National Center of Excellence
in Technology for Internal Security

Indian Institute of Technology Bombay

Scope of NCETIS

MANUFACTURING INDUSTRY

STATE POLICE FORCES

R&D LABS

- **National Center focusing on the needs of internal security**
- **Coordinate with other institutes and labs in the country**
- **Target towards self sufficiency in the area of ESDM for strategic sector**

Vision & Mission of NCETIS

NCETIS

Vision

- Empower law enforcement and security agencies with technology solutions for national public safety

Mission

- Develop indigenous, state of the art, self-sufficient technology solutions to address internal security challenges faced by Indian security forces and law enforcement agencies.

- Capacity building for technology enabled policing

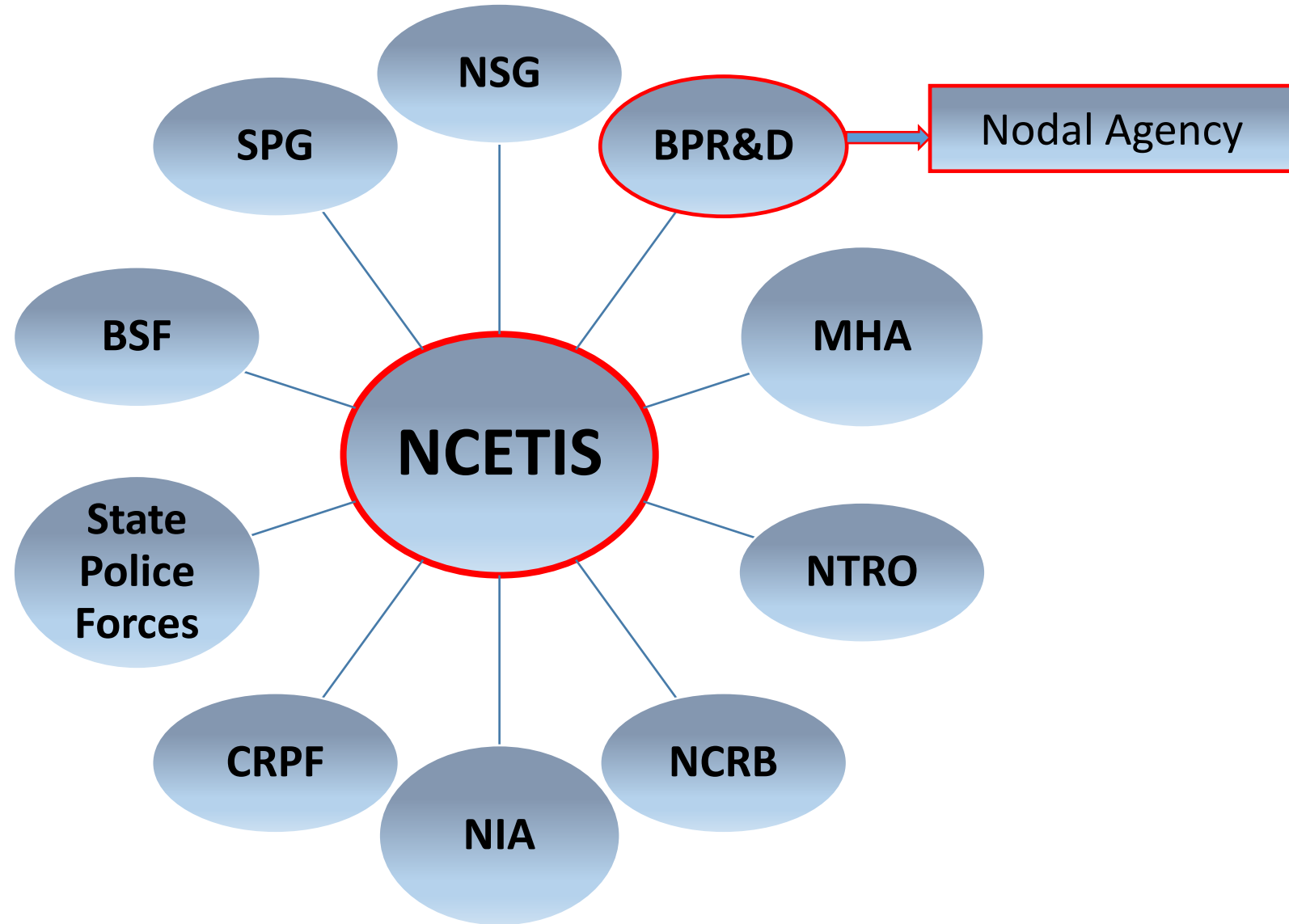- Be a resource center for technology needs for internal security forces

Objectives

Research related

- Address the technology innovation gaps for internal security

- Transformation of research outcomes into prototypes and facilitate technology transfer for product development

