SRM Institute of Science and Technology:

STRATEGIC PLAN

SRM IST has already commenced a number of strategic initiatives to establish itself as a world class university. Some of these are highlighted below

Academic Excellence:

Students have a **wide choice of cutting edge and futuristic programs including artificial intelligence and machine learning, cyber security, nanotechnology, bioinformatics, genetic engineering to choose from.** A number of these courses are offered in close collaboration with foreign universities. SRM IST also allows students to **pursue courses of an inter-disciplinary** nature and minor in courses outside of their primary area of study.

Currently, SRM IST is one of the few universities in India to have core engineering programs accredited by ABET - Civil, Computer Science, Electronics and Communication, Electrical and Electronics, Mechanical Engineering.

SRM IST is also known for its strong track record of graduate outcomes – more than **70% of the students find employability upon graduation** in leading organizations in India and abroad, **around 20% of them pursue higher studies** in leading educational institutions across the world

Internationalization:

SRM IST has been actively working with more than **100 international universities in the last 5 years** in areas of content development, research, student and faculty mobility.

The Student Abroad programs with 35 foreign universities like Carnegie Mellon, UC Davis, Warwick and Western Australia the institution ensures that students get international exposure to augment their knowledge base.

The Governance Body with an **International Advisory Board which has representation from 50 members of top universities** across the world including MIT, Stanford, UC Berkeley, Cambridge and NUS. **SRM IST has also attracted more than 1,000 international students over the last decade.**

Research:

The University has **setup a Directorate of Research to coordinate research activities across the University** spanning different disciplines. The Research Directorate has been steadily adding a pool of talented researchers at a CAGR of 40% over the last 3 years, which has contributed to the *improving quality of publications from the university – average impact factor of 3.8.*

The university has won *58 Research projects with a total outlay of ~INR 100 crore* sponsored by DST, DBT, MoES, MNRE, BRNS, DRDO, UNICEF, ISRO, ICMR, AYUSH, and Ministry of Food Processing.

An enabling environment to promote innovation has resulted in *unique achievements such as launch of the Sri Ramaswamy Memorial Satellite, an Earth observation satellite,* developed and operated by students of the institution.

Entrepreneurship and Innovation:

SRM IST has been promoting a culture of entrepreneurship amongst students. *Next Tech Lab (drawing inspiration from MIT Media Lab)* **was started by SRM students** and is already gaining traction amongst the student community. As a recent example, five students which were a part of the team *won the Accel Prize at the Proffer Blockchain Hackathon for Societal Good*, competing with 1,900+ students and professionals from 28 countries.

Infrastructure:

State of the art infrastructure facilities available to students – abundant *campus area of more than 200+ acres*, research infrastructure in the form of centres of excellence and industry labs, *residential facilities to 12,000 students,* faculty accommodation facilities.

Diversity and Meritocracy:

SRM IST has an inclusive approach to higher education by providing opportunities to students across different economic strata and from diverse geographies. It has diverse student representation from across India & 52 countries globally.

Accordingly, *SRM IST was given the highest score for inclusivity in 2017 NIRF Rankings* In keeping with its inclusive approach the institution ensures that no deserving students is deprived of education due to their economic situation and hence it gives scholarships such as fee waiver to meritorious students to top state, SRMEEE, IIT JEE rankers, sports persons and those who are socio-economically challenged.

SRM IST has been recognized by some of the national and international rankings. This is a promising start for an institution which aspires to break into the league of top 100 institutions in the world in the next 10 -15 years.

Ranked 34th by National Institutional Ranking Framework

Pharmacy College ranked 9th in the country

Ranked in 251-300 in BRICS QS Ranking

Ranked 251 – 300 in ASIA QS Rankings

Ranked in 800+ in THES World Rankings

Ranked 250+ in THES Asia Rankings

SRM's vision to become an institution of eminence

To become the epicentre of education, research and innovation by creating and disseminating knowledge across the globe influencing and impacting the better future of beings.

To achieve the above vision and to break into top 100 world university rankings in the next 15 years, SRM will formulate strategies around the following key pillars:

1. Academic Excellence
2. Research Excellence
3. Talent Recruitment
4. Collaborations

These strategic pillars will be enabled by the presence of a robust governance structure in the university, an enabling infrastructure and availability of sufficient funding.

