

# R.M.K. COLLEGE OF ENGINEERING AND TECHNOLOGY

RSM Nagar, Puduvoyal - 601 206. Gummidipoodi (T.K.), Tiruvallur (D.T.) Tamil Nadu (An Autonomous Institution)

Affiliated to Anna University, Chennai / Approved by AICTE, New Delhi Accredited by NBA (All Eligible Courses) / NAAC "A" Grade

# **STRATEGIC PLAN 2021 - 2026**





**Aerial View of RMKCET** 





MKCET has grown from strength to strength in its decade plus years of existence. Since its inception, the College has concentrated on faculty recruitment, examination systems, placement of students, and setting up infrastructural facilities. A strong emphasis has been given to academic excellence and for laying a good foundation for research. I am confident that the implementation of the

recommendations of this document will enhance RMKCET's status and make the College to be intellectually exciting, financially and administratively autonomous, with sustainable competitive advantages in all its activities in the years to come. I am sure that SP2021-26 will serve as a benchmark document for many higher technological Institutions in the coming decades. I wish RMKCET a glorious future in its service to our nation.

- R.S. Munirathinam





he Strategic Plan (SP) at RMKCET has several unique features and involves a systematic and comprehensive effort towards change with the participation of a large number of stakeholders. The SP has been designed as a series of coordinated interventions to bring about changes in the directions, structures, processes, interfaces and performance of the College. The Strategic Plan

consists of an integrated and interdependent set of action plans that must be viewed and acted upon in a holistic manner. The process should be one of guided and directed organic changes, which would lead to the achievement of short and long term goals. The effects of the change in strategies ought to be sustainable, as they have been internally generated. The implementation of the Strategic Plan is intended to make RMKCET a world-class institution — a place that provides intellectual leadership in chosen fields and is administratively and academically autonomous, with sustainable competitive advantage.

-R.M. Kishore

#### The Management Team























#### Strategic Planning Committee

Dr. K.Ramar	Principal & Chairman	Dr.M.Balasubramanian	MECH - HOD
Dr.K.Sivaram	Dean-Research	Dr.N.Kalaiarasi	EEE - HOD
Dr. D.Paul Raj	CSE - HOD	Dr.G.Devi	IQAC Coordinator
Dr.N.Gangadharan	ECE - HOD	Dr.P.K.Devan	Professor - Mech. Engg.

#### About the Institute



- ★ To be the knowledge hub for providing quality technical education and promoting research for building up of our nation and its contribution for the betterment of
- To make the best use of state-of-the-art infrastructure to ensure quality technical education.





Since the establishment in 2008, R.M.K. College of Engineering and Technology spares no effort however tough or small it may be, in elevating the educational quality, the bearing and orientation of the engineers that are molded, shaped and polished to be the young visionaries of the future of mankind. Over the past 14 years RMKCET has produced more than 4000 Engineering graduates who have enriched the world through their immense contributions as engineers or leaders of mankind. The College has been ranked in the top 10 Colleges in Tamil Nadu in terms of academic excellence. In 2018 all the eligible programs were accredited by the NBA. The Institution was also accredited by NAAC with 'A' grade in 2018. From 2018 the Institution has been giving a research thrust that encouraged the faculty members to take up research activities enthusiastically. In 2021, the Institution focused on attaining Autonomy. The Institution was granted Autonomy by UGC and Anna University from the academic year 2021-22 for 10 years. In the NIRF Rankings 2020 the College was ranked in Engineering Rank- band of 251-300.

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#### SWOC Analysis for R.M.K. College of Engineering and Technology

#### **STRENGTHS**

- I. Innovative Teaching: Faculty and Innovative Teaching and Learning. Al in Teaching & Learning and Digital Learning.
- 2. Project excellence: The College emphasizes the importance of projects from the first year which help students develop creativity, problem solving skills, team work, soft skills and prepare them for jobs or higher studies.
- 3. Placement Record: The College has a strong placement record, with many students getting placed in reputed companies. Around 85% of students out of all the eligible students get placed every year.
- Industrial Connectivity: Internships, Minor projects, Major projects, Centre of Excellence (CoE) Domain area training, Consultancy, Curriculum design through knowledge partners.
- 5. Training and Placement Department:
  The college offers structured training year

