



INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

Dundigal, Hyderabad-500 043

PERSPECTIVE PLAN

(2017 To 2022)

INTRODUCTION

IARE is a prestigious autonomous engineering Institute established in 2000 with one Engineering program under the aegis of Maruthi Educational Society. IARE has expanded itself with a lush green campus of 15 Acres with state of art amenities with a conducive learning environment. At present we are offering eleven Undergraduate (B.Tech) programs and six M.Tech programs in engineering and MBA (Master of Business Administration) with 21 years of rich standing in the educational sphere. IARE received autonomy in 2016 from University Grants Commission and Jawaharlal Nehru Technological University, Hyderabad (JNTUH). IARE has implemented outcome-based education in 2016 and the programs have adopted Choice Based Credit System (CBCS)

IARE consistently ranks in the country's top 200 institutions in NIRF Ranking, which draws on information about teaching, research, innovation, and employability. We are one of the most popular Institutions in the state of Telangana, India, attracting the top 5% of EAMCET aspirants, and our students are among the most sought-after by employers across the globe. All undergraduate programs are accredited by the National Board of Accreditation (NBA) New Delhi since 2008. IARE is accredited by National Accreditation and Assessment Council (NAAC) with an A Grade. The institute also received UGC recognition under Sections 2(f) and 12(B) of the UGC Act. IARE ranked 159 in the Engineering category as per National Institutional Ranking Framework (NIRF) – 2021, Ministry of Education(MoE), Govt. of India. This illustrates positive performance and quality standards we maintain in Teaching, Research, Employability, and Innovation. IARE Categorized as Band 'Excellent' institution in category of 'Private or Self-Financed College/Institutes' in Atal Ranking of Institutions on Innovation Achievement (ARIIA) – 2020, as per ACTE Innovation Cell, Ministry of Education, and Govt. of India.

IARE has total Faculty strength of 323 with 35% of the faculty being Doctorates. Major Departments are approved as research centers by JNTUH. Institute has total student strength of 5200. Institute has established Centers of Excellence in Advanced Power Engineering Research (CAPER), Alternative Energy Sources (Solar | Thermo Electric | Materials-STEM), Center for Automation and Robotics (CAR), Aerospace Research and Development Center (ARDC), Advanced Concrete Research and Innovation Center (ACRIC), Sensor, Instrumentation and Cyber-Physical System Engineering Center (SeNSE), Artificial Intelligence Experience Center (AIEC), Center of Excellence in Big Data & Data Science (B2DS), Center for Environment, Climate and Global Change. IARE has received Funding to the tune of nine corers from various government and non-government agencies. Institute has state of art library facilities with 56862 Volumes with 7998 No of Title. Digital library facilities with access to E-Journals have been provided to support self-learning and research. IARE has a good placement record of placing 85% of students and around 15% of students joining higher studies. Alumni of the institute have occupied prominent positions across the Globe.

Our Strategic Plan has long-term aspirations to grow IARE'S to expand its horizon in Quality Technical education and research to achieve our vision "To bring forth professionally competent and socially sensible engineers, capable of working across cultures while meeting the global standards ethically".

OUR VISION:

To bring forth professionally competent and socially sensible engineers, capable of working across cultures while meeting the global standards ethically.

OUR MISSION:

To provide students with an extensive and exceptional education that prepares them to excel in their professions guided by a dynamic intellectual community and be able to face the technically complex world with creative leadership qualities.

From our innovative social learning spaces, online learning environment, and use of digital technologies to on-campus next-gen computer laboratories and state-of-the-art research facilities, we adopt new and emerging technologies to provide a richer educational experience the strategic plan for 2017-2022 has been established with the following **Strategy** based on the SWOC Analysis.

Strategy 01: To Attract motivated academic achievers to UG and PG programs and nurture them into a skilled technical and managerial workforce with research acumen and social responsibility.

Strategy 02: To provide outstanding teaching, learning, and research facilities to enable them to become problem solvers, leaders and critical thinkers highly sought after by universities, industry and the government.

Strategy 03: To establish focused, high-impact, nationally recognized research programs and build a prominent faculty that will enhance the college's national and international reputation.

Strategy 04: To establish lifelong connections with alumni and capitalize on this network, corporate partnerships, and related research to strengthen the education experience, research scholarship quality, and financial support of the college.

Strategy 05: To prepare students and faculty for the changing global environment to create a culture of diversity, creativity, innovation, and entrepreneurship.

Strategy 06: To actively engage with the local/regional community and use all our institutional strengths & capabilities for providing the solutions for socio-economic growth of the local/regional community, irrespective of their status in the society.

