



Confederation of Indian Industry

CII National Forum on Industry-Academia Partnership for Research and Development and Innovation

Policy Communique



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Executive Summary

Collaboration, cooperation and consensus are the three pillars of transformative change that spur a nation's growth. The CII National Forum on Industry Academia Partnership for Research and Development and Innovation Policy Communique to be read in conjunction with the Compendium outlines the policy action recommendations that have emerged from the case studies developed through the strategic partnership between the industry and academia.

Implementing some of these actions' steps in each of the seven tracks - key drivers, mobility, robotics and AI, healthcare, semiconductors, energy transition and AgriTech - can further enhance the strategic collaboration in research and development, and lead to innovation benefitting citizen wellbeing and spurring the nation's growth.

The recommendations and policy actions proposed in each track have the potential to contribute to India's economic aspirations. While the case studies in the Compendium demonstrate the importance and benefits of industry-academic partnerships in driving research, development and innovation, the policy communique showcases the potential for collaboration to address societal challenges and achieve higher good for all stakeholders in an ecosystem.

Research and strategic partnerships can foster innovation by combining the expertise of academic researchers with the practical knowledge and market insights of industry professionals. This collaboration between subject matter experts on the ground and in the classrooms allows for the exploration of new ideas, technologies and approaches that can lead to groundbreaking discoveries and advancements. The 36 case studies presented in the compendium show how by working together, industry and academia can push the boundaries of knowledge and develop innovative solutions to complex challenges. Implementing some of these solutions can help improve the quality of life for specific target groups and incentivise them to contribute significantly to the Viksit Bharat agenda.

The policy recommendations include establishing priority sectors, creating platforms for dialogue between industry and academia, earmarking funds and providing incentives/grants for qualifying projects, and encouraging dedicated setups for real-time industry challenges.

They also include the facilitation of regular knowledge exchange, engaging senior industry executives with academia, fostering official tie-ups and joint ventures, and encouraging industry to house dedicated labs and innovation centres at academic campuses.

The communique also recommends scaling up successful pilot projects to achieve critical mass and rapid adaptation. It suggests creating a group to monitor current pilot projects, establishing metrics for evaluation and making policy/regulatory amendments to enable widespread use of technology.

1. <https://india.unfpa.org/en/topics/adolescents-and-youth-8#:~:text=India%20has%20its%20largest%20ever,that%20will%20last%20till%202025.>

More specific policy actions are found in sections such as AgriTech that highlights the importance of skills and capacity building in the agriculture sector. It recommends teaching agriculture as an optional subject in engineering institutes and making data science a mandatory subject in agricultural universities. The communique parallelly recommends developing comprehensive statements of work (SoW) agreements to outline deliverables, milestones, costs and intellectual property arrangements. Establishing a centralised library with SoW templates, factoring in legal and regulatory requirements, and ensuring smooth execution of projects is a recommendation that can go a long way in ensuring accountability and ownership.

The recommendations offered in each track include research on alternative fuels and adoption through PLI; implementation of systems to recognise and reward collaborative achievements; investments in skill development programmes; streamlining of regulatory mechanisms; and an increase in R&D initiatives for manufacturing semiconductor raw materials. Given that the corresponding policy actions are implemented, they can contribute to India's ambition of becoming a USD 35 trillion economy by 2047.

Track 1: Key Drivers

Recommendation 1: Engagement of multiple research bodies

Policy Action 1.1: Providing incentives for consortia within and between universities to undertake collaborative projects with industry can be considered. Different partners can be mapped to different verticals/ thematic areas based on their existing strengths and potential synergies.

Recommendation 2: Streamlining of problem statements and dissemination across state governments and local bodies

Policy Action 2.1: Focus on specific research needs/ innovation/ technology transformation of central and state government entities and promote industry-academia collaboration in this aspect. Work in such areas may lead to greater dissemination among public, support on policy research, and also benefit industry/ sectoral players.

Recommendation 3: Articulation of parameters for evaluation of projects/ collaborative efforts

Policy Action 3.1: Joint projects which focus on achieving overall organisational Vision/ Mission of both partners, and work towards long-term research and solutions can be promoted, and such aspects can be articulated while evaluating research proposals. This would allow universities and industry partners to bring more long-term, strategic research concepts, and higher-quality infrastructure support for such projects.

