSMEs (PRISM)

INDEX

INDEX

डॉ0 जितेन्द्र सिंह
राज्य मंत्री (स्वतंत्र प्रभार),
विज्ञान एवं प्रौद्योगिकी मंत्रालय;
राज्य मंत्री (स्वतंत्र प्रभार) पृथ्वी विज्ञान मंत्रालय;
राज्य मंत्री, प्रधान मंत्री कार्यालय;
राज्य मंत्री कार्मिक, लोक शिकायत एवं पेंशन मंत्रालय;
राज्य मंत्री परमाणु ऊर्जा विभाग तथा
राज्य मंत्री अंतरिक्ष विभाग
भारत सरकार

Dr. JITENDRA SINGH
Minister of State (Independent Charge)
of the Ministry of Science and Technology;
Minister of State (Independent Charge)
of the Ministry of Earth Sciences;
Minister of State in the Prime Minister's Office;
Minister of State in the Ministry of Personnel,
Public Grievances and Pensions;
Minister of State in the Department of Atomic Energy and
Minister of State in the Department of Space
Government of India

MESSAGE

India's startup ecosystem today plays a transformative role in shaping the nation's economy, society, and global standing. The **Startup India initiative**, envisioned by our Hon'ble Prime Minister **Shri Narendra Modi Ji** in 2015, has been a powerful catalyst in nurturing entrepreneurship, encouraging risk-taking, and enabling innovators to convert ideas into impactful enterprises that address national and global challenges.

The Department of Scientific and Industrial Research (DSIR) has been a pioneer in advancing India's journey towards becoming a global leader in innovation and industrial research. DSIR's initiatives have consistently strengthened the innovation-to-market continuum, ensuring that promising ideas receive structured support at critical stages of development. Among these, the **PRISM (Promoting Innovations in Individuals, Start-ups and MSMEs)** program stands out for its focused approach towards empowering **grassroots innovators** and **early-stage startups**. By providing financial assistance, mentorship, and access to institutional infrastructure through TePP Outreach cum Cluster Innovation Centres (TOCICs), PRISM has enabled innovators across sectors to translate ideas into validated technologies and market-ready solutions.

It gives me immense pleasure to note that PRISM scheme of DSIR has also played a significant role in promoting inclusive entrepreneurship, extending support beyond metropolitan regions to Tier-II and Tier-III cities, and fostering innovation aligned with the national vision of **Atmanirbhar Bharat**. The program's impact is reflected in outcomes such as job creation, intellectual property generation, and sustainable technology development.

This coffee-table book highlights **50 ideas nurtured under PRISM**, showcasing the creativity, perseverance, and technical excellence of India's innovators. As we celebrate **10 years of DSIR-PRISM**, I congratulate DSIR, partner institutions, and innovators whose collective contributions continue to drive India's progress towards **Viksit Bharat 2047**.

(Dr. Jitendra Singh)
MBBS (Stanley, Chennai)
MD Medicine, Fellowship Diabetes (AIIMS, New Delhi)
MNAMS Diabetes & Endocrinology
FICP (Fellow, Indian College of Physicians)

Anusandhan Bhawan, 2, Rafi Marg
New Delhi-110001
Tel. : 011-23316766, 23714230,
Fax : 011-23316745

Prithvi Bhawan, Lodhi Road,
Opp. India Habitate Centre,
New Delhi-110003
Tel. : 011-24629788, 24629789

South Block, New Delhi-110011
Tel. : 011-23010191 Fax : 011-23017931
North Block, New Delhi-110001
Tel. : 011-23092475 Fax : 011-23092716

डॉ. (श्रीमती) एन. कलैसेल्वी
सचिव, वैज्ञानिक और औद्योगिक अनुसंधान विभाग
महानिदेशक, वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद्
Dr. (Mrs.) N. Kalaiselvi
Secretary, DSIR and Director General, CSIR

भारत सरकार
विज्ञान एवं प्रौद्योगिकी मंत्रालय
वैज्ञानिक और औद्योगिक अनुसंधान विभाग
वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद्
Government of India
Ministry of Science and Technology
Department of Scientific & Industrial Research
Council of Scientific & Industrial Research

Foreword

Innovation is the foundation of India's journey towards sustainable economic growth and global technological leadership. The Department of Scientific and Industrial Research (DSIR) has played a key role in building a strong and inclusive innovation ecosystem by supporting translational research, industrial R&D, and technology commercialization across the country.

The **PRISM (Promoting Innovations in Individuals, Start-ups and MSMEs)** scheme reflects DSIR's commitment to nurturing innovation from its earliest stage. By supporting ideas with scientific merit and clear societal relevance, PRISM helps innovators move systematically from concept to validation and development. Through its network of TePP Outreach cum Cluster Innovation Centres (TOCICs), the program provides innovators with not only financial support, but also expert mentorship, access to infrastructure, and strong industry linkages.

This Creative India publication showcases **50 outstanding innovations** supported under PRISM. These innovations span important sectors such as sustainability, healthcare, advanced materials, clean energy, and waste-to-wealth, and highlight the creativity, determination, and technical capability of India's innovators.

I commend the efforts of the PRISM team and partner institutions in bringing together this compendium. As India advances through the *Amrit Kaal* towards the vision of *Viksit Bharat @2047*, initiatives like PRISM will remain critical in strengthening indigenous innovation, accelerating technology-led growth, and positioning India as a global leader in science, technology, and entrepreneurship.

December 31, 2025
New Delhi

(N. Kalaiselvi)

अनुसंधान भवन, 2, रफ़ी मार्ग, नई दिल्ली-110001 Anusandhan Bhawan, 2, Rafi Marg, New Delhi-110001
Tel.: 011-23710472, 23717053, 23731832, E-mail: secy-dsir@gov.in; dg.csir@csir.res.in; Website: www.dsir.gov.in, www.csir.res.in

PREFACE

India's startup ecosystem has emerged as one of the most dynamic in the world, with innovation flourishing across sectors and geographies. In this evolving landscape, the Industrial R&D (IRD) Division of the Department of Scientific and Industrial Research (DSIR) plays a vital role in fostering technology-driven enterprises and enabling the translation of research and innovation into viable market solutions.

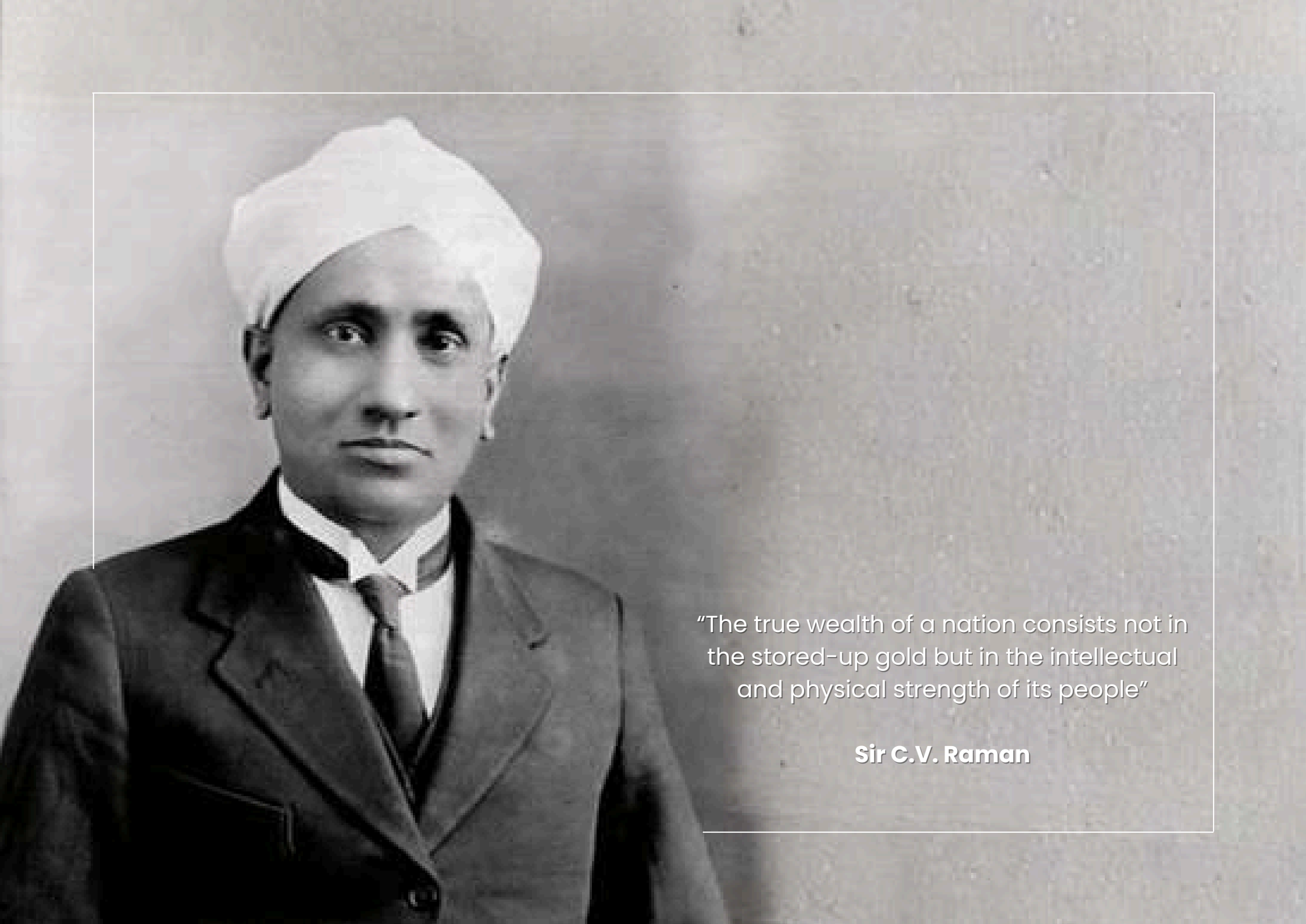
The PRISM (Promoting Innovations in Individuals, Startups and MSMEs) program, launched in 2013 (earlier known as TePP), has significantly strengthened the national innovation pipeline by enhancing the capacity of institutions to nurture grassroots and early-stage innovations. PRISM is unique in its approach to translating academic and individual innovations into market-ready solutions, ensuring that scientific and technological ideas do not remain confined to laboratories but reach the real world to create meaningful impact.

Through its structured components, PRISM addresses the idea-to-scale needs of innovators by providing targeted support for idea validation, prototype development, mentorship, and funding. Over the past decade, the program has contributed to economic growth by encouraging investment in new technologies, generating employment, and strengthening India's innovation ecosystem.

This compendium showcases 50 impactful innovators and startups nurtured under PRISM, each representing a distinct story of entrepreneurial vision, technological ingenuity, and perseverance. Together, these stories demonstrate the transformative power of focused and sustained innovation support.

This publication is a testament to the collective efforts of the PRISM team, TePP Outreach cum Cluster Innovation Centres (TOCICs), mentors, and—most importantly—the innovators themselves. Their commitment continues to reinforce India's position as a global hub for science, technology, and entrepreneurship, advancing the national vision of Atmanirbhar Bharat and Viksit Bharat @2047.

Vinay Kumar
Program Head, PRISM
DSIR, Ministry of Science & Technology



"The true wealth of a nation consists not in the stored-up gold but in the intellectual and physical strength of its people"

Sir C.V. Raman

INTRODUCTION

Innovation has never been a foreign concept to India; it is woven into the country's DNA. From the ancient conceptualization of the Zero to the modern marvels of the Chandrayaan missions, India has consistently demonstrated an ability to solve complex problems with ingenuity. This spirit was most recently on global display during the COVID-19 pandemic, where India's rapid mobilization of medical supplies and vaccines saved millions of lives. To ensure this environment of innovation remains permanent and accessible, the Department of Scientific & Industrial Research (DSIR), under the Ministry of Science & Technology, launched its flagship national initiative, Promoting Innovations in Individuals, Startups and MSMEs (PRISM).

PRISM was designed to be the "brainchild" of a department that recognized a gap in the traditional funding landscape. It is specifically designed to tap into the vast, often unseen potential of independent inventors, students, and budding technopreneurs who might otherwise be lost in the gap between a "brilliant idea" and a "marketable product."

Through its well-defined funding components, PRISM empowers individual innovators, startups, and MSMEs to validate technologies, develop functional prototypes, undertake testing and refinement, generate intellectual property, and advance towards commercialization. The program emphasizes technical credibility, outcome-oriented progress, and responsible utilization of public funding to ensure that supported innovations achieve meaningful impact. The Scheme uniquely operates through a Direct Benefit Transfer (DBT) mechanism ensuring transparency, efficiency, and citizen-centric governance.

A distinctive strength of PRISM lies in its nationwide network of outreach centers known as TePP Outreach cum Cluster Innovation Centres (TOCICs), which function as key implementation and outreach partners. TOCICs provide innovators with access to technical expertise, laboratory and prototyping, infrastructure, testing and validation facilities, and structured mentoring.

These centres also facilitate ecosystem linkages with academia, industry, investors, and regulatory bodies, enabling smoother translation of innovation from laboratory to market. PRISM-supported innovations span a wide range of priority domains, including green technologies, clean energy, waste-to-wealth, advanced and smart materials, affordable healthcare, water and sewage management, and other knowledge-intensive sectors. By encouraging region-specific problem solving and supporting innovators from Tier-II and Tier-III cities, PRISM promotes inclusive and decentralized innovation across the country.

The mission is to promote inclusive innovation by enabling young students, farmers, women, professionals, and rural technologists to convert ideas into prototypes and subsequently commercial ventures. PRISM's contributions strongly advance multiple Sustainable Development Goals, particularly SDG 9 (Industry, Innovation & Infrastructure), SDG 3 (Good Health & Well-being), SDG 7 (Affordable & Clean Energy), and SDG 10 (Reduced Inequalities).

Implementing a national innovation program like PRISM is as much about nurturing people as it is about nurturing ideas. Every innovator supported under the program brings a unique vision, a technical challenge, and a strong determination to create meaningful impact. The scheme has successfully supported 125+ innovators, catalysed 31 startups, generated 70 patents, and contributed to several market-ready technologies addressing national needs.

This volume of Creative India captures 50 such innovation journeys, shaped through sustained mentoring, rigorous evaluation, and continuous ecosystem support. Each represents an idea nurtured with scientific rigor, entrepreneurial vision, and societal purpose, collectively reflecting India's growing capacity to convert indigenous innovation into scalable, sustainable solutions that drive economic growth, self-reliance, and technological leadership. The last volume of Creative India was published in 2010, a time when our flagship efforts to support individual brilliance were known as the TePP (Technopreneur Promotion Programme). Today, after a gap of fifteen years, I take great pride and privilege in re-initiating this publication under the banner of the PRISM scheme.

This new volume is more than just a document; it is a celebration of the Indian mind. It highlights the success stories of 50 visionary innovators who refused to let their ideas remain on paper. From deep-tech solutions to grassroots agricultural breakthroughs, these stories represent the pulse of a self-reliant India.

It is our firm belief that the success stories shared within these pages will act as a catalyst for a new breed of dynamic and budding technopreneurs.

