



**TKR COLLEGE OF ENGINEERING & TECHNOLOGY**  
**AUTONOMOUS**

**Policy Document for**  
**Research and Development**  
**of**  
**TKR COLLEGE OF ENGINEERING AND TECHNOLOGY**

The TKR Centre for Research and Innovation at the TKR College of Engineering and Technology intends to persuade students to be pragmatic by helping them to transform basic scientific, technological, and abstract ideas into practical reality. The TKR Centre for Research & Innovation will provide an eco-system for the students to learn by doing and will support them in thinking critically, being innovative, visualising products, and developing and implementing prototypes. The Lab will serve as a cross-disciplinary and multiple stakeholders' platform to enable student entrepreneurship, collaboration with the industry, and commercialization.

A few of the innumerable facilities provided by the TKR Centre for Research & Innovation are

1. A platform to establish an industry-academia conclave.
2. A room for knowledge sharing to support the ideas of, innovations, societal needs.
3. A location for nurturing their curricular knowledge to inculcate entrepreneurial skills.
4. Rapid prototyping facility.
5. Modern measuring, metal joining, and cutting facilities.
6. Induction furnace for the design of materials of choice.
7. Ultra-modern facilities to cater to the needs of electrical and electronics hardware assembly and testing.

8. It is used to train students in the design and analysis of various applications using high end computing facilities.

The training given in the centre will go a long way toward translating the nascent ideas of students into new products and providing solutions to a plethora of technical problems. The workshops/ trainings, competitions, and boot camps conducted by the TKR Centre for Research & Innovation and the interaction between industry and institutes, as well as linkages among institutes, will aid in building confidence among the young student entrepreneurs in implementing their thoughts and ideas. Constant mentoring and interactions with other research labs will help students ingeniously choose raw materials and design products that will give them an edge over similar products already available on the market—products that would turn out to be cost-effective and environmentally and user-friendly. The TKR Centre for Research & Innovation aims at collaborating students activities with larger national goals and missions like serving the disadvantaged sections of society and will pave the way for students to enhance their ethical, social, and cultural values.

**This biblical quote summarises the motto of the TKR Centre for Research and Innovation: "Give a man a fish and he will eat for a day." Teach a man to fish, and he will eat for the rest of his life".**

#### **TKR Research and Development (R&D) Policy:**

The objective of research and development (R&D) initiatives undertaken by the TKR College of Engineering and Technology is to build research careers, internationalise human potential, provide support to strengthen the knowledge foundation and promote the creation of new applications, as well as societal impact of education, research, and innovation. This institute strives for excellence in education, research, and innovation. The goal of creating technological and social innovation has emerged alongside R&D-based activities. Improving high-quality scientific research is a necessary requirement for creating successful product development, applications, and entrepreneurs.

To achieve a high-quality research ambience, the following policies have been implemented. A research development cell has been established that will prepare and implement the documents for the development of research and development activities within the institute.

#### **1. Establishment of a research and development (R & D) cell governed by the College Research Committee (CRC):**

1. The Research and Development (R & D) Cell was established as per directions of BoG.
2. The R & D Cell is administrated by the College Research Committee (CRC), which comprises of the following members:
  - A. Principal-President (ex officio member)
  - B. Heads of the Departments (HoDs)—Members
  - C. Research Cordinators of Departments-Members
  - D. Dean (R & D)-Secretary/Convener (ex officio member)

## **2. Responsibilities:**

2.1 The R & D Cell is responsible for the establishment and promotion of excellence in the Institute's research and development and research training activities.

2.2 The development and enhancement of the Institute's research capacities motivate all faculties to pursue research in their respective areas of expertise.

2.3 The protection and commercialization of the institute's intellectual property, increasing consultancy activities related to R & D for industry and society.

## **3. Terms of Office**

3.1 Members of the TKR CRC other than ex officio shall serve for a term up to the current academic year.

3.2 An appointed member may be appointed to serve for additional terms as per the approval.

3.3 The quorum for meetings of the CRC shall be the nearest whole number above 50% of the membership of the CRC for the time being.

