DST- CENTRE FOR POLICY RESEARCH
Panjab University, Chandigarh.

Sanctioned by the Department of Science and Technology (DST),
(DST/PRC/CPR-03/2013, Est. in Jan. 2014)

ANNUAL REPORT
2020-21

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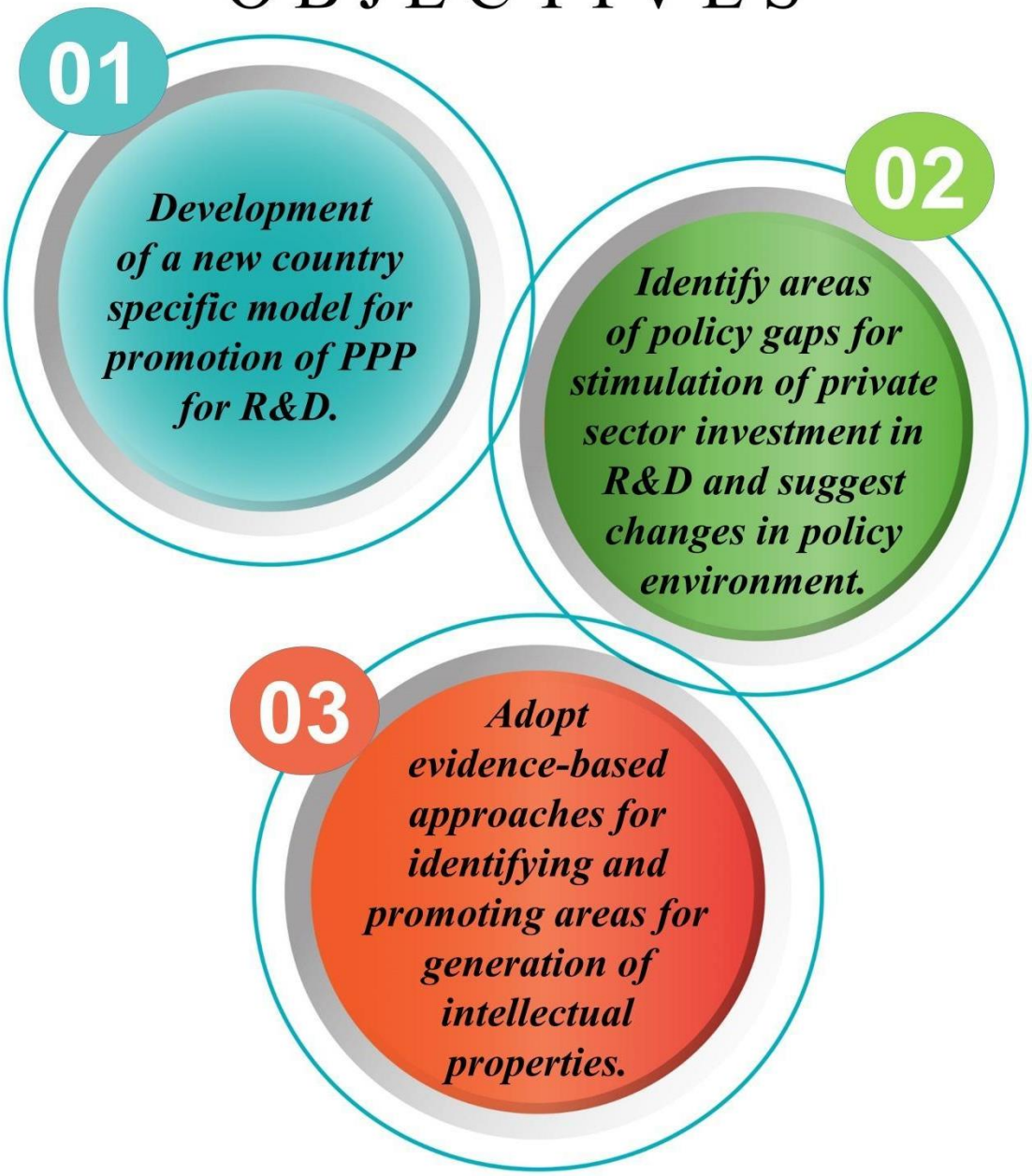
DST CPR
DST-CENTRE FOR POLICY RESEARCH
PANJAB UNIVERSITY CHANDIGARH

TABLE OF CONTENTS

Vision

Strengthening Industry-Academia R&D Ecosystem in India

OBJECTIVES



Methodology/Techniques/Approaches Adopted

A dedicated advisory committee has been established to review the Centre's progress and advice on work undertaken.

1. One to one interaction with the experts in the field.
2. Formulation of Advisory committee to seek feedback and suggestions on approaches to be followed to pursue projects
3. Undertaking secondary research
4. Database search using advanced and authenticated tools
5. Detailed case studies
6. Feedback analysis
7. Statistical analysis
8. Questionnaire based surveys

Activities of the Centre (2020-21)

Objective 1: Development of a new country specific model for promotion of Public Private Partnership (PPP) for R&D.

Industry-Academia (I-A) collaborations and public-private partnerships (PPPs) have become a subject of great interest as for innovations to be practical and applied in nature, strong research collaboration between industry and academia is imperative.

A study was undertaken to collate information on Industry-Academia and Public Private Partnership Programmes undertaken by the Public sector including Ministries and their associated departments and the private sector. The Centre has initiated the development of a dedicated portal to encompass all the information regarding PPP for STI of various ministries under one roof.

Studies on higher education institutes (HEIs) demonstrated that out of nearly 900 institutions in the country, only a handful of academic institutes e.g. IITs, ICT-Mumbai and IISc-Bangalore are known for generation of patents and technologies. These institutes are also in the forefront of engaging the industrial sector in its R&D programmes and possess almost all determinants of good I-A interface. Detailed case study on 'BIRAC, GoI as a Successful Model of PPP for R&D in India' has also been undertaken. The BIRAC model can be an exemplary model for laying PPP for STI.