Through these sustained efforts, we are not just funding projects; we are building a culture. Our goal remains steadfast: to foster an environment where innovation thrives forever, eventually

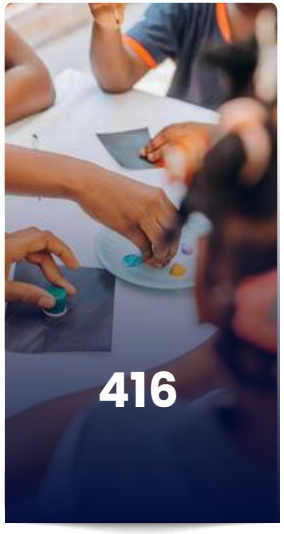
- Dr. Tripta Garg
Scientist E & Member Secretary
PRISM, DSIR

PRISM

IMPACT

Financial Year 2015-2025

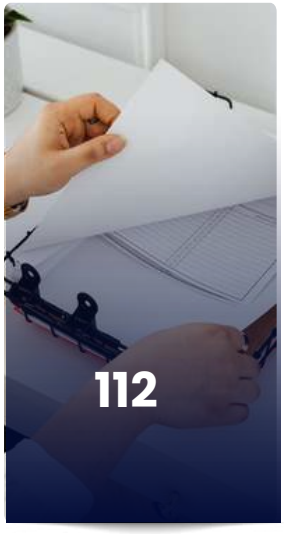
Workshops conducted



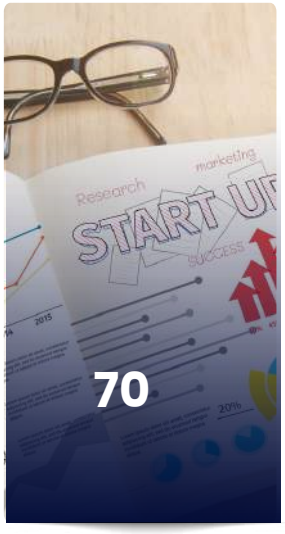
Outreach activities carried out

Proposals scouted

Innovators supported



IPR generated



Start-ups catalysed

PRISM

Outreach (TOCIC) Centres

IIT-Kanpur, Uttar Pradesh
www.iitk.ac.in

CSIR-CGCRI, Kolkata
www.cgcri.res.in

Sri Padmavati Mahila Viswa Vidyalayam (SPMVV), Tirupati
www.spmvv.ac.in

College of Technology & Engineering (CTAE), Udaipur
www.ctae.ac.in

GSBTM, Gandhinagar
btm.gujarat.gov.in

University of Madras, Chennai
www.unom.ac.in

CSIR-CSIO, Chandigarh
www.csio.res.in

CSIR-NAL, Bangalore
www.tocic-nal.org

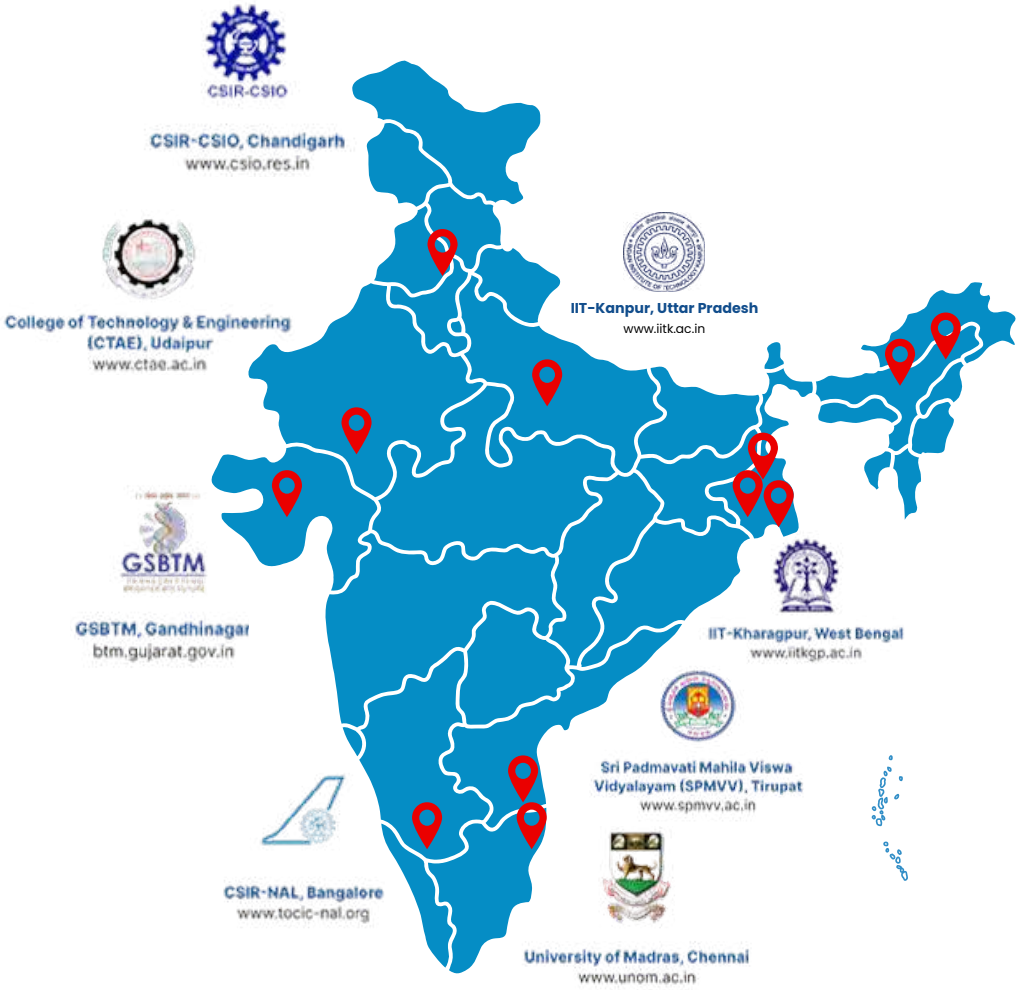
IIT-Guwahati, Guwahati
www.iitg.ac.in

CSIR–CMERI, Durgapur
https://www.cmeri.res.in

IIT-Kharagpur, West Bengal
www.iitkgp.ac.in

CSIR–NEIST, Jorhat
https://www.neist.res.in

Centres Implementing **PRISM** Scheme



	Institution / TOCIC Name	City	State
1	CSIR–CGCRI	Kolkata	West Bengal
2	CSIR–CMERI	Durgapur	West Bengal
3	CSIR–NEIST	Jorhat	Assam
4	Gujarat State Biotechnology Mission (GSBTM)	Gandhinagar	Gujarat
5	Indian Institute of Technology (IIT) Kanpur	Kanpur	Uttar Pradesh
6	Sri Padmavati Mahila Visvavidyalayam (SPMVV)	Tirupati	Andhra Pradesh
7	CSIR–National Aerospace Laboratories (NAL)	Bengaluru	Karnataka
8	CSIR–Central Scientific Instruments Organisation (CSIO)	Chandigarh	Chandigarh
9	College of Technology and Engineering (CTAE)	Udaipur	Rajasthan
10	Indian Institute of Technology (IIT) Guwahati	Guwahati	Assam
11	Indian Institute of Technology (IIT) Kharagpur	Kharagpur	West Bengal
12	University of Madras	Chennai	Tamil Nadu

50

INNOVATIONS
NURTURED UNDER

PRISM

Domain-Wise Distribution

Financial Year 2020-2025


Affordable Healthcare

Dr. Binta Shrivastava

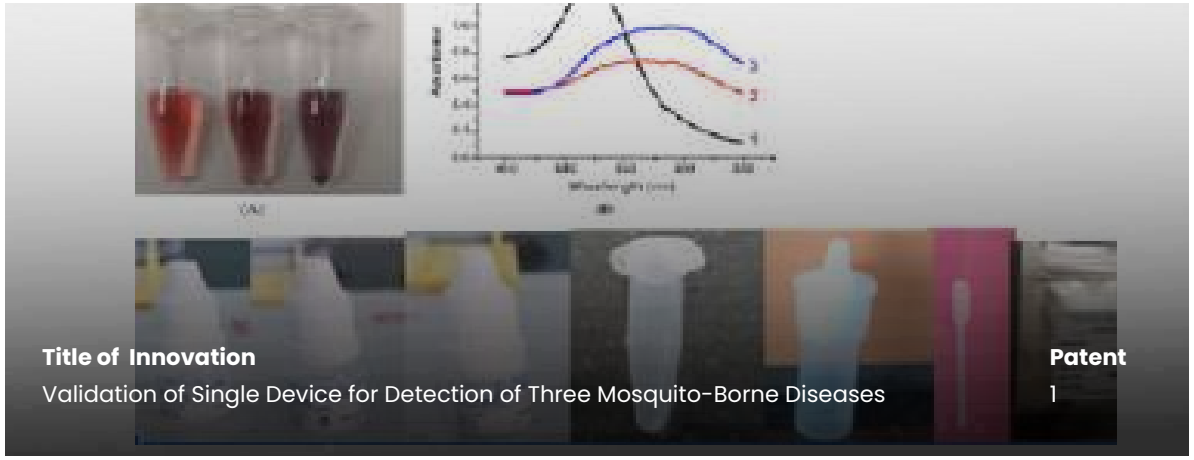
DSIR/PRISM/143/2019

Age : 47

City, State : Bangalore, Karnataka

Innovation brief:

A compact, portable point-of-care diagnostic device that detects multiple mosquito-borne diseases (such as malaria and chikungunya) on a single platform. It delivers rapid, reliable, and low-cost results without the need for labs or skilled personnel, enabling widespread screening and early diagnosis in field settings and primary health centres.



Title of Innovation

Validation of Single Device for Detection of Three Mosquito-Borne Diseases

Patent

1

Impact on society

Enables early detection and timely treatment of mosquito-borne diseases, reducing disease spread and mortality. The single-device approach lowers diagnostic costs, improves healthcare access in rural and underserved regions, and strengthens public health surveillance during outbreaks.

Domain

Affordable Healthcare

Supported under

Phase 1 Category 2

Mentoring Outreach Centre

SPMVV, Tirupati

Alignment with National Mission

- National Health Mission (NHM)
- Ayushman Bharat

Dr. B. G. Sudarshan

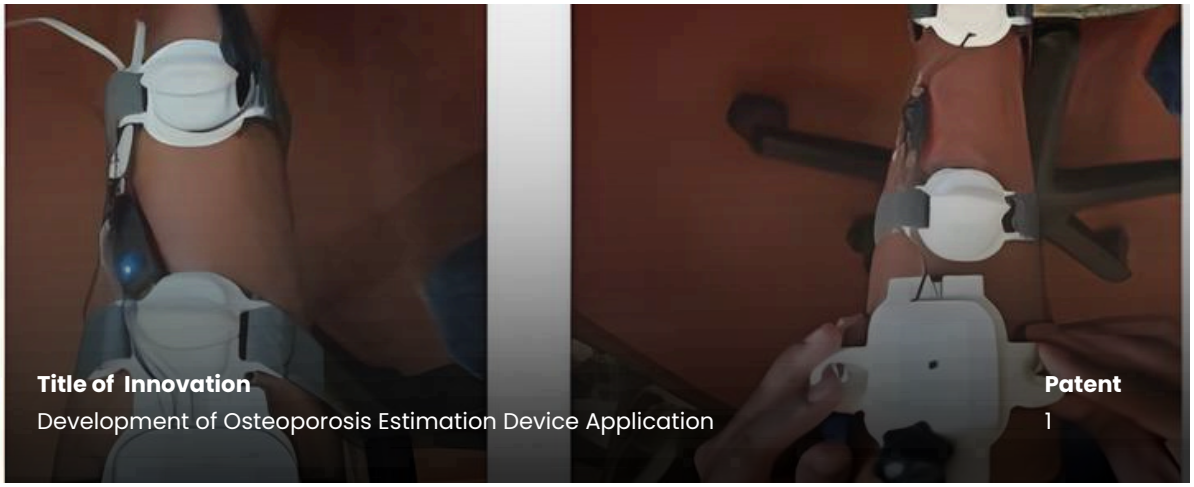
DSIR/PRISM/186/2020

Age : 50

City, State : Bangalore, Karnataka

Innovation brief:

A portable, radiation-free handheld device that measures bone mineral density using stress wave propagation, offering a cost-effective alternative to DEXA scans. With ~90% accuracy, it is suitable for routine screening, prognosis, and follow-up, and can be easily used in clinics, community programs, and rural healthcare settings for early osteoporosis detection without bulky infrastructure.



Title of Innovation

Development of Osteoporosis Estimation Device Application

Patent

1

Impact on society

Facilitates early diagnosis and mass screening of osteoporosis, especially among elderly and post-menopausal women. The radiation-free, portable device improves access in rural areas, supports preventive healthcare, reduces fracture risk, and lowers long-term treatment costs.

Domain

Affordable Healthcare

Supported under

Phase 1 Category 2

Mentoring Outreach Centre

SPMVV, Tirupati

Alignment with National Mission

- National Health Mission (NHM)

Dr. Sridevi Duggirala

DSIR/PRISM/121/2019

Age : 48

City, State : Chennai, Tamilnadu

Innovation brief:

A low-cost, paper-based microfluidic chip for rapid detection of high-risk HPV in cervical cancer screening, requiring no sophisticated equipment or skilled personnel.
It enables scalable, point-of-care screening to improve early detection and reduce cervical cancer burden in resource-limited settings. The solution supports large-scale public health programs through affordable, easy-to-deploy diagnostics.

Title of Innovation
Paper-Based Microfluidic Chip for HR-HPV Detection

Patent
1

Impact on society

Promotes early detection of cervical cancer, reducing mortality among women. The affordable and easy-to-use diagnostic tool enhances screening coverage in low-resource settings and supports preventive women's healthcare.

Domain
Affordable Healthcare

Supported under
Phase 1 Category 2

Mentoring Outreach Centre
SPMVV, Tirupati

Alignment with National Mission

- National Health Mission (NHM)
- National Programme for Prevention of Cancer

Mr. Amitava Mazumder

DSIR/PRISM/218/2021

Age : 56

City, State : Hyderabad, Telangana

Innovation brief:

A broad-spectrum disinfectant formulation effective against SARS-CoV-2 and pathogenic bacteria, offering long-lasting antimicrobial protection. It is suitable for surface coatings, mask treatment, and fumigation, enabling easy, large-scale deployment in healthcare and public spaces. The solution enhances safety in high-contact environments through sustained and versatile infection control.

Title of Innovation
Disinfectant Against SARS-CoV-2 and Pathogenic Bacteria

Patent
1

Impact on society

Reduces the spread of infectious diseases in high-risk environments. Enhances public safety during pandemics, improves hygiene standards, and protects frontline workers and communities from airborne and surface-based infections.

Domain
Affordable Healthcare

Supported under
Phase 1 Category 2

Mentoring Outreach Centre
SPMVV, Tirupati

Alignment with National Mission
- National Health Mission (NHM)
- Swachh Bharat Mission

Dr. Rashbehari Tunga

DSIR/PRISM/224/2021

Age : 57

City, State : Bangalore, Karnataka

Innovation brief:

The technology is a non-invasive glucometer designed to measure glucose levels using saliva instead of blood. The device eliminates the need for finger-prick testing while maintaining reliable accuracy. It is designed for self-monitoring and regular use, making glucose measurement more comfortable, affordable, and user-friendly. The innovation is particularly suitable for elderly patients, children, and individuals requiring frequent glucose monitoring.

Title of Innovation
Pain-Free Saliva-Based Glucometer

Patent
1

Impact on society

Improves compliance among diabetic patients by offering pain-free glucose monitoring. Enhances accessibility for elderly and home users, supports regular health tracking, and reduces complications through timely glucose management.