## **4. Meeting Schedule**

The TKR CRC will meet every 1<sup>st</sup> and 4<sup>th</sup> Saturday of the calendar semester. The President is responsible for determining if more meetings are required.

## **5. Reporting**

The TKR CRC will report to the Institutional Academic Council by way of its minutes.

## **6. Internal Research and Innovation Funding Policy (Seed Money Development)**

A. Funding will be long-term and allocated under transparent criteria.

B. Long-term skills development requires a stable funding base. The diverse and strong technological and scientific base of this autonomous institute will be safeguarded.

C. Financial assistance to promote application, introduction, and commercialization.

D. New and current resources to be directed towards the most important targets: strengths and selected priority fields; infrastructures; the research career system; internationalization.

E. Research and innovation by individual departments will be activated through funding, with the aim of improving the ability to innovate through interdisciplinary research.

F. The funding basis for the Institute to be diversified; quantitative objectives and incentives to be set for international funding through steering committees.

G. A larger share of the research funds will be used for strengthening the knowledge base and for research and innovation as well as cross-border cooperation.

H. Expanding the funding base of research institutes will be necessary in the future.

## **7. Approval of research proposals**

- The design and methodology of research undertaken by a faculty or student must be submitted to TKR CRC for evaluation and approval, especially if legislation, professional councils, or institutions affected by the research require it.
- When faculty and students handover research essays, mini-dissertations, dissertations, and thesis, they must declare that their research has complied with the Code of Research Ethics of the Institute.

## **8.CODE OF ETHICS IN RESEARCH:**

Researchers have to follow the Code of Ethics as mentioned in the "Code of Ethics for Research" policy.

### **8.1 Relationships with the community**

- Data or information shall be gathered and recorded in such a way that it can be made available at any time (after completion of the project) to other interested parties without undermining confidentiality.
- Researchers will judiciously consider the potentially destructive consequences of their research activities, outcomes, or outputs on the human or natural environment and will avoid
- Such research projects aim to assiduously reduce the risk of such consequences through their research activities.
- Researchers will exercise their rights to academic freedom and freedom of scientific research. Researchers are accountable to the community for the way in which they exercise those rights.

### **8.2 Relationships with sponsors**

- The methods, contents, and results of research that has been funded (fully or partially) by external sources shall be fully disclosed. The full particulars of the person or institution from outside the institute who funded the research must be part in the published results of the research.
- Researchers should be honest with sponsors of their research about their qualifications and their research expertise and skills. Researchers shall ensure that sponsors require nothing of their research that is contrary with internationally acknowledged standards for ethical research.
- Researchers shall only utilise a sponsor's funds for purposes explicitly approved by the sponsor.

### **8.3 Relationships with research participants and research objects**

- Researchers shall, at all times, respect research participants' rights to freedom, dignity, privacy, and bodily and psychological integrity.
- Researchers shall treat non-human living beings with care, respect and awareness of their vulnerability and defenselessness.
- Researchers should undertake research in a manner that does not harm the environment and that creates no additional environmental stress.
- Researchers shall undertake to carry out biohazard waste disposal as per established norms and practices.
- Researchers may use people as participants in research only if they have given their proven informed consent for their participation in the research, or, in the case of people younger than eighteen years, if their guardians have given such informed consent and also observed confidentiality.

## **Policy for organizing in house seminar/conference/workshop related to R&D:**

### **CRITERIA FOR FACILITATING PROFESSIONAL DEVELOPMENT PROGRAMS FOR THE FACULTY**

#### **1. Eligible Employees**

TKRCET employees with a regular full-time appointment are eligible employees.

#### **2. Criteria for Professional Development**

i) Courses, seminars, workshops, and conferences intended to assist employees in maintaining and improving knowledge and skills relevant to their jobs or to their career development at the institute are considered for financial support.

ii) Employees approved for professional development leave are entitled to up to 14 paid working days per year.

iii) The following will not be considered for funding:

- Professional fees.
- Training to meet minimum job requirements in the employee's current job (e.g., basic level training for newly installed or upgraded computer hardware or software will not normally be approved, whereas intermediate and/or advanced computer training may be considered for funding).
- Courses of programmes an employee is expected to take at the sole request of a supervisor.

iv) General interest courses. An exception might be a course that could be an asset to both the employee and the college.