Studies of PPP initiatives globally were undertaken and a Suggestive Roadmap for Strengthening R&D Ecosystem through PPP, especially for developing countries based on the best practices followed world over was developed. Additionally, to promote a stronger industry-academia regime in India suggestions, such as Developing National Web-Portal, Networking of Universities with National Research Laboratories, Establishment of Value Creation Centres (encompassing Patent Cell, Technology Transfer Office and Business & Marketing Cell), Establishing Centralized Industry-Academia Body, etc. have been generated through studies undertaken on successful I-A models in the nation.

Through its studies, the Centre has been 'Advocating the Introduction of a Legislative Framework for PPP for STI' to promote effective utilization of resources.

Key activities undertaken are as follows:

Activity 1: Categorization and mapping of STI based PPP initiatives and programmes undertaken by Government of India.

In India, a number of PPP initiatives and programmes have been introduced and implemented. These initiatives can be divided under following categories:

Joint Organizations set up under PPP mode	• PPP Institute • Joint Ventures • Centres of Excellence • Cooperative Laboratories • Technology Consortiums/platform

Collaborative STI	• Collaborative R&D Programmes/Schemes and Technology Development Programmes • Technology Commercialization Programmes • Mobility Programmes • Joint Msc and PhD programmes • Training Programmes • Technology Service Contracting
Mission oriented and Strategic PPPs (large scale)	• Mission/thematic platforms/programmes • Strategic partnership programmes
Cluster/network oriented STI PPPs	• City based or thematic Clusters/Networks

The key examples of working PPP models/initiatives in India are listed in figure below:

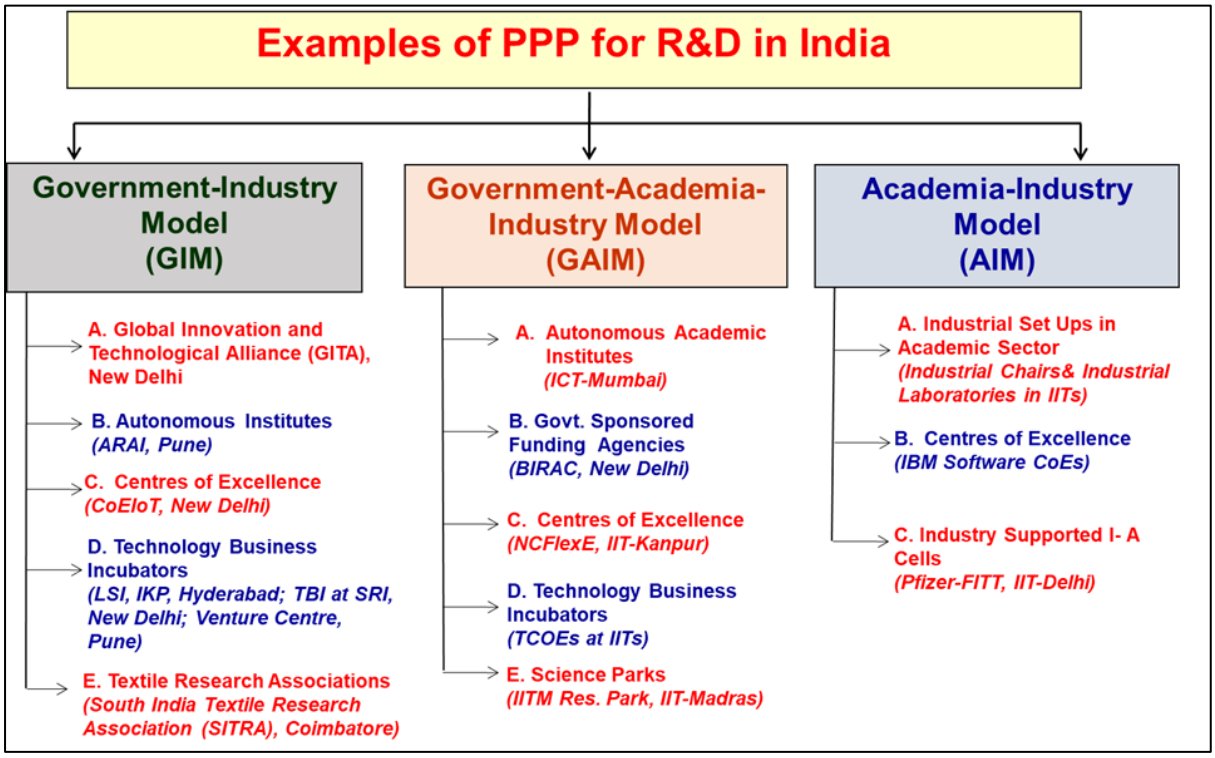


Figure given below describes the programmes undertaken by the government to endorse PPPs for STI:

Institutional/ Infrastructural	Joint R&D Programmes	PPP Facilitators
Institutes: IIITs; ICT-Mumbai; BCP-Mumbai	Strategic and High risk: NIMITLI (CSIR)	Human Resource: Mobility and Training Prog.; industrial chairs; industrial PhD.
Agency/Organization: GITA; Invest India; Textile Research Assoc.	Tech. Develop.: National Biopharma Mission (BIRAC); TIDE, MGS (MeitY)	Commercialization: DRDO-ATAC, DI2TM (DRDO); NRDC (DSIR); Antrix Corporation Limited (DoS)

CoEs, Incubators & City Clusters: TCOE; NcFlexc	Stage Specific Prog.: SBIRI, BIPP, PACE, BIG (BIRAC); PRISM (DSIR); IMPRINT (MoE)	Clusters/hubs, TBIs, Incubators and S&T Parks: AGNIi & City Clusters (O/o PSA); NIDHI (DST); CIC (BIRAC); AIM (NITI Aayog)
Cooperative Labs: Industrial labs set up in IITs and IISc	Int. PPP: IIGP (DST); TAFP, TDF (GITA); prog. of CEFIPRA, IGSTC; IUSSTF	Incentivization: Tax Super-deduction; financial support

Activity 2: Developing country-specific and industry led PPP model for STI

The Objectives of this activity are listed below:

- Mapping of STI based PPP models/initiatives in India
- Evaluation of selected PPP initiatives and programmes under different types of PPPs for STI in India to understand their strengths and weaknesses and their impact.
- Designing guiding policy/framework for undertaking and facilitating PPPs for STI in India
- Create a suggestive country specific and industry led PPP model based out of learnings from existing PPP models and initiatives undertaken and implemented in India

The DST-CPR at PU, Chd. has initiated expert one to one consultation with experts working in the domain of PPP for STI to understand the dynamics of PPP in India especially for research and innovation. DST-CPR is in the process of formulating the PPP Expert Working Committee to hold expert consultations for 2-3 months to come up with the tentative STI based PPP model for research and innovation in India.

