

Institutional Development Plan for 2020-2030

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Action Plan

RAMAIAH INSTITUTE OF TECHNOLOGY, Bengaluru - 54 (Autonomous Institute, affiliated to VTU) (Approved by AICTE, New Delhi & Govt. of Karnataka) Accredited by NBA & NAAC with 'A*' Grade

About Ramaiah Institute of Technology (RIT)

Ramaiah Institute of Technology (RIT) is a self-financing institution established in Bangalore in the year 1962 by the industrialist and philanthropist, Late Dr. M S Ramaiah. RIT evolved by leaps and bounds into a major technical educational centre in the country. Currently, 13 UG and 15 PG programmes are offered to students, which are affiliated to Visvesvaraya Technological University (VTU). Since its inception, institute is continuously growing. The following are the major achievements of RIT:

- RIT obtained Academic Autonomy (approved by VTU and University Grant Commission (UGC)) for all its UG and PG Programmes from the year 2007.
- Ramaiah Institute of Technology is continuously ranked among the top 100 Engineering Colleges across India as per the National Institutional Ranking Framework (NIRF), Ministry of Education (MoE), Government of India (65th Rank in 2021 among 1143 top Engineering institutions of India).
- Ramaiah Institute of Technology secured **All India Rank 8th** for the year 2020 for Atal Ranking of Institutions on Innovation Achievements (ARIIA), an initiative of Ministry of Human Resource Development (MHRD), Govt. of India.
- Ramaiah Institute of Technology has obtained "Scimago Institutions Rankings" All India Rank 65 & world ranking 578 for the year 2020
- All the Programmes have been accredited by National Board of Accreditation (NBA) since 2001.
- In Cycle 2 of National Assessment and Accreditation Council (NAAC), Ramaiah Institute of Technology has been accredited with 'A+' grade from 1st March 2021 for a period of 5 years.
- The institute is a participant of TEQIP of MHRD, Government of India in both Phase I and Phase -II.
- All the departments in the Institute are recognized as research centres by VTU to pursue MS (Research) and PhD.
- Boeing International Corporation, USA has established its Research and Technology Centre at RIT.
- RIT has a strong Placement and Training Department with a committed team and the placement is more than 90%.
- RIT Alumni have distinguished themselves by occupying high positions in India and abroad and have contact with the Institute through an active Alumni Association.
- All the departments have competent faculty with more than 55% having PhDs and about 300 scholars are pursuing PhD.

- All research departments are active with sponsored research projects worth of Rs. 10 Crores and consultancy of Rs. 3.0 Crores.
- To promote multidisciplinary research, Institute has established three Centres of Excellence, Centre for Imaging Technologies, Centre for Advanced Materials Technology and Centre for Antennas and Radio Frequency Systems. Also, centre for Cyber Physical Systems is being established.
- RIT has actively collaborated with Industries and Premier Institutes across the globe.
- The Entrepreneurship Development Cell has been set up on campus.
- From the academic year 2021-22, RIT started four new UG programmes in the emerging areas.

Vision

To be an Institution of International Eminence, renowned for imparting quality technical education, cutting edge research and innovation to meet global socioeconomic needs

Mission

Ramaiah Institute of Technology shall meet the global socio-economic needs through

- 1. Imparting quality technical education by nurturing a conducive learning environment through continuous improvement and customization
- 2. Establishing research clusters in emerging areas in collaboration with globally reputed organizations
- 3. Establishing innovative skills development, techno-entrepreneurial activities and consultancy for socio-economic needs

To comprehend the external and internal factors that affect Institutional success and growth, SWOC analysis has been carried out by collecting the inputs from the various stakeholders. Following are the important factors identified based on the SWOC.