Objectives, Strategies and Metrics for Identified Strategies

Strategy 01: To attract motivated academic achievers to UG and PG programs and nurture them into a skilled technical and managerial workforce with research acumen and social responsibility.

Objectives:

1. To Establish and strengthen a comprehensive advisory system with experts
2. To Transform students into an employable workforce and entrepreneur
3. To establish a system for holistic development of students learning system
4. To establish state-of-the-art research laboratories and centers of excellence to train graduates
5. To Provide Institutional scholarships for deserved students as per the Government of Telangana

1. To Establish and strengthen a comprehensive advisory system with experts

Initiatives:

- Addressing stakeholders' expectations and Local / National / Global needs in curriculum development
- Outcome-based assessment of academic and administrative functions
- Establish an Innovative teaching-learning model
- Involve Industry experts in curriculum development and strategy formulation

KPI Measures:

- Number of academic and administrative assessments
- A number of industry experts participated in curriculum development and strategy formulation

2. To Transform students into an employable workforce and entrepreneur

Initiatives:

- Provide Career counseling, aptitude and resume building
- Industry experts' participation in the development of new programs/Courses
- Fostering industry tie-ups to converting internships to job offers

KPI Measures:

- Number of career guidance programs
- Number of internships and Job offers
- Percentage of Number of new programs introduced

3. To establish a system for holistic development of students learning system**Initiatives:**

- Incentives for participation in extra & co-curricular activities
- Conduction of Hackathons, Coding and Hardware design competitions
- Organizing Soft-Skill and personality development Programs
- Extend technical and financial support for start-ups
- Inculcation of ethical Practices

KPI Measures:

- No. of students participated in different activities across the colleges
- Number of skill up-gradation programs conducted
- Number of products developed
- Number of start-ups developed

4. To establish state-of-the-art research laboratories and centers of excellence to train graduates**Initiatives:**

- Strengthening the research setup across departments
- To get grants from Govt. and non-Govt. agencies.
- Identify areas of expertise and set up courses/ centers to disseminate the expertise

KPI Measures:

- Number of the center of excellence established
- Number of research projects sanctioned

5. To Provide Institutional scholarships for deserved students as per the Government of Telangana**Initiatives:**

- Help to get scholarships for economically and socially challenged students
- Providing scholarships to meritorious students based on their academic performance

KPI Measures:

- Number of institutional economically backward scholarships
- Number of merit scholarships

Strategy 02: To provide outstanding teaching, learning and research facilities to enable them to become problem solvers, leaders and critical thinkers highly sought after by universities, industry and the government.

Objectives:

1. Recruiting outstanding and diverse faculty for transforming students into an employable workforce
2. To encourage faculty to improve Qualification
3. Retention of senior and Quality faculty members
4. Up-gradation of laboratory and research facilities for undergraduate and graduate students
5. Engage the services of qualified and competent industry/field experts in teaching and learning
6. Encourage the faculty to develop and promote the products/technology

1. Recruiting outstanding and diverse faculty for transforming students into an employable workforce

Initiatives:

- Recruitment of new faculty with contemporary research exposure
- Recruitment of faculty with industry exposure
- Recruitment of adjunct faculty

KPI Measures:

- Number of Faculty recruited with Research Exposure
- Number of Adjunct Faculty

2. To encourage faculty to improve Qualification

Initiatives:

- Encouraging existing faculty to pursue Ph.D. from NITs and IITs
- Certifications - NPTEL

KPI Measures:

- Institutional funding to pursuing Ph.D. scholars
- The number of NPTEL certifications.

3. Retention of senior and Quality faculty members

Initiatives:

- Providing an incentive for a qualification up-gradation / research
- Implementation of CAS Scheme
- Sponsoring the faculty to participate in FDPs, STTP and Conferences

KPI Measures:

- Incentive for Qualification Up-gradation / Research
- Sponsoring for Higher Education / Academic leave
- Maternity/paternity leaves
- Number of faculty Sponsored to participate in FDPs, STTP and Conferences

4. Up-gradation of laboratory and research facilities for undergraduate and graduate students

Initiatives:

- Up-gradation of laboratories with advanced facilities for Research
- Smart classrooms development
- Up-gradation of software and internet facility

KPI Measures:

- Number of updated laboratories
- Number of smart classrooms

5. Engage the services of qualified and competent industry / field experts in teaching and learning

Initiatives:

- Involvement of industry experts in Board of studies
- Organizing guest lecturers and expert talks
- Conduction of industrial visits for students and staff

KPI Measures:

- Number of industry experts in advisory committees / BoS
- Number of Expert Lectures delivered by industry personnel
- Number of Corporate trainings and Visits