Objective 2: Identify areas of policy gaps for stimulation of private sector investment in R&D and suggest changes in policy environment.

India's aspiration to enhance its Gross Expenditure on R&D from current 0.7% to at least 2% requires more than 50% of private sector contribution to the national R&D ecosystem from current nearly 36% levels (NSTMIS, 2019). To address the above-mentioned issues, a study was undertaken to analyse the R&D incentivization mechanism followed globally.

It is widely acknowledged that the government mediated R&D stimulation of the private sector plays a key role in stimulating the private sector to contribute to the national R&D ecosystem. A comparative analysis of R&D incentivization revealed that innovation backed countries like US, China, S. Korea and Japan have developed systematic R&D tax incentives schemes for the private sector as per the size and scale of the industry. In addition, the direct financial support to industry from the government is widely explored in innovation-based countries whereas in India only a limited amount of direct financial support is given to industry. Hence, the direct financial support schemes on lines of financial assistance schemes as implemented in US, UK, China, S. Korea and Japan should be widely explored to develop a co-funding mechanism for S&T projects.

Another study was carried out to study the incentivization pattern of pharmaceutical industries in India. It was observed that DSIR recognition is mandatory for industry in India to avail the R&D fiscal benefits. However, there are only a limited number of industries which

are recognized by DSIR, hence widespread awareness of government recognition of industrial R&D has to be carried out. In addition to that, regulatory norms associated with provision related to R&D tax incentivization and patent box regime should be streamlined for attracting the private sector to the national R&D ecosystem.

The studies undertaken under objectives 1 & 2 have been encompassed in the following two books -

1. “Public Private Partnerships (PPP) in R&D: A global perspective” ISBN: 978-93-85046-68-1, published by Studium Press (India) Pvt. Ltd
2. "Industry-Academia R&D Ecosystem in India an evidence-based study" ISBN: 81-85322-61-9, published by Publication Bureau, Panjab University Chandigarh

Another study under this objective is to study the public private partnership and policy interactions in the agricultural innovation system of India. The study is aimed to find the policy gaps, and addresses the issues related to the knowledge and technology transfer in agriculture.

The current scenario of agricultural R&D and associated policies requires detailed study of the various parameters involved in facilitating private investment to aid commercialization without hampering the security of the farmers and farm workers. Despite an enhancement of 33 times in private investment in agricultural R&D, India has been unable to achieve its target of 1 % agriculture GDP. This indicates the requirement to study the detailed policy gaps in the current agriculture R&D system to stimulate private investment and utilization of resources in a methodical and transparent manner. A second study to analyse knowledge, attitude and practices of the various stakeholders followed and correlate them to the policy gaps in current agriculture R&D of India for stimulating private investors has been devised.

Objective 3: Adopt evidence-based approaches for identifying and promoting areas for generation of intellectual properties

Since inception, the Centre has conducted various studies and activities to understand the IP ecosystem in India which include a) national and international reports, Journals and govt. disclosures. b) conducted meetings and brainstorming sessions with IPR experts, visited Govt. organizations like IPO, New Delhi, NRDC, New Delhi, TIFAC, New Delhi, DPIIT, New Delhi, PSCST, Chandigarh, etc. c) attended national workshops, conferences, symposiums, hands on training sessions on IPR and related searching tools. d) Created a dedicated ‘IP Advisory Committee’ to seek feedback and suggestions to proceed with the objective.

To have a deeper insight, research publications and patents granted, profile of 904 institutions of India comprising top HEIs and national R&D labs were analysed. A questionnaire-based survey on top excelling institutions and universities was also carried out to study IP ecosystem in those institutions excelling in research publication but lacking in IP generation and to study the reasons hampering it. Based on the survey we found that, the maximum institutions, despite doing good research, are hesitant to file patents due to lack of knowledge, resources and guiding support from the respective institutes. In continuation, the centre further conducted a study on commercialization of patents granted to them by scrutinizing ‘Form-27’ submitted by the patentees at Indian patent office. As per the evidence-based studies conducted by the centre, there is a lack of awareness on IP issues and because the process of seeking the protection of

IPs is a time consuming and costly affair, the inventors opt for publishing their research in public domain instead of securing legal rights over it. Further Indian patentees are reluctant to file working statements (Form-27) of the patents granted to them and those who are submitting the form are mentioning infirm reasons for non-working status of the patent. To resolve issues of working of the patents granted it is recommended to create a dedicated body to look after the causes hampering the working of the patents and make patentees aware about the seriousness of commercialization of their research.

The studies undertaken under objectives 3 have been encompassed in the following two books:

1. "Industry-Academia R&D Ecosystem in India an evidence-based study" ISBN: 81-85322-61-9, published by Publication Bureau, Panjab University Chandigarh.
2. Mapping Patents and Research Publications of Higher Education Institutes and National R&D Laboratories of India. ISBN 81-85322-67-8, published by Publication Bureau, Panjab University Chandigarh.