Domain
Affordable Healthcare

Supported under
Phase 1 Category 2

Mentoring Outreach Centre
SPMVV, Tirupati

Alignment with National Mission

- National Programme for Prevention & Control of NCDs (NPCDCS)

Mr. Kaushik

DSIR/PRISM/291/2022

Age : 23

City, State : Chennai, Tamil Nadu

Innovation brief:

The technology is a portable, point-of-care biosensor designed to detect key biomarkers associated with chronic kidney disease. It delivers rapid diagnostic results without the need for centralized laboratory infrastructure. The device is easy to operate and suitable for deployment in clinics, community health centers, and remote healthcare settings, enabling timely clinical decision-making.

Title of Innovation
Point-of-Care Biosensor for Chronic Kidney Disease Diagnosis

Patent
1

Impact on society

Enables early detection and monitoring of kidney disease, improving patient outcomes. Reduces progression to advanced stages requiring dialysis, lowers long-term healthcare costs, and improves access to diagnostic services in underserved regions.

Domain
Affordable Healthcare

Supported under
Phase 1 Category 2

Mentoring Outreach Centre
University of Madras, Chennai

Alignment with National Mission
- National Health Mission (NHM)

Mr. Krishna Thiruvengadam

PRISM-11012/36/2021

Age : 30

City, State : Chennai, Tamil Nadu

Innovation brief:

The technology is an intelligent sterilization system that dynamically adapts to real-time indoor pathogen levels. Using advanced disinfection mechanisms, the system optimizes sterilization intensity based on environmental conditions and occupancy. Building upon earlier award-winning research, it is designed for continuous operation in enclosed public and healthcare spaces.

Title of Innovation

Real-Time Adaptive Sterilization of Indoor Spaces

Impact on society

Reduces airborne and surface-based pathogen transmission in hospitals, offices, and public facilities. Enhances indoor safety, protects occupants, and strengthens public health resilience against infectious disease outbreaks.

Domain

Affordable Healthcare

Supported under

Phase 1 Category 2

Mentoring Outreach Centre

University of Madras, Chennai

Alignment with National Mission

- National Health Mission (NHM)

Dr. Sumit Singh Phukela

DSIR/PRISM/293/2022

Age : 43

City, State : Delhi, New Delhi

Title of Innovation
Any-Time Medicine Dispensing Mac

Patent
1

Impact on society

Improves access to essential medicines in underserved regions, reduces patient travel time, prevents misuse of prescription drugs, and strengthens primary healthcare delivery and continuity of care.

Innovation brief:

The innovation is an automated medicine dispensing machine that operates similarly to an ATM and issues medicines strictly against valid digital or physical prescriptions. Designed for deployment in rural and remote areas, the system ensures round-the-clock access to essential medicines while maintaining prescription compliance and inventory control.

Domain
Affordable Healthcare

Supported under
Phase 1 Category 1

Mentoring Outreach Centre
CSIR-CSIO, Chandigarh

Alignment with National Mission

- Ayushman Bharat
- National Digital Health Mission

Mr. Arvind S. A

DSIR/PRISM/76/2018

Age : 22

City, State : Delhi, New Delhi

Innovation brief:

Flexcrutch is an assistive crutch system based on flexure and kinetic shape optimization to reduce energy expenditure during walking. The design improves load distribution, shock absorption, and stability, making movement less strenuous for users. It enhances comfort and efficiency compared to conventional crutches and supports long-term daily use.

Title of Innovation

Flexcrutch: Energy-Efficient Assistive Crutches

Impact on society

Enhances mobility and comfort for individuals with mobility impairments. Reduces fatigue, improves balance, and enables greater participation in daily activities, thereby improving independence and quality of life.

Domain

Affordable Healthcare

Supported under

Phase 1 Category 2

Mentoring Outreach Centre

IIT Kanpur

Alignment with National Mission

- Accessible India Campaign

Mr. Kumar Kalika

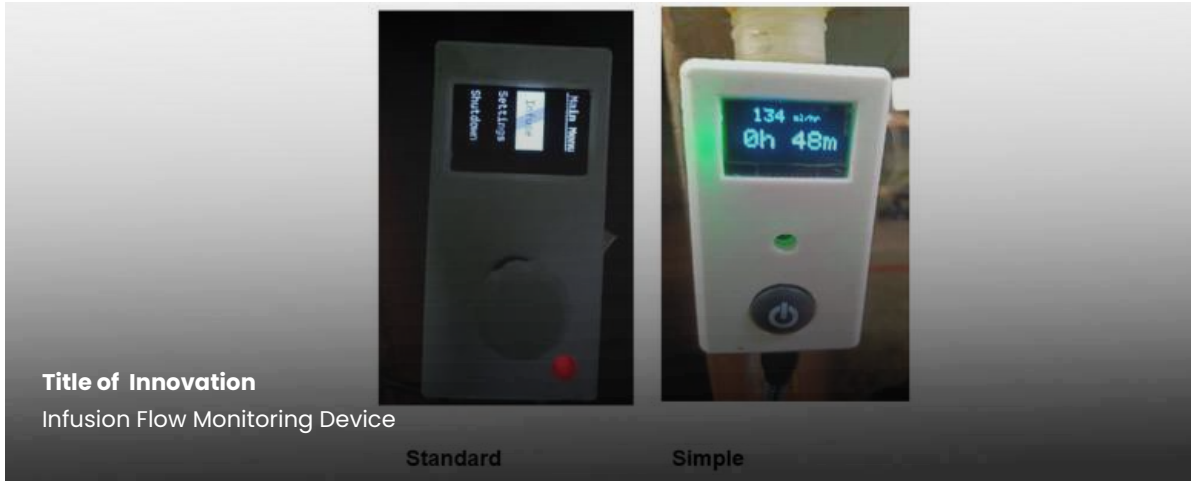
DSIR/PRISM/184/2020

Age : 26

City, State : Bokaro, Jharkhand

Innovation brief:

The innovation is an automated infusion flow monitoring device that continuously tracks IV flow rates and detects abnormalities such as blockage, over-infusion, or empty saline bottles. An IoT-enabled version allows centralized monitoring across hospital wards. The system is designed to improve accuracy, safety, and efficiency in infusion therapy, especially in high-patient-load environments.



Title of Innovation

Infusion Flow Monitoring Device

Impact on society

Reduces medication errors and enhances patient safety in hospitals and rural health centers. Lowers nursing workload, enables timely clinical intervention, and supports the adoption of smart and connected healthcare infrastructure.

Domain

Affordable Healthcare

Supported under

Phase 1 Category 1

Mentoring Outreach Centre

IIT Kanpur

Alignment with National Mission

- National Health Mission (NHM)

Mr. Nishant Agarwal

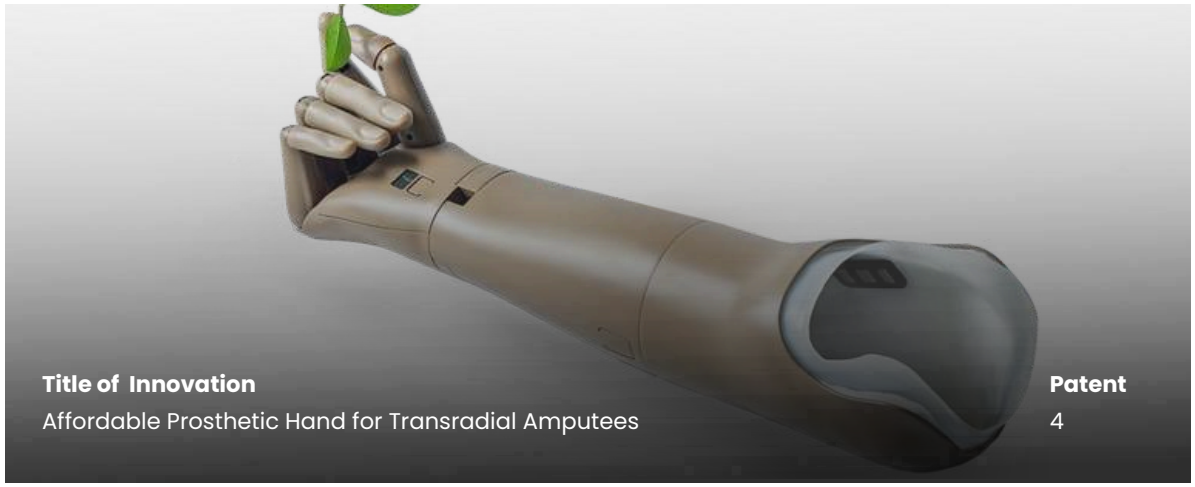
PRISM-11012/14/2022-PRISM-DSIR

Age : 28

City, State : Kanpur, Uttar Pradesh

Innovation brief:

The technology is a lightweight and durable prosthetic hand developed for transradial amputees. It features adaptive grasp and pinch mechanisms using compliant structures and 3D printing to ensure affordability, comfort, and functionality. The design supports daily activities while remaining accessible to users in resource-constrained settings.



Title of Innovation

Affordable Prosthetic Hand for Transradial Amputees

Patent

4

Impact on society

Restores functional independence, improves self-esteem, and enables social and economic inclusion for amputees, particularly in underserved communities.

Domain

Affordable Healthcare

Supported under

Phase 1 Category 2

Mentoring Outreach Centre

IIT Kanpur

Alignment with National Mission

- National Programme for Rehabilitation of Persons with Disabilities

Dr. Komal Shah
DSIR/PRISM/192/2022
Age : 36
City, State : Ahmedabad, Gujarat

Innovation brief:

An app-based tool that empowers community health workers to early detect, manage, and monitor child malnutrition through growth assessment, real-time guidance, and data-driven interventions.
It strengthens frontline healthcare delivery and improves child health outcomes in resource-limited settings. The platform enables scalable, evidence-based nutrition programs with continuous monitoring and follow-up.

Title of Innovation
Comprehensive and Application-based Solution for Addressing Malnutrition (CASAM)

Impact on society

Reduces malnutrition, empowers frontline health workers, and improves maternal and child health outcomes.

Domain
Affordable Healthcare

Supported under
Phase 1 Category 2

Mentoring Outreach Centre
GSBTM Gujarat

Alignment with National Mission
- POSHAN Abhiyaan

Mr. Senthilkumar Natesan

DSIR/PRISM/88/2018

Age : 45

City, State : Gandhinagar, Gujarat

Innovation brief:

A regenerative, autologous cell-based therapy treats diabetic foot ulcers and non-healing wounds. Patient-derived cells (e.g., stem cells, platelets) are isolated, processed, and applied to wounds, promoting tissue repair and angiogenesis. Growth factors and cytokines enhance healing, reducing amputation risk. This minimally invasive, personalized approach accelerates wound closure, improves outcomes, and shortens treatment time, offering hope for patients with limited options.

Title of Innovation
Cell Therapy for Diabetic Foot Ulcers

Patent
1

Impact on society

Prevents amputations, accelerates wound healing, reduces healthcare costs, and improves patient quality of life.

Domain
Affordable Healthcare

Supported under
Phase 2

Mentoring Outreach Centre
GSBTM Gujarat

Alignment with National Mission

- National Health Mission (NHM)

Dr. Debeshi Dutta

DSIR/PRISM/212/2021-22

Age : 31

City, State : Durgapur, West Bengal

Innovation brief:

A sensor-based wearable monitors cattle's rumination, activity, and behavior changes to detect estrous cycles and foot-and-mouth disease. Using accelerometers and temperature sensors, it tracks subtle shifts indicating heat stress or infection. Data analytics identify patterns, alerting farmers for timely breeding or disease management. This boosts reproductive efficiency and animal health, reducing economic losses

Title of Innovation

Intelligent Wearable for Estrous & FMD Detection in Cattle

Patent

1

Impact on society

Reduces livestock losses, improves dairy productivity, and supports animal health management for farmers.

Domain

Affordable Healthcare

Supported under

Phase 1 Category 2

Mentoring Outreach Centre

CSIR-CGCRI

Alignment with National Mission

- National Livestock Mission

Dr. Major MD Ray

DSIR/PRISM/211/2021

Age : 42

City, State : Kolkata, West Bengal

Innovation brief:

The innovation focuses on the indigenization and design of self-retaining vascular forceps through local manufacturing of high-quality surgical instruments. Using advanced biocompatible materials and precision engineering, the forceps are developed to meet international medical standards. The design incorporates ergonomic handling, anti-slip gripping surfaces, and enhanced durability to improve control during vascular procedures.

Title of Innovation

Designing of Self retaining Vascular Forceps

Impact on society

The technology reduces dependence on imported surgical instruments and lowers procurement costs for healthcare providers. It improves accessibility to reliable surgical tools, enhances surgical precision, and supports self-reliance in medical device manufacturing, ultimately strengthening the quality and affordability of vascular healthcare services.

Domain

Affordable Healthcare

Supported under

Phase 1 Category 2

Mentoring Outreach Centre

CSIR-CGCRI

Alignment with National Mission

- National Mission on Medical Devices

Mr. Avijeet Dutta

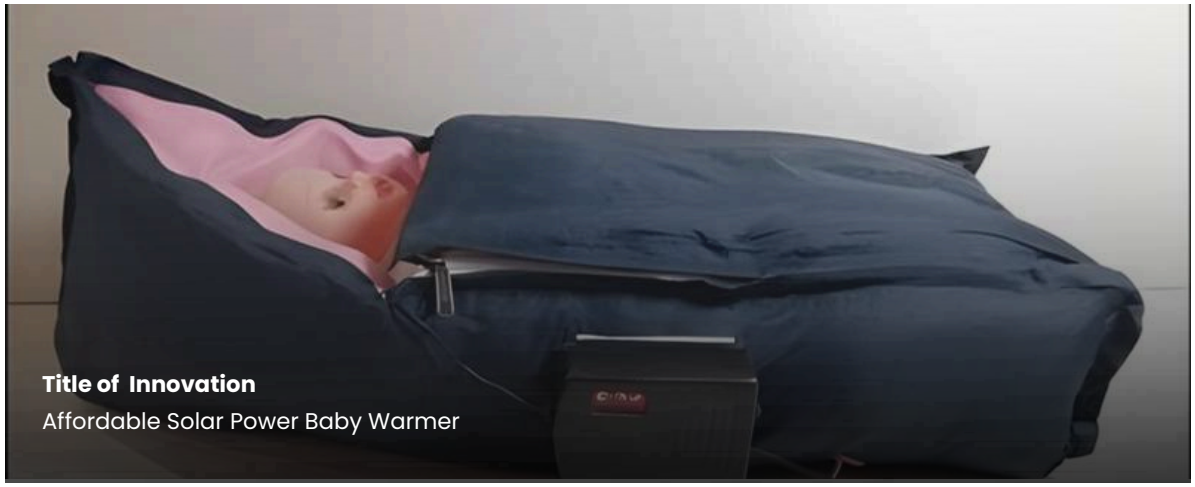
DSIR/PRISM/26/2018

Age : 42

City, State : Kolkata, West Bengal

Innovation brief:

A solar-powered neonatal warmer provides critical care in off-grid settings. Using photovoltaic panels and battery storage, it maintains optimal warmth for newborns in incubators or radiant heaters. Advanced insulation and temperature control ensure safety and efficacy. Portable and rugged, it's ideal for rural clinics or emergency response, reducing hypothermia-related mortality in vulnerable infants.



Title of Innovation

Affordable Solar Power Baby Warmer

Impact on society

Prevents neonatal hypothermia, reduces infant mortality, and saves lives in rural and remote areas.