6. Encourage the faculty to develop and promote the products/technologies.

Initiatives:

- Carrying UG and PG projects up to the level of product development

KPI Measures:

- Number of faculty undertaking industry assignments / Consultancy
- Number of Projects carried to product development

STRATEGY03: To establish focused, high-impact, nationally recognized research programs and build a prominent faculty that will enhance the college's national and international reputation

Objectives:

1. Establish and promote research ethics in the college
2. Enhance high impact research through quality academics and sponsorships
3. Augment technical, legal, and financial support to IPRs
4. Improve National Rankings and participation in international Rankings

1. Establish and promote research ethos in the college

Initiatives:

- Motivate faculty members to publish papers in high impact reputed indexed journals
- To encourage to write books and book chapters in emerging areas.
- Implementation of Anti-plagiarism Policy

KPI Measures:

- Number of papers published in high impact reputed indexed journals

2. Enhance high impact research through quality academics and sponsorships

Initiatives:

- Initiation of supervisor professional charges
- Initiation of sponsorship from Corporate / NGOs

KPI Measures:

- Number of papers published in indexed journals (SCI / WoS)
- Number of sponsorships from Corporate / NGOs

3. Augment technical, legal, and financial support to IPRs

Initiatives:

- Financial support for IPR /Books / Book chapters

KPI Measures:

- Number of Books / Book chapters published
- Number of IPRs published, filled and granted

4. Improve National Rankings and participation in international Rankings

Initiatives:

- Participation of national Ranking like NIRF & ARIIA

KPI Measures:

- Rank obtained from National Institutional Ranking Framework (NIRF)
- Band of Atal Ranking of Institutions on Innovation Achievement (ARIIA)

STRATEGY 04: To establish lifelong connections with alumni and capitalize on this network, corporate partnerships, and related research to strengthen the education experience, research scholarship quality, and financial support of the college.

Objectives:

1. Establish a system to build a bridge between alumni and Institute
2. Creating public perception/brand image of the institute in society
3. Enrichment of curriculum and fostering industry relationships
4. Establish networking amongst alumni for professional development

1. Establish a system to build a bridge between alumni and Institute**Initiatives:**

- Invited lectures and motivational talks by notable alumni
- Students exchange programs to be facilitated by alumni
- Initiation of internship programs by alumni

KPI Measures:

- Number of invited lectures by alumni
- Number of alumni meets conducted
- Number of internships provided

2. Creating public perception/ brand image of the institute in society**Initiatives:**

- Involvement of Alumni for improving institute perception
- Conduction of Awareness Program for aspiring students
- Felicitating and publicizing alumni for their outstanding performance in their Profession

KPI Measures:

- Number of alumni nominated for institute perception
- Number of awareness programs organized
- Number of alumni felicitated for their outstanding performance in their profession

3. Enrichment of curriculum and fostering industry relationships**Initiatives:**

- Involvement of alumni as BoS, Academic council, and GB members
- Industry visits through alumni

KPI Measures:

- Number of alumni invited on various boards
- Number of industry visits organized by alumni

4. Establish networking amongst alumni for professional development**Initiatives:**

- Establishing alumni chapters nationally and globally
- Development of official alumni website

KPI Measures:

- Number of alumni chapters established
- Number of alumni registered with the official website of the college

STRATEGY 05: To prepare students and faculty for the changing global environment to create a culture of diversity, creativity, innovation, and entrepreneurship.**Objectives:**

1. To promote global exposure by enabling exchange programs and international internships.
2. Promote Culture of Creativity, Innovation and Entrepreneurship amongst students

1. Promote global knowledge exposure

Initiatives:

- Collaborations and MoUs with international universities
- Facilitating faculty members to attend international conferences/symposiums/ workshops
- Organize conferences in collaboration with international universities
- Invite faculty members from international universities for conducting expert talks, training programs, etc.

KPI Measures:

- Number of MOUs with international universities for student and faculty exchange
- Number of student internships at foreign universities/laboratories
- Number of faculty members participated in International Events
- Number of Conferences organized in association with foreign universities

2. To promote global exposure by enabling exchange programs and international internships.

Initiatives:

- To Establish of an incubation center to promote startup culture
- Creation of Entrepreneurship Development Cell

KPI Measures:

- Number of innovation prototype products.
- Number of EDC programs organized in association with foreign universities

STRATEGY 06: To actively engage with the local/regional community and use all our institutional strengths & capabilities for providing the solutions for socio-economic growth of the local/regional community, irrespective of their status in the society.