Institutional Strengths

- A multi-disciplinary campus with sister institutes like Medical College and Teaching Hospital, Super Specialty Hospital, Dental College and Hospital, Law College and other sister institutions allowing fruitful collaboration and convergence of different disciplines
- Strategically located in Bangalore, the Silicon Valley of India. The Institute is located in close proximity of organizations like IISc, ISRO, NIAS, CPRI, BEL & BHEL(EPD)

- Highly transparent Governance and Administration with well-defined decentralization of authority
- Highly qualified, experienced, stable, committed, research-oriented, and studentscentric faculty, of whom many are from IISc, IITs and NITs
- State-of-art and modern laboratories to cater the academic and research requirements
- Strong and active research ecosystem in all the departments

Institutional Weakness

- Industrial consultancy and IPR capabilities need to be strengthened considerably.
- Potential of networking with other institutions is not yet fully exploited
- Lack of multidisciplinary research

Institutional Opportunity

- Inter-disciplinary research and collaboration with sister Institutes to develop effective engineering solutions for problems in the fields of medical, dental and pharmacy
- Networking and sharing facilities with other premier institutions and organizations.
- Starting new diploma and certificate programmes to meet the increasing demand for skilled personnel
- Leveraging the strong links with distinguished alumni to increase engagements with industry for development projects, consultancy works etc.

Institutional Challenges

- Competition from other institutions and foreign universities that may setup their operations in India in near future.
- Fast changing technologies, and educational ecosystem that is certain to place huge demands on the efforts to mobilize resources for upgrading human resources and physical infrastructure.
- Retention of faculty with passion for teaching and research.

Further, in order to realize the institution vision, institutional road map for the next 10 years has been formulated with the following themes:

- Quality teaching and learning resources
- Research and development
- Outreach and Engagement
- Effective and Efficient management.

For the above themes, short term, medium and long term goals have been formulated as mentioned below.

Short term goals: From 0 to 2 years.

Medium Term goals: From 2 to 5 years

Long term goals: From 5 to 10 years

Theme 1: Quality Teaching and Learning Resources

1.1 To provide an excellent Teaching and Learning opportunity in multidisciplinary teaching with a world class infrastructure

Short term goal

- 1.1.1 Employ excellent faculty for teaching and strengthen our capabilities in strategic priority areas
- 1.1.2 Provide an excellent Teaching and Learning environment in emerging multidisciplinary areas along with regular courses, supported by a state-of-art Laboratories

Medium term goal

1.1.3 Develop a curricular and student learning ecosystem of international standards in emerging multidisciplinary areas

Long term goal

1.1.4 Establish joint programs in emerging areas with foreign universities (PG Diploma and UG)

1.2 To establish a Centre for Continuing Education to cater the needs of changing technologies by offering multidisciplinary courses for life-long learning.

Short term goal

- 1.2.1 Start industry oriented online courses leading to certification/diploma courses in state of art technologies
- 1.2.2 Establish Centre for Engineering Education by offering high quality teaching equipment and pedagogy
- 1.2.3 New learning strategies will be identified/developed to improve student learning environment
- 1.2.4 Establish a finishing school

Medium term goal

1.2.5 Establish an extended centre for Continuing Education

1.3 Strengthen the Recruitment of faculty from premier institutes for teaching and research

Short term goal / Medium term goal

1.3.1 Enhance recruitment of faculty from premier institutes from India and abroad, for engineering and research

Theme 2: Research and Development

2.1 To promote quality research in multidisciplinary areas

Short term goal

- 2.1.1 Strengthen centres of excellence (CoE) for research in multidisciplinary areas
- 2.1.2 Promote a multidisciplinary research culture
- 2.1.3 Promote innovation and translational research activities
- 2.1.4 Increase the number of Ph.D. scholars in multidisciplinary areas

Medium term goal

- 2.1.5 Be recognized centre in the multidisciplinary research areas
- 2.1.6 Have RIT faculty as a part of state and national task forces in specialized fields

Long term goal

- 2.1.7 Be recognized nodal centre for identifying solutions in the fields where CoEs are established
- 2.1.8 Promote spin-off companies for developing products from the research outcomes

2.2 To collaborate with industries and institutions to drive research and innovation

Short term goal

- 2.2.1 Increase the linkages with research organizations and industries
- 2.2.2 Enhance consultancy services to service sectors and industries
- 2.2.3 Promote entrepreneurial culture

Medium term goal

- 2.2.4 Strengthen the collaboration with global universities
- 2.2.5 Establish industry sponsored research labs
- 2.2.6 Establish MSRIT Technical Research and Innovation Council

Long term goal

- 2.2.7 Establish a research and innovation park
- 2.2.8 Commercialize products with industry support