Domain

Affordable Healthcare

Supported under

Phase 1 Category 1

Mentoring Outreach Centre

CSIR-CGCRI

Alignment with National Mission

- National Health Mission (NHM)

Mr. Atul Kumar Ojha

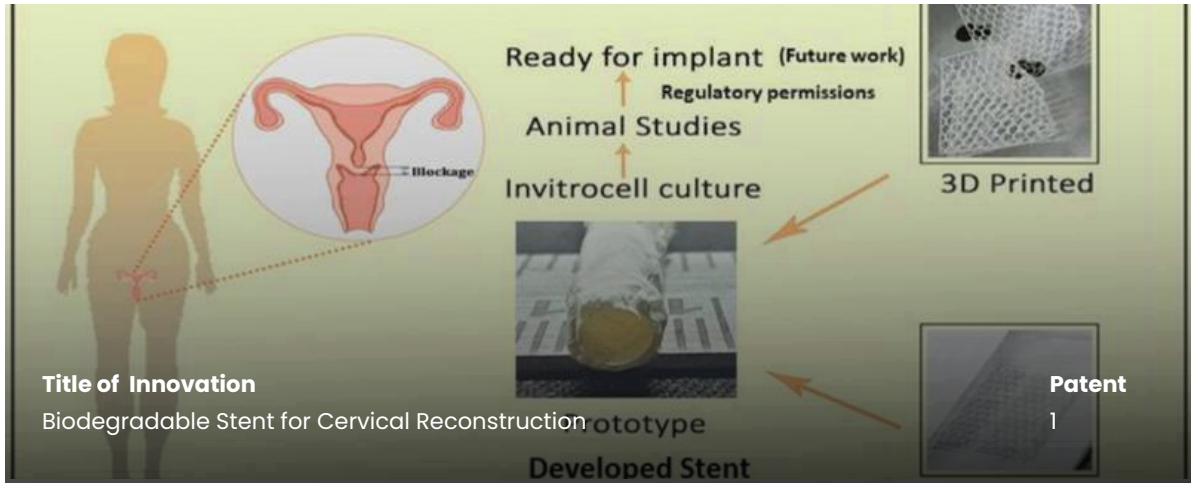
DSIR/ PRISM/232/2022

Age : 31

City, State : Kharagpur, West Bengal

Innovation brief:

A biodegradable cervical stent made using advanced 3D printing and biocompatible polymers (PLA/PCL) that gradually degrades after treatment, eliminating removal.
Its porous, mechanically robust design supports tissue healing, sustained dilation, and prevents restenosis, offering a safer alternative to metallic stents.



Impact on society

Improves reproductive health, reduces invasive surgeries, and enhances quality of life for women patients.

Domain
Affordable Healthcare

Supported under
Phase 1 Category 2

Mentoring Outreach Centre
IIT Kharagpur

Alignment with National Mission
- National Health Mission (NHM)

Mr. Debasish Biswas

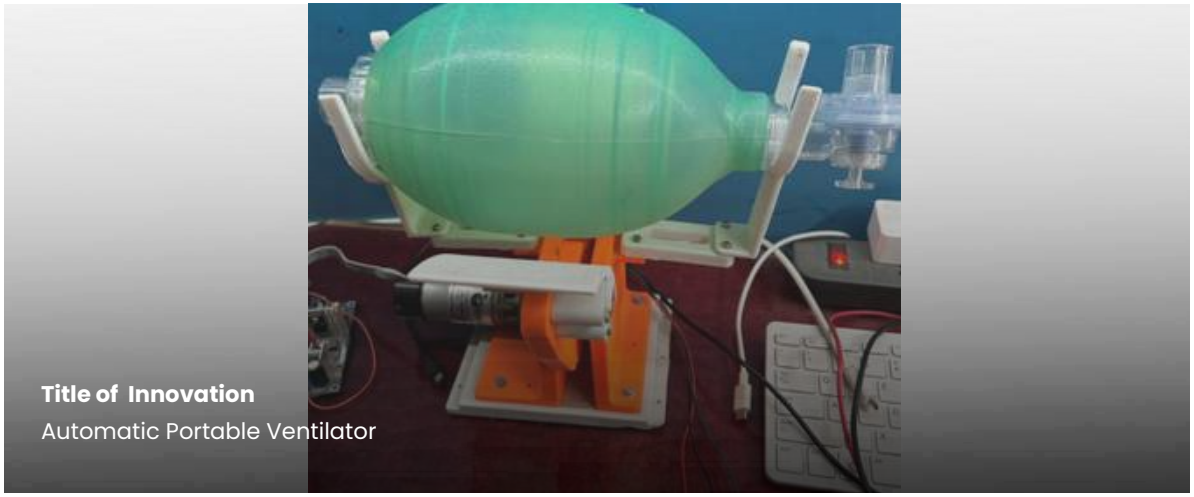
DSIR/PRISM/348/2023

Age : 43

City, State : Kolkata, West Bengal

Innovation brief:

A low-cost, portable ventilator that delivers controlled respiratory support with precise airflow and vital parameter monitoring. Its battery-powered, rugged, and user-friendly design makes it ideal for emergency care, rural clinics, and disaster response in low-resource settings. The solution helps bridge critical gaps in respiratory care where conventional ventilators are unavailable.



Title of Innovation

Automatic Portable Ventilator

Impact on society

This ventilator saves lives in emergencies and resource-limited settings, bridging critical healthcare gaps. Portable and affordable, it supports patients in rural clinics, ambulances, and disaster zones, improving survival rates and outcomes

Domain

Affordable Healthcare

Supported under

Phase 1 Category 2

Mentoring Outreach Centre

IIT Kharagpur

Alignment with National Mission

- National Health Mission (NHM)


Waste to Wealth

Mr. Abhishek Saxena

DSIR/PRISM/264/2022

Age : 35

City, State : Jaipur, Rajasthan

Innovation brief:

The technology converts agricultural residues into green charcoal through controlled thermal processing. The process enhances the calorific value of farm waste while reducing harmful emissions associated with open burning. The resulting green charcoal can be used as a sustainable fuel for heating and decentralized power generation. Designed for scalability and rural deployment, the technology provides an efficient method for utilizing surplus biomass and replacing conventional fossil fuels with a cleaner, renewable energy alternative.

Title of Innovation

Farm Waste to Green Charcoal for Power Generation

Impact on society

Reduces farm waste burning, lowers carbon emissions, and creates additional income for farmers. Promotes sustainable energy use and rural economic development.

Domain

Waste to Wealth

Supported under

Phase 1 Category 2

Mentoring Outreach Centre

CTAE, Udaipur

Alignment with National Mission

- Waste to Wealth Mission
- National Bio-Energy Mission

Mr. Ashish Singh

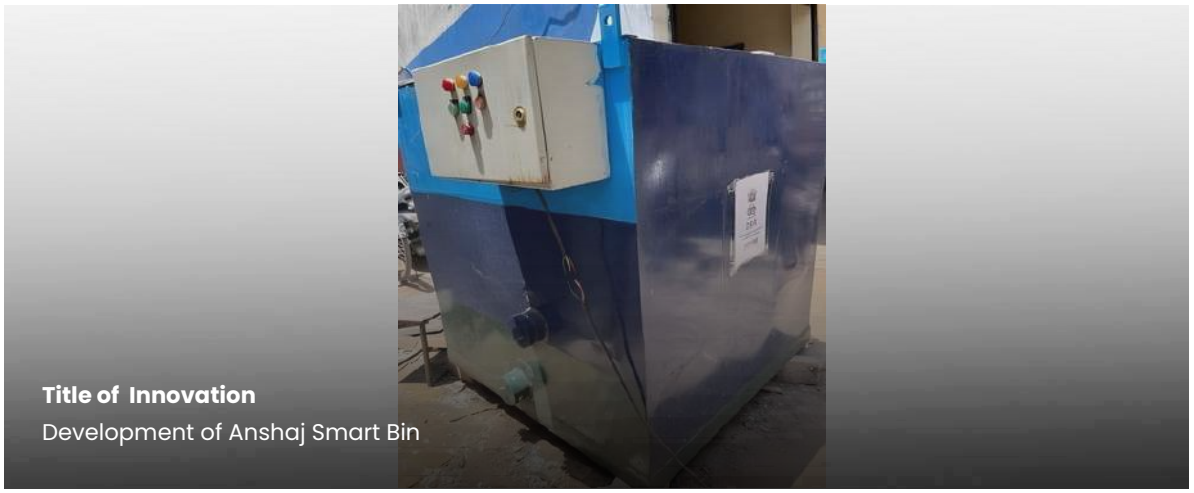
DSIR/PRISM/272/2022

Age : 22

City, State : Kangra, Himachal Pradesh

Innovation brief:

The Anshaj Smart Bin is an intelligent waste management solution that integrates design-based waste segregation with sensor-driven automation. The system uses embedded sensors and control mechanisms to identify and segregate different categories of waste at the source. Its user-friendly design encourages correct disposal practices while minimizing manual intervention. The smart bin is suitable for deployment in urban spaces, institutions, and public facilities, enabling efficient and scalable waste segregation and data-driven waste management.



Title of Innovation

Development of Anshaj Smart Bin

Impact on society

The innovation improves recycling efficiency by ensuring accurate waste segregation at the source. It reduces the volume of waste sent to landfills, enhances urban sanitation, and supports cleaner cities.

Domain

Waste to Wealth

Supported under

Phase 1 Category 2

Mentoring Outreach Centre

CSIR-CSIO, Chandigarh

Alignment with National Mission

- Swachh Bharat Mission (Urban)

Clean Energy

Dr. Sandip S. Deshmukh

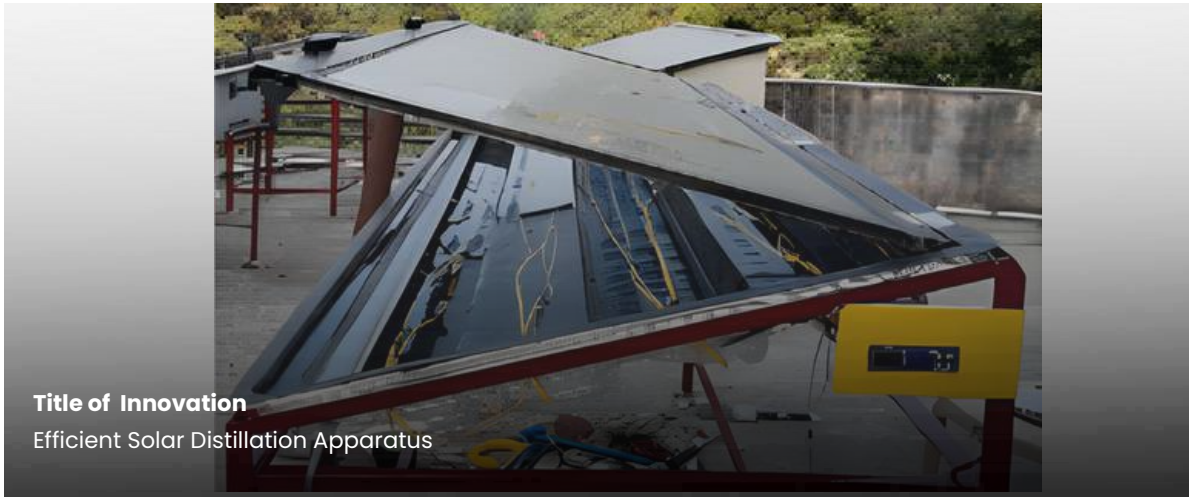
DSIR/PRISM/309/2022

Age : 74

City, State : Hyderabad, Telangana

Innovation brief:

The innovation is a solar-powered water distillation system designed to purify water using renewable energy. The apparatus optimizes heat utilization to improve distillation efficiency while minimizing operational and maintenance costs. Its simple design enables deployment in off-grid and resource-limited regions, providing a sustainable solution for water purification.



Title of Innovation

Efficient Solar Distillation Apparatus

Impact on society

Provides clean drinking water in remote and water-scarce regions. Reduces reliance on conventional energy sources and supports sustainable, decentralized water purification.

Domain

Clean Energy

Supported under

Phase 1 Category 2

Mentoring Outreach Centre

SPMVV, Tirupati

Alignment with National Mission

- National Solar Mission

Dr. Umesh V

DSIR/PRISM/302/2022

Age : 34

City, State : Kancheepuram, Tamil Nadu

Innovation brief:

The innovation is an iron-based redox flow battery system developed for large-scale and long-duration energy storage applications. It offers enhanced safety, long cycle life, and stable performance, making it suitable for integration with renewable energy sources such as solar and wind. The system supports grid-scale deployment and decentralized energy storage solutions.

Title of Innovation
Iron Flow Battery for Renewable Energy Storage

Patent
1

Impact on society

Facilitates large-scale adoption of renewable energy by providing reliable and safe energy storage. Improves grid stability, reduces reliance on fossil fuel-based backup systems, and supports sustainable and resilient power infrastructure.

Domain
Clean Energy

Supported under
Phase 1 Category 2

Mentoring Outreach Centre
University of Madras, Chennai

Alignment with National Mission

- National Energy Storage Mission
- National Green Hydrogen Mission

Dr. Nikhil Sharma

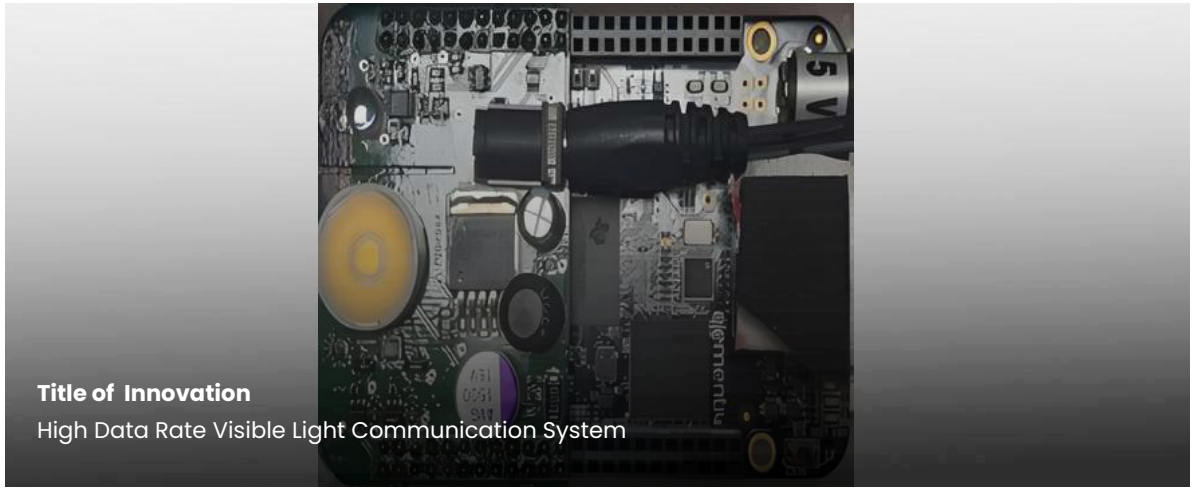
DSIR/PRISM/267/2022

Age : 32

City, State : Bahadurgarh, Haryana

Innovation brief:

The innovation is a high-speed data communication system that uses visible light for wireless data transmission. It enables high data rates without generating electromagnetic interference, making it suitable for sensitive environments such as hospitals and industrial facilities. The system supports next-generation communication and IoT applications.