Recommendation 4: Better outreach of the project for publicising research, funding and commercialisation capabilities

Policy Action 4.1: While many industry-academia collaborations lead to important, industry-wide innovations and have market impact, their publicity and outreach may not be informative enough for average readers and non-industry/ non-research readers. Focusing more on tailoring publicity/ reportage which conveys the importance of research projects would allow greater publicity for the industry and academia partners, and also encourage more (smaller and upcoming) players in the space to undertake similar projects.



Track 2: Mobility

Recommendation 1: Research of fuel cells and alternative fuels, and adoption through PLI

Policy Action 1.1: Providing tax breaks based on the amount invested by the industry players in the research collaborations with academia on novel technologies.

Policy Action 1.2: Jointly draft guidelines around production, storage and transportation of hydrogen as fuel

Recommendation 2: Industry accelerators and specialised centres (catapult network) for research in UAV, VOLT applications in real life scenarios

Policy Action 2.1: Create multiple industry accelerators (catapult network) across the country to promote the research in UAV, and VOLT applications in real-life scenarios such as aerial taxis, goods mobility, logistics solutions, surveying etc. and mentor, aid, provide testing and infrastructure support on proof of concept, concept to product journey to the upcoming startups and innovators.

Policy Action 2.2: Single window for support from government on prototyping, testing infrastructure, hardware, security clearances for real life application testing and manufacturing, especially for higher payload applications (100-300 kg for human mobility, 50-150 kg for goods mobility)

Policy Action 2.3: Jointly draft guidelines establishing standards, technical requirements, certifications, and other requirements.

Recommendation 3: Establish collaborative Centres of Excellences (CoEs) with resources on testing, prototyping etc.

Policy Action 3.1: Create specialised and collaborative centres of excellence with resources (testing equipment, prototyping facilities etc.) available as a pool that can be used by different researchers to maximise the output, increase collaborative interactions, and better utilisation of the resources.

Policy Action 3.2: PhD programmes for research on existing and future problems persisting in the automotive industry – where researchers and scholars collaborate with OEM and component suppliers to solve real world problem as a part of their academic curriculum.

Recommendation 4: Data sharing protocol and policy on responsibilities and liabilities for parties in areas of autonomous vehicles

Policy Action 4.1: Create a standardised data platform with access to collaborating industry players and academic researchers to analyse and learn from real-world data, improving the overall safety and reliability of autonomous vehicle systems.

Policy Action 4.2: Create multiple industry accelerators (catapult network) across the country to promote the research in autonomous, ADAS, smart mobility and mentor, aid, provide testing and infrastructure support on proof of concept, concept to product journey to the upcoming startups and innovators.

Policy Action 4.3: Clearly demarcating responsibilities and liabilities between the OEM, component/function supplier(s), and end user within multiple scenarios of operations while the automated features are engaged to determine involved in case of mishaps.

Policy Action 4.4: Increase adoption of ADAS technologies in Indian vehicles by providing subsidies/incentives.

Policy Action 4.5: Vehicles with Level 2 and above ADAS would score higher in Bharat NCAP crash test ratings.

Policy Action 4.6: Develop a framework working with insurance companies for liability and insurance coverage in the event of accidents involving vehicles in automated mode (ACC, AEBS, LKW, etc.)

Track 3: Robotics and AI

Recommendation 1: Recognition and Reward: Implement a system to recognise and reward collaborating team members' achievements to maintain motivation

Policy Action 1.1: Lay down the reward and recognition programme that outlines the criteria, processes, and benefits associated with recognising and rewarding employees for their exceptional performance, dedication, and contributions to the company.

Policy Action 1.2: The programme requires a clearly defined implementation plan for the recognition policy to be applied consistently and fairly. The plan provides the following:

- Specific instructions on how awards will be given
- The qualifications needed to qualify for various types of awards
- The nomination processes

Recommendation 2: Skill Development and Recruitment: Invest in skill development programmes for collaborating teams and ensure access to advanced research facilities and infrastructure. Collaborate with industry partners to offer internships and exchange programmes for students and researchers, fostering a culture of continuous learning and professional growth

Policy Action 2.1: Establish an Employee Training and Development policy includes:

- Guidelines on individual and corporate training programmes and their eligibility criteria
- Provisions for external training sessions
- Responsibilities of employees, managers, and HR in fostering a culture of continuous learning

Policy Action 2.2: Facilitation of access to Advanced Research Facilities:

- Designate a central coordinating body to oversee the scheduling and allocation of advanced research facilities and infrastructure among collaborating teams.
- Implement an online booking system to streamline the reservation process and ensure equitable access to research facilities based on project requirements and priorities.