Activity-1: The Centre has drafted a book covering every aspect related to IPs from filing to its grant, fee payable, concerned organizations, rights, exceptions, jurisdictions, Acts & Rules, and processes to register IP, infringements, etc. The main mandate of the book is to educate researchers/students about IP to enhance the translational research ecosystem in the academic sector. The book is in press and will be released shortly. The contents of the book are as follows:

Title: Intellectual Property: A Primer for Academia

1. INTRODUCTION TO INTELLECTUAL PROPERTY RIGHTS
2. CATEGORIES OF INTELLECTUAL PROPERTIES
3. WORLD INTELLECTUAL PROPERTY ORGANIZATION (WIPO)
4. TREATIES/CONVENTIONS/AGREEMENTS
5. IPR ECO-SYSTEM
6. A STUDY ON PATENTS (GRANTED & COMMERCIALIZED) BY INSTITUTES OF HIGHER LEARNING AND NATIONAL RESEARCH LABS OF INDIA
7. EDUCATION AND TRAINING IN INTELLECTUAL PROPERTY RIGHTS (IPR)
8. SUMMARY OF INTELLECTUAL PROPERTIES

Activity-2: Sensitization of faculty members/researchers/students about taking research work from laboratory to Patent Office and then to market through interactive 'Flyer' and 'Short Animated Video Presentation.

The Centre for Policy Research has been established by DST, New Delhi, GoI with the mandate of developing an effective model for public-private partnership and promotion of IPR generation in India. To fulfil the mandate, the Centre has conducted various studies and case studies on research publications and IP ecosystem in Indian higher education institutions in India. After these studies, it was found that a handful of institutes and universities are performing well in both parameters (research publications & Patents filing/granted), whereas

most the institutions are lacking in IP profile despite the fact that the researchers in those institutions were doing good research and are publishing credible number of papers (https://dst.gov.in/sites/default/files/FULL%20BOOK-Chandigarh.pdf). In the case studies conducted by the Centre, the major reason of poor IP ecosystem in education institutions was the lack of awareness on IP issues. Considering this, DST-CPR in collaboration with IPR Chair, Panjab University is in the process or writing a dedicated booklet (Activity-1) containing the information on all aspects of IPs from taking idea from lab to the patent office. The booklet will be available online for free of cost and will be disseminated in universities in all over the country.

Objectives:

- Creation of a Flyer/Poster about major steps involved in patent filing from the university to be circulated in all departments
- Creation of interactive animated video about patent filing from the university.

Ideation of the Study:

In the previous studies conducted by the DST-CPR, it was found that researchers in the universities and higher education institutes are not aware about the process of patent filing. Even maximum of the researchers were not aware about the existing IP Cells within the premises. In the feedback it was also found that they find the process of patent filing very complicated and time consuming so ultimately they end up with publishing their research in public domain to fulfil their PhD completion requirements.

After doing preliminary internal research, it was found that that there is a need to sensitize researchers about the proper channels of patent filing. To execute this task, the Centre is making a very interactive animated video and flyer pertaining to all the details about patent filing to its commercialization. The preliminary research on this project being carried out are as follows:

- *Scrutinizing the official websites of various universities/institutions if they have such mechanism or any flowchart/flyer/video of patent filing process.*
- *Meetings with university professors who have the experience and knowledge of filing a patent from Panjab University and through PICs.*
- *Feedback from the students*
- *Scrutinizing Centre for Industry Institute Partnership Programme (CIIPP) website and IPR Manual and Policy of the university.*
- *Discussion with Patent Agents and former research scholars*

Significant Research Achievements

Policy recommendations taken at national level: DST-CPR at PU, Chandigarh, played a crucial role in providing evidence-based recommendations that were implemented on a national level and some of the recommendations are also addressed in the Science, Technology and Innovation Policy Draft. These evidence-based recommendations along with explicit data on evidence was submitted to DST and published in the form of ***3 books, 6 research publications and 15 reports.*** The major evidences provided for following recommendations were taken forward at national level:

1. Since 2014, the Centre has been reiterating the need to broaden the scope of **CSR funds for R&D activities**. MOCI has recently declared R&D investments by the private sector as an activity under CSR funds.
2. Based on the studies on American and European PPP Models, the Centre had suggested positioning of 'Moderators' between Industry and Academia, which has now taken form as **Technology Enabling Centres**, a DST initiative to act as a facilitator for commercialization of technologies arising from universities.
3. In order to strengthen the region-specific development in S&T in the country, the Centre had advocated the **formation of Knowledge Clusters on the lines of Chandigarh Region Innovation and Knowledge Cluster (CRIKC).** The Office of PSA (O/PSA) has recently initiated the creation of 'City Clusters'. Prior to this the PSA, GoI and Scientific Secretary in the Office of the PSA visited CRIKC Headquarter to understand the CRIKC model.
4. **Reviving the weighted Tax deduction scheme for DSIR recognized industries performing R&D;** addressed in STIP Draft. A detailed report on 'Stimulation of Private Sector R&D in India…a Global Comparison' was submitted.
5. The recommendations on **streamlining the patent filing process**, promoting patents commercialization and sensitizing young minds about IP issues has been included in the STIP draft.

Publications of the Centre (2020-21)

Book Publication

Tewari R., Khokhar M., & Trikha R. (2020). Public-Private Partnerships in R$D: A Global Perspectives. Studium Press (India) Pvt. Ltd., New Delhi. ISBN 93-85046-68-3.

Research Publications

1. Bhardwaj M., & Sandhu A. (2021). Working/non-working status of patents granted to HEIs and NRLs in India. Current Science, 120(1), 34. (https://www.currentscience.ac.in/Volumes/120/01/0034.pdf).
2. Trikha R. (2020). Industry-Academia R&D Partnerships: Strengthening Indian Innovation Ecosystem. Science Policy Forum, 2020. (https://thesciencepolicyforum.org/articles/perspectives/industry-academia-rd-partnerships-strengthening-indian-innovation-ecosystem/).
3. Alaie S. (2020) 'Knowledge and learnings in the horticultural innovation systems: A case for Kashmir valley of India'. International Journal of Innovation Studies. 4 (2020) 116-133.
   (https://reader.elsevier.com/reader/sd/pii/S2096248720300333?token=B849DE1FDDDDA438AAC4AF07F0960B298BEDFB93BAE215DA32672CF528655F7C5BAF120177F850F1D4C3860319BCCE67&originRegion=eu-west-1&originCreation=20211111101033).