Objectives:

1. To Provide technological and managerial solutions to local industries to enhance consultancy activities
2. Identification of socio-economic problems and to provide technical assistance

1. To Provide technological and managerial solutions to local industries to enhance consultancy activities

Initiatives:

- Promotion of AICTE / MSME internship schemes and consultancy activities
- Industry based project at UG and PG levels

KPI Measures:

- Number of Projects offered under various schemes and industry-based Project

2. Identification of socio-economic problems and to provide technical assistance

Initiatives:

- Enhance National Service Scheme (NSS) activities to enhance outreach activities
- To adopt Cleanliness drive - Swachh Bharat Abhiyaan and other outreach activities to enhance attitude component among the students
- To conduct an Environmental conservation awareness Program, Unnat Bharath Abhiyan and other govt. initiatives

KPI Measures:

- Number of programs conducted through extension and outreach
- Number of health check-up camps
- Number of awareness programs on traffic and water conservation

COLLECTED IARE KPIS

STRATEGY 01: TO ATTRACT MOTIVATED ACADEMIC ACHIEVERS TO UG AND PG PROGRAMS AND NURTURE THEM IN TO SKILLED TECHNICAL AND MANAGERIAL WORKFORCE WITH RESEARCH ACUMEN AND SOCIAL RESPONSIBILITY.							
OBJECTIVE	KPI	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022 (Set Goal)	UPDATED
To Establish and strengthen a comprehensive advisory system with experts	Percentage of Number of new programs introduced	20 %	-	-	50%	65%	Annually
To Transform students into an employable workforce and entrepreneur	No. of career guidance Programs	10	15	20	30	50	Annually
	No. of Internships and Job offers	800	1000	1500	2000	2500	Annually
To establish a system for holistic development of students learning system	Number of students participated in different activities across the colleges.	200	250	300	350	400	Annually
	Number of skill upgradation Programs	5	10	15	20	25	Annually
	Number of products developed	2	5	8	10	15	Annually
To establish state-of-the-art research laboratories and centers of excellence to train graduates	Number of Centre of Excellences	-	-	3	5	8	Annually
	Number of Research Projects	8	13	10	3	12	Annually
To Provide Institutional scholarships for deserved students as per the Government of Telangana	Number of Institutional Scholarship	500	750	1000	2000	3000	Annually
	Number of merit Scholarship	25	30	50	100	150	Annually
STRATEGY 02: TO PROVIDE OUTSTANDING AND DIVERSE FACULTY AND TECHNOLOGICAL & OTHER FACILITIES SO THAT STUDENTS RECEIVE QUALITY TEACHING AND ADVISING, ENABLING THEM TO BECOME PROBLEM SOLVERS, LEADERS, AND CRITICAL THINKERS HIGHLY SOUGHT AFTER BY UNIVERSITIES, INDUSTRY, AND THE GOVERNMENT.							
OBJECTIVE	KPI	2017-2018	2018-2019	2019-	2020-2021	2021-2022	UPDATED

				2020		(Set Goal)	
Recruiting outstanding and diverse faculty for transforming students into an employable workforce	Number of Faculty recruited with Research Exposure	5	6	10	5	15	Annually
	Number of Adjunct Faculty	5	8	10	12	15	Annually
To encourage faculty to improve Qualification	Institutional funding to pursuing PhD scholars. (In Lakhs)	3	5	10	20	25	Annually
	Number of NPTEL certifications	50	75	100	200	400	Annually
Up-gradation of laboratory and research facilities for undergraduate and graduate students	Incentive for Qualification Up gradation / Research (In Lakhs)	10	15	20	50	70	Annually
	Sponsoring for Higher Education / Academic leave	10	20	25	30 Lakhs	35 Lakhs	Annually
	Maternity leaves (In Months)	6	6	6	6	6	Annually
	Number of faculty Sponsored to participate in FDPs, STTP's and Conferences	140	150	200	250	300	Annually
Up gradation of Technological and Other Facilities	Number of updated laboratories	30	40	45	50	65	Annually
	Number smart classrooms	35	45	55	65	75	Annually
Engage the services of qualified and competent industry/field experts in teaching and learning	Number of Industry Experts in Advisory committees / BoS	5	10	15	20	25	Annually
	Number of Expert Lectures delivered by	5	8	10	20	30	Annually