Recommendation 3: Stakeholder Confidence Building: Organise periodic review meetings with stakeholders to provide updates on project progress, address concerns, and solicit feedback. Foster trust and transparency by sharing success and failure stories, lessons learned, and future openly.

Policy Action 3.1: Stakeholder Management

- Establish a RACI matrix structure and schedule meetings at key project milestones
- Specify the agenda items beforehand, including project progress updates, concerns and soliciting feedback.
- Mandate at least 80% attendance of key stakeholders, project heads, and relevant team members to facilitate effective communication and decision-making.
- Ensure that all project documentation, including reports, status updates, and meeting minutes, are accessible to stakeholders in a single repository to maintain transparency.

Recommendation 4: Structured Agreements: Develop comprehensive Statements of Work (SoW) agreements under the framework to outline deliverables, milestones, costs, and Intellectual Property(IP) arrangements. This ensures clarity and alignment between stakeholders. Setting up of pre-processes and systems to ensure smooth execution of projects.

Policy Action 4.1: Statement of Work (SoW) Development

- Establish a centralised library with readily available standard SoW templates for various categories, such as corporate and academic partnerships and startup-academic partnerships. etc.
- Develop a list of legal and regulatory requirements related to IP protection, confidentiality, and data privacy throughout the project lifecycle.
- Each template should contain a description of deliverables, milestones, timelines, costs, IP arrangements, and associated risks.

Recommendation 5: Remote Collaboration Support: Provide resources and support for remote collaboration, including funding for communication tools and flexible working arrangements

Policy Action 5.1: Remote Collaboration Support

- Allocate funds for communication tools and offer training on remote collaboration platforms
- The effectiveness of remote collaboration support initiatives should be periodically assessed through feedback mechanisms and surveys
- Annually evaluate new collaboration platforms as well as retire old ones

Recommendation 6: Institutional Collaboration: Establishing long-term research collaborations under multi-project frameworks with industry majors promoting sustained engagement and facilitating resource sharing and knowledge transfer

Policy Action 6.1: Collaboration and Resource Sharing

- Develop comprehensive multi-project frameworks outlining the terms, objectives, and governance structures for collaboration with industry majors
- The framework should include areas like project selection, resource allocation, intellectual property rights management, and dispute resolution.
- Collaborators to maintain records of knowledge transfer activities, including shared documents, training sessions, and other collaborative efforts.

Recommendation 7: IP Rights Clarification: Define clear guidelines for IP ownership and commercialisation upfront. Encourage policies that facilitate IPR ownership by collaborating entities and flexible IP agreements to facilitate technology transfer, fostering a more favorable environment for research partnerships

Policy Action 7.1: IP Rights Clarification

- Establish a small governance body to oversee IP ownership as well as commercialisation guidelines. This body can have stakeholders from both academia and corporate.
- These guidelines shall specify the criteria for determining ownership based on factors such as contribution to the invention, funding source, and contractual agreements.
- Tailored agreements shall be developed to facilitate technology transfer and commercialisation, allowing for variations in licensing terms, revenue-sharing models, and exclusivity arrangements based on the nature of the collaboration and commercialisation prospects.

Recommendation 8: Financial Support and Transparency: Provide dedicated funding mechanisms for joint research initiatives. Maintain transparency in financial matters with regular audits and reviews.

Policy Action 8.1: Financial support for joint research

- Establish dedicated governance body for funding mechanisms specifically allocated for joint research initiatives with external partners.
- These mechanisms shall include grant programmes, sponsored research agreements, and collaborative funding schemes designed to support interdisciplinary research projects and foster partnerships with industry, government, and non-profit organisations.

Policy Action 8.2: Financial Transparency

- Conduct regular audits of financial transactions related to collaborative projects to ensure accuracy and compliance with established guidelines.

Recommendation 9: ANRF should facilitate technology transfer and commercialisation of R&D outcomes, ensuring that research findings and innovations are translated into tangible products, services, and solutions that benefit society and drive economic growth.



Track 4: Healthcare

Recommendation 1: Improving funding mechanisms by prioritizing projects with commercial potential, utilizing escrow accounts for financial transparency, and fostering industry partnerships for sustainable growth and piloting opportunities.

Policy Action 1.1: Include Commercial Feasibility, Sustainability as an evaluation criterion before release of funds for the projects. The rating attached to commercial feasibility can vary for different kinds of projects. For Ex. Low for projects with a high public health impact (Ex. Innovations supporting TB disease burden reduction) and may be high for niche service areas (For Ex. Innovations targeting ultra rare diseases).