Events Organized (2020-21)

Sl. No.	Name of the event	Speaker	Date
1.	The French Innovation Process for Technology Transfer - Funding and Guidance	Dr. Jean-Luc Kouyoumji Scientist, Institute of Technology (FCBA), France	July 31, 2020
2.	Industry Institute Interaction- The Institute of Chemical Technology (ICT) Story	Dr. Padma V. Devarajan President Innovation Council and Member Board of Governance Institute of Chemical Technology, Mumbai, India	August 14, 2020
3.	Panel Discussion: Innovation Vouchers Programme - An innovation incentive for SMEs	Mr. P. Selvarajan, Addl Director, EDII, Chennai Dr. V. Premnath, Director,Venture Center, Pune Dr. Jatinder K. Arora, Executive Director, PSCST, Chandigarh	September 16, 2020
4.	How to Protect your Invention in India & Abroad	Dr. K. S. Kardam Fmr. Sr. Joint Controller Indian Patent Office, New Delhi	September 26, 2020
5.	Role of TIFAC in IP Filing & Commercialization	Dr. Yashwant Dev Panwar Scientist F, Head PFC, TIFAC Govt. of India, New Delhi	October 15, 2020
6.	Institutional IP Policy and its role in Industry-Academia Collaborations	Ms. Reema Sahni, Project Manager, Innovation-Technology Transfer Office, IIT Delhi, New Delhi	October 19, 2020
7.	Researcher as the communicator for public awareness of science	Prof./Dr. Manoj Kumar Patairiya, Head & Adviser of Science & Engineering Research Council, Department of Science & Technology (DST), Govt. of India	November 26, 2020
9	Science Technology & Innovation – Sub National Perspective	Dr Jitender Kaur, Executive Director, Punjab State Council for Science & Technology, Chandigarh	December 9, 2020
10	Patents, its Procedures and significance for Students and Professionals	Jyoti Chauhan, Chief Manager - IPR, Dy. President-CIMSME, Mentor-Startups/MSME, Patents & Trademarks Consultant	December 13, 2020
11	Trademarks, its types and importance for Industries and Startups	Shourabh Banerjee, Head-Strategic IP Consulting IIPRD, Khurana & Khurana Advocates and IP Attorneys	December 20, 2020
12	Copyrights and its applications in different Industries	Akshay Ajaykumar, Associate at Sim and San Intellectual Property Attorney	December 27, 2020
13	How to take Idea from Lab to Market	Prof. O P Katare, Professor, UIPS, Panjab University, Chandigarh Dr. Shachindra Kumar Pandey, Partner, K&S Partners, Gurugram, Haryana Dr. Kavita Bansal, Registered Patent Agent & Founder, Shodh	January 5, 2020

		Raksha, Mohali, Punjab	
14	Virtual Webinar Series on 'Patent Search & Filing: The Roadway to IP Commercialization'- Session 1	Ms. Divya Kaushik, Scientist, PIC-TISC, PSCST, Chandigarh Dr. Kavita Bansal, Patent Agent & Founder, Shodh Raksha IPR Firm, Mohali	January 11, 2021
15	Virtual Webinar Series on 'Patent Search & Filing: The Roadway to IP Commercialization'- Session 2	Dr. Deepa K Tiku, Partner Expert and Practice lead, Biotech Biosciences, K&S Partners, Gurugram, Haryana Ms. Reema Sahni, i-TTO, FITT, IIT Delhi	January 12, 2021
16	Virtual Webinar Series on 'Patent Search & Filing: The Roadway to IP Commercialization'- Session 3	Ms. Komal Sharma Talwar, Founder, TT Consultants, Mohali, Punjab Mr. Pranav Sharma, Chief Marketting Officer, XLPAT Labs, TT Consultatnts, Mohali, Punjab	January 13, 2021
17	Virtual Webinar Series on 'Patent Search & Filing: The Roadway to IP Commercialization'- Session 4	Ms. Pragati Aggarwal, Sr. Project Officer, Technology Transfer Office (i-TTO), IIT Delhi Dr. Rahul Kapoor, Founder, Turnip Innovations, Mumbai, Maharashtra	January 14, 2021
18	Virtual Webinar Series on 'Patent Search & Filing: The Roadway to IP Commercialization'- Session 5 Quiz Competition	Ms. Pragati Aggarwal, Sr. Project Officer, Technology Transfer Office (i-TTO), IIT Delhi	January 15, 2021
19	Northern Region Post Draft STIP Consultation	Dr. Akhilesh Gupta, Adviser and Head, STIP Secretariat, DST, GoI	January 21, 2021
20	How Strong Bamboo Policies can Help in Achieving UN Sustainable Development Goals	Susanne Lucas, Executive Director, World Bamboo Organization, USA	January 25, 2021
21	Plant Breeders' View on Protection of Intellectual Property (IP) and Comparison of IP Protection in the Seed Sector between India and Germany	Mr. Dieter Rucker, Federal; Association of German Plant Breeders Bonn Germany	February 3, 2021
22	Science Technology and Innovation Policy for Transformative Change	Speaker form Science Policy Research Unit, University of Sussex, UK Department of Science and Technology-Centres for Policy Research, India	February 19 & 20, 2021

GLIMPSES OF EVENTS/WEBINARS


DST-CPR
PANJAB UNIVERSITY
WEBINAR
In Collaboration with
Centre for Industry Institute Partnership Programme
(CIIPP), PANJAB UNIVERSITY, CHANDIGARH
How to take Idea
From lab to Market
PATRON
Prof. Raj Kumar
Vice Chancellor
Panjab University
Chandigarh
SPEAKER
Prof. C. P. Katare
SPEAKER
Dr. Sachindra Pandey
SPEAKER
Dr. Kavita Bansal
FOR QUERIES CONTACT
Prof. C. Nirmala
Coordinator, CPR, PU, cnirmalacpr20@gmail.com
https://meet.google.com/mqg-zmrb-wjg
JAN
05
2021
3:00
PM
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SCIENCE
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Northern Region Post Draft STIP Consultation
DST-CENTRE FOR POLICY RESEARCH
at Panjab University, Chandigarh
cordially invites you to a Special Talk on
MAJOR RECOMMENDATIONS OF DRAFT SCIENCE,
TECHNOLOGY AND INNOVATION
POLICY-2021
by
Dr Akhilesh Gupta
Adviser & Head, STIP Secretariat
Department of Science & Technology
Government of India
Presided over by
Prof. Raj Kumar
Vice Chancellor,
Panjab University, Chandigarh
On Thursday the 21st January 2021 : 1100 hrs onwards
WATCH LIVE on https://youtu.be/TMxqvOG4YU
Post your Comments/Inputs using #STIP
RSVP: Prof. Nirmala Chongtham
(Mobile: +91 97803 16716; Email: cnirmalacpr20@gmail.com)