Title of Innovation

High Data Rate Visible Light Communication System

Impact on society

Enables energy-efficient and environmentally friendly wireless communication. Supports IoT connectivity, healthcare data transmission, and smart infrastructure while reducing electromagnetic pollution and carbon footprint.

Domain

Clean Energy

Supported under

Phase 1 Category 2

Mentoring Outreach Centre

CSIR-CSIO, Chandigarh

Alignment with National Mission

- Digital India Mission
- National Mission on Cyber Physical Systems

Dr. Ovais Gulzar

DSIR/PRISM/294/2022

Age : 33

City, State : Srinagar, Jammu

Innovation brief:

The technology is a solar-powered drying system developed to reduce the seasoning time required in cricket bat manufacturing. It ensures controlled drying conditions while maintaining material strength and quality. Designed as a low-cost and energy-efficient solution, it is suitable for small-scale and traditional bat manufacturers.

Title of Innovation

Low-Cost Solar Dryer for Bat Manufacturers

Impact on society

Improves productivity and product quality for local bat manufacturers. Reduces dependence on conventional energy sources, lowers costs, and increases income through the use of renewable solar energy.

Domain

Clean Energy

Supported under

Phase 1 Category 1

Mentoring Outreach Centre

CSIR-CSIO, Chandigarh

Alignment with National Mission

- National Solar Mission
- MSME Sustainable Manufacturing

Dr. Poonam Sharma

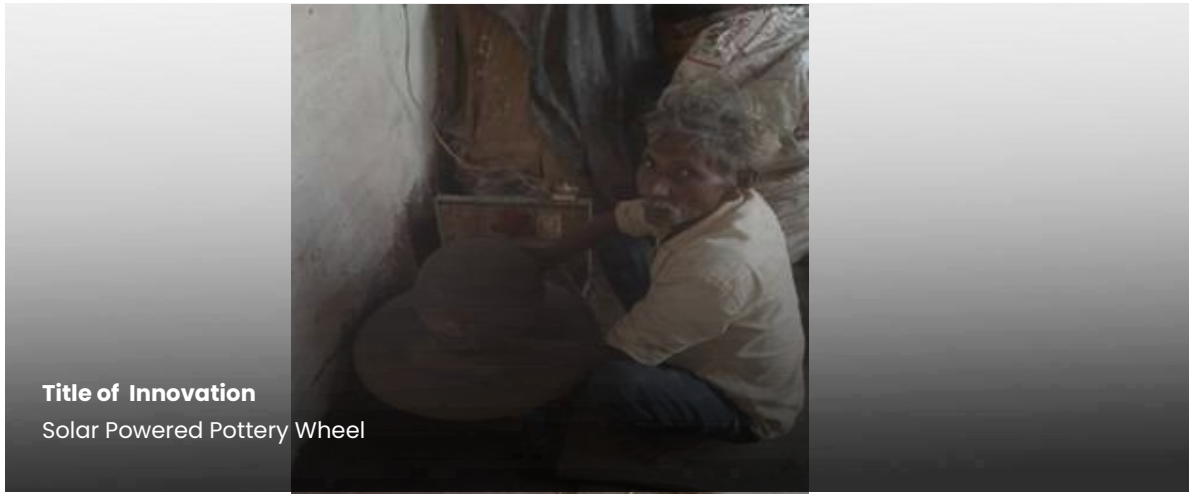
DSIR/PRISM/252/2022

Age : 40

City, State : Delhi, New Delhi

Innovation brief:

The innovation is a solar-powered pottery wheel capable of continuous operation for 6–8 hours, supported by integrated battery storage. Designed for off-grid and rural use, it enables uninterrupted operation without reliance on electricity supply, making it ideal for artisan communities.



Title of Innovation

Solar Powered Pottery Wheel

Impact on society

Enables uninterrupted work for pottery artisans, reduces energy expenses, and supports sustainable livelihoods. Promotes clean energy adoption and improves productivity in rural craft-based economies.

Domain

Clean Energy

Supported under

Phase 1 Category 2

Mentoring Outreach Centre

CSIR-CSIO, Chandigarh

Alignment with National Mission

- National Solar Mission
- PM Vishwakarma

Dr. Shalom Akhai

DSIR/PRISM/360/2023

Age : 40

City, State : Panchkula, Haryana

Innovation brief:

The innovation introduces a rotatable condenser unit for split air conditioners that dynamically adjusts its orientation based on airflow and ambient conditions. By improving heat dissipation efficiency and reducing thermal resistance, the system enhances overall cooling performance without major design changes or additional power consumption, making it compatible with existing AC architectures.

Title of Innovation

Rotatable condenser unit for split air conditioners for improved efficiency

Impact on society

Improves energy efficiency of widely used air-conditioning systems, leading to lower electricity bills and reduced peak power demand. Contributes to reduced carbon emissions and offers a cost-effective pathway to energy savings without compromising cooling comfort.

Domain

Clean Energy

Supported under

Phase 1 Category 1

Mentoring Outreach Centre

CSIR-CSIO, Chandigarh

Alignment with National Mission

- National Mission on Enhanced Energy Efficiency (NMEEE)

Mr. Tejas Kusurkar

DSIR/PRISM/171/2020

Age : 31

City, State : Kanpur, Uttar Pradesh

Innovation brief:

The technology is a zinc-based gel battery developed as a safer and faster-charging alternative to conventional lead-acid batteries used in e-rickshaws. It eliminates the need for complex battery management systems while improving energy efficiency, durability, and operational reliability. The design supports cost-effective adoption in electric mobility applications.

Title of Innovation
Zinc Gel Battery for E-Rickshaws

Patent
4

Impact on society

Improves income and uptime for e-rickshaw drivers, reduces environmental hazards from lead-acid batteries, and supports India's clean mobility transition.

Domain
Clean Energy

Supported under
Phase 1 Category 2

Mentoring Outreach Centre
IIT, Kanpur

Alignment with National Mission

- National Electric Mobility Mission (NEMMP)

Prof. G. N. Tiwari

PRISM-11012/33/2021

Age : 69

City, State : Ballia, Uttar Pradesh

Innovation brief:

The innovation integrates a hybrid photovoltaic–thermal (PVT) system into an e-rickshaw to simultaneously generate electricity and thermal energy. The system improves overall energy utilization and operational efficiency while reducing dependence on grid charging and fossil fuels.

Title of Innovation
Sustainable Photovoltaic Thermal (PVT) E-Rickshaw

Patent
1

Impact on society

Provides affordable and sustainable transportation in rural areas, creates livelihood opportunities, and reduces carbon emissions through effective integration of renewable energy into mobility solutions.

Domain
Clean Energy

Supported under
Phase 1 Category 2

Mentoring Outreach Centre
IIT, Kanpur

Alignment with National Mission
- National Electric Mobility Mission

Mr. Sumeet Gattewar

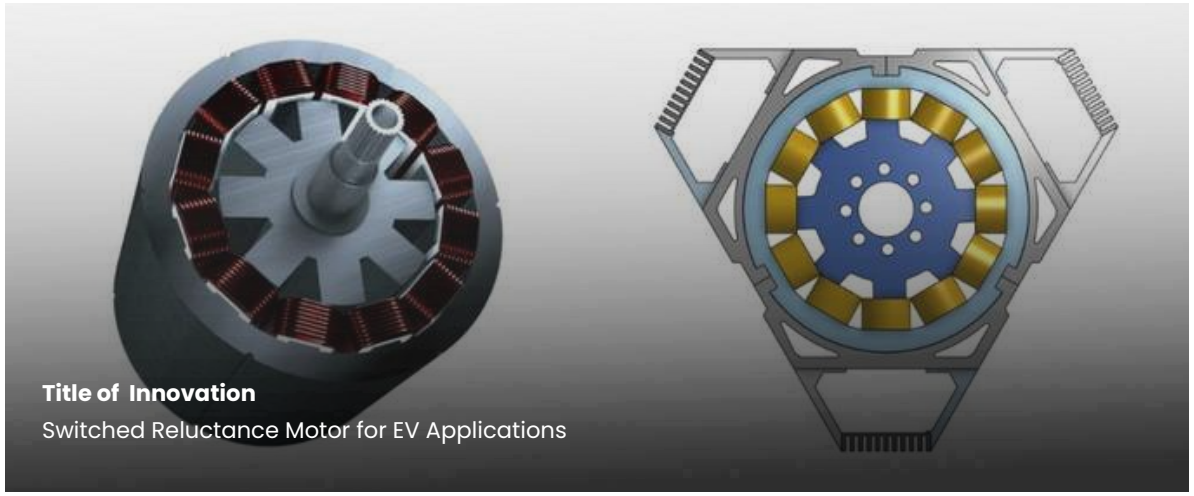
DSIR/PRISM/235/2022

Age : 34

City, State : Nagpur, Maharastra

Innovation brief:

Indigenous switched reluctance motors (SRMs) are revolutionizing electric vehicle (EV) technology with their high efficiency and reduced energy loss. These motors boast a simple design, rugged construction, and absence of permanent magnets, making them a cost-effective alternative to traditional motors. SRMs achieve impressive efficiency rates of 85-95% and offer excellent power-speed characteristics, high torque density, and inherent fault tolerance. Their robust design and low production costs make them an attractive option for EV manufacturers.



Title of Innovation

Switched Reluctance Motor for EV Applications

Impact on society

Supports EV self-reliance, reduces energy wastage, and strengthens India's clean mobility ecosystem.

Domain

Clean Energy

Supported under

Phase 1 Category 2

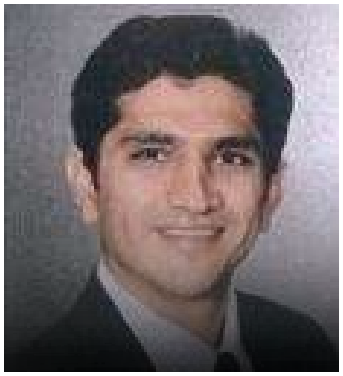
Mentoring Outreach Centre

IIT, Kharagpur

Alignment with National Mission

- National Electric Mobility Mission


Industrially utilizable
smart materials



Dr. Chinmay Khare

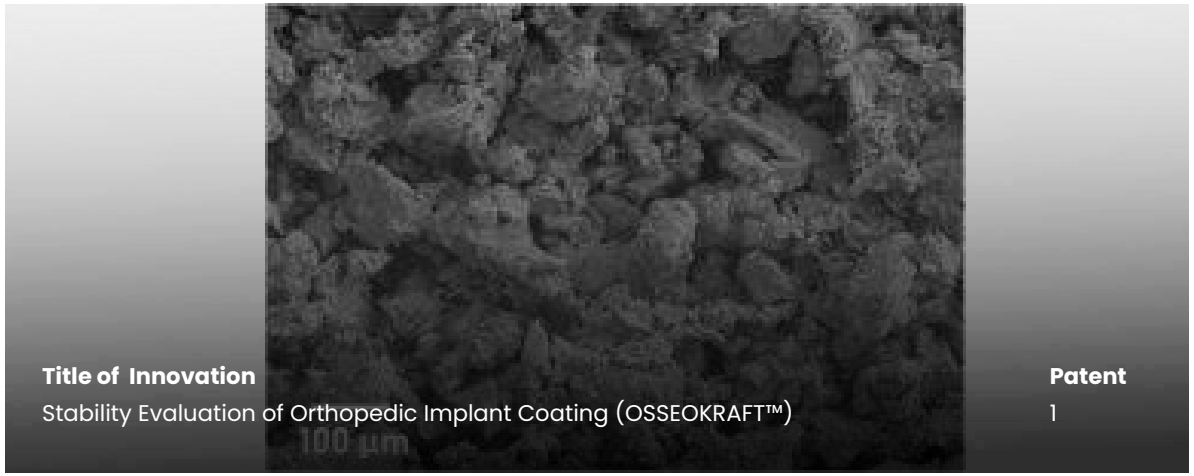
DSIR/PRISM/231/2022

Age : 35

City, State : Mumbai, Maharshtra

Innovation brief:

The technology involves a titanium-based orthopedic implant coating engineered to enhance osseointegration while providing antibacterial properties. The coating improves implant stability, durability, and long-term performance by promoting better bone–implant interaction and reducing microbial adhesion. It is designed for use in orthopedic implants to improve clinical outcomes and extend implant life.



Title of Innovation

Stability Evaluation of Orthopedic Implant Coating (OSSEOKRAFT™)

Patent

1

Impact on society

Reduces implant failure rates, infection risks, and the need for revision surgeries. Enhances patient recovery and quality of life while improving the long-term success of orthopedic implant procedures worldwide.

Domain

Industrially utilizable smart materials

Supported under

Phase 1 Category 2

Mentoring Outreach Centre

CSIR-CSIO, Chandigarh

Alignment with National Mission

- National Mission on Biomedical Devices

Prof. Dobbidi Pamu

DSIR/PRISM/241/2022

Age : 43

City, State : Guwahati, Assam

Innovation brief:

Advanced ceramic discs are developed for sputtering applications in electronics and coatings. Fabricated via techniques like hot pressing or sintering, these discs offer high purity, density, and thermal conductivity. They enable precise deposition of thin films for semiconductors, displays, and wear-resistant coatings. The discs' tailored microstructure enhances target utilization and uniformity, boosting production efficiency and film quality in industries like microelectronics and aerospace.

Title of Innovation

Indigenous Ceramic Discs for Sputter Sources and electronics application

Impact on society

Reduces import dependence, strengthens semiconductor manufacturing, and improves electronics and aerospace component quality,

Domain

Industrially utilizable smart materials

Supported under

Phase 1 Category 2

Mentoring Outreach Centre

IIT Guwahati

Alignment with National Mission

- National Mission on Biomedical Devices

Dr. Santanu Dhara

DSIR/PRISM/114/2019

Age : 35

City, State : Kharagpur, West Bengal

Innovation brief:

Development of bioresorbable antimicrobial materials with rapid blood absorption and infection control properties.-Bioresorbable antimicrobial materials are being developed to address wound infections and promote healing. These materials can absorb blood rapidly, control infection, and eventually dissolve in the body, eliminating the need for removal.

Title of Innovation

Antimicrobial Smart Materials for Biomedical Use

Impact on society

Reduces infection risk, controls hemorrhage, and improves wound healing in medical and battlefield applications.