Policy Action 1.2: All the funds allocated, should be parked in an escrow account to ensure availability of funds for release, whenever the next funding cycle is due // or whenever the milestones are met. This can be done by partnering with any of the financial institutions (Ex. NBFC, DFI, Banks etc.)

Policy Action 1.3: Expand the funding support to include line items on instrument maintenance and any consumables required.

Recommendation 2: Development of a comprehensive collaborative platform

Policy Action 2.1: Establish a comprehensive collaboration platform that brings together diverse stakeholders including researchers, academicians, and industry partners to collectively address technical challenges. Such collaboration platforms can be customized for specific needs (Ex. Funding platforms NIIMBL)

Policy Action 2.2: Set up National Academic Collaboration platform, to bring in different stakeholders on a common stage. The platform to help guide the direction of policy and research across all premier centres of excellence.

Recommendation 3: Enhance industry-academia collaboration through industry-sponsored fellowships and internships, alongside co-developing curriculum with industry input for targeted skill development and continuous improvement.

Policy Action 3.1: Expand the CSR mandate to provide opportunities for fellowships, internships and placements.

Policy Action 3.2: R&D centres to set up an advisory committee, consisting of industry stakeholders to identify co-development of curriculum through needs assessment and continuous improvement processes, incorporating industry input to ensure relevance and alignment with market demands.

Recommendation 4: Enhancing industry-academia collaboration can be achieved through targeted marketing events and strategic workshops/seminars, facilitating dialogue, knowledge exchange, and partnership development for mutual benefit and innovation.

Policy Action 4.1: Set up national and regional R*D summits to showcase the research potential in the country and encourage direct interactions.

Policy Action 4.2: Create networking events, workshops, and conferences where academia and industry professionals can connect, share insights, and explore potential collaborations.

Policy Action 4.3: Organize hackathons and innovation challenges focused on healthcare to bring together students, researchers, and industry professionals to brainstorm and develop solutions to pressing healthcare problems.

Recommendation 5: Streamline regulatory mechanisms governing various aspects such as patents, grants, technology transfer, compliance, reporting, and intellectual property management.

Policy Action 5.1: Implement simplified and transparent processes for patent applications and grant proposals and establish clear guidelines and timelines to expedite the review and approval process.

Policy Action 5.2: Set up technology transfer offices in academic institutions to streamline the process of commercializing research findings and fostering collaborations with industry partners.

Policy Action 5.3: Conduct regular impact assessments to evaluate the effectiveness of government initiatives aimed at promoting industry-academia collaboration. Track and analyse outcomes to identify areas for improvement and inform future policy decisions. <https://www.niimbl.org/>



Track 5: Semiconductors

Recommendation 1: Increase R&D initiatives for manufacturing semiconductor raw materials such as high purity chemicals, polymers etc. to meet local demand in a sustainable way.

Policy Action 1.1: Develop policy roadmap for establishing Centres of Excellence (CoE) for semiconductor raw materials (purity chemicals, polymers, etc.) in academic and research institutions of the Union Government.

Policy Action 1.2: Development/initiation of a R&D Funding Scheme – focussed on the development of raw material products or process improvements for the manufacturing of such products – at State Government funded institutions of national repute.

The investments in high purity material R&D should be bilateral agreement on mutuality, co-funding, and co-creation.

Policy Action 1.3: Create a “Peer-Industry Programme” where one major raw material manufacturer (PSU or private sector industry) is paired with one CoE for semiconductor raw material to develop and implement an annual action plan for developing at least two raw materials of global industry standards used in semiconductor manufacturing.

Policy Action 1.4: Incentivise R&D initiatives for select participants of the “Peer-Industry Programme” for developing manufacturing processes with lower ecological footprint compared to global industry norms.

Policy Action 1.5: For the identified areas of industrial and applied R&D in the semiconductor raw material segment explore PPP model to foster innovation and techno-entrepreneurship

Recommendation 2: Explore incentives to encourage academia to commercialise their work and not restrict to publishing it in journals.

Policy Action 2.1: Develop success metrics and KPIs with relevant nodal agencies such as AICTE to promote research work across semiconductor value chain (Design, fabrication, packaging, human resource development, etc.) in academic and speciality research institutions of Union and State Governments.

