

# **Guidelines on Sustainable and Vibrant University-Industry Linkage System for Indian Universities**



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## **A Sustainable and Vibrant University-Industry Linkage System for Indian Universities**

### **Background:**

The National Educational Policy (NEP), 2020 recommends vibrant University-Industry linkage with emphasis on exposure for students to real life examples and making them globally competent. It is expected that University with conducive and impactful industry interface will result in innovations enabling solution to Global challenges. The NEP has also recommended that students as a part of holistic education will be provided the opportunities with local industry as well as research internships with faculty and researcher which will further improve their employability. NEP2020 also advocates multidisciplinary learner centric education giving importance to learning outcomes.

“Atmanirbhar Bharat” mission of the Government is aimed at leveraging on our huge talent pool available in the education system, the huge Micro, Small & Medium Enterprises (MSME) sector, and support from the Government in this direction.

The guidelines focuses on Atmanirbhar Bharat mission coupled with incorporation of the values in the education as emphasized by NEP2020 to bring a fresh and healthy aura to the University system and competitive edge through a fresh culture of effective R&D to the industry both of which can leverage on a strong UI linkage and in turn provide very competent manpower to the industry and competitive manufacturing, respectively.

### **I. Objective:**

1. To promote Research & Development Thrust through University-Industry (UI) collaborations in the University to address practical R&D problems of high societal relevance by engaging the faculty and students.
2. To develop the skill sets amongst the learners and make them industry ready through student Internship including field/industry/on job skills/vocational training/life skills to effectively achieve the learning objectives and attaining desired outcomes.

3. To establish linkages and developing sustainable relationship between Industry and Academia.
4. To create training opportunities and apprenticeship opportunities in the industries/ R&D labs/ Research organizations/ other organizations including social systems across the country.

## **II. Stakeholders**

Universities, Faculty and Students of Higher Education system in the Country and Industries established in India.

## **III. Mechanisms to boost Research &Development (R&D) through University-Industry (UI) Linkages**

### 1. Creation of R&D Clusters:

- i. The clusters of Universities and Industries may be created at state level. Each cluster may be led by an institute of Central/State Government in the region.
- ii. The cluster may be entrusted with the responsibility of addressing the technological needs of the region in association with the MSME/MHI/Dept. of Industries of state governments.
- iii. Every educational Institute or University may create an Industry Relations Cell (IRC) for collaborations and every Industry including the MSME's to create a University Relations Cell (URC) for enabling the envisaged collaboration.
- iv. Constitution of the Cluster R&D Advisory Committee (RAC): The institute serving as the cluster head needs to establish a Regional R&D Advisory Committee (RAC) for advising the R&D growth in the cluster. The constitution of the RAC may be as follows:
  - a. The Director of the C-Hub – Chairperson,
  - b. Directors/VC's of the constituent Universities of the cluster,

- c. In-charge, MSME Dept. in the cluster,
- d. In-charge, Ministry of Heavy Industries (MHI) in the cluster,
- e. One member from the DIC's of the cluster,
- f. In-charge (typically, the Principal Secretary) of Industry dept. of the state government,
- g. Two members from the CII/FICCI/DICCI/local chamber of commerce in the cluster,
- h. In-charge of SME in the cluster,
- i. Head of the IRC of the C-Hub–Member Coordinator.

The RAC may meet at least twice in a year.