- Address standardization and regulatory issues

Service related

- Training activities for technology appreciation

- Consulting and advisory services to internal security institutions about technological choices

- As a resource center for Central and State Police forces to help them with various challenges

- As a nodal agency to provide technology assistance at all levels

Interactions with Security Agencies

Current Status of the Project

- **Date of Approval:** May 2015

- **Date of Completion:** March 2022

- **No. of Projects at NCETIS:** 20

- **Sanctioned Funds (5 years):** 83.89 cr

Statistics of the work at NCETIS

S. No	Key Performance Indicators	Achieved
1	Number of Products Commercialized	3
2	Number of Start Ups Incubated	2
3	Number of Technology Transfers/NDA's Signed	4
4	Number of Prototype Models Developed	16
5	Number of IPs/Patents filed	9
6	Number of Specialized Manpower Trained	83
7	Cumulative Number of Publications	76
8	Number of Products Tested with Security Agencies	12

Commercialization at NCETIS

S.No	Project Name	Company Name	Status
1	Handheld Explosive Detector	Big Tec Labs Pvt Ltd, Bangalore	Commercialized
2	Video Analytics Tool	SrivisifAI Technologies Pvt Ltd	Commercialized
3	Thermal Imager	RRP S4E Innovations Pvt Ltd	Commercialized
4	Broadband Wireless Communication System	MC Labs	Start Up Incubated
5	Unmanned Vehicle	JanYu Technologies Pvt Limited	Start-Up Incubated
6	Social Media Analytics Tool	Galton Technologies, IIT Kanpur	Technology Transferred
7	Video Analysis for Surveillance	CDAC, Kolkata	Technology Transferred
8	Remotely Operated Vehicle	CIM Technologies Pvt Ltd, Bangalore	NDA signed
9	Optical Sensor Detector for detecting Pathogenic Agents	International Center for Clean Water (ICCW)	NDA Signed

Technologies Ready for Commercialization

S. No	Project Name	Status
1	Spherical Robot	Underwent trials with NSG/ Para 9 Special Forces
2	Touchless Biometric Applications:	System is ready
3	Bulk Encryptor	Demonstrated to IB. Discussion to be initiated with the PSUs
4	Block Cipher	Demonstrated to NTRO and NSA
5	Upper Atmospheric Sounding System	Plans for incubating a start up is ongoing
6	Canine Mountable Surveillance System	Indian Army has shown keen interest in the development of the 'Canine Mountable Camera
7	Identification of Friend or Foe	Testing done with Maharashtra Police

Technologies in Development Stage

S. No	Project Name	Status
1	Thermal Imaging	Research work is ongoing. Industry has already shown great interest in adopting the technology
2	Ground Penetrating Radar	Has undergone trials with CRPF (Pune) and NTRO in Udaipur
3	Non Linear Junction Detector	Research work is ongoing
4	Unmanned Aerial System – Payload Delivery	Research work in ongoin
5	Gunshot Localization: Acoustic Detection	Tested the system with Force Once, Mumbai
6	Secure Voice Over IP Communication	SPG will be invited to provide feedback on the system

Overall status of the projects

S. No.	Project	TRL	S. No.	Project	TRL
1	**Broadband Wireless Communication System for Public Safety**	7	11	**Bulk Encryptor**	6
2	Optical Sensor Platforms for Explosives and Pathogenic Agents	6	12	Secure Voice Connection over Internet	5
3	**Explosive Detector based on amplifying fluorescent polymers**	9	13	**Design and Development of Block Cipher**	6
4	Ground Penetration Radar	5	14	Unmanned Aerial Vehicle	7
5	**Non-Linear Junction Detector**	4	15	**Remotely Operated Robotic All-Terrain Vehicle / Man-portable Tactical Remotely Operated Vehicle**	8
6	Identification of Friend or Foe for Coast Guards	5	16	Spherical Robot	5
7	**Dog Mountable Camera**	7	17	**Android Based touchless fingerprint and palm print**	7
8	Video Analysis for Surveillance	9	18	Thermal Imager	4
9	**Video Analytics Tool for Internal Security**	9	19	**Gunshot Localization**	5
10	Social Media Analytics Tool	4	20	Indigenous Upper Atmospheric GNSS/ NAVIC based Sounding System (UASS) for ballistics	5

Outreach Effort by the Center

- Organized Industry Day for Autonomous Vehicle

- Conducted 14 workshops across India

- Participated in more than 23 workshops/conferences

- Exhibited in 8 exhibitions/expos across the country

- 22 Webinars conducted

- Developed platform for discussion on relevant technologies in Internal Security by Stakeholders – Industry, Security Agencies and Academia

- Provided advisory services to various organizations on purchase of suitable equipment

Thank You!

NCETIS: A step towards
'**Make in India**' & **Atman Nirbhar** for Internal Security