Policy Action 2.2: Incentivise research team members in academic institutions to participate in semiconductor research with private sector / PSU semiconductor players. Such incentives may include:

- Paid leave of absence for research faculty (up to 3 years);
- Financial incentives for research scholars and the institute for each successful commercialisation of technology, including sharing of profit or patent royalties for the institution as well as the lead researchers involved with the project; and,
- Preferential career progression of academics for successful commercialisation of semiconductor research projects in India.

Recommendation 3: Create research consortium with international research bodies for human resource development

Policy Action 3.1: Develop a ready-reference playbook on research management and faculty best practices for semiconductor research consortium with international research bodies.

Policy Action 3.2: To create a self- sustaining digital platform for close collaboration among governments, industry, academia, R&D institutions, venture funds, and the start-up ecosystem to promote joint innovation in the semiconductor space.

Policy Action 3.3: Prepare collaboration guidelines for semiconductor skills and upskilling programmes among consortium’s students and research scholars across Union and State Government funded institutions.

Recommendation 4: Focus on forward-looking R&D in wide band gap semiconductors (e.g: SiC and GaN semiconductors)

Policy Action 4.1: Develop an action plan for development of wide band gap semiconductor R&D in India including fab-less design, IC design, testing, prototyping, and manufacturing.

The R&D initiatives can further be expanded to cover emerging 2D nanomaterials like graphene, transition metal dichalcogenides (TMDs), layered double hydroxides (LDHs), layered silicates (nanoclays), 2D metal carbides and nitrides (MXenes), metal-organic framework (MOFs), covalent organic frameworks (COFs) and polymer nanosheets.

Policy Action 4.2: Incentivise wide-band gap semiconductor research by encouraging established downstream industries, such as EVs, to undertake conducting comprehensive reliability studies and failure analysis in India through tax incentives and GST reimbursements.

Policy Action 4.3: Democratise R&D of wide-band semiconductors by reducing, if not abolishing, import duties on semiconductor capital equipment and raw materials used for wide-band gap semiconductor R&D.

Recommendation 5: Establishment of a dedicated focus group under the Anusandhan National Research Foundation (ANRF) effectively steering and coordinating R&D for semiconductors and allied sectors in India, identifying talent among PIOs/NRIs, and increasing industry competitiveness.

Policy Action 5.1: ANRF to create a focus group on semiconductor R&D, its guiding policies, and areas of international R&D collaboration.

Policy Action 5.2: To create a crowdsourced repository of policies and regulations to support R&D initiatives in the semiconductor space which are in consonance with emerging technologies in the ESDM sector.

Policy Action 5.3: ANRF to create “Anusandhan Grant for High Investment Semiconductor R&D” with key global industry stakeholders which will be given to select national institutions of eminence for supporting semiconductor R&D that requires very high capital investment and academic expertise.

Policy Action 5.4: Focus group to identify definition of success/Key Performance Indicators (KPIs) for research projects of national significance or those funded by ANRF.

Recommendation 6: Focus collaborations on design, packaging and testing stages of the value chain

Policy Action 6.1: Design a policy roadmap for developing Centre of Excellence (CoE), in partnership with the industry, dedicated to research and product development on design, packaging, and testing of semiconductor chips.

Policy Action 6.2: Develop communication roadmap for all stakeholders – industry, academic and research institutes, personnel from the central and state governments to highlight India’s existing strengths and enabling policy ecosystem around design, packaging, and testing stages of the value chain to facilitate research collaborations.

Recommendation 7: Device and process design as well as characterisation should be done in academia, while fabrication should be entirely done using the manufacturing line of the industry.