- year to improve students' oral, written, and aptitude skills. (Total duration of training: 1044 hours in a year).
- 6. **Library:** The College has a good collection of Text and Reference Books, and subscription to many National and international journals.
- 7. Online and Virtual Learning: The College offers Online and virtual learning facilities like NPTEL, SkillRack, iamneo, Codetantra and Infosys Spring Board.
- 8. Extension Activities Actively participating in community-based programes like Swaach Bharat, Sapling Plantation programs, Digital literacy, Blood Donation Camps, NSS activities, and any other State & Central government initiatives.
- 9. Other strengths: The College has well-qualified and experienced teachers with good retention, a good infrastructure, and a disciplined environment with more number of Ph.D holders.

#### **WEAKNESSES**

- College is yet to commercialise the patents developed.
- Limited National/ International visibility for faculty members

#### **OPPORTUNITIES**

- Provides a diverse range of Degree courses in alignment with the National Education Policy 2020
- 2. Offer new UG programs in emerging areas.
- 3. The strong Alumni base of the College can be involved to contribute towards the excellence in education and to help in the journey of being listed in one of the best Colleges of the state.
- 4. Support for Career and Self-development of faculty members programs from I year to IV

- 5. Placement opportunities in high salary package in Tier I Companies.
- 6. Grants available in various Funding agencies to be tapped
- 7. Develop and Publish MOOC Courses.
- 8. Members of Faculty in University committees and Govt. Bodies.

#### **CHALLENGES**

- I. Adapting to the rapidly changing requirements and expectations of industries, societies, and government policies, ensuring that educational programs remain relevant and responsive.
- 2. Retention and Recruitment of competent faculty members due to demand in global emerging technologies.



Considering all the above factors, Strategic Plan for 2021- 26 is prepared as follows:

#### **SHORT TERM GOALS**

- I. To focus on Academic Excellence
- 2. To focus on emerging areas by offering new programs
- 3. To conduct Faculty Development Programmes to upgrade the faculty on emerging technologies.
- 4. To improve ranking under National Institutional Ranking Framework (NIRF)
- 5. To modernise of existing class rooms and laboratories
- 6. To develop Infrastructure facilities
- 7. To Strengthen E-Governance/Administrative Processes
- 8. To focus on high salary pack placement / Global placement
- To collaborate with foreign universities to offer twinning program through Higher Education Centre
- 10. AICTE IDEA Lab
- II. To fostering the growth of entrepreneurs
- 12. To offer Foreign Language course
- 13. To create Centers of Excellence in collaboration with Industries
- 14. To modernise of existing Central Library
- 15. Air Conditioning of hostel rooms

#### LONG TERM GOALS

- To promoting Research Culture and establishing Research Centres for all the Departments
- 2. To attain NAAC with highest Grade in Reaccreditation
- 3. To enhance research outcomes in terms of Publications, Patents, Research grants.
- 4. 75% of Faculty with Ph.D qualification
- 5. Setting up of Startups
- 6. Intellectual Property Rights (IPR) strategy
- 7. Enhanced Institute Industry Interface
- 8. To establish Corporate Centre
- 9. Strengthening the global alumni network

#### **ACTION PLAN**

#### **SHORT TERM GOALS**

#### **MILESTONE TIME LINE CHART (STG)**

S.No.	Milestone	Timeline
1.	Focusing on Academic Excellence	Periodical
2.	Focusing on emerging areas by offering new programs	2023,2024
3.	To conduct Faculty Development Programmes to upgrade the faculty on emerging technologies.	Periodical
4.	To improve ranking under National Institutional Ranking Framework (NIRF)	Periodical
5.	Modernisation of existing class rooms and laboratories	2023
6.	Developing Infrastructure facilities	Periodical
7.	Strengthening E- Governance/Administrative Processes	2024
8.	Focusing on High salary package placement/Global placement	2023
9.	Collaboration with Foreign Universities through Higher Education Centre	Periodical
10.	AICTE IDEA Lab	2023
11.	Fostering the growth of entrepreneurs	Periodical
12.	Offering Foreign Language Course	2023
13.	Centre of Excellence	Periodical
14.	Modernisation of existing Central Library	2023
15.	Airconditioning of Hostel rooms	2024

#### I. Focusing on Academic Excellence

Having obtained Autonomous status, the focus is shifted to academic excellence. Autonomous status paves the way in bridging the gap between industry and academia through effective implementation of dynamic Curriculum to suit to the requirements of industry.