In the implementation of our Strategic Plan, we look to our core values to steer us through decision-making:

- Excellence, Integrity, and Academic Freedom
- Global Vision and Local Commitment
- Inclusiveness, Diversity, and Respect
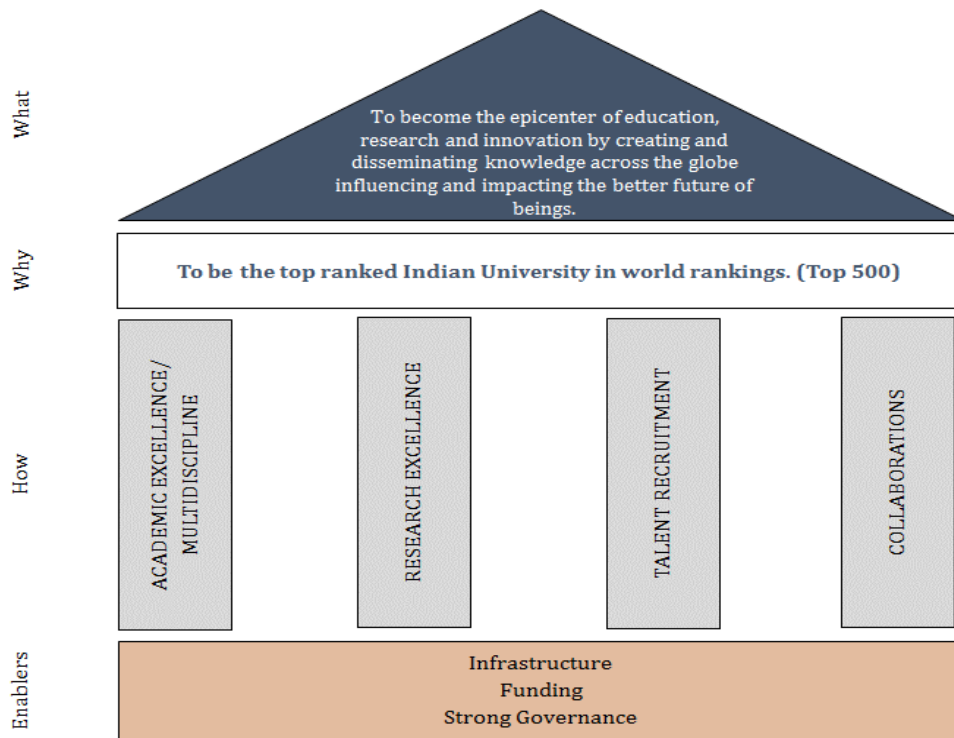
Multi-disciplinarity is a common theme across the key strategic pillars of SRM IST and is critical to SRM achieving its vision.

Academic Excellence	• SRM IST will **launch schools that are multi-disciplinary** in nature such as **School of Design** and modify existing schools such as School of Science and Humanities to make it a **School of Liberal Studies** to bring in more multi-disciplinary learning
	• **Launch new programs which are at the cross section of various disciplines**. While these programs would be firmly grounded in a particular discipline, they would have significant elements of other disciplines as well. For eg. The School of Management would launch programs in Agri-Business Management, Technology Management.
	• Pedagogical innovations and changes in curriculum to promote more inter-disciplinary learning. This would include allowing students to pursue an area of study by **opting for a minor degree**

	or a double major degree; including elements of **research and design experience in courses**
Research Excellence	• Launch COEs which are aligned to the National Priorities, having a large social impact and which predominantly requires multiple disciplines to come together and work for creating impact. • CoEs such as **Public Health, Urban Infrastructure and Smart Cities, Transport and Mobility, Bionics** will leverage SRM IST's capabilities in engineering, science and humanities, management to create lasting impact
Talent Recruitment	• Attract **researchers and faculty who have interests in multi-disciplinary research**. This could be through opportunities to develop the CoEs and by launching specialized inter disciplinary programs offered by the CoEs • Build scale in PG, PhD programs to **ensure health mix of UG, PG students in the student body.** Build scale in non-engineering programs particularly in Science and Humanities to promote an ecosystem with complementary thought processes and skill sets. • **Attract students from diverse communities and backgrounds**, reward meritorious students to build a diverse and strong talent pool, which will be crucial to achieving research and academic excellence
Collaborations	• **Each CoE to partner with industry, think tanks, NGOs,** funding agencies, Government agencies and work collaboratively to promote a multi-disciplinary ecosystem of learning and research
Infrastructure	• The academic infrastructure in SRM will be **redesigned to academic villages comprising Centres of Excellence and housing multiple related disciplines together in a cluster.** • This will facilitate not only formal collaboration but also frame informal casual **engagement between multiple disciplines in dynamic, flexible, and effective "non-classroom" environments** across the campus
Governance	— **Board representation to have academicians and experts from multiple disciplines** to ensure spirit of multi-disciplinarity is captured in strategic decision making