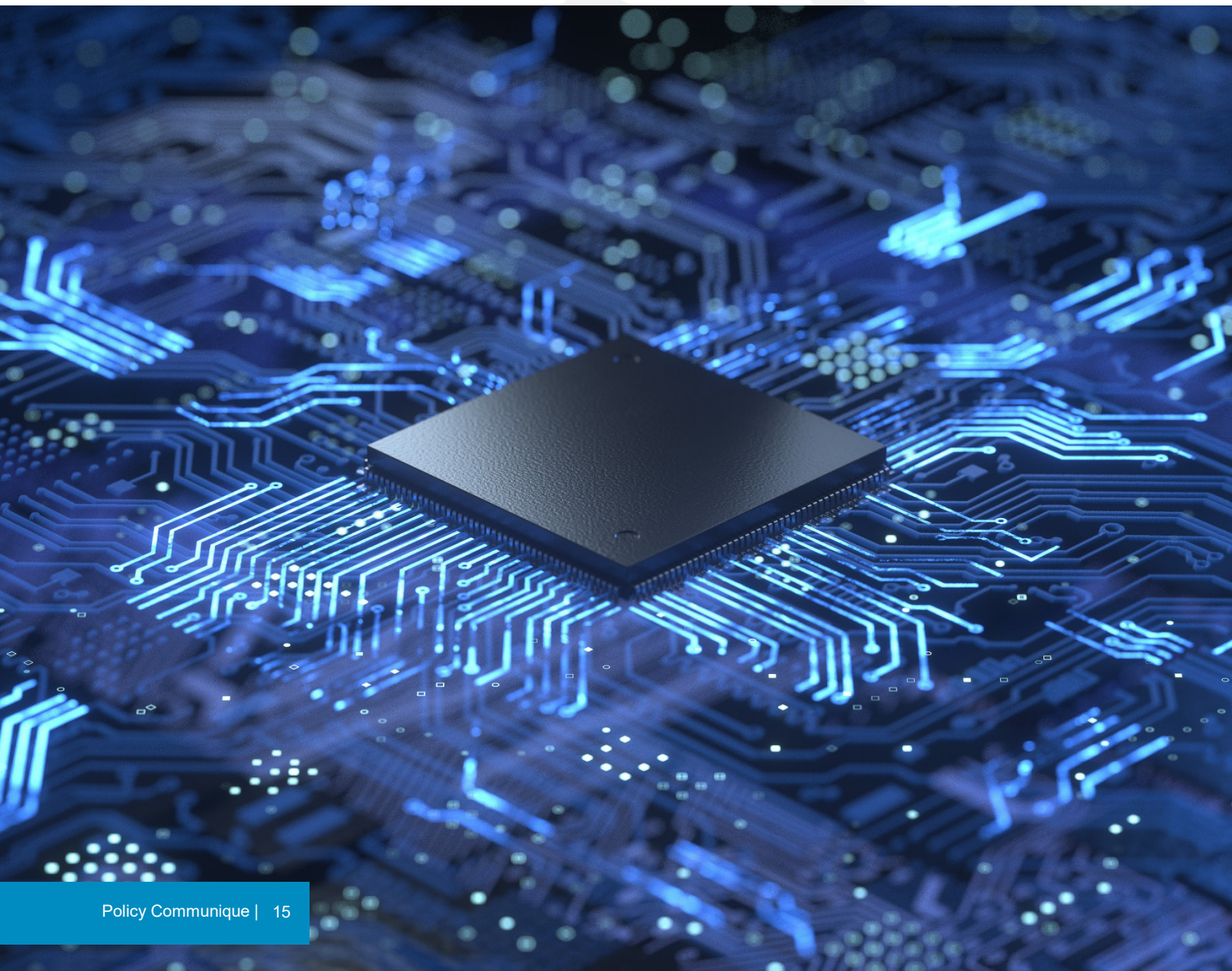
Policy Action 7.1: Prepare a strategic alliance policy for fostering collaboration, knowledge sharing, resource pooling, and transfer of technology from laboratory to manufacturers for driving applied research in semiconductor sector.

Policy Action 7.2: Alliance policy to identify areas of industry's talent requirement and develop customised semiconductor curriculum.

Policy Action 7.3: Identify success metrics such as successful product development, commercialisation of the product, numbers of successful patent application, number of students trained in the agreed curriculum etc. and evaluate outcomes annually to reset/update the policy document.

Policy Action 7.4: Establishing fabrication training centres to provide basic hands-on fabrication training, at academia, through public private partnership model

Policy Action 7.5: Identify success metrics such as successful product development, commercialisation of the product, numbers of successful patent application, number of students trained in the agreed curriculum etc. and evaluate outcomes annually to reset/update the policy document.



Track 6: Energy Transition

Recommendation 1: An inclusive governance structure should be established to oversee the collaboration between Industry and Academia.

Policy Action 1.1: ANRF to include participants from academia and industry. This group should ensure participation from all relevant industries and academics. It should define the charter for the organisation with details around structure, funding, grants, activities, expectations, and recognitions.

Policy Action 1.2: For utilisation of the corpus fund, establish a priority list of sectors for each financial year and identify investment / research priorities.

Policy Action 1.3: Create a platform with different focussed groups like Energy Transition, Semiconductors, Health-Tech, etc. for regular exchange of dialogue between industry and academia, and identification of real time issues and developments.