2.3 To enhance funding opportunities, number of quality research publications and patents

Short term goal

- 2.3.1 Increase faculty involvement in sponsored research from Government and Private organizations
- 2.3.2 Facilitate open access research among the GEF institutes
- 2.3.3 Improve acceptance percentage of external funded project application
- 2.3.4 Increase the number of patents that are granted

Medium term goal

2.3.5 Enhance research through international collaboration

Long term goal

- 2.3.6 Become research intensive university
- 2.3.7 Aim to achieve QS world rank within 1000

Theme 3: Outreach and Engagement

3.1 To translate Research and innovation for the benefit of the society Short term goal

- 3.1.1 Promote Campus based activities and networks for community outreach
- 3.1.2 Dissemination of research outcomes in national and regional Indian languages

Medium term goal

3.1.3 Translate the cutting-edge research and innovation coming out of RIT COEs into applications of societal importance and benefit.

Long term goal

3.1.4 Create products and services of lasting value to the society

3.2 To create an environment to attract students and faculty from all sections

Short term goal

- 3.2.1 Achieve a significant student proportion from economically and socially challenged background as well as from under privileged community
- 3.2.2 Aim to create an environment that enables anyone who is differently abled to participate fully in the activities of the institute

Long term goal

3.2.3 Promote diversity among students from other states, and establish a culture of welcoming international students

Theme 4: Effective and Efficient Management of resources

4.1 Achieve excellence in governance and administration through transparent policies, accountability, quality and accessibility for stakeholders

Short term goal

- 4.1.1 Upgrade all physical facilities and the campus surroundings to global standards in quality, cleanliness and safety.
- 4.1.2 To modernize and strengthen existing lab facilities and establish new labs for emerging areas as per requirement.

Medium term goal

- 4.1.3 Create facilities that can support world-class teaching and research.
- 4.1.4 Start Joint degree programs with global universities
- 4.1.5 Encourage student and faculty exchange programs with foreign universities

4.2 Develop a mechanism with world class infrastructural facilities for administration of undergraduate and post graduate admissions, education, and research.

Short term goal

4.2.1 Establish an effective continuous quality monitoring system for teachinglearning, research and administration 4.2.2 Create an environment that responds to the global needs as well as the community's needs

Medium term goal

4.2.3 Actively seek accreditation from reputed national and international agencies such as ABET. In addition, RIT could enrol for global ranking tests to evaluate its global standing

4.3 To establish Ramaiah University in line with NEP of Government of India

Short term goal

- 4.3.1 Establishment of Centres for Excellence in the areas of advanced research
- 4.3.2 Start multidisciplinary UG & PG programmes
- 4.3.3 Start multidisciplinary online certificate courses
- 4.3.4 Establish Centre for Continuing Education

Medium term goal

- 4.3.5 To start online PG Diploma
- 4.3.6 Enhance external funding & consultancy
- 4.3.7 100% PhD faculty
- 4.3.8 To become Autonomous Degree Awarding Institute
- 4.3.9 Obtain Accreditation from International Agencies
- 4.3.10 Strengthen the collaborations with the sister institutes of GEF

ROAD MAP OF RIT (2020 - 2030)



Goals and Action Plan for the Road map

Theme 1: Quality Teaching and Learning Resources

1.1 To provide an excellent Teaching and Learning opportunity in multidisciplinary teaching with a world class infrastructure

Term	Goals	Action Plan
Short Term (0 to 2 years)	Goals1.1.1Employ excellent faculty for teaching and strengthen our capabilities in strategic priority areas1.1.2Provide an 	 Placement/Hiring department can 1. Track PhD graduates from across India and abroad in the defined strategic areas 2. Interact with IITs, NITs and foreign universities to offer faculty position opportunities to their students 3. Recruit talented and diverse doctoral students to develop future scholars and teachers, enhance our research and teaching. 4. Departments to track their alumni who are pursuing PhD at premier institutions/Universities 1. Maintain state-of-art laboratories in the areas and domains that are in high focus within industry/ies. 2. Design curriculum for at least one laboratory integrated course in each semester in the high focused area 3. Productive instructional strategies that support motivation, competence, and self-directed learning 4. Enhance/introduce at least one skill based course in each department 5. Depute faculty to identified industries for training during vacation 6. Enhance number of industry expert/s for course delivery 7. Enhance ICT enabled teaching and learning 8. Multidisciplinary courses can be taught from at least two faculties (each from different departments) 9. Allow faculty to experiment with new examination processes/method. Each department to introduce one new examination process/method – in first two years, three departments can plan this 10. Curriculum to be enhanced with field studies and project based learning material. The percentage of theoretical component in the curriculum may be
Medium Term (2 to 5 years)	1.1.3 Develop a curricular and student learning ecosystem of international standards in emerging multidisciplinary areas	 reduced to 60% (currently it is over 80%) 1. Initiate new UG programmes in existing academic entities 2. Start multidisciplinary PG programmes in Big Data Analytics & Artificial Intelligence Cyber Physical Systems 3. Initiate joint academic programmes in Medicine/Healthcare in collaboration with Medical College. 4. Establish at least one virtual lab in each department