Domain

Industrially utilizable smart materials

Supported under

Phase 1 Category 2

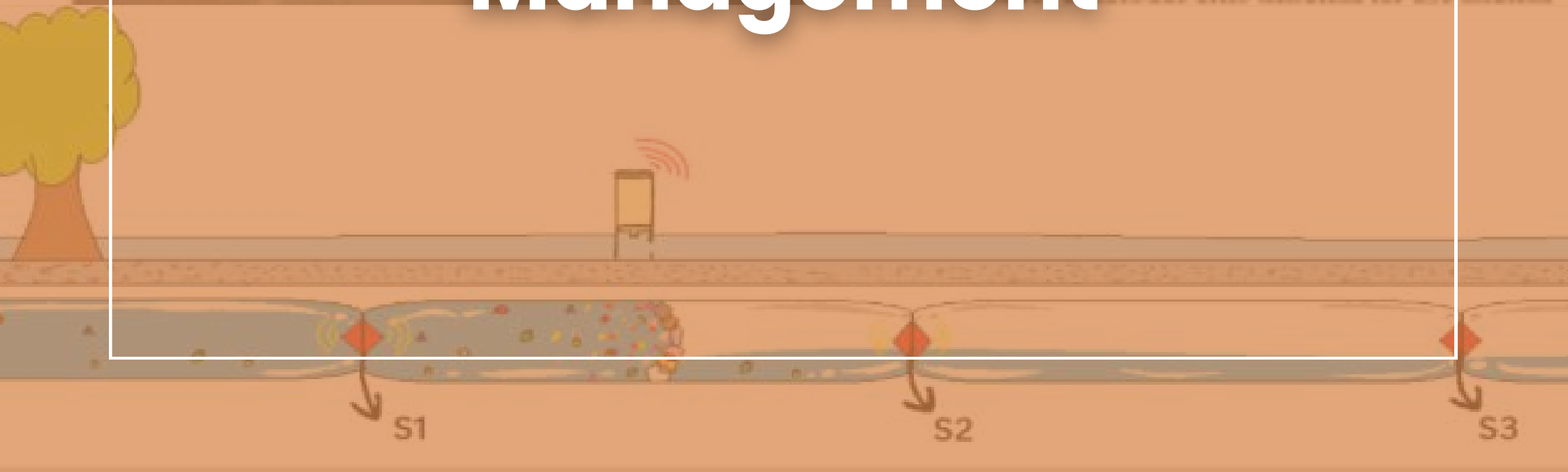
Mentoring Outreach Centre

IIT Kharagpur

Alignment with National Mission

- National Mission on Biomedical Devices

Water & Sewage Management



Dr. K. Satish Kumar

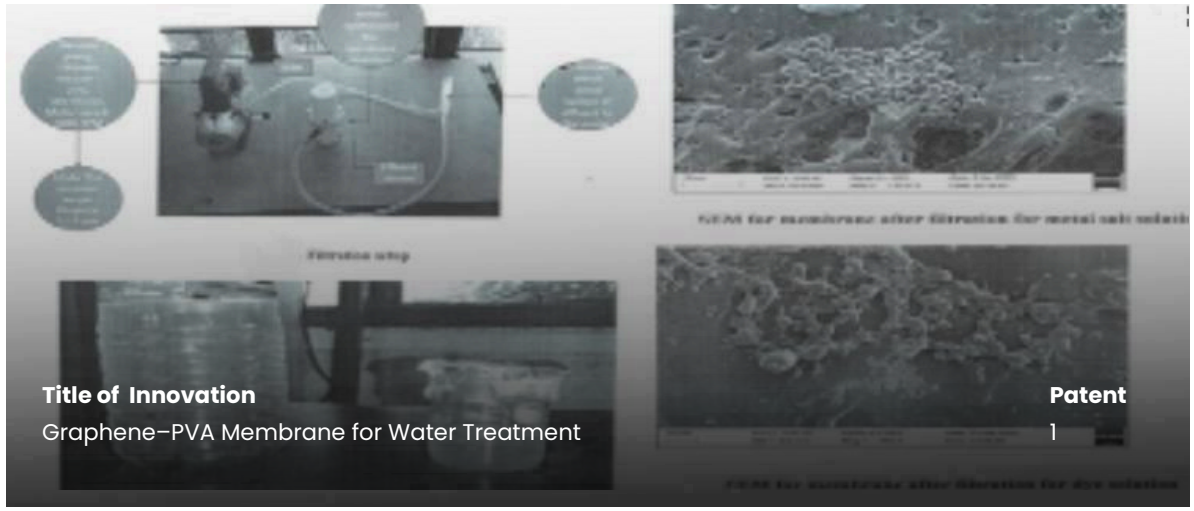
DSIR/PRISM/286/2024

Age : 46

City, State : Chennai, Tamil Nadu

Innovation brief:

The technology involves the development of a high-performance water filtration membrane composed of graphene and polyvinyl alcohol (PVA). The membrane offers enhanced contaminant removal while maintaining durability, permeability, and mechanical stability. It is designed for scalable water treatment applications and can be integrated into existing purification systems. The innovation supports efficient and sustainable water filtration solutions.



Title of Innovation
Graphene–PVA Membrane for Water Treatment

Patent
1

Impact on society

Improves access to clean drinking water by enhancing purification efficiency. Supports public health, reduces waterborne diseases, and contributes to sustainable water management solutions.

Domain
Water & Sewage Management

Supported under
Phase 1 Category 2

Mentoring Outreach Centre
SPMVV, Tirupati

Alignment with National Mission
- Jal Jeevan Mission

Mr. Debraj Chatterjee

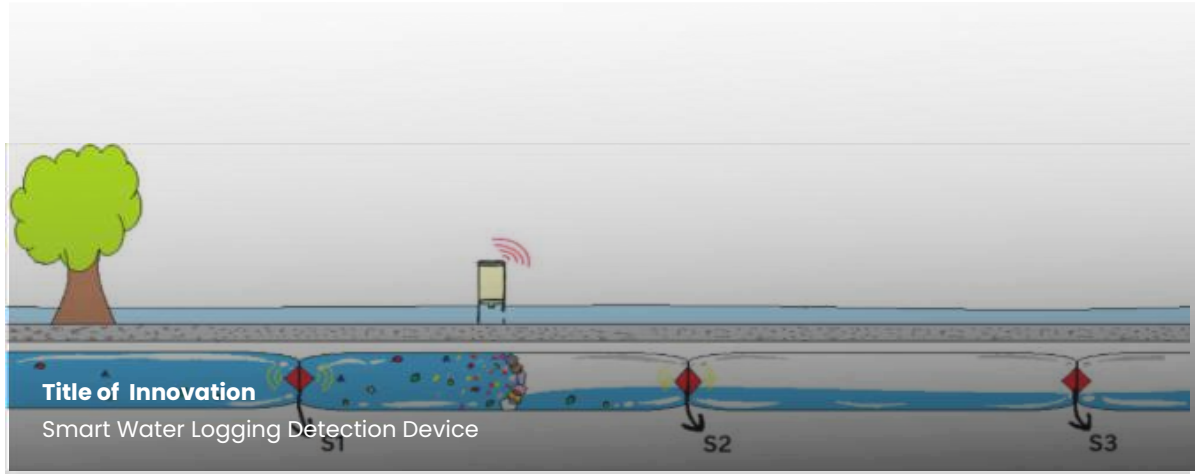
DSIR/PRISM/327/2023

Age : 37

City, State : Kolkata, West Bengal

Innovation brief:

A sensor-based system detects urban water-logging early, using IoT sensors to monitor water levels, flow rates, and blockages in drains and sewage lines. Real-time data analytics identify potential flooding risks, triggering alerts and enabling proactive measures. The system integrates with weather forecasts and urban drainage models to predict water-logging hotspots, allowing authorities to respond swiftly and minimize disruptions, reducing traffic congestion and property damage in cities..



Title of Innovation

Smart Water Logging Detection Device

Impact on society

Prevents flooding damage, reduces disease spread, and supports proactive urban infrastructure management.

Domain

Water & Sewage Management

Supported under

Phase 1 Category 1

Mentoring Outreach Centre

IIT Kharagpur

Alignment with National Mission

- AMRUT Mission


Green Technology

Ms. Devalina Das

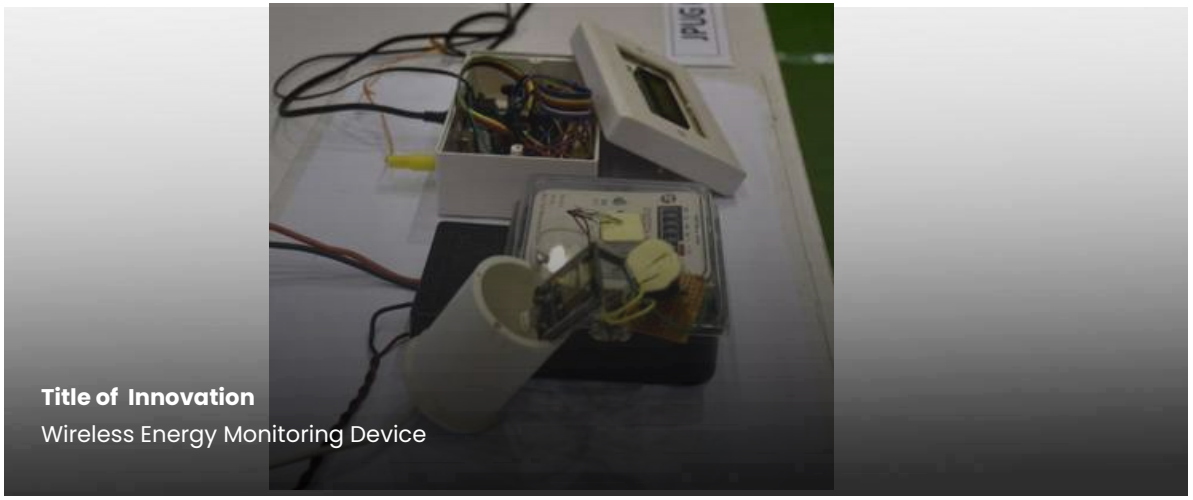
DSIR/PRISM/43/2018

Age : 20

City, State : Agarpara, West Bengal

Innovation brief:

A modular wireless energy monitoring system tracks appliance-wise electricity consumption and sends usage data via SMS. Using smart sensors and IoT tech, it monitors individual appliances and transmits data to a central hub. Users receive real-time SMS alerts on consumption patterns, helping identify energy hogs and optimize usage. Ideal for homes and businesses, it promotes energy efficiency and cost savings



Title of Innovation

Wireless Energy Monitoring Device

Impact on society

Promotes energy conservation, reduces household electricity bills, and supports sustainable energy behavior.

Domain

Green Technology

Supported under

Phase 1 Category 1

Mentoring Outreach Centre

CSIR-CGCRI

Alignment with National Mission

- National Mission on Enhanced Energy Efficiency (NMEEE)

Ms. Kankana Narayan Dev

DSIR/PRISM/02/2018

Age : 32

City, State : Guwahati, Assam

Innovation brief:

A sustainable housing approach uses bamboo fibre reinforced ferrocement, combining bamboo's strength with ferrocement's durability. This composite material offers high resistance to earthquakes, pests, and weathering, reducing cement usage and carbon footprint. Bamboo fibres enhance tensile strength, while ferrocement provides structural integrity. Affordable and locally adaptable, this tech suits seismic zones and rural areas, promoting eco-friendly, resilient housing.

Title of Innovation

Bamboo Fibre Ferrocement Housing Typology

Impact on society

Promotes eco-friendly housing, reduces construction costs, and supports sustainable infrastructure development.

Domain

Green Technology

Supported under

Phase 1 Category 2

Mentoring Outreach Centre

IIT, Guwahati

Alignment with National Mission

- Pradhan Mantri Awas Yojana (PMAY)

Mr. Vyom Chaturvedi

DSIR/PRISM/237/2022

Age : 22

City, State : Bhopal, Madhya Pradesh

Innovation brief:

An energy-efficient cooling technology reduces reliance on conventional air-conditioning systems. This tech uses advanced materials like desiccants or evaporative cooling membranes to lower temperatures without compressors. By harnessing natural evaporation or radiative cooling, it cuts energy use by 50-80%. Ideal for dry climates, it's used in buildings and data centers, lowering emissions and costs while maintaining comfort.

Title of Innovation

Sustainable Space Cooling Solution

Impact on society

Lowers energy consumption, reduces carbon emissions, and improves indoor comfort sustainably.

Domain

Green Technology

Supported under

Phase 1 Category 1

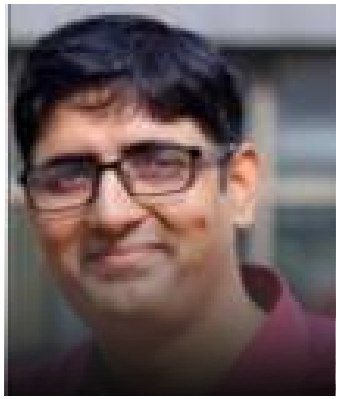
Mentoring Outreach Centre

IIT, Guwahati

Alignment with National Mission

- National Mission on Sustainable Habitat


Any other technology or knowledge intensive area



Mr. Prakash Kumar

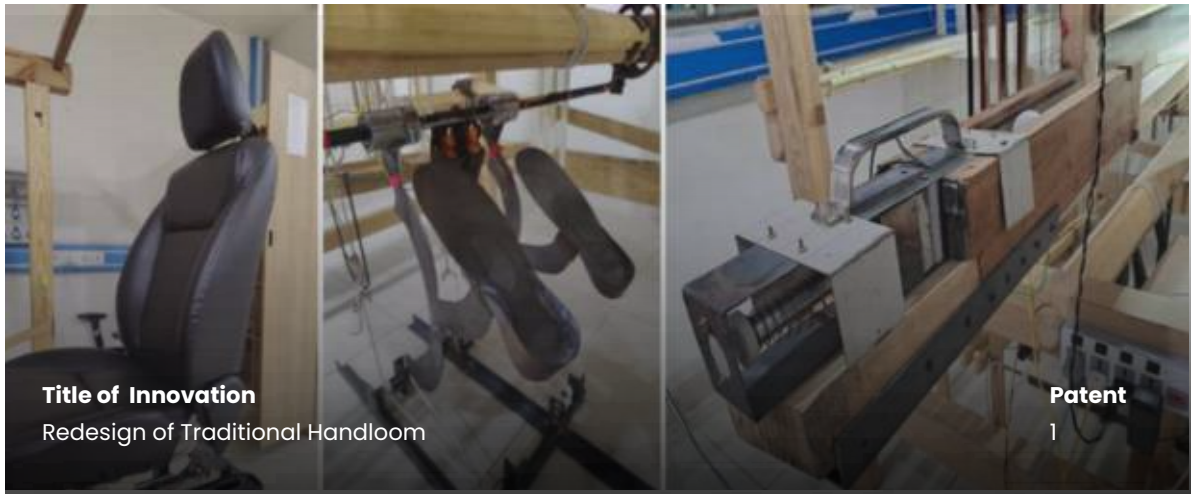
DSIR/PRISM/223/2021

Age : 43

City, State : Patna, Bihar

Innovation brief:

The project focuses on re-engineering traditional handloom systems through ergonomic design improvements and optimized weaving mechanisms. The redesigned loom reduces physical strain on artisans while improving fabric consistency, weaving speed, and overall productivity. Care is taken to preserve the cultural aesthetics and traditional techniques of handloom weaving. The improved design enhances ease of operation, reduces fatigue, and supports efficient production without mechanization, making it suitable for adoption by rural and small-scale weavers.



Title of Innovation
Redesign of Traditional Handloom

Patent
1

Impact on society

Enhances artisan productivity and income while sustaining traditional handloom practices. The redesign improves working conditions, strengthens market competitiveness of handwoven textiles, supports rural livelihoods, and contributes to the preservation of indigenous craftsmanship and cultural heritage.