Policy Action 1.4: Funding to be earmarked to areas identified by such focussed groups and it should state the scientific and industrial objectives to ensure a result-oriented collaboration.

Policy Action 1.5: Qualifying projects should be aided by (tax) incentives / grants claimable on success of the endeavour / proof of concept.

Recommendation 2: Industry and Academia should be encouraged to work on real-time industry challenges via dedicated setups housed within academia with tangible industry commitment

Policy Action 2.1: Acknowledging the different speeds and often different priorities to which academia and industry move, regular knowledge exchange needs to be facilitated to ensure real-time relevance.

Policy Action 2.2: Senior industry executives should, via various fora, engage with academia on the current need for research / joint development in their field.

Policy Action 2.3: Fostering official tie-ups / JVs between industry and academia needs to be encouraged. Top tier Universities should have mandatory presence of Industry partnerships / labs etc. on campus.

Policy Action 2.4: Industry should be encouraged / incentivised to house dedicated labs / innovation centres at academia campuses. The funding arrangements should ultimately be aimed towards making the lab / innovation centre self-sufficient. Such labs should have committed Full Time Employee(FTE) time from the industry to ensure relevance to the industry.

Recommendation 3: Scaling up of successful pilot projects from Industry – Academia collaboration to achieve critical mass and rapid adaptation

Policy Action 3.1: Create a group that monitors current industry-academia pilot / PoC projects and evaluates their success.

Policy Action 3.2: Create key metrics for PoC evaluation with elaborate and unambiguous success criteria. Qualifying projects should be highlighted for recognition, scaling up or investment.

Policy Action 3.3: Based on the criteria, priority and available funding selected pilots should be scaled up to demonstrate industrial scale. Such demonstrations should be evaluated against the objectives once the said scale is achieved.

Policy Action 3.4: Policy / Regulatory amendments should be done to enable widespread use of technology and generate demand.

Track 7: AgriTech

Recommendation 1: Skills and Capacity Building

1.1 Teach 'Agriculture' as an optional subject in engineering institutes and 'Data Science' as a mandatory subject in agri universities.

Policy Action 1.1.1: UGC, AICTE and ICAR may come together to introduce curricula in engineering institutes related to overall understanding of agriculture, agri subjects relevant to their respective discipline (e.g., mechanical engineering) and have small agricultural plots for training and research.

Policy Action 1.1.2: Data science and digital technologies (such as AI/ ML, IoT, Remote Sensing etc.) to be included as mandatory subjects in agricultural universities. Such courses may be offered by faculty from engineering institutes or industry (corporates and startups).

Policy Action 1.1.3: Beneficiary students may have appropriate credits, linked to such subjects for better recognition during industry placements.

Policy Action 1.1.4: Review of such initiatives by institutes after two to four years of its implementation to assess impact.

1.2 Inter/ multidisciplinary internships/ exchange programmes with academia and industry

Policy Action 1.2.1: 'Student Centric' programmes between industry and academia for inter/ multidisciplinary internships, placements, and exchange programmes. Industry may regularly address students on emerging market needs.

Policy Action 1.2.2: Training faculty on latest trends in agritech R&D and exchange programmes between agri universities, technical institutes, and industry to upgrade faculty skills. Funding may be enabled by central and state government through CSR or other schemes

Policy Action 1.2.3: Institutes may suitably amend the key metrics for performance / incentives / promotion of faculty/ scientists, with inclusion of certain weightage for enhancing the quantity and effectiveness of research output through industry collaborations.

Recommendation 2: Collaboration/ Inter-working

2.1 Mandate 3-way partnership between agri university, private agri company, and engineering (technical) institute

Policy Action 2.1.1: ICAR to mandate the Vice Chancellors of agri universities to secure tripartite MoUs with an industry player and a technical institute, ideally in their vicinity to drive better research outcomes.

Policy Action 2.1.2: The MoU may mandate identifying and commencing research on a few common priority research projects within six months of signing the MoU.

2.2 Use PSA Office's 'Manthan' platform for Industry Academia collaborations

Policy Action 2.2.1: PSA office may hold national seminar with ICAR, agri universities and other institutes to disseminate information on Manthan platform for enabling IA collaborations.

Recommendation 3: Commercialisation

3.1 Multiple approved Industry-Academia templates for Partnership, Financing (equity options, matching grants, etc.), and Resource and IP sharing

Policy Action 3.1.1: Committee comprising of government (central and state), industry, academia and legal advisors to draft standardized IA MoU template options within six months for – industry partnership, co-financing, laboratory resource and IP sharing, etc.