- v. Responsibilities of R&D Clusters:
  - a. Liaisoning with the URCs of the industry and IRC's of the Universities in the cluster with the objective of enabling the proposed paradigm shift in R&D culture.
  - b. Brainstorming on need assessment.
  - c. Identify research topics of interest (long and short time, generic and specific) including those that have local/regional relevance and dissemination of the same among the stakeholders.
  - d. Dissemination of information within the cluster among all the stake holders, the IRC's, industries and industry departments as stated in the RAC constitution.
  - e. Conduct sensitization/awareness sessions/workshops with the help of the IRC's for the stakeholders.
  - f. Monitor the progress of the R&D in a cluster in association with the IRC's.
  - g. Holding the meetings of the Cluster R&D Advisory Committee (RAC) and functioning as per its guidance, and creating relationships and formalizing the same through MoU's

2. Creation of the Industry Relations Cell (IRC) at an Institute/University:
  - i. Industry Relations Cell (IRC) may be established by the universities and other institutions.
  - ii. The main objective of the IRC is to enable collaborative project creation between a university faculty group and an industry group and the details are enumerated as follows, which is essentially the responsibilities of a university.
  - iii. Responsibilities of Industry Relations Cell (IRC):
    - a. Liaisoning with local industry and enabling the realization of the proposed R&D culture involving own university and the industry.
    - b. Identifying research topics of interest including those that have local/regional relevance and dissemination of the same among the stake-holders.
    - c. Identification of potential problems for collaboration, creation of links between the concerned group of an industry and the concerned faculty group of the university and creation of relationships with signed MoU's, as an enabler.
    - d. Liaison with the C-hub and IRC's of other universities in the cluster.
    - e. Explore sources of funding for the cell.
    - f. The drive the actions related to supporting student internships and apprenticeship with the help of the Curriculum development cell of the institute.
    - g. Monitor the progress of the work.
    - h. Recognize UI work.
3. Creation of the University Relations Cell (URC) in an Industry:
  - i. Every industry including the MSME's may establish a URC.
  - ii. University may provide Hand-holding support to MSME to adopt modern technology.
  - iii. Responsibilities of the University Relations Cell (URC):

- a. Liaisoning with C-hub and IRC's of the nearby universities, and enabling the realization of the proposed R&D culture involving universities and own industry.
  - b. Participation in the R&D needs assessment exercise by C-hub and IRC's, promoting and carrying of activities such as R&D, continuing education and others of mutual interest.
  - c. Understanding the present and future R&D needs of own industry in association with the R&D setup of the industry.
  - d. Identifying the university groups in the cluster and beyond who can address and serve the R&D needs of own industry, creating the links between them including the MoU's.
  - e. To drive the actions related to supporting student internships and apprenticeship.
  - f. In association with the CSR and R&D cells of own industry and ensuring allocation of financial support to the UI work.
  - g. Monitor the progress of the work.
4. Each cluster may create a technology centric mechanism to capture the local problems and then assigning the same as projects to the students based on the infrastructural cum human expertise available at the host institute of a student.
  5. Each cluster may upload on its website the details of available infrastructural cum human expertise for sponsored research.
  6. The university faculty may be properly incentivized for motivated research. This can be done by different ways such as,
    - a) Reforming the promotion criteria to give more weightage to IP, technology transfers, industry linkages, etc.,
    - b) Offer Performance-based rewards.
  7. A University-Industry (UI)day may be organized by University and Industry showcasing the R&D and the other work done for strengthening UI linkages.

#### **IV. University-Industry (UI) Linkages for Enhancements of Student Internship and Apprenticeship in Academic and Industrial Systems:**

1. The universities may appoint the highly experienced industry professionals on appropriate governance bodies as per requirement of regulatory bodies on Board of Studies, Academic Councils, and on other committees of the University.
2. The universities may invite professionals from industry as “Professor of Practice” as per the UGC Guidelines for Engaging Professors of Practice in Universities and Colleges.
3. University and Industry may encourage facilitation and exchanging of experts for conducting and monitoring of R&D projects as investigators or consultants in each other’s or joint project and consultancy activities.
4. Universities may conduct specialized Workshops and Training programmes jointly with industry on developments of science and technology.
5. The industry may provide endowments for creation of advanced facilities and vocational training centres as per the requirement of the industry or for the cause of education.
6. Industries may allow research scholars to use sophisticated and costly equipment available in industry for research. Similarly, the universities may allow industry to use the facilities of the university for testing and certification.
7. Industries may establish industry chairs in universities and support scholarship schemes to attract meritorious young researchers to university.
8. The industries and universities may jointly work for development of new technologies in research labs of the universities/institutions and take benefit of technology transfer.