1. **Academic Excellence:**

SRM IST when founded, was primarily a science and technology institution, it has steadily branched out into other disciplines such as humanities, medicine and management. With one of the largest student intake in the country, the institution has the potential to be a world-class institution of higher learning offering interdisciplinary courses across various schools of learning. Multi-disciplinarity will be the key driving factor for academic excellence. The following are the key strategies to be undertaken by SRM IST in pursuit of academic excellence:

i) **Launch market relevant and interdisciplinary programs**: SRM envisions to launch disciplines and courses which are market relevant and futuristic and addresses emerging trends and needs locally and globally to ensure its graduates are equipped with knowledge and skill sets which are most in demand. SRM IST will also leverage the presence of multiple disciplines in its campus to launch courses and programs that are inter-disciplinary in nature.

   a. A separate **School of Design** will be launched that will promote collaboration of engineering, science and art. The School of Design will cut across disciplines in the true spirit of multi-disciplinary education offered in SRM IST. SRM IST will also launch a **School of Education** to promote teacher training and education.

   b. **SRM IST will collaborate with mentor institutions as knowledge partners globally for each of its schools to produce graduate outcomes of a global standard.**There partner institutions will assist in curriculum planning and development of programs and courses, defining learning approaches and outcomes. They will also assist in creating an integrated learning environment encompassing technology; content; labs and spaces.

   c. A number of **courses which are market relevant and futuristic which will address the emerging trends both nationally and globally will be launched**. This will include courses such as Urban Infrastructure and Smart Cities in the Department of Civil Engineering, Artificial Intelligence and Machine Learning in Department of Computer Science, etc.

d. SRM will also strive to **promote inter-disciplinary learning** in a big way. Courses which are at the intersection of different disciplines such as Health Economics, Data Sciences, Bioinformatics, etc. will be launched. SRM will also offer the option to students to pursue a minor in their chosen field of interest or to give them a career edge. **25% of SRM's programs will be interdisciplinary by 2022(around 30 programs) and 30% by 2032 (around 50 programs).**

Case in Point : SRM Launching Inter-disciplinary and market relevant programs

Interdisciplinary Programs:

— SRM IST has introduced Interdisciplinary Experiential Active Learning (IDEAL) in 2017. As a first step towards creating this IDEAL environment, SRM offers the option of pursuing minors and specializations to students joining B.Tech degree programme. This allows students to pursue an area of higher study in their field of interest.**Students have an option to choose from over 30 different minor programs in SRM IST.**

— SRM has already introduced a number of inter-disciplinary programs in the last 5 years including **B Tech in Mechatronics, B.Tech. In Food Process Engineering, B Tech in Biomedical Engineering, M.Tech in Robotics.**

Market Relevant and Futuristic Courses

— SRM IST has already launched course such as M Tech in Internet of Things, M Tech in Mobile and Pervasive Computing, M. Tech in Nanotechnology. These courses have been offered given their massive research potential in the coming years

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ii) **Curriculum/ Pedagogical Innovations and use of technology in delivery of teaching and learning:** will be crucial to the successful implementation of the multi-disciplinary academic plan. There would a shift from the traditional learning methodologies followed today to more contemporary learning approaches embracing experiential learning (learning through doing) and technology-enabled active learning.

a. Hybrid learning (combination of online and offline), active learning and flipped classroom techniques would be employed to make learning more experiential and student centric. SRM Group is already an early adopter of such learning techniques in India. As an example, **one of the universities operated by the SRM Group, SRM AP Amaravati has tied up with Office of Digital Learning in Massachusetts Institute of Technology, USA to offer MITx courses as part of the regular curriculum.**

b. The University is also in the process of establishing Active Learning Classrooms (ALCs) in the Faculty of Engineering and Technology to promote more collaborative approaches to learning.

c. The University is also redesigning its curriculum to include **components of Research and Design Experience such as Under Graduate Research Opportunities Program (UROP), internships, capstone project or thesis.**This will ensure students graduate with better employability skills

d. SRM IST will build on such initiatives and hopes to achieve **40% of teaching and learning through active learning/hybrid learning**.