# The College has put in place the following measures:

 Periodical review and update of the Curriculum of each academic Program (Periodical)

- Setting of benchmark with Curriculum and Syllabi of Premier institutions (2022-2023)
- Knowledge Partners as one of the stakeholders in framing the Curriculum (2022-2023)
- Periodically analyses the Stake holder's feedback. (Periodical)
- Establish MoU's with Foreign Universities and industries (Periodical)
- Introduction of Smart classroom (2023)
- To enhance quality teaching with Al driven platforms
- To supplement the academics with Digital learning material

# 2. Focusing on emerging areas by offering new Programs

Owing to the sharp rise in demand for undergraduate technical courses in emerging fields, it is proposed to start UG programs in emerging field of study like VLSI, Cyber Security, Machine Learning in near future.

#### **Summary of Actions and Progress**

A new UG Program namely Artificial Intelligence & Data Science was introduced in the academic year 2020-2021.

Proposed to increase the intake of the emerging programs & to start new programs based on the industrial needs in the forthcoming academic year 2021-22.

# 3. Faculty Development Programmes to upgrade the faculty on emerging technologies.

To keep faculty current with the latest technological developments, research trends, and industry practices.

To equip them with skills in emerging areas like Al, loT, cybersecurity, machine learning, etc.

To build research capabilities and encourage faculty to publish in reputed journals, apply for patents, or undertake funded projects.

To provide guidance on proposal writing for research grants.

Considering the importance as mentioned above FDPs are organized periodically. Series of FDPs are organized with funding from Anna University, AICTE ATAL.

The below screen shot shows the ATAL FDP organized by Mechanical Engineering Dept. under ATAL FDP schme.

Electric Vehicle for Sustainable Future

Prof. Dr.A.Ramesh

Institute Chair Professor, HT Madras

#### LLECTURE

Professor Dr.Ramesh started with the explanation of Reciprocating internal combustion engine, features of IC engine



# 4. Improve ranking under National Institutional Ranking Framework (NIRF)

To improve ranking under NIRF through focused improvement in all parameters.

The College is ranked in Engineering rank band of 251-300 in the country in NIRF 2020.



# The College has initiated the following measures:

- I. The College has introduced the scheme of Tuition fee reimbursement for meritorious students.
- 2. To provide incentive for research publications, sponsored research projects, Patents published, Patents granted and Consultancy projects.
- 3. It has been notified that each faculty shall publish at least two Journal papers in a year in refereed journals in Web of science/SCI indexed/Scopus indexed journals.
- 4. Recognition of Supervisorship from affiliated University and guiding more research scholars.
- A detailed metric wise analysis of the ranking was made and the following plans have been arrived at.
- Research productivity of articles published in SCI indexed journals shall be improved.
- 2. To approach new Companies to visit the College for Placements. The Institution shall also approach bigger companies with higher salary package. The Internship opportunities shall be further enhanced by approaching more reputed companies.
- 3. Outcomes in terms of Consultancy Projects across departments shall be improved.
- 4. Outcomes in terms of Patent (Published / Granted) shall be improved. Until 2020, 55 patent applications filed and five Patents were granted.
- 5. Presently 20.5 % of the total faculty i.e. 27 out of 132 possess Ph.D degree. It is planned to have higher number of faculty with Ph.D qualification.
- 6. Outcomes in terms of External Research Funding shall be improved. New research avenues across domains shall be identified and pursued.

7. Placement opportunities for core branches needs improvement. Measures have to be initiated to improve the placement scenario.

# 5. Modernisation of existing class rooms and Laboratories

- All the existing class rooms need to be upgraded with high-speed Wi-Fi connection before 2026.
- In all the class rooms smart boards to be installed
- All the laboratories are to be upgraded with high speed internet connection
- To establish smart classrooms with state-ofthe art facilities to facilitate hybrid online/ offline teaching, and easy and effective interaction with students.