		 5. Based on the results of the novel examination processes, all departments must adopt/create new examination processes for 50% of the courses – curriculum will automatically get modified 6. Each department to identify 2 to 4 multidisciplinary areas for curriculum development. Course content to be developed between 2021 to 2025
	1.1.4 Establish joint programs in	 Obtain Accreditation from an international body Identify the foreign universities/institutes that are in
Long Term	emerging areas	top 500 world rankings
(5 to 10	with foreign	3. Initiate student exchange program at appropriate
years)	universities (PG	level
	Diploma and UG)	

1.2 To establish a Centre for Continuing Education to cater the needs of changing technologies by offering multidisciplinary courses for life-long learning.

Term	Goals	Action Plan
Short Term (0 to 2 years	1.2.1 Start industry oriented online courses leading to certification/diploma courses in state of art technologies	 Each department to start 1 program in multidisciplinary areas related to their core domain Utilise the existing Centre of Excellence facilities for certification and PG Diploma courses
Short Term (0 to 2 years	1.2.2 Establish Centre for Engineering Education by offering high quality teaching equipment and pedagogy	 The Centre shall have state-of-art technology to deliver the course both in online and offline mode. MSRIT shall have own MOOC platform coordinated by this centre
Short Term (0 to 2 years	1.2.3 New learning strategies will be identified/developed to improve student learning environment.	1. New examination pattern to be created by each department, this will automatically create new learning strategies.
Short Term (0 to 2 years	1.2.4 Establish a finishing school	 Identify the areas that help students to take up challenges Design the curriculum for the transformational modules leading the certificate programmes
Medium Term (2 to 5 years	1.2.5 Establish an extended centre for Continuing Education	 MSRIT Shall have a separate Centre for Continuing Education (CCE), responsible for starting a new 6 month or 1-year course based on industry requirements The CCE shall be given seed amount initially for 3 years and shall be self-sustaining after 3 years. All the FDP/Workshops/Training shall be conducted and coordinated through CCE, at least

50% of the FDPs must be in multidisciplinary domains
4. Establish focussed clusters such as
Skill Development
Career Planning
Continuing Education

1.3 To employ faculty from premier institutions both in India and abroad, for teaching in emerging technologies and to achieve good faculty student ratio

Term	Goals	Action Plan
	1.3.1Enhance	1. Placement/Hiring department can create a live
Short Term	recruitment of	database of quality PhD graduates and industry experts
(0 to 2	faculty from premier	who are eligible for faculty positions
years)	institutes from India	
	and abroad, for	1. Initiate Faculty exchange program within India and
Medium	engineering and	Abroad, for research collaboration and/or faculty to
Term	research	pursue Post-Doctoral studies
(2 to 5		
years)		

Theme 2: Research and Development

2.1 To promote quality research in multidisciplinary areas

Term	Goals	Action Plan
Short Term (0 to 2 years)	2.1.1 Establish and strengthen centres of excellence (CoE) for research in multidisciplinary areas	 Strengthen the existing CoE - Imaging technologies, Advanced materials, by engaging more faculty and post-graduate students in centres of excellence activities Establish new CoE - Cyber physical systems, Biomedical research and clinical design studio (BIOMEDRECS) Induction of institute supported research fellows
Short Term (0 to 2 years)	2.1.2 Promote a multidisciplinary research culture	 Organize multidisciplinary research colloquiums and identify potential multidisciplinary research problems Conduct regular meetings for faculty interaction with RIT research advisory board members Improve participation and faculty engagement in research open day Involve UG students of different disciplines to work together in research towards fulfilling their academic requirements Promote active participations of all departments in smart city initiatives of central and state governments
Short Term (0 to 2 years)	2.1.3 Promote innovation and translational research activities	 Increase the frequency of hackathon and ideathon events Organize more invited talks from industry and R&D experts