Case in Point : Pedagogical Innovations in SRM
<u>**Hybrid Learning and Experiential Learning**</u>
— SRM University, AP – Amaravati (a university promoted by the SRM Group) is working with MIT, U.S. (Massachusetts Institute of Technology) in the design of its curriculum through the use of MITx courses. Among SRM University, AP - Amaravati's curriculum that builds on MITx courses are the following to begin with: Introduction to Computer Science and Programing; Mathematics, Calculus; Introduction to Classical Mechanics; Single Variable Calculus; Introduction to Electricity and Magnetism; Differential Equations; Elements of Structure; Circuits and Electronics and Computation Structures.The above courses will incorporate the concept of hybrid learning by utilizing both traditional and technologically enabled teaching methods. This will aid students to move from a traditional learning approach to a hybrid learning approach by utilizing educational technology and stimulating students to question and discover more.

iii) **Continuous Professional learning/ Development**: SRM IST would leverage its faculty strength, network of relationships with the industry, international partnerships to enter into Continuous Professional Education.

a. SRM IST would offer short-duration courses of less than a year targeted at working professionals looking at enhanced career growth, professionals whose skill sets are affected by technology disruption, students seeking short duration professional development programs.

b. The courses would be offered by SRM's senior faculty on a standalone basis or in collaboration with industry partners/ international academic institutions.

c. These courses will be a means for SRM IST to expand its academic offerings to international markets such as Africa, SAARC, and South East Asia.

d. These Continuous Professional Learning courses for working professionals would be a combination of both classroom and online certification courses

e. **SRM IST plans to cater to 5,000 students each year by 2022, 60,000 students by 2027 and 120,000 professionals by 2032.** The programs will initially be launched in SRM's areas of strengths such as Engineering and Technology and subsequently in areas such as Management, Science and Humanities.

iv) **Focus on National and Global Accreditations:** As a measure of ensuring continuous quality assurance and improvement, SRM will strive to obtain institution wide and program level accreditation. These accreditations would be both national and global and also will be for different schools.

   a. **Engineering and Technology:**

      i. SRM would target obtaining ABET accreditation for the core engineering programs in its all campuses by 2022.

      ii. Obtain accreditations from Applied and Natural Science Accreditation Commission (ANSAC), Computing Accreditation Commission (CAC) ABET, Engineering Accreditation Commission (EAC) for other engineering and applied sciences programs by 2025. The programs in Kattankulathur will be accredited by 2022 and in other campuses by 2025.

      iii. Continue to be NBA accredited as per NBA accreditation cycles.

   b. **Management:** SRM would target obtaining the Triple Crown Accreditation for MBA by EQUIS, AMBA and AACSB. The Management accreditations would be obtained by 2027.

c. **Medicine and Health Sciences:** SRM IST would obtain National Accreditation Board for Hospitals (NABH) and National Accreditation Board for Laboratories (NABL) for their School of Medicine and Health Sciences by 2018.

Case in Point : SRM IST Global and National Accreditations
— SRM IST's Civil Engineering, Mechanical Engineering, Electrical and Electronics Engineering, and Electronics and Communication Engineering Programs offered in Kattankulathur campus are currently accredited by the Engineering Accreditation Commission ofABET.
— B.Tech Information Technology offered in Kattankulathur Campus is accredited by the Computing Accreditation Commission of ABET,
— SRM is accredited by NAAC with 'A' Grade in the year 2013.
— Ministry of HRD has placed SRM Institute of Science and Technology in Category A, the highest category for higher education institutions in India

Progress in Academic Excellence in SRM IST would be tracked on the following parameters

End state Outcomes for Academic Excellence			
Particulars	**2022 Target**	**2027 Target**	**2032 Target**
KRA 1 : Course Offerings			
% of specialized or inter-disciplinary programs	20%	25%	30%
KRA : 2 Pedagogical Innovations			
% of UG programs with embedded research component	20%	30%	40%
% of Digital component in course curriculum	20%	30%	40%
KRA 3 : Continuous Professional Learning			
No. of working professionals enrolled	5,000	60,000	120,000
KRA 4 : Graduate Outcomes			

Graduate Employment Rate	65%	80%	80%
Academic Progression – Further Study	10%	15%	20%

2. Research Excellence:

Achieving research excellence would be key to addressing national and global challenges such as like development of cost-effective healthcare, ecologically and socially sustainable transport planning, space technology, and agricultural innovation among others. SRM will set up Centres of Excellence (COE) in areas which address critical issues and cuts across multiple disciplines. It aims to improve the quality of research publications by investing in faculty development, increasing the number of post graduate and doctorate students and extensively building a network of partnerships with leading local and global institutions.