Students' Interaction



Students listening to the Lecture



**Existing Electronics Laboratory** 

#### 6. Developing Infrastructure facilities

Laboratories are to be established with support from Industries.

To establish sophisticated Computer Centre with high end computers

To establish Robotics laboratory

To building New Blocks to accommodate more class rooms

Establishing new laboratories with modern infrastructure

Building new Library wing

Building new seminar halls with required facilities

Installing digital Notice Boards
Installing surveillance cameras in the entire campus for security purpose.

# 7. Strengthening E-governance / Administrative Processes

- Development of new modules in the College Website to facilitate the stake holders -Alumni, parents, employers to navigate smoothly.
- 2. To create an information tool to integrate data as per the format of assessing agencies like NAAC/NBA/NIRF/AICTE.
- 3. To Sep up a Recording Studio/Media Centre with latest tools.
- 4. Regular updates of changes (if any) in the norms, policies and regulations from time to

#### 8. Focusing on High salary pack placement/Global placement

- Providing Company specific training on technical skills, soft skills and problem-solving abilities.
- Recognising promising students and providing them with special training
- Redesigning the Curriculum to suit the Company needs
- Enhancing skill sets, and leveraging online platforms
- Strategic training on Group Discussions, gaining IQ, logical reasoning & communication skills.
- Inviting experts to deliver talks to the students.
- Enabling training on Foreign languages like German, Japanese which can pave the way for global placement.



Soft Skill Coliseum by LTI Mindtree Soft Skill Coliseum – Enhancing Soft Skills and Public Peaking Skills was conducted by LTIMindtree on 28.04.2021 at R.M.K. College of Engineering & Technology. Ms. Aparna R, SME, Ms. Sakshi Jain, Senior Associate and Mr. Priyadharshan Kannan, Senior Associate were the Resource persons.

KPIT offers the flagship training programme for the students of RMKCET recruited during the pre-final year.



Signing MoU with KPIT TECHNOLOGIES LTD. Pune



IOT COE inaugurated by Executive from Johnson Controls



#### Collaboration with Foreign Universities through Higher Education Centre

- Planned to execute MoUs with reputed foreign Universities
- Exploring the possibilities of pursuing Higher education in abroad through Road shows and Orientation programme conducted by Universities.
- Deputing students to participate in international events to provide them world class exposure.

The College is planning for Twinning programme with collaborative arrangements between universities in India and abroad that allow students to study in both countries. These programme can help students gain international experience, exposure to different cultures, and access to more resources.



#### 10. AICTE IDEA Lab

To establish IDEA lab which will facilitate engineering students to develop their creative and problem-solving skills.

#### 11. Fostering the growth of Entrepreneurs

Fostering the entrepreneurial spirit.

Incubation of technical Projects/Start-ups.

Encouraging entrepreneurs to promote Small & Medium Enterprises.

Orientation programme on Marketing of Products & Processes.

To instil and enhance the entrepreneurial culture among the students



#### 12. Offering Foreign Language Course

The knowledge of Foreign languages will be an asset for those who intend to join multinational companies and also those looking for opportunities aboard.

The advantage of learning Foreign language also include confidence, creativity, new career prospects and improved relationships.

To give special coaching on Foreign languages like German, Japanese to make the students to get global placement offers.





#### 13. Centre of Excellence

To collaborate with leading Industries to establish more number of Centres of Excellence in the state of the art technologies and introduce new Courses in niche technologies like Artificial Intelligence and Data Science, Cyber Security, VLSI & Machine Learning.









# Artificial Intelligence and Data Science







Cognizant supported COE for AI & DS Domain

### **CYBER SECURITY**

LAB BY TATA CONSULTANCY SERVICES (TCS)

India based MNC, a global leader in IT Services, consulting & business solutions with a large network of innovation & delivery centers





Mr. Natarajan Swaminathan, Senior Consultant, Cyber Security Practice, Tata Consultancy Services Ltd and Mr.Naveen Kumar, Head - Talent Acquisition - Chennai. Tata Consultancy Service Ltd inaugurated the Cyber Security CoE on 19 July 2017.



Advanced training is given to students with tools like SPLUNK, NEESUS, KALI LINUX, BURP Suite etc. according to the domain chosen.