LIVE
WEBINAR
DST-CPR
PANJAB UNIVERSITY
How Strong Bamboo Policies
can Help in Achieving UN
Sustainable Developmental Goals
SPEAKER
Suzanne Lucas
Executive Director
PATRON
Prof. Raj Kumar
Vice Chancellor
Panjab University
Chandigarh, INDIA
MONDAY 25 JAN 2021
7:00 P.M IST
8:30 A.M GMT
PLATFORM
MICROSOFT TEAM
LINK -https://bit.ly/3pc3boS
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Chandigarh, INDIA, cnirmalacpr20@gmail.com
https://cpr.puchd.ac.in/
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LIVE
WEBINAR
3rd FEB 2021
SPEAKER
Mr. Dieter Rücker
PATRON
Prof. Raj Kumar
Vice Chancellor
Panjab University
Chandigarh, INDIA
Plant Breeders' View on Protection of
Intellectual Property (IP) and Comparison of
IP Protection in the Seed Sector
between India and Germany
WEDNESDAY
3rd FEB 2021
03:00 P.M IST
10:30 A.M CET
LINK - https://bit.ly/3op9kNb
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Chandigarh, INDIA, cnirmalacpr20@gmail.com
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DST-CPR
PANJAB UNIVERSITY
In Collaboration
11-15 January
ONLINE
WORKSHOP
SERIES
2021
DAY 1
PATENT SEARCH & FILING:
THE ROADWAY TO IP COMMERCIALIZATION
PATRON
Prof. Raj Kumar
Vice Chancellor
Panjab University
Chandigarh
SPEAKER
Ms. Divya Kaushik
SPEAKER
Dr. Kavita Bansal
https://meet.google.com/hck-kmfj-pvs
JAN
11
2021
3:00
PM
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Chief Manager, e-TTO, FITT, IIT Delhi
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Other Activities carried out by the Centre (2020-21)

India's 5th National Science, Technology and Innovation Policy Draft

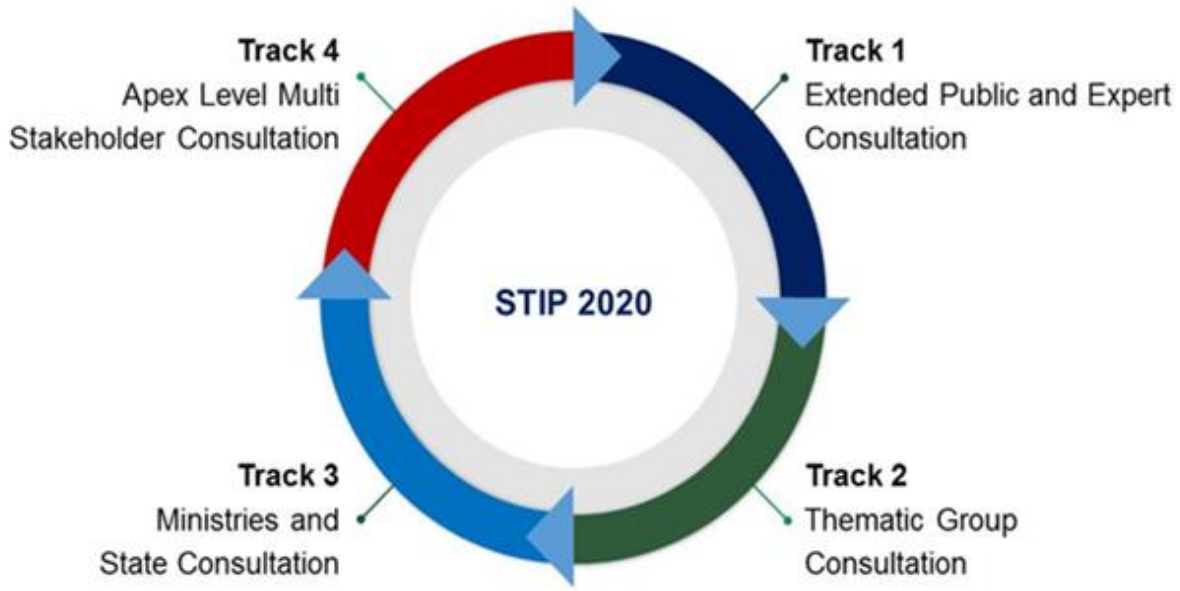
Source: https://thesciencepolicyforum.org/initiatives/science-technology-and-innovation-policy-stip-2020/

The Government of India is on its way to release *India's 5th National Science, Technology and Innovation Policy (STIP), a joint initiative of the Office of Principal Scientific Adviser to the Government of India and Department of Science and Technology, Government of India*. The STIP aims to reorient the national Science, Technology and Innovation landscape in alignment with the national needs and priorities. *The unique attributes of the impending STIP formulation process* comprise being inclusive and decentralized in nature and policy building through a bottom-up, expert-driven, and evidence-informed approach. Our Centre has been actively involved in the formulation process

The current COVID Pandemic has called upon a wake-up call to every nation to reorient and strategize their socio-economic and emergency preparedness. India's upcoming 5th Science, Technology, and Innovation Policy at this crucial juncture aims to reorient national priorities and capabilities by invigorating and strengthening the science, technology, and innovation ecosystem. India is gearing itself to establish a guiding policy for making India Self-reliant supporting the clarion call of our Honorable Prime Minister Shri Narender Modi of '*Atmanirbhar Bharat*' by following the *'Vigyan se Vikas*' mantra.