Policy Action 3.1.2: Agri universities and respective state governments may review these templates (for all risk, legal and technical delivery perspectives) and adopt them locally

3.2 Enhance national funding for Agricultural research. Create incentive structure for joint research with the industry

Policy Action 3.2.1: ANRF to set-up a new Programme Advisory Committee (PAC) to review and fund research proposals for agri-tech research. These proposals maybe sought from both agri and non-agri institutes.

Policy Action 3.2.2: Each agri university to target spending 25% of their annual research budget on joint projects with industry.

Recommendation 4: Business Model

4.1 A national, apex consultative group for budgeting and planning research priorities

Policy Action 4.1.1: Government may institutionalize an apex consultative and planning group representing industry and academia with an aim to a) define 1-3-5 year national research priorities; b) provide visibility to ongoing research projects by both Industry and Universities and c) fill the gaps by streamlining and incubating IA collaborations, for better research output.

Policy Action 4.1.2: On a rolling basis the “5 Year National Agri Research Priorities and Plan” should be published annually to enable industry and academia to align themselves suitably. This will also enable international institutions to plug any gaps in our needs.

4.2 Amend Acts and Statutes that limit agri universities’ charter as charitable institutions

Policy Action 4.2.1: Agri universities to be enabled to set their curriculum based on local needs and prioritise collaborative partnerships with industry and other institutes using several standard templates defined above.

Policy Action 4.2.2: They may be encouraged to develop commercial acumen and market experience to enable research outcomes that lead to visible benefits on the ground.

Policy Action 4.2.3: Set up research parks in agri universities where start-ups by the faculty and students of the university as well as by outsiders may be facilitated (Reference: IIT Madras Research Park and IISc’s FSID in Bangalore). Industry may set-up laboratories/offices to enable faster and more effective industry academia interactions.

Way Forward

Collaborative research projects can bring in synergies in more ways than one. They enable industry partners to gain access to cutting-edge research and expertise, and as an outcome develop and commercialise new products, services, and processes. At the same time, academic institutions benefit from industry insights, funding, and real-world applications of their research, enhancing their relevance and impact.

Given this scenario, building trust through open communication, and establishing supportive policies and frameworks that incentivise industry-academia collaboration are critical. Creating funding mechanisms specifically designed for joint research initiatives, providing tax benefits and grants for collaborative projects, and facilitating the transfer of knowledge and technologies between the two sectors are measures that need to be factored in.

It is evident then that research and strategic partnerships between industry and academia have the potential to drive innovation, economic growth, and societal development. By leveraging their respective strengths and resources, these collaborations could lead to groundbreaking discoveries, commercialisation of research, and the development of innovative solutions to complex challenges.



Confederation of Indian Industry

The Confederation of Indian Industry (CII) works to create and sustain an environment conducive to the development of India, partnering Industry, Government and civil society, through advisory and consultative processes.

CII is a non-government, not-for-profit, industry-led and industry-managed organization, with around 9000 members from the private as well as public sectors, including SMEs and MNCs, and an indirect membership of over 300,000 enterprises from 286 national and regional sectoral industry bodies.

For more than 125 years, CII has been engaged in shaping India's development journey and works proactively on transforming Indian Industry's engagement in national development. CII charts change by working closely with Government on policy issues, interfacing with thought leaders, and enhancing efficiency, competitiveness and business opportunities for industry through a range of specialized services and strategic global linkages. It also provides a platform for consensus-building and networking on key issues.

Extending its agenda beyond business, CII assists industry to identify and execute corporate citizenship programmes. Partnerships with civil society organizations carry forward corporate initiatives for integrated and inclusive development across diverse domains including affirmative action, livelihoods, diversity management, skill development, empowerment of women, and sustainable development, to name a few.

As India completes 75 years of Independence in 2022, it must position itself for global leadership with a long-term vision for India@100 in 2047. The role played by Indian industry will be central to the country's progress and success as a nation. CII, with the Theme for 2022-23 as Beyond India@75: Competitiveness, Growth, Sustainability, Internationalisation has prioritized 7 action points under these 4 sub-themes that will catalyze the journey of the country towards the vision of India@100.

With 62 offices, including 10 Centres of Excellence, in India, and 8 overseas offices in Australia, Egypt, Germany, Indonesia, Singapore, UAE, UK, and USA, as well as institutional partnerships with 350 counterpart organizations in 133 countries, CII serves as a reference point for Indian industry and the international business community.

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