		• Enhance research linkages with local institutes and
		industries by leveraging the strategic location of RIT
		Initiate industry funded projects
		• identification of quality proposals proposed by
		faculty through external experts
Short Term	2.1.4 Increase the	• Increase the number of full time Ph.D. scholars
(0 to 2	number of Ph.D.	• Advertise vacancies for research positions through
years)	scholars in	website
	multidisciplinary	
Medium	areas 2.1.5 Be recognized	• Establish multidisciplinary research clusters
Term	regional/ nodal	• Establish multidisciplinary research clusters focussing on engineering and architectural solutions
(2 to 5	centre in the	for Smart cities
years)	multidisciplinary	• Establish multidisciplinary research clusters among
<i>5</i> ,	research areas	departments and associated organizations under
		GEF
		• Enhance the existing research advisory board by
		including eminent personnel and policy makers from
		state and central Government
		• Identify National research institutions which can
		mentor RIT towards becoming recognized national centres
Medium	2.1.6 Have RIT	Organize skill based workshops to increase
Term	faculty as a part of	competency of faculty
(2 to 5	state and national	 Organize state and national level task force meetings
years)	task forces in	in RIT campus
	specialized fields	• Increase the visibility of faculty expertise through
		appropriate marketing and public relations
	2.1.7 Be recognized	• Implement policies and strategies suggested by the
	national centre for	mentoring research institutions
	identifying	• Undertaking consultancy projects of national
T T	solutions in the fields where CoEs	significance and visibility
Long Term	are established	
(5 to 10 years)	2.1.8 Promote spin-	• Build the infrastructure for rolling out the spin-off
yearsy	off companies for	companies
	developing	 Promote possibility of co-working spaces and
	products from the	utilization of centralized facilities as part of
	research outcomes	incubation centres

2.2 To collaborate with industries and institutions to drive research and innovation

Term	Goals	Action Plan
Short	2.2.1 Increase the	• Establish more Memorandum of Understanding
Term	linkages with research	(MoU) with research organizations and industries
(0 to 2	organizations and	Organize workshops with industries
years)	industries	• Increase research internships and student projects with research organizations and industries

Short Term (0 to 2	2.2.2 Enhance consultancy services to service sectors and	 Improve collaboration with reputed research organizations by involving them as mentors in internally supported projects Promote appointment of industrial experts as visiting faculty Prepare a consultancy brochure highlighting the technical expertise of faculty Establish policies and processes by which
years)	industries	industries can approach the institute with technical problems for consultancy projects
Short Term (0 to 2 years)	2.2.3 Promote entrepreneurial culture	 Encourage student participation for entrepreneurial related competitions Organize hackathons, ideathons in collaboration with industries Strengthen IP cell and organize seminars/ workshops to improve exposure
Medium	2.2.4 Strengthen the collaboration with global universities	 Encourage faculty visit to global universities to strengthen collaboration Participate in faculty or student exchange programs with global universities Apply for funding opportunities in collaboration with global universities Promote visiting faculty from recognized foreign universities
Term (2 to 5 years)	 2.2.5 Establish industry sponsored CoEs 2.2.6 Establish MSRIT Technical Research and Innovation Council 	 Strengthen and extend the consultancy activities to facilitate possibility of industry sponsored CoE Setting up of the infrastructure and the facilities Enhance network with industries Leverage RIT alumni network Promote conversion of student projects to start-ups through Pradharshana, hackathons and ideathons Provide mentorship and logistics assistance for students and entrepreneurial start-ups
Long Term (5 to 10 years)	 2.2.7 Establish a research and innovation park 2.2.8 Commercialize products with industry support 	 Strengthen the MSRIT Technical Research and Innovation Council towards establishment of a broader research park Conduct workshops towards increasing expertise in IP, Licensing and technology transfer Attract angel investments, venture capital for start- ups Establish a technology transfer cell Establish best practices for integration of IP cell, technology transfer cells, and MSRIT Technical Research and Innovation Council