i) **Setting up of new and transformation of existing CoEs, aligning with national priorities**: SRM IST will setup Centres of Excellence to focus on research areas that are of national importance and which will need collaboration from multiple disciplines. **The CoEs that will setup will be a combination of existing CoEs being transformed to make it more holistic and new CoEs in emerging areas of research**. The CoEs that will be setup are :
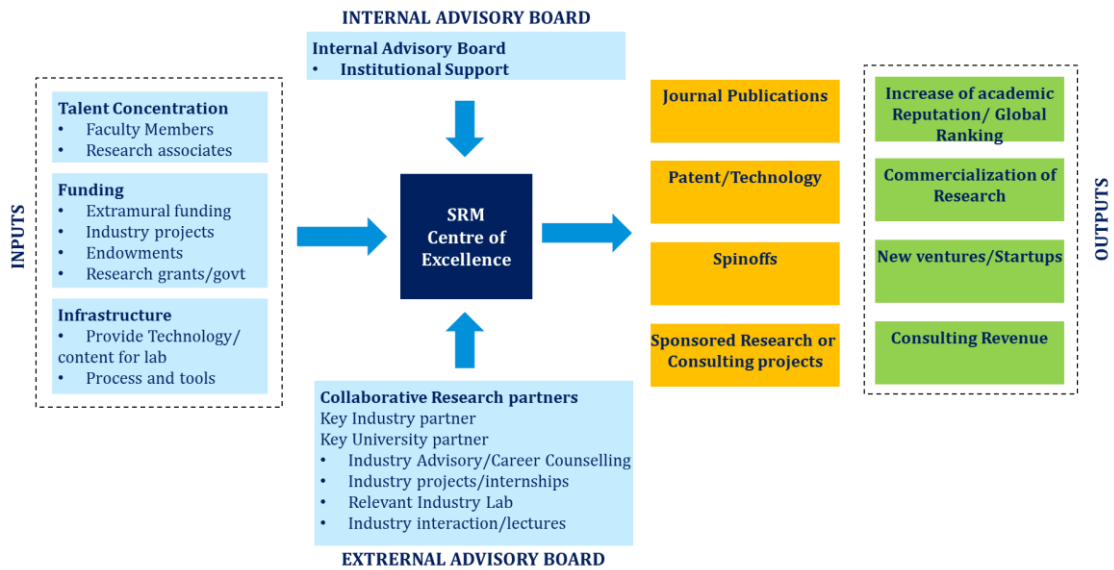
The Centres of Excellence chosen above are aligned to the National Priorities of India and hence SRM IST will make a deep impact in the country through its CoEs.

Moreover most of the national priorities such as **Make in India, Digital India, Swacch Bharat, and Smart Cities** are not uni-disciplinary but requires multiple disciplines to work together to ensure the necessary social impact is created. For example, **Smart Cities would involve solving problems like intelligent traffic control, multimodal street design and planning (engineering), wellness and quality of life (behavioral sciences and health), policy making for sustainable initiatives (public policy)**. SRM IST is well positioned to address such challenges given its presence across the various disciplines. Also the work done in the **CoEs also address most of the Sustainable Development Goals such as Quality Education, Good Health, No Hunger, Affordable and Clean Energy, Sustainable Cities and Communities, Climate Action, Peace, Justice and Social Institutions**

— The CoEs have been carefully chosen to ensure SRM IST will work on applied research and also solve societal problems in conjunction with Government, funding agencies, industry players

— The CoEs will be setup in the initial five years. To begin with SRM IST will invest in those CoEs which are in core areas of engineering, medical and health sciences. Also the investments in these CoEs will be phased out over a period of 5 years.

— To ensure fund availability the COE will be supported with Intramural grants to promote research culture and will also attract Industry sponsored projects, Government and other grants, endowments.

— The COEs will be led by distinguished researchers and will have high concentration of researchers and access to cutting edge equipment and research material.