Domain
Any other technology or knowledge intensive area

Supported under
Phase 1 Category 2

Mentoring Outreach Centre
SPMVV, Tirupati

Alignment with National Mission
- National Handloom Development Programme
- Atmanirbhar Bharat

Mr. Atul

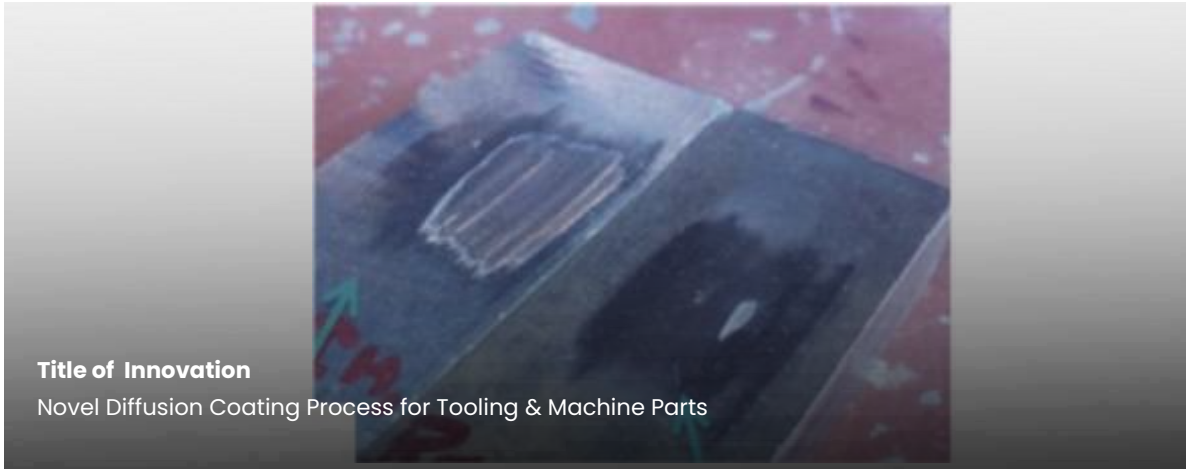
PRISM-11012/39/2021

Age : 25

City, State : Chennai, Tamil Nadu

Innovation brief:

The technology is a diffusion-based surface coating process developed to enhance the wear resistance and durability of tooling and machine components. It provides a cost-effective alternative to conventional HVOF and Stellite coatings while ensuring improved process reproducibility and uniform coating quality. The solution is suitable for a wide range of industrial components and can be integrated into existing manufacturing workflows, reducing dependency on expensive imported coating technologies.



Title of Innovation

Novel Diffusion Coating Process for Tooling & Machine Parts

Impact on society

Extends equipment lifespan, reduces maintenance costs, and strengthens industrial self-reliance. Particularly beneficial for oil & gas and heavy engineering sectors.

Domain

Any other technology or knowledge intensive area

Supported under

Phase 1 Category 2

Mentoring Outreach Centre

University of Madras, Chennai

Alignment with National Mission

- Make in India
- National Manufacturing Mission

Mr. Rahul Khanna

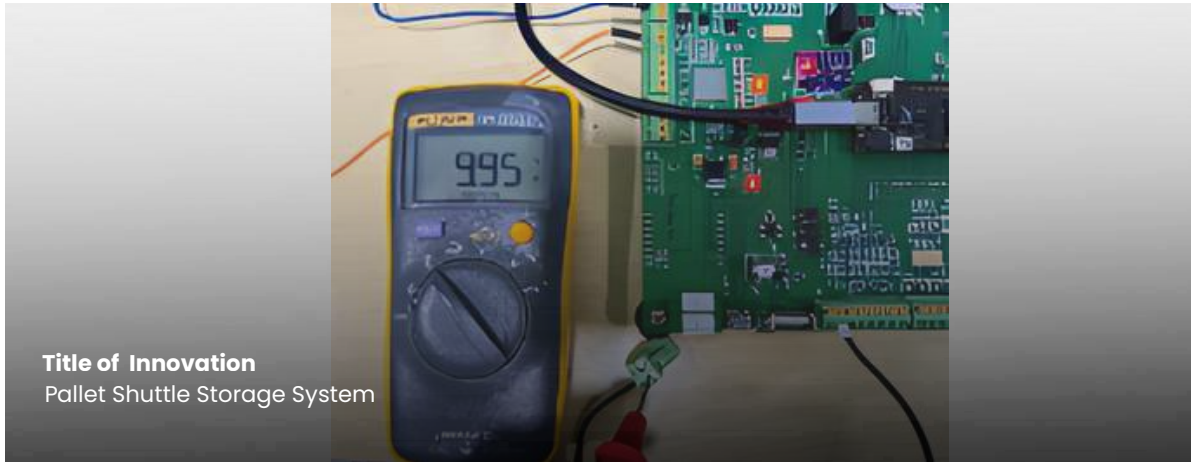
DSIR/PRISM/364/2023

Age : 24

City, State : Chennai, Tamil Nadu

Innovation brief:

The innovation is an automated pallet shuttle-based warehousing system designed to maximize high-density storage in large warehouses. It enables rapid pallet movement within racking systems, minimizes manual handling, and supports efficient inventory management. The system improves space utilization and throughput while integrating seamlessly with modern warehouse management systems for scalable logistics operations.



Title of Innovation
Pallet Shuttle Storage System

Impact on society

Improves warehouse efficiency, reduces labor dependency, minimizes operational errors, and enhances supply chain productivity, benefiting manufacturing and logistics sectors.

Domain
Any other technology or knowledge intensive area

Supported under
Phase 1 Category 2

Mentoring Outreach Centre
University of Madras, Chennai

Alignment with National Mission
- PM Gati Shakti
- National Master Plan

Dr. Sanjeev Kumar Bhardwaj

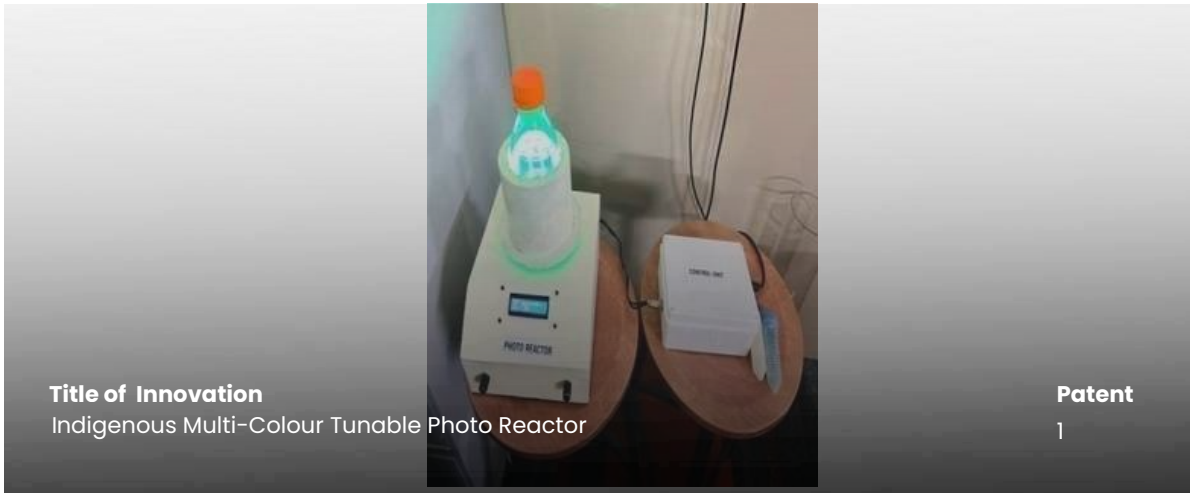
DSIR/PRISM/253/2022

Age : 34

City, State : Panchkula, Haryana

Innovation brief:

The innovation is an indigenous photo-reactor capable of operating across multiple light wavelengths, including visible light, for photocatalytic applications. It features an inbuilt stirring mechanism to ensure uniform reaction conditions and reproducibility. Designed for energy-efficient operation, the reactor supports sustainable and controlled chemical processes using renewable energy sources, making it suitable for laboratory-scale research and green chemistry applications.



Title of Innovation
Indigenous Multi-Colour Tunable Photo Reactor

Patent
1

Impact on society

Enables consistent and reproducible chemical reactions while supporting visible-light photocatalysis. Promotes green chemistry research, reduces energy consumption in chemical processes, and encourages sustainable and environmentally responsible industrial practices.

Domain
Any other technology or knowledge intensive area

Supported under
Phase 1 Category 2

Mentoring Outreach Centre
CSIR-CSIO, Chandigarh

Alignment with National Mission
- National Mission on Green Chemistry

Mr. Amit Kumar

DSIR/PRISM/253/2022

Age : 21

City, State : Karnal, Haryana

Innovation brief:

The technology is a wearable smart vest designed to assist visually impaired individuals through real-time obstacle detection and speech-guided navigation. Using embedded sensors and intelligent feedback mechanisms, the vest provides situational awareness and navigation support in both indoor and outdoor environments, enabling safer independent movement.

Title of Innovation
Smart Vest for Visually Impaired Navigation

Impact on society

Enhances independent mobility and safety for visually impaired users. Reduces reliance on caregivers, increases confidence, and promotes social inclusion and improved quality of life.

Domain
Any other technology or knowledge intensive area

Supported under
Phase 1 Category 2

Mentoring Outreach Centre
CSIR-CSIO, Chandigarh

Alignment with National Mission
- Accessible India Campaign (Sugamya Bharat Abhiyan)

Mr. Nikhil Upadhye

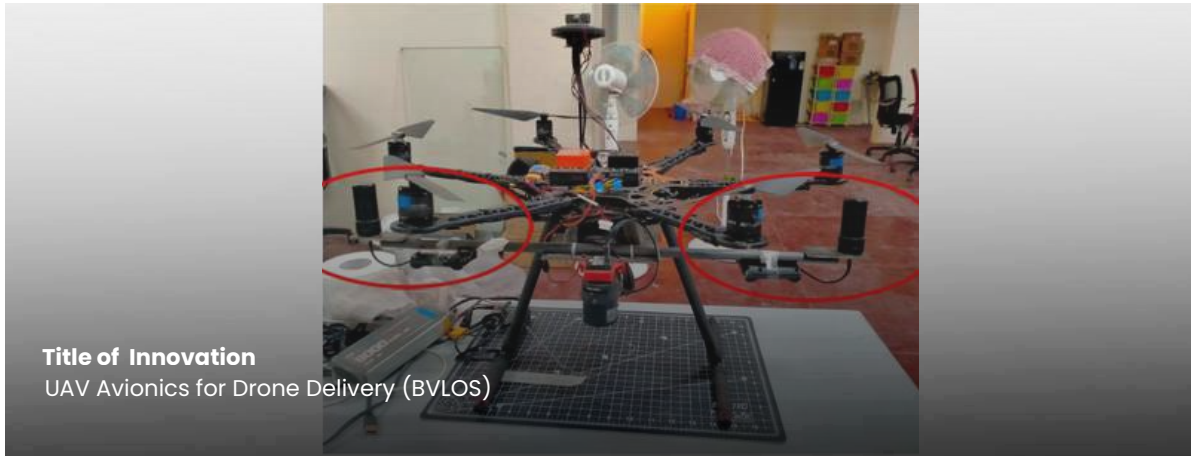
DSIR/PRISM/119/2019

Age : 28

City, State : Kanpur, Uttar Pradesh

Innovation brief:

The technology comprises advanced UAV avionics integrated with intelligent battery management systems to enable safe and reliable beyond-visual-line-of-sight (BVLOS) drone operations. It supports autonomous navigation, flight safety, and power optimization, making drones suitable for long-range delivery missions. The system is designed to meet regulatory and operational requirements for commercial drone deployment.



Title of Innovation
UAV Avionics for Drone Delivery (BVLOS)

Impact on society

Enables reliable drone-based healthcare delivery, disaster response, and logistics in remote and rural areas. Improves speed, reach, and efficiency of essential services through autonomous and safe aerial operations.

Domain
Any other technology or knowledge intensive area

Supported under
Phase 1 Category 2

Mentoring Outreach Centre
IIT Kanpur

Alignment with National Mission
- National Drone Mission

Mr. Anupam Kumar Garg

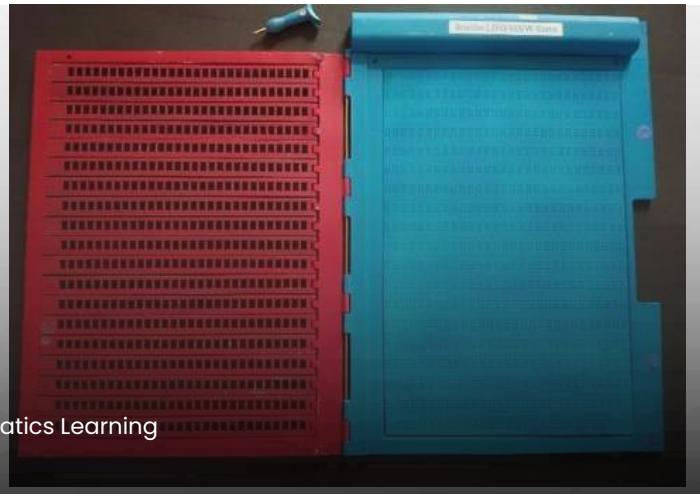
DSIR/PRISM/120-2019

Age : 58

City, State : New Delhi

Innovation brief:

The innovation is a tactile, non-digital Braille slate designed to help visually impaired students independently perform mathematical calculations, including arithmetic and algebraic operations. The tool enables structured representation of numbers and symbols, supporting hands-on learning without dependence on electronic devices.



Title of Innovation
Braille Slate for Mathematics Learning

Patent
3

Impact on society

Promotes inclusive education by empowering visually impaired students in STEM learning. Reduces educational inequality through an affordable and accessible assistive learning tool.

Domain
Any other technology or knowledge intensive area

Supported under
Phase 1 Category 2

Mentoring Outreach Centre
IIT Kanpur

Alignment with National Mission
- Samagra Shiksha Abhiyan

Mr. Abhijit Nath

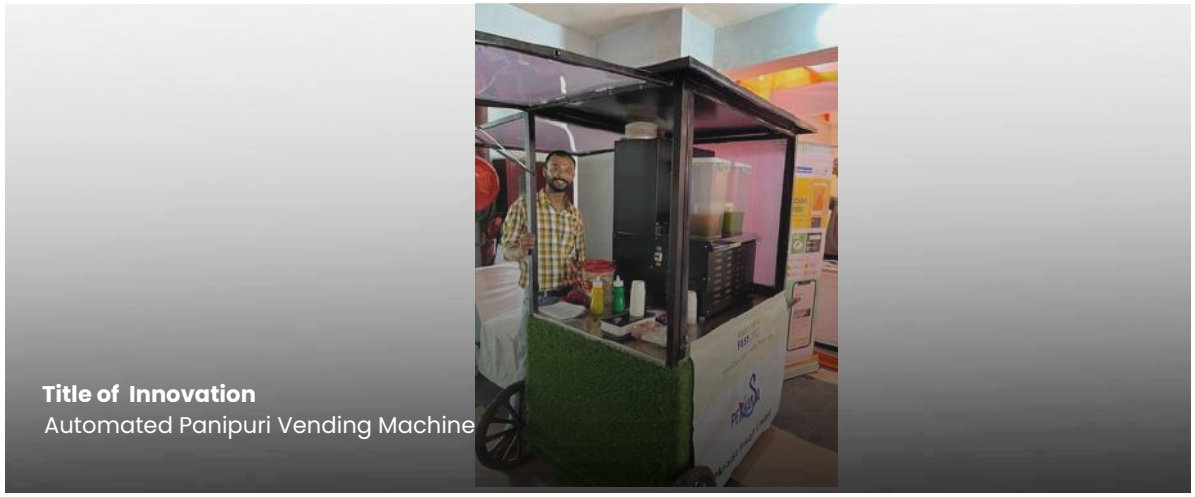
DSIR/PRISM/178/2020

Age : 23

City, State : Guwahati, Assam

Innovation brief:

An automated panipuri vending system ensures hygienic preparation and dispensing, minimizing human contact. Users select ingredients and customize their snack via touchscreen. The machine assembles panipuri with precise portioning, adding puris, fillings, and flavors. UV sterilization and automated cleaning maintain hygiene standards. This innovation improves food safety, consistency, and customer experience, catering to urban snackers' needs.