# CLOUD COMPUTING VICTUSA





#### 14. Modernisation of existing Central Library

- ♦ The College Library and Information Centre has resources that offer students information on the latest technology in accordance with the international standards. The College Library contains 25,302 volumes of books with 5385 titles.
- ♦ The library subscribes to 60 National Journals and 260 International Journals and also has subscription to access IEEE (ASPP), ASME, and IEI Online Journals and other publications. Besides the above mentioned ones, 38 magazines, I I newspapers and back volumes of journals are also available to the staff and students. Library Services are Automated using Standard Library Software package Called 'AUTOLIB 5.2 VERSION'.
- ♦ The College plans for modernization of existing system with more sophisticated tools for easy access by stackholders and huge volume of resources like Online journals and E-books.







#### 15. Airconditioning of Hostel rooms

Accommodation capacity for students and faculty to be added considering the rise in demand for hostel. Faculty residence need to be increased. IT infrastructure in the hostels to be enhanced. Air-conditioning of Hostel rooms to be increased.

Strategic Plan

#### **ACTION PLAN**

#### **LONG TERM GOALS**

#### MILESTONE TIME LINE CHART (STG)

S.No.	Milestone	Timeline
1.	Promoting Research Culture and establishing Research Centres for all the Departments	2024
2.	To attain NAAC with highest Grade in Reaccreditation	2026
3.	To enhance Research outcomes in terms of Publications, Patents, Research grants.	2025
4.	75% of Faculty with Ph.D qualification	2026
5.	Setting up of Startups	2026
6.	Enhancing Intellectual Property Rights	2026
7.	Enhanced Industry Interface	2025
8.	To establish Corporate Centre	2025
9.	Strengthening the global alumni network	2024

# I. Promoting Research Culture and establishing Research Centres for all the Departments (2022-2026)

RMKCET acknowledges innovations and research as a key focus area. The Institution has developed necessary infrastructure for quality Research and Development.

The College plans to apply for Research Centre recognition for eligible Departments.

The College aims to enhance research outcomes from faculty and students through the research centres.

External Research funding is available from variety of sources, including government agencies, non-profit organizations, and corporations.

# II. To attain NAAC with highest Grade in Re-accreditation

The Institution was accredited with A Grade by National Assessment and Accreditation Council (NAAC) in 2018. The Present Accreditation status by NAAC is valid until

31.12.2026. The institution aims to achieve NAAC with highest grade.

#### **Summary of Actions and Progress**

- The following facilities are either being established or upgraded. The job shall be completed and fully become operational before 2023.
- The milestones have been identified and extent of compliance are to be regularly monitored.
- 3) Faculty/Students initiative towards community based projects may be supported to help find remedies to pressing issues.

#### Plans for the next 03Years (Timeline 2023)

- Constitution of Institution level Review Committee to conduct regular review of the attainments based on the Checklist on identified milestones.
- Review of Institutional level (Academic & Administrative) policies
- Facilitate Internal and External peer AcademicAudit



# Activities for the next 03 Years (Time line -2026)

Submission of Annual Quality Assurance Report (AQAR) (Periodic)

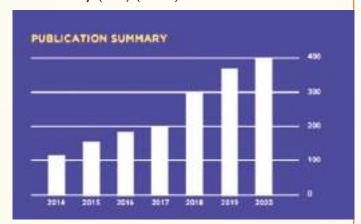
Institutional Registration on the NAAC website (2026)

Institutional Information for Quality Assessment (IIQA) (2026)

SSR submission on acceptance of IIQA (2026)

Proceed to Data Validation & Verification (DVV) process and Pre-qualifier Score (2026)

Preparation for the Student Satisfaction Survey (SSS) (2026)



III. To enhance Research outcomes in terms of Publications, Patents, Research grants.

#### **Planned Activities**

- Financial Assistance for faculty presenting papers in International Conference and National conference
- 2) It is planned to notify that each faculty member shall publish at least two journal papers per year in refereed journals indexed by Web of Science and Scopus.
- Presently all the patent application is being processed in expedited mode with RMKCET being a Grant-in-Aid institution. Planned to

turn 5 granted patents into commercial products or services.