— Setting up of these CoEs will result in:

1	*High quality journal publications* which will result in increase in number of citations per publication and thereby increase academic reputation of the university. The total number of publications per faculty per year is expected to be 7 by 2032 and the citations per publication would be 10 per publication.	
2	*High value consulting projects* with industry which will strengthen relationships with the industry and thereby improving employer reputation **Annual earnings from sponsored projects and consultancy projects is expected to be INR 900 crores by 2032.**	
3	*Joint research projects with leading international academic institutions* and faculty thereby leading to increased academic reputation	
4	Finding innovative products which will result in *increase in number of patents granted and can be commercialized* to bring revenue to the university in future. SRM IST would also file around 250 patents every year which is a tenfold increase from current levels of patent activity.	
5	*Startups which will result in new ventures* coming to life from market-oriented research	

Case in Point : SRM IST's Existing Research Centres and Centres of Excellence

— SRM IST has set up research institutes to mobilize the knowledge resources

available for research and to come up with innovative solutions. The research institutes are operational in Bangalore and Chennai. The centers function in a cooperative manner to identify and initiate foundational multi-disciplinary research and applied research projects, create and combine patentable Intellectual Property (IP) components, design and develop prototypes and proof of concepts, manage and market products and solutions (through know-how transferred incubated companies), and win and work to deliver funded research projects. The following are the Research Centres in SRM IST

- ✓ Nanotechnology Research Center
- ✓ Space Technology Research Center
- ✓ Automobile Research Center
- ✓ SRM-NEC Japan Collaborative Research center
- ✓ Center for Advanced Concrete Research
- ✓ Interdisciplinary Institute of Indian System of Medicine
- ✓ Center for Environmental Nuclear Research
- ✓ SRM-DBT Partnership Platform for Contemporary Research, Services and Skill Development in Advanced Life Science Technologies
- ✓ Satellite Meteorology Cell

ii) **Multi-pronged, deep industry relationships/ partnership to build industry research model:** Engagement with industry is crucial to understand the needs of industry, leverage their expertise, and attract funding to build solutions that cater to the needs of the market.

a. Research centers across metropolitan cities such as Delhi, Bangalore and Mumbai would be set up in collaboration with the industry to deepen engagement with industry.

b. Annual earnings from sponsored projects and consultancy projects is expected to be INR 900 crores by 2032.

iii) **Strong focus on international collaborations and interdisciplinary research:**

Over the span of next 15 years, SRM will have a sustained focus on developing meaningful collaborations with leading local and global institutions in the areas of research.

a. Around 300 MoUs would be signed for collaborative research and 30% of these collaborations would be with universities in the top 200 global rankings.

b. Over 25% of the research publications are expected as a result of the institution's collaborative work with their international partner institutes by 2032.

Case in Point : SRM IST UC Berkeley Strategic Partnership

— **SRM IST is working with the UC Berkeley, College of Engineering in the U.S.A** for bi-directional information exchange in the areas of engineering education. SRM IST is also be a Global Partner of the Jacobs Institute for Design Innovation and the Sutardja Centre for Entrepreneurship and Technology [SCET]. **This partnership will help to establish a centre at SRM - 'IDEA', Innovation, Design, Entrepreneurship and Active learning, combining UC Berkeley's SCET and Jacobs Institute for Design Innovation**. This centre at SRM will embrace the study and practice of "technology-centric" entrepreneurship as well as inspiration and ideation and hands-on experimental team-based learning from the design innovation curriculum. The IDEA Centre will offer a range of pathway courses, elective and a minor in entrepreneurship for undergraduate students.

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iv) **Develop institutional capabilities to create new technology/patent:** Development and investment to build new capabilities will result in increase of research output by the faculty and give impetus to produce more publications, patents and citations.

a. A central **Research Directorate** will support with grant writing, attracting collaborative projects and research databases. Tracking of sponsors and grants for specific research areas industry sponsorships, CSR funds for research, alumni sponsorships/endowments would be done to source extramural grants. Extramural grant per faculty would stand at INR 15 lakh by 2032.

b. SRM will be setting up the **Office of Technology Transfer** to actively engage with industry in commercialization of technology and innovation.

c. **Incubation centers** and grants to enable germination and nurturing of Startups would be set up.

v) **Attract Specialist Researchers/ Eminent Thinkers**: Introduction of futuristic and interdisciplinary courses, setting up of CoEs, encouraging research exchange programs would help build a world-class research pool.

a. SRM IST to recruit globally acclaimed scientists/ researchers to head the individual CoEs.

b. Institutionalize Distinguished Visiting Professorship/ Fellowship schemes and tap into Government fellowship schemes to attract eminent thinkers in the fields relevant to the CoEs

c. To attain global standards the percentage of researchers i.e. **PhD faculty would be increased to 80% in 2032**.

d. The number of doctoral students would be increased to an annual intake of 1200 in 2032, translating into a total of 6000 PhDs