The policy formulation process is parallelly worked under four tracks, track I focusing on extended public and expert consultations, track II comprising of 21 thematic oriented expert-driven and evidence-informed consultation that formed the base of the new policy, track III involving consultations with science and technology ministries along with socio-economic ministries, States and Union Territories and track IV the final binding track comprising of apex level deliberations with high-level multi-stakeholders (national and global) on science policy matters. The process so far involved nearly *300 rounds of consultations with more than 40,000 stakeholders well distributed in terms of region, age, gender, education, economic status, etc.* The formulation process, by design, is envisioned as a very inclusive and participative model with intense interconnectedness among different tracks of activities.

Four track for policy formulation



Source: https://thesciencepolicyforum.org/initiatives/science-technology-and-innovation-policy-stip-2020

The STIP draft was released for public consultation from 31st December 2020 to 31st January 2021. The STIP draft document laid out the trajectory for revamping the Indian STI landscape. The STIP draft comprises eleven chapters covering the whole ambit of the STI ecosystem.

Each chapter has transformative policy directives with an aim to reinvigorate and revamp Indian STI to make India self-sufficient and self-reliant. The transformative recommendations are presented below.

National STI Observatory that will act as a central repository for all kinds of data related to and generated from the STI ecosystem. Open Science Framework		*A future-looking, all-encompassing Open Science Framework will be built to provide access to scientific data, information, knowledge, and resources to everyone in the country and all who are engaging with the Indian STI ecosystem on an equal partnership basis.*
Strategies to improve STI education making it inclusive at all levels and more connected with the economy and society will be developed through processes of skill building, training and infrastructure development.		*Expand the financial landscape of the STI ecosystem, each department/ ministry in the central, the state and the local governments, public sector enterprises, private sector companies and startups will set up an STI unit with a minimum earmarked budget to pursue STI activities.*

Hybrid funding models with enhanced participation from public and private sectors will be created through the Advanced Missions in Innovative Research Ecosystem (ADMIRE) initiative.		*Research and Innovation Excellence Frameworks (RIEF) will be developed to enhance the quality of research along with promotion of engagements with relevant stakeholders.*
The policy envisions strengthening of the overall innovative ecosystem, fostering Science & Technology (S&T)- enabled entrepreneurship, and improving participation of the grassroots levels in the research and innovation ecosystem		*An institutional architecture to integrate Traditional Knowledge Systems (TKS) and grassroots innovation into the overall education, research and innovation system will be established.*
A two-way approach of indigenous development of technology as well as technology indigenization will be adopted and focused upon in alignment with national priorities, like sustainability and social benefit, and resources.		*A Strategic Technology Board (STB) will be constituted to act as a link connecting different strategic departments. A Strategic Technology Development Fund (STDF) will be created to incentivize the private sector and HEIs.*
The policy provides renewed impetus to the mainstreaming of equity and inclusion within the STI ecosystem. An India-centric Equity & Inclusion (E&I) charter will be developed for tackling all forms of discrimination, exclusions and inequalities in STI leading to the development of an institutional mechanism.		*The policy will work towards mainstreaming science communication and public engagement through the development of capacity building avenues through creative and cross-disciplinary platforms, research initiatives, and outreach platforms.*
STIP charts pathways to a dynamic, evidence-informed and proactive international S&T engagement strategy. Engagement with the Diaspora will be intensified		*A decentralized institutional mechanism balancing top-down and bottom-up approaches, focusing on administrative and financial management, research governance, data and regulatory frameworks and system interconnectedness, will be formulated for a robust STI Governance.*
A robust Research and Innovation (R&I) governance framework will be set up to facilitate, stimulate and coordinate R&D activities across the sectors		*To serve all the aspects of STI policy governance and to provide the knowledge support to institutionalized governance mechanisms, a STI Policy Institute will be established to build and maintain a robust interoperable STI metadata architecture.*

Post-Draft STIP Consultation with Thought Leaders and Representatives of Govt., Academia and Industry from Northern Region of India' (21st January, 2021).

S. No.	Expert	Designation
'*Major Recommendations of Draft Science, Technology and Innovation Policy 2021'* by Dr Akhilesh Gupta, Head STIP Secretariat and Advisor, DST		
Representatives from Government		
1.	Dr. J K Arora	Executive Director, Punjab State Council for Science & Technology, Chandigarh.
2.	Mr Sudesh Mokhta	Director cum- Member Secretary, Himachal Pradesh Council for Science Technology & Environment, Government of Himachal Pradesh.
3.	Dr Nasir Ahmad Shah	Joint Director/Additional Director, Jammu & Kashmir Science Technology and Innovation Council, Government of Jammu & Kashmir
4.	Dr. Rajesh Kumar Gangwar	Joint Director, Council of Science & Technology, Lucknow, Government of Uttar Pradesh
5.	Dr. Deepak Gupta	Chief Scientific Engineer, Haryana State Council for Science, Innovation and Technology, Government of Haryana
Representatives from Academia		
6.	Dr. Lovi Raj Gupta	Executive Dean , Faculty of Technology & Sciences, Lovely Professional University, Jalandhar
7.	Prof. Ashwani Pareek	Executive Director, National Agri-Food Biotechnology Institute (NABI). Mohali
8.	Smt. Sunita Goyle	Director, National Institute of Electronics & Information Technology Ministry of Electronics and information Technology, Ropar
9.	Prof. Shubhini A. Saraf	Professor and Dean (School of Pharmaceutical Sciences), Babasaheb Bhimrao Ambedkar University, Lucknow.
10.	Prof. S. K. Mehta	Professor, Department of Chemistry, Panjab University, Chandigarh and coordinator, Chandigarh Region Innovation and Knowledge Cluster.
Representatives from Industry		
11.	Mr. Manish Gupta, Vice-Chairman	CII, Chandigarh Office