4) The following Grants were received from various Funding agencies until the year 2020.

S.No.	Dept.	Year of Grant Sanction	Funding Agency	Amount in Rs.
1.	ECE	2015-16	ISRO	12,98,000
2.	S & H	2015-16	DST	14,46,000
3.	S & H	2016-17	IGCAR	1,50,000

#### IV. 75% of Faculty with Ph.D qualification

At present (2021) College has a total faculty strength of I21 out of which 20 hold Ph.D degree. The College aims to have atleast 75% of faculty with Ph.D qualification before 2026. To attain this the College proposes to

- Continue its endeavour to recruit faculty with Ph.D in specialized area/industry expertise.
- c) Extend the required support to the registered faculty to complete the Ph.D.
- c) 58 faculty have registered/pursuing their Doctoral studies. The Institute shall depute more number of faculty to institutions to pursue Ph.D program.

#### **V.** Setting up of Startups

To establish Startup through Entrepreneurship Development Cell (EDC).

#### **Planned Activities**

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- To define objectives, goals and roadmap of the Startups for the benefit of all stakeholders.
- 2) The faculty will have an opportunity to Start their own Startup units utilising the facilities available in incubation centre.
- 3) To recognize, award and reward outstanding / promising start-ups and enablers of start-up ecosystem comprising of students and faculty and outsiders who can be economic engines of tomorrow.

rtegic Plan

#### VI. Intellectual Property Right (IPR) Strategy

An Intellectual Property Rights policy is essential for an Institute's growth as it ensures to safeguard the Intellectual Property generated by the students, research scholars and faculty of the Institution. An IPR policy is the keystone for innovation and creativity for academicians. It provides a structure and framework and aids in nurturing the spirit of innovation and translating them into products/processes. During 2021, an IPR Policy Document was published by the Institute for the benefits of the stakeholders.

The Cell has proposed the following activities during the plan period

• To educate faculty about the procedure of patent filing.

The following Table shows the patent status upto 2021

PATENT PUBLISHED AND GRANTED			
Research Activity	Total Number of Patent Published	Total Number of Patent Granted	
Patent	78	8	

- To create awareness of importance of IP Protection among faculty and students.
- Conduct analysis and assessment of capabilities towards innovation and IP
- To conduct workshops, seminars, Guest Lectures on IPR
- To enhance research and patenting culture at RMKCET
- Commercialization of Intellectual property such as Patents, Copyright, Trademark etc.
- Analysis of innovations and bench marking of best practices of IPR Management
- Any other related functions/duties.

#### VII. Enhanced Industry Interface

Industry Institute Interaction Cell (IIIC) was established to bridge the gap between industry and Institute in 2018.

To conduct regular Industrial visits, Seminars, Internships, symposium, exhibitions and workshops in cutting edge technologies for the benefit of faculties and students.

Mutually beneficial MoUs with industry are encouraged to promote consultancy and R & D activities

Presently MoUs with industries is 9 and Industry Supported Labs is 9. More number of MoUs shall be signed to enhance interaction with Industries and setting up of Laboratories in emerging technologies.



Training Programmes and Guest Lecture done by Industry Experts

#### **Major Activities**

Key Targets & Activities –Industry – Institute Interaction

- More Industry involvement in Curriculum design and to incorporate their feedback in Curriculum
- Organise innovation Contests in collaboration with multiple organisations with expert mentors from industry to show-case the talent of students.
- Committee of Alumni from Industry to be formed for helping the College achieve futuristic goals set by the industry
- Involvement of industry personnel for sharing of the courses which are industry specific.

#### **VIII.To establish Corporate Centre**

To establish state-of-the art facilities to facilitate hybrid online/ offline teaching, and easy and effective interaction with students. State of art corporate centre to provide all types of training for aptitude and attitude development.

#### IX. Strengthening The Global Alumni Network

To connect with Alumni – similar to the outreach required for increasing core placements, Connecting with Alumni would help global placements in a big way. To have international network of Alumni the College seeks to fortify its strong and diversified engagement with Alumni.



Our beloved Chairman participating in Alumni Meeting held at DC Washington on 7<sup>th</sup> May 2019

Through these measures we plan to achieve our goals set out in this Strategic Plan.