End state Outcomes for Research Excellence			
Particulars	2022 Target	2027 Target	2032 Target
KRA 1: Research Capacity / Centres of Excellence			
No of Centre of Excellence	4	10	12
KRA 2: Availability of Researcher Pool			
Number of faculty with PhD	60%	75%	90%
Number of PhDs	2850	4700	6000
KRA 3: Research Output			
Average publications per faculty per year	3	5	7
Average Citations per publication	5	8	10
Patents filed	100	200	250
Revenue from industry projects/ grants (INR Crore)	100	660	900
No. of startups incubated	40	80	100
KRA 4 :Research Collaborations			
% of research publications through international collaborations	10%	20%	25%

3. **Talent Recruitment:**

To emerge as a world class institution, it is important for the university to have a strong pool of students and faculty. Currently, the university has over 55,000 student who are predominantly concentrated in the UG disciplines (>90%) and around 2500 faculty members.

To emerge as a world class institution, SRM IST will strive to increase the intake of PG and PhD students. While SRM currently has students from across other states it needs to increase intake of students from across the globe too to strengthen its diversity quotient. Equally important would be to create an enabling environment for students be it in academics, research, sports or arts depending on their talent and aptitude.

The faculty in SRM are currently concentrated at junior levels – Assistance Professors and Lectures and more than 65% of faculty do not have a PhD. By 2032, SRM expects to maintain a faculty student ratioof 1:10 from the present 1:17. SRM IST would also focus on increasing the intake of faculty with PhD and recruiting faculty at a senior level – Professors and Associate Professors. It is important that faculty is hired from diverse and global background to ensure that the faculty blends in world class curriculum and pedagogy and the students are imparted education which is in line with global standards. It is important that the institution also works on a faculty development and retention strategy to harness their talent.

<u>Faculty Recruitment and Retention</u>

i) **Queen Bee Strategy for attracting high quality senior faculty:** "Queen Bee" strategy focuses on recruiting high quality and experienced faculty from across the globe. This includes faculty with experience in top 100 globally ranked universities, 15+ years of experience in specific domain. Through this strategy, SRM IST can hire an adequate number of experienced scientists living overseas and in India with established global reputations. These faculty in turn would successfully attract a large number of talented young scholars in their disciplines. SRM IST would have a**round 5% of the faculty at an overall university level as "Queen Bees" by 2032**

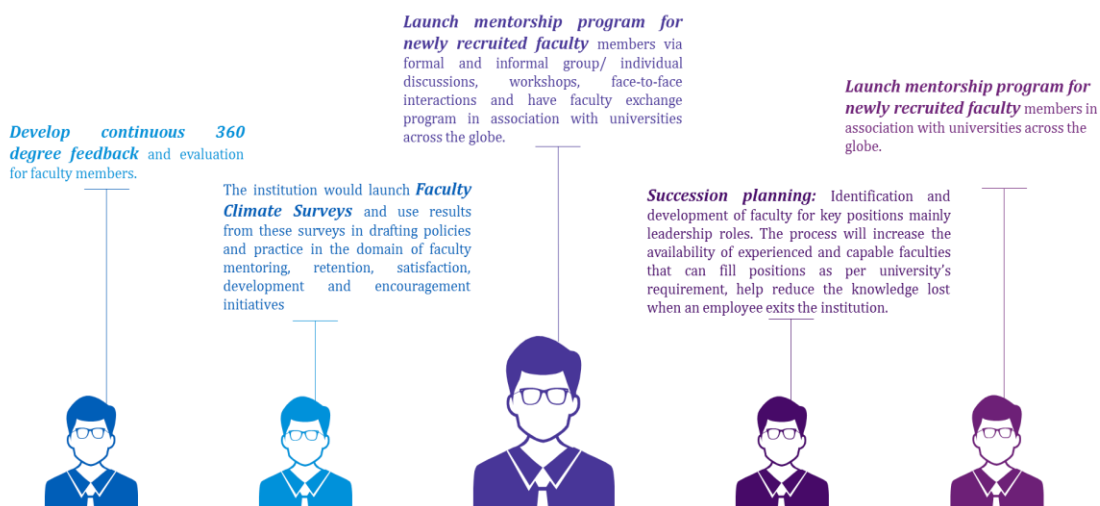ii) **SRM Young Leader Professorship (SRM YLP) Scheme** - The SRM YLP scheme will help SRM attract outstanding young researchers and scholars who aspire research leadership roles from some of the prestigious institutions in the world from QS top 100. SRM YLP scheme will provide startup grants to new faculty members as Research Grant of INR 1 crore for R&D initiatives. Additionally, the scheme will also provide attractive

remuneration package including assistance and dedicated research environment. Around 25% of the Assistant Professors hired in the university would be through SRM YLP Scheme from 2022