9. The industries and universities may jointly offer a collaborative degree programmes tailored for industry personnel or with emphasis on practice for generic aspirants.
10. Project/dissertation work of UG and PG students of universities may be effectively executed under joint guidance of the faculty and experts from industry on generic or industry problems.
11. Appraisal from universities on on-going research, expertise, facilities, equipment, available in the universities, and the important events to the industry through the IRC's would significantly enhance the collaboration.
12. The industry may use this huge resource for its own R&D and production. Similarly, communication from industry about the potential problems, facilities available and important events would help the universities avail the facilities.
13. University may introduce internship/apprenticeship irrespective of the field including Arts, Science and Engineering as per the UGC Curriculum and Credit framework for programmes as notified and amended from time to time.
14. The total credit assignment of internship/apprenticeship and its distribution in the course of study may be as per the UGC Curriculum and Credit Framework as notified and amended from time to time.
15. The number of Internship and type of Internship may be decided by the University with the approval of its Statutory Authorities. The University may abide by UGC Curriculum and Credit framework, National Curriculum Framework, and other relevant notification of Ministry of Education(MoE)/other Ministries/ UGC/AICTE.



16. A student may take additional internships on the basis of a recommendation from the institute or on own depending on the type of programme (professional/ non-professional) and own interest.
17. A university may designate
  - i. A faculty member per course to handle and coordinate the internships related to the academic programme and
  - ii. An overall in-charge, head or chairperson at the level of the university.
18. The responsibility of handling internship may be entrusted to the Curriculum development or placement cell which may take the help of the IRC for creation of internships.
19. URC may be responsible of creating and handling the internships in the Industry or organization.
20. URC may provide a coordinator and designate:
  - i. A hosting mentor for each or each group of students and
  - ii. An in-charge at the organization (or URC) level to handle the internships of all students granted internship.
21. The regulatory framework for the courses and the common framework for running URC and IRC cell may be created by each university and industry or organization.
22. The Companies/ firms need to be encouraged to offer paid internships to students and put in efforts in making the internships sustainable. Alternatively, it may also be treated as a CSR programme by the industries. Also, during the internship period companies are advised to ensure the accident insurance protection for the participants.
23. University may do periodic or annual evaluation of the outcomes at their level.
24. A University may accept apprenticeship done in any other institute or industry, where the acceptable standards are ensured, in lieu of an apprentice course of a programme.

25. The inclusion of vocational education may also be done in the present curricular structure by making some space in terms of credits as well as contact hours. A university may offer vocational courses in the form of several electives for students to choose from based on their own interest.
26. University may provide guidance to student through faculty advisors and a Dedicated “Student Career Counselling Cell (comprising of senior members from both the Institute and from the Industry)”.
27. An institute may use the services of facilities and resource persons from industry and organizations effectively to offer training in an enriching set of courses.

**V. Sustainability of the Proposed UI Linkage System:**

1. **Financial sustainability:** The University may provide support to strengthen the mechanisms and may include (but not limited to) the following:
  - i. Equity-based funding for entrepreneurial faculty.
  - ii. Attract CSR funding from industry (local/national level): Industry associations play a significant role.
2. **Administrative sustainability:** For strengthening UI linkages through research, the following pre-requisites are necessary:
  - i. Formation of various cells and monitoring mechanisms by HEIs.
  - ii. Evolution of time-bound programmes for the different objectives by both University and Industry with clear deliverables.
  - iii. Development of an aggregator platform that will coordinate and synergize efforts from various quarters (University, Industry/Industry associations etc.).
  - iv. Funding for IRC from corpus/CSR funds/government projects/donations etc.
  - v. The Higher Education Institutions may comply to these guidelines in letter and spirit; failing which appropriate administrative action may be taken.