12.	Dr. Vinay Mehta	CEO and Co-Founder, PoleVault Technologies Pvt. Ltd. & Head, Technology Transfer Office at KIIT-Technology Business Incubator

IP Expert's Meeting for STIP 2021 Consultation, on 23rd March, 2021
Tuesday at 3:00 PM – 4:00 PM

S. No.	Experts Member	Details
1.	Dr. K. S. Kardam,	Fmr. Senior Joint Controller of Patents & Designs. Patent Office Delhi, Boudhik Sampada Bhawan, Dwarka-14, New Delhi
2.	Dr. Yashawant Dev Panwar	Scientist- E, TIFAC, Vishwakarma Bhavan 'A' wing, Shaheed Jeet Sing marg, New Delhi.-110016
3.	Shri Avinash Kumar	Adjunct Professor & Head IPR Cell Sharda University, Greater NOIDA Fmr. Addl Director (IPR), DRDO (HQ) Ministry of Defence, New Delhi, Govt. of India
4.	Mr. Jitin Talwar	Attorney, Patent Agent, Founder XLPAT - TT Consultants-Talwar Advocates Bestech Business Tower, Mohali
5.	Dr. Viswajanani J Sattigeri	Head CSIR - Traditional Knowledge Digital Library Unit 14, Satsang Vihar Marg, New Delhi
6.	Prof. Unnat P. Pandit	Professor Intellectual Property Management Cell Jawaharlal Nehru University, Delhi
7.	Dr. Arul George Scaria	Associate Professor National Law University, Sector 14 Dwarka, New Delhi
8.	Dr. Ruchi Sharma	Associate Professor School of Humanities and Social Sciences Indian Institute of Technology Indore Simrol, Indore

Collaborations Developed:

- Collaboration of DST-CPR at PU, Chd. with Intellectuals Society for Entrepreneurship and Research Development (ISERD)
- Collaboration with IPR Chair at Panjab University, Chandigarh in the creation of a booklet on IPR to be circulated in universities and higher education institutes in India.
- In talks with coordinators of Chandigarh Region Innovation and Knowledge Cluster (CRIKC) to work in collaboration. The DST-CPR has organized some webinars with CRIKC.

- Collaborated with Centre for Industry Institute Partnership Programme (CIIPP) at PU, Chd. and in talks Punjab State Council for Science & Technology (PSCST), Chandigarh to assist CPR in an ongoing assignment.
- Collaboration of DST-CPR at PU, Chd. with Innovation-Technology Transfer Office (i-TTO), Foundation for Innovation and Technology Transfer (FITT), IIT-Delhi.

Evidence-Based Reports/Publication released by the CPR ***(that may be useful in National/State Level Policy Formulation)***

- **Reviving the weighted Tax deduction scheme for DSIR recognized industries performing R&D**; addressed in STIP Draft. A detailed report on 'Stimulation of Private Sector R&D in India: A Global Comparison'
- A **Roadmap for Development of Bamboo Sector in the area of Food and Pharmaceuticals** has been submitted to the Ministry of Development of North Eastern Region (MDoNER), Govt. of India in November 2020. The end users of this project are NITI Ayog and the Prime Minister's Office. The project will be initiated in the North-East and shall be implemented to other parts of the country later.
- **'Suggestive Roadmap for Strengthening R&D Ecosystem through PPP'** especially for developing countries based on best practices from all over the world has been incorporated as a chapter in the book entitled "Public Private Partnerships (PPP) in R&D….a global perspective" ISBN: 978-93-85046-68-1, published by Studium Press (India) Pvt. Ltd.
- Implementation of **Innovation Voucher Scheme** in the State of Tamil Nadu; A Book on 'Public Private Partnerships in R&D…..a global perspective' strongly advocated and presented working models for Innovation Voucher scheme for promoting PPP for R&D. The concept of Innovation Voucher is also addressed in STIP Draft.
- A report entitled '**Commercialization of Patents Granted to HEIs and NRLs of India**, January 2010 – December 2017 has been submitted to DST, GoI, New Delhi with drafted recommendations (https://cpr.puchd.ac.in/wp-content/uploads/2021/01/Commercialization-of-Patents-Granted-to-HEIs-and-NRLs-of-India.pdf).
- A book entitled **"Mapping Patents and Research Publications of Higher Education Institutes and National R&D Laboratories of India"** was published in May, 2018 (https://dst.gov.in/sites/default/files/FULL%20BOOK-Chandigarh.pdf).
- A questionnaire-based study of top performing universities and higher education institutions to get feedback for enhancing IPR Regime in India.

DST-CPR Staff

S.No.	Name	Designation
Prof. Nirmala Chongtham (Coordinator) Dept. of Botany, Panjab University, Chandigarh		
1.	Dr. Mansimran Khokhar	Sr. Scientist D
2.	Ms. Mamta Bhardwaj	Sr. Scientist C
3.	Dr. R. Riddhi	Sr. Scientist C
4.	Dr. Oinam Santosh	Scientific Officer
5.	Ms. Sukriti Paliwal	Scientific Officer
6.	Dr. Radhika Trikha	DST-STI-Senior Policy Fellow
7.	Dr. Sheeraz Ahmad Alaie	DST-STI-Post Doctoral Fellow
8.	Mr. Rohan	Data Entry Operator
9.	Mr. Ravi	Cleaner cum Helper

Future Activities (Work Plan 2021-22)

- The CPR at PU, Chandigarh wishes to transform into a sustainable institutional and training Centre for S&T and IP skill building for the Northern part of India.
- The Centre aspires to be actively linked with the national Policy making team and work 'under hub and scope model' with PCPM division of DST, GoI. The Centre aspires to become a nodal point for science policy research for the northern region catering to Jammu and Kashmir, Ladakh, Haryana, Punjab, Chandigarh, Himachal Pradesh and Uttar Pradesh.
- Developing Country specific comprehensive STI based PPP model for Research and Innovation. An expert committee will be established to deliberate on the needs and relevance of STI based PPP and develop a dedicated PPP model for strengthening research and innovation in the country.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Thank You