2.3 To enhance funding opportunities, number of quality research publications and patents

Term	Goals	Action Plan
	2.3.1 Increase faculty involvement in sponsored research from Government and Private organizations	 Recruit faculty with research experience from foreign universities Encouragement of tenure tracks for faculty appointments Conduct effective research proposal writing workshops Identify faculty mentors for quality proposal submission
Short Term (0 to 2 years)	2.3.2 Facilitate open access research among the GEF institutes	 Develop dynamic web portals where research can be shared Promote inter-institute workshops, collaborations and hackathons
	2.3.3 Improve acceptance percentage of external funded project application	 Increase internal support for preliminary research leading to external funding opportunity Organize reputed and focussed conferences with international collaboration Leverage RIT alumni network
	2.3.4 Increase the number of patents that are granted	 Conduct effective IPR workshops Increase the number of patents that are applied
Medium Term (2 to 5 years)	2.3.5 Enhance research through international collaboration	 Leverage the network built with global institutions Be a part of faculty and student exchange programs and faculty fellowships Be a part of 'semester abroad' program
Long Term (5 to 10 years)	2.3.6 Become research intensive university	• Regularly review the progress of short and medium term goals for moving towards becoming a research intensive university
	2.3.7 Aim to achieve QS world rank within 1000	 Study the evaluation criteria and review the progress of the short and medium term goals to achieve a better score Visit universities with a good QS world rank

Theme 3: Outreach and Engagement

3.1 To translate Research and Innovation for the benefit of the society

Term	Goals	Action Plan
Short Term (0 to 2 years)	3.1.1 Promote Campus based activities and networks for community outreach	 Enhance engagement with neighbour academic institutions of eminence and Research organisations with joint workshops and research Establish a maker's space and start-up hubs to enhance campus based activities in collaborations with industries To have an effective industry-staff-student ecosystem for innovation and entrepreneurship to nurture entrepreneurship. More student projects to be steered to have outreach and social relevance
	3.1.2 Dissemination of research outcomes in national and regional Indian languages	Encourage faculty to contribute to RIT web portals, books and resources in Indian languages
Medium Term (2 to 5 years)	3.1.3 Translate the cutting-edge research and innovation coming out of RIT CoEs into applications of societal importance and benefit	 Set up an active business accelerator in the campus Identify at least one project from each department of societal importance and encourage for the start-up Faculty are encouraged to file patents, based on their research work From the approved patents, suitable research work would be translated to prototypes relating to medical/ transport/ agricultural/ energy/ water and waste management/ climate change fields (with suitable collaboration) Entrepreneurship development cell is to be revived to increase the number of students involving in start- ups to >3% (from 1.5%)
Long term (5 – 10 years)	3.1.4 Create products and services of lasting value to the society	 Focus on translation of cost-effective and sustainable research solutions Promote research in Barrier free design and technology

3.2 To create an environment to attract students and faculty from all sections

Term	Goals	Action Plan
Short	3.2.1 Achieve a	1. Offer Scholarships in collaboration with Govt. and
Term	significant student	Industry to attract talented students from the
(0 to 2	proportion from	economically and socially weaker community
years)	economically and socially	2. Enhance number of Scholarships in collaboration
	challenged background	with Alumni association of MSRIT
	as well as from under	3. Publishing/advertising the facilities offered by the
	privileged community	Institution for the talented students from the
		economically and socially weaker sections

Short Term (0 to 2 years)	3.2.2 Aim to create an environment that enables anyone who is differently abled to participate fully in the activities of the institute	2.	Providing the required infrastructure and financial grants in collaboration with Govt. and industry to differently abled students To provide counselling to differently - abled students on the types of courses, fee concessions, examination procedures, reservation, policies, etc., pertaining to differently-abled persons To study the aptitude of differently-abled students and assist them in getting appropriate employment
Long Term (5 to 10 years)	3.2.3 Promote diversity among students from other states, and establish a culture of welcoming international students	2.	after their studies. Build sustaining an exemplary campus climate, reflecting cultural values that lead to measures of initiating and maintaining academic and social inclusiveness. Creating and sustaining co-curricular campus environments that attract, retain a diverse group of faculty, students, staff and community partners. Publishing/advertising performances, events, and achievements which reflect a spirit of respect and inclusion.

We seek your advice and guidance to further Enhance

the quality of all our services.