	industry personnel						
	Number of Corporate trainings and Visits.	10	15	20	25	30	Annually
Encourage the faculty to develop and promote the products/technology	Number of Faculty undertaking industry assignments / Consultancy	3	5	5	15	20	Annually
	Number of Projects carried out leading towards product development	5	10	15	20	25	Annually
STRATEGY03: TO ESTABLISH FOCUSED, HIGH-IMPACT, NATIONALLY RECOGNIZED RESEARCH PROGRAMS AND BUILD A PROMINENT FACULTY THAT WILL ENHANCE THE COLLEGE'S NATIONAL AND INTERNATIONAL REPUTATION.							
OBJECTIVE	KPI	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022 (Set Goal)	UPDATED
Establish and promote research ethos in the college	Number of papers published in high impact reputed indexed journals	3	4	5	6	10	Annually
Enhance high impact research through academic and sponsored research	Number of papers in Indexed Journals (SCI/WoS)	191	235	147	226	250	Annually
	Number of sponsorships from Corporate / NGOs	3	5	8	10	15	Annually
Augment technical, legal, and financial support to IPRs	Number of Patents published	4	5	7	10	15	Annually
	Number of Books / Book chapters	5	22	18	11	25	Annually
National Ranking	National Institutional Ranking Framework (NIRF)	-	139	170	159	< 100	Annually
	Atal Ranking of Institutions on Innovation	-	-	-	Categorized as 'Excelle	Categorized as 'Band A'	Annually

	Achievement (ARIIA)				nt'	institution (Rank Band 1-25)	
STRATEGY 04: TO ESTABLISH LIFELONG CONNECTIONS WITH ALUMNI AND CAPITALIZE ON THIS NETWORK, CORPORATE PARTNERSHIPS, AND RELATED RESEARCH/SCHOLARSHIP WITHIN THE COLLEGE TO STRENGTHEN THE EDUCATION EXPERIENCE, RESEARCH/SCHOLARSHIP QUALITY, AND FINANCIAL SUPPORT OF THE COLLEGE.							
OBJECTIVE	KPI	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022 (Set Goal)	UPDATE D
Building a bridge between alumni and current students	Number of Invited lectures.	5	7	8	10	12	Annually
	Number of alumni Meets conducted.	3	5	8	10	12	Annually
	Number of Internships provided	30	50	65	100	150	Annually
Creating public perception/ Brand image of the institute in society	Number of alumni Nominated for Institute perception	3	5	8	10	15	Annually
	Number of Awareness Programs organized	1	2	3	5	8	Annually
	Number of alumni felicitated for outstanding performance in their profession	-	-	2	10	15	Annually
Enrichment of curriculum and fostering Industry relationships	Number of alumni invited on various boards	8	8	8	16	16	Annually
	Number of Industry visits organized by alumni	-	-	1	2	5	Annually
Enhancing alumni network for professional development	Number of alumni Chapters established	-	--		01	02	Annually
	Number of alumni registered with official website of college	-	-	200	400	600	Annually
STRATEGY 05: TO PREPARE STUDENTS AND FACULTY FOR THE CHANGING GLOBAL ENVIRONMENT TO CREATE A CULTURE OF DIVERSITY, CREATIVITY, INNOVATION, AND ENTREPRENEURSHIP.							
OBJECTIVE	KPI	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	UPDATE

						(Set Goal)	D
Promote global knowledge exposure	Number of MoU's with International Universities	-	-	2	08	10	Annually
	Number of student internships at Foreign universities / laboratories	-	-	9	-	20	Annually
	Number of faculty members participated in International Events	-	-	5	-	10	Annually
	Number of Conferences organized in association with Foreign Universities	-	-	-	-	-	Annually
	Number of Experts invited from Foreign Universities	-	-	4	6	8	Annually
Promote culture of Creativity, Innovation and Entrepreneurship amongst students	Number of innovation prototype products.	-	-	4	8	10	Annually
	Number of EDC programs organized in association with Foreign Universities	-	-	-	2	5	Annually
STRATEGY 06: TO ACTIVELY ENGAGE WITH THE LOCAL/REGIONAL COMMUNITY AND USE ALL OUR INSTITUTIONAL STRENGTHS& CAPABILITIES FOR PROVIDING THE SOLUTIONS FOR SOCIO- ECONOMIC GROWTH OF THE LOCAL/REGIONAL COMMUNITY, IRRESPECTIVE OF THEIR STATUS IN THE SOCIETY.							
OBJECTIVE	KPI	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022 (Set Goal)	UPDATED
Providing technological and managerial solutions to local industries	Number of projects offered under various schemes and industry-based project.	-	-	2	5	10	Annually
Identifying of socio- economic problems and providing the assistance through Institutional Support	Number of programs conducted through Extension and Outreach	-	10	15	20	25	Annually
	Number of health	2	3	3	2	5	

	check-up Camps						
	Number of Awareness programs on traffic, water conservation	1	1	2	2	5	