#### **3. Criteria for funding**

- Approved funding for individual professional development activities will not be carried forward into the next financial year.
- Allowable expenses must be submitted within two (2) weeks of the staff development activity. Funds allocated to professional development activities will be in the following priority order.
  1. Registration fees
  2. Material and supplies
  3. Travel for activities off campus.
  4. Meals and accommodations

#### **4. Application Procedures**

1. The College pre-approves requests for financial support for development activities only. The college does not normally approve funding requests retroactively.
2. The applicant must obtain requests for leave to participate in a professional activity from the Principal through their respective Head of the Department.

3. Completed applications are to be submitted to the principal's office at least one week prior to the event.
4. Completed applications are considered on a first-come, first serve basis.
5. Applications will be date stamped upon receipt and reviewed for completeness.

## **5. Cancellation**

Employees can request to withdraw their application approved for funding by (R & D) after obtaining approval from the head of the department. Employees cannot use previously approved funding for a different purpose. Employees who do not attend the professional development event for which they have received approved funding must repay the money, which will also make them ineligible for future internal grants.



ADDITIVE MANUFACTURING LAB FOR  
DESIGN THINKING

### Plan for sustenance beyond two years:

TKR Centre for Research & Innovation supports in engaging the phenomenon of life-long learning, in promoting nation-building objectives, emphasizing the serendipitous collision of thoughts. Conveying developed knowledge to the community with the help of workshops, short-term courses, certain skill development activities. Extending the services of human expertise as consultants. Raising the level of laboratory to be test centers for Multidisciplinary and Intra-disciplinary research areas.



## TKR COLLEGE OF ENGINEERING & TECHNOLOGY (AUTONOMOUS)

(Approved by AICTE. Affiliated to JNTUH. Accredited by NBA)  
Accredited by NAAC with A grade  
Medbowli, Meerpet (V), Balapur (Mandal) R.R. (Dist),  
Telangana - 500 097 [www.tkrcet.ac.in](http://www.tkrcet.ac.in)



# TKR CENTRE FOR RESEARCH & INNOVATION

*A CONFLUENCE FOR CREATIVE METAMORPHOSIS*





## Vision for TKR Centre for Research & Innovation:

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## Integration of

## TKR Centre for Research & Innovation with existing facilities:

The additional equipment which is available in the existing laboratories will be deployed in the new TKR Centre for Research & Innovation for the smooth conducting of experiments. TKR Centre for Research & Innovation at TKRCET will initiate students to come up with new ideas, persuade them to execute and finally integrate innovativeness in to their business. The lab is intended to create willingness to the students to make an effort and take a chance instead of assuming that their efforts won't pay off. The hands-on work culture will train them to learn from mistakes and will make them resilient. Scientific discovery in the past clearly indicate that constant efforts trigger serendipity. TKR Centre for Research & Innovation is a platform for students to think and act relentlessly. Interactions in these labs will orient young student entrepreneur to tap on indigenously available raw material and create products that are cost effective, superior in quality and consumer friendly. Pure cotton text tile material produce in our country is glaring example of how locally available materials can be used to manufacture products that are close to nature and regulates body temperature when compared to synthetic textile material. An entrepreneur creates jobs and doesn't fend for a job. Entrepreneurship can bring about economic and social changes by supporting the government in increasing employment opportunities. Increased employment improves the standard of living and per capita income which would better the national income in the form of higher tax revenue and higher government spending. This revenue can be productively used by the govt. to uplift struggling sector s and human capital. These young student entrepreneurs with the right impetus can revolutionized the use of technology in making quality products that would be accepted not only at the national level but also globally. The national initiatives/ Technology Vision 2035/ SDGs/ MSME are working as torch bearers at providing a platform to a small and medium entrepreneur in India by demanding a radical change in the way production use of raw material and technology, marketing etc. are carried in our country.