Title of Innovation
Automated Panipuri Vending Machine

Impact on society

Enhances food safety, increases vendor income, promotes business sustainability, and protects consumers from foodborne illnesses.

Domain
Any other technology or knowledge intensive area

Supported under
Phase 1 Category 2

Mentoring Outreach Centre
CSIR-NEIST, Jorhat

Alignment with National Mission
- PM SVANidhi
- Swachh Bharat Mission

Mr. Kukil Kashyap Borgohain

DSIR/PRISM/269/2022

Age : 24

City, State : Sivasagar, Assam

Innovation brief:

An AI-driven system uses computer vision and machine learning to classify raw tea leaves based on quality parameters like size, color, and texture. Cameras capture images, and algorithms grade leaves accurately, eliminating human bias. This empowers small tea growers to get fair prices and improves supply chain transparency. The system also provides actionable insights to enhance cultivation practices

Title of Innovation
AI-Based Tea Leaf Classifier Machine

Impact on society

Ensures fair pricing, improves tea quality, reduces labor dependency, and strengthens the sustainability of the tea industry.

Domain
Any other technology or knowledge intensive area

Supported under
Phase 1 Category 2

Mentoring Outreach Centre
CSIR-NEIST, Jorhat

Alignment with National Mission
- Digital Agriculture Mission

Dr. Rajesh Patkar

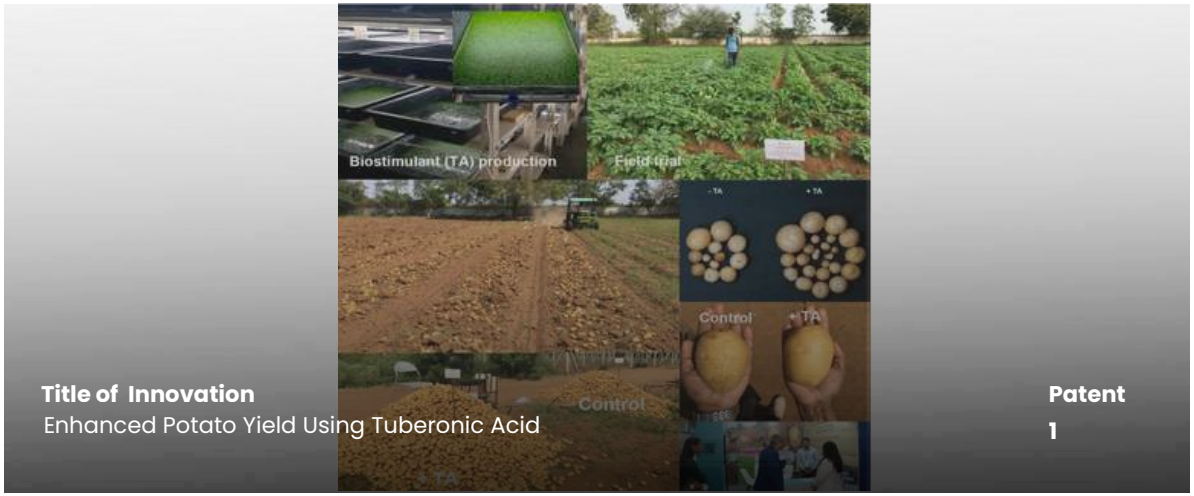
DSIR/PRISM/202/2020

Age : 45

City, State : Mumbai, Maharashtra

Innovation brief:

Tuberonic acid, a plant growth regulator, enhances potato growth and yield by improving physiological responses. It regulates stomatal opening, boosts photosynthesis, and increases nutrient uptake, promoting tuber formation and enlargement. This biochemical approach optimizes potato plant development, leading to increased yields and improved resilience to stress.



Title of Innovation
Enhanced Potato Yield Using Tuberonic Acid

Patent
1

Impact on society

Increases agricultural productivity, boosts farmer income, and contributes to food security using science-driven crop enhancement.

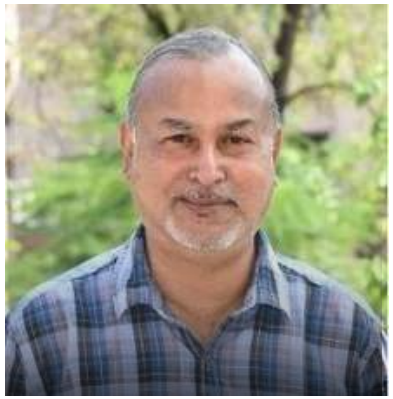
Domain
Any other technology or knowledge intensive area

Supported under
Phase 1 Category 2

Mentoring Outreach Centre
GSBTM Gujarat

Alignment with National Mission

- National Mission for Sustainable Agriculture (NMSA)



Prof. Sashindra Kumar Kakoty

DSIR/PRISM/13/2018

Age : 42

City, State : Guwahati, Assam

Innovation brief:

An energy-efficient actuator enhances motion control and performance in power looms. Using advanced materials like piezoelectric or servo motors, it optimizes shuttle movement, reduces vibrations, and cuts energy consumption by 30-40%. Real-time feedback ensures precise weaving patterns and quicker adjustments, boosting fabric quality and production speed. Ideal for textile industries, it lowers operational costs and increases loom lifespan.

Title of Innovation
Linear Switched Reluctance Actuator for Power Looms

Patent
2

Impact on society

Enhances productivity, reduces energy consumption, and supports modernization of textile manufacturing.

Domain
Any other technology or knowledge intensive area

Supported under
Phase 1 Category 2

Mentoring Outreach Centre
IIT Guwahati

Alignment with National Mission
- National Textile Mission

Mr. Quazi Tarique A. Ally

DSIR/ PRISM/ 276/2022

Age : 27

City, State : Kolkata, West Bengal

Innovation brief:

An unmanned aerial system (UAS) enables rapid response and surveillance during high-rise fires. Equipped with thermal imaging, HD cameras, and gas sensors, it provides real-time data to emergency teams. The UAS navigates tight spaces, locates victims, and assesses structural integrity, guiding firefighters to safe zones. Its agile design and AI-driven autonomy ensure swift deployment, enhancing situational awareness and decision-making in critical situations, ultimately improving rescue efficiency and safety in high-rise fire emergencies.

Title of Innovation
Fire Fighter Drone

Patent
1

Impact on society

Saves lives by reducing firefighting response time and improving situational awareness.

Domain
Any other technology or knowledge intensive area

Supported under
Phase 1 Category 2

Mentoring Outreach Centre
IIT Kharagpur

Alignment with National Mission

- National Disaster Management Plan (NDMP)

Dr. Nilanjan Dey

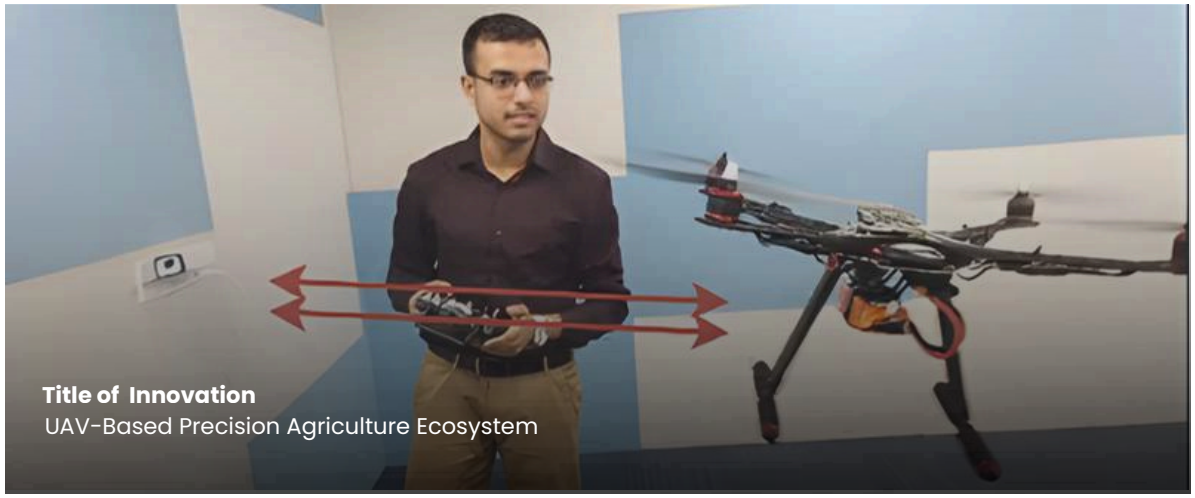
DSIR/PRISM/335/2023

Age : 38

City, State : Kolkata, West Bengal

Innovation brief:

An integrated UAV and sensor-based system enables real-time crop and soil monitoring for precision agriculture. Equipped with multispectral and thermal sensors, UAVs capture high-resolution images and collect data on soil moisture, temperature, and crop health. Advanced analytics and AI process this data, providing actionable insights on irrigation, fertilization, and pest control. This tech enhances crop yields, reduces resource waste, and promotes sustainable farming practices, empowering farmers to make data-driven decisions..



Title of Innovation
UAV-Based Precision Agriculture Ecosystem

Impact on society

Improves crop yield, resource efficiency, farmer income, and food security through data-driven farming.

Domain
Any other technology or knowledge intensive area

Supported under
Phase 1 Category 1

Mentoring Outreach Centre
IIT Kharagpur

Alignment with National Mission
- Digital Agriculture Mission

Apply

Innovate

Build the Future

Contact details of Outreach Centers Implementing PRISM scheme

S. No.	Point of Contact	Email	Institution / TOCIC Name	City	State
1	Dr. Ambarish Sanyal, Principal Scientist	ambarish.cgcri@csir.res.in	CSIR–CGCRI	Kolkata	West Bengal
2	Shri Soumya Sen Sharma Scientist – G Dr. Sarita Ghosh Senior Scientist	tuc_cmeri@cmeri.res.in	CSIR–CMERI	Durgapur	West Bengal
3	Dr. Dipankar Neog; Senior Principal Scientist (Scientist F)	dipankarneog.neist@csir.res.in	CSIR–NEIST	Jorhat	Assam
4	Dr. Snehal Bagtharia, Joint Director- BD Mr Hadmat Gadhavi, Manager	gsbtmtocic@gmail.com	Gujarat State Biotechnology Mission (GSBTM)	Gandhinagar	Gujarat
5	Prof. Deepu Philip, Professor In-charge, SIIC IIT Kanpur Mrs. Anushree Gupta, Program Manager,	anushreeg@iitkfirst.com	Indian Institute of Technology (IIT) Kanpur	Kanpur	Uttar Pradesh
6	Dr. D Sujatha and Prof. P Jyosthna	tuc.spmvv@gmail.com	Sri Padmavati Mahila Visvavidyalayam (SPMVV)	Tirupati	Andhra Pradesh
7	Shri T Karthikeyan, Senior Scientist	t_karthikeyan@nal.res.in	CSIR–National Aerospace Laboratories (NAL)	Bengaluru	Karnataka
8	Mr. Narinder Singh Jassal, Sr. Principal Scientist	nsjassal@csio.res.in	CSIR–Central Scientific Instruments Organisation (CSIO)	Chandigarh	Chandigarh
9	Dr. Naveen Jain, Professor	tocic.ctae@gmail.com, naveen198@gmail.com	College of Technology and Engineering (CTAE)	Udaipur	Rajasthan
10	Dr. Sukhomay Pal, Professor, Department of Mechanical Engineering	spal@iitg.ac.in	Indian Institute of Technology (IIT) Guwahati	Guwahati	Assam
11	Prof . Basab Chakraborty, MD STEP	mdstep@iitkgp.ac.in	Indian Institute of Technology (IIT) Kharagpur	Kharagpur	West Bengal
12	Dr. R Manikandan,Assistant Professor, Department of Zoology	prism_unom@yahoo.com	University of Madras	Chennai	Tamil Nadu

Project Advisory Screening Committee (PASC)

The Project Advisory Screening Committee (PASC) comprises eminent academicians, scientists, and domain experts from leading national institutions. The committee provides strategic guidance, technical evaluation, and screening of innovation proposals under the PRISM scheme.

PRISM Scheme Initiative

Chairman

Dr. Souvik Maiti
Director, CSIR–Institute of Genomics and Integrative Biology (IGIB), New Delhi

Members

Prof. Shilpi Sharma	Dept. of Biochemical Engineering & Biotechnology, IIT Delhi, New Delhi
Prof. Vijendra Singh	Dept. of Electrical Engineering, Netaji Subhas University of Technology (NSUT), New Delhi
Prof. Pushpendra Singh	Dept. of Computer Science & Engineering, IIIT Delhi
Dr. Reeta Wattal	Professor, Mechanical Engineering, Delhi Technological University (DTU), New Delhi
Dr. Veena Shivagouda Patil	Staff Scientist–IV, National Institute of Immunology (NII), New Delhi
Shri R. V. Ramakrishna	General Manager / Officer-in-Charge, NABARD, New Delhi (or Nominee)

PRISM, DSIR Members

Shri Vinay Kumar	Head, PRISM Programme, DSIR – Scientist-F
Dr. Tripta Garg	Member-Secretary, PRISM Programme, DSIR – Scientist-E

Conclusion and way forward

The **PRISM** Innovation Journey demonstrates India's commitment to nurturing ideas from their earliest spark to successful enterprises. By supporting innovators at every critical stage—ideation, validation, incubation, and scale-up—PRISM enables technology-driven solutions that address real societal and industrial challenges.

PRISM proves that innovation is not limited to laboratories or large organizations. Students, researchers, grassroots innovators, and first-time entrepreneurs all have the potential to create meaningful impact when provided with the right guidance, funding, and freedom to innovate.
With assured Intellectual Property ownership, structured financial support, and strong linkages with nationally recognised institutions, PRISM creates an ecosystem where innovators can confidently transform ideas into market-ready products and sustainable enterprises.

The Way Forward

Going ahead, PRISM will continue to:

- Encourage more innovators across regions and sectors to participate
- Strengthen open innovation and industry partnerships
- Support deep-tech, inclusive, and impact-driven innovations
- Enable innovators to scale solutions for national and global markets

By empowering innovators to ideate, validate, protect, scale, and commercialize, PRISM plays a vital role in building a self-reliant, innovation-led India.

The journey begins with an idea—but its destination is impact.
PRISM invites innovators to step forward, take risks, and build the future of India.

Department of Scientific and
Industrial Research
Ministry of Science and Technology
Government of India

From Idea to Enterprise

(Department of Scientific and Industrial Research – DSIR)

Calling Innovators to Build India's Future

DSIR–PRISM invites innovators to turn bold ideas into impactful technologies and emerge as successful technopreneurs.

PRISM believes that great ideas can come from anywhere—students, researchers, grassroots innovators, or first-time entrepreneurs—and supports them at every critical stage of their journey.

PRISM Empowers You To

Ideate → Validate → Protect → Scale & Commercialize

Apply. Innovate. Build the Future.

🌐 www.dsir.gov.in

Department of Scientific and Industrial Research
Ministry of Science and Technology
Government of India

Promoting Innovations in Individuals, Start-ups and MSMEs (PRISM)

2025

Scan and get the book in your phone

Save Paper