Case in Point : Faculty Recruitment in SRM Group Universities
— SRM AP, one of the universities run by the SRM Group has a pool of well qualified faculty. ~75% of faculty in SRM AP have international exposure and 100% of faculty have Ph.D. The University has also international faculty from reputed institutions - Dr. James West, USA; Dr. Kazuhito Shida, Japan; Dr. Sergey A. Timoshin, Russia.
— SRM is working with some of the leading Indian and international search firms such as **Perrett Laver, Society Search**. The institute widely publicizes the faculty openings in global scientific journals & magazines such as Science Careers, IEEE Spectrum and Job, THE Unijobs.

iii) **Hiring of Adjunct Faculty:** Of the total faculty base, SRM will strive to have around 85% as full-time faculty and 10% can be visiting/adjunct faculty with 50% coming from foreign exchange and another 50% from industry.

a. **Faculty exchange programs** are one of the ways in which SRM can attract visiting faculty from top ranked educational institutions. SRM IST can facilitate foreign exchange programs with universities from countries with high researcher mobility. Presence of interdisciplinary research centers will act as a major driver for faculty from those universities to come and collaborate with SRM.

b. **Industry Adjunct Faculty :** SRM will also leverage its network of relationships with industry and its alumni network to bring in industry professionals as adjunct faculty from the industry

iv) **Tenure Track System:** SRM IST would institutionalize a tenure track system to ensure recruitment of top notch assistant professors from across the globe. This would be institutionalized by SRM from 2022 onwards in their faculty of engineering and technology once a significant base of high quality faculty is in place. The tenure track system would be institutionalized in other streams such as management and science and humanities would be in place from 2027.

v)   **Faculty Engagement and Retention:**

Develop continuous 360 degree feedback and evaluation for faculty members.

The institution would launch **Faculty Climate Surveys** and use results from these surveys in drafting policies and practice in the domain of faculty mentoring, retention, satisfaction, development and encouragement initiatives

Launch mentorship program for newly recruited faculty members via formal and informal group/ individual discussions, workshops, face-to-face interactions and have faculty exchange program in association with universities across the globe.

Succession planning: Identification and development of faculty for key positions mainly leadership roles. The process will increase the availability of experienced and capable faculties that can fill positions as per university's requirement, help reduce the knowledge lost when an employee exits the institution.

Launch mentorship program for newly recruited faculty members in association with universities across the globe.

End state Outcomes for Faculty Excellence			
Particulars	2022 Target	2027 Target	2032 Target
KRA 1: Faculty Capacity			
Total Number of Faculty	6000	6000	6000
Faculty Student Ratio	1:10	1:10	1:10
% Faculty with PhD	60%	75%	90%
Cadre Mix (Professor: Associate : Assistant professor)	1:2:6	1:2:6	1:2:4
KRA 2: International Faculty			
% of international faculty	3%	7%	10%
KRA 3: Industry Faculty			
Faculty from industry	150	300	600

Student Intake:

vi) **Increase Intake in PG Programs and Doctoral Programs:** Master and Doctorate students' strength at SRM forms 11 percent of overall student strength, this ratio needs to increase to 30 percent by 2032. A total of 9000 students would be Post Graduate program and 3000 students would purse PhD per year by 2032. To increase the share of students in PG and PhD programs, SRM would undertake the following :

a. SRM would offer integrated Masters and PhD programs.

b. Offer unique, innovative interdisciplinary PG/PhD programs in association with this Centre of Excellence along with key academic and industry partners of CoE

c. The institution would also make available research grants and dedicated fellowships for PhD students.

d. Joint PhD programs with international universities and partners.

vii) **Attract international students and promoting diversity: 10% of its entire undergraduate student population and 30% of post graduate would be international by 2032.**

a. This would be done by introducing scholarships for meritorious candidates from communities or countries with high potential and low representation. **Focused scholarship programs for international students will be introduced such as SAARC merit-cum-means scholarship, ICCR (The Indian Council for Cultural Relations)** merit-cum-means scholarship, scholarship schemes for countries in which SRM is trying to build inroads.

b. The institute would enter into **strategic tie-ups with banks to provide financial assistance** for students in the form a student loan.

c. Focus on aggressively **building its brand outside India** through initiatives like opening regional office which will be responsible for attending school contact program and national admission fairs in those countries.

d. Launch long duration joint degree programs/ twinning programs to increase international student population.

e. Providing better hostel facilities for international students.

Case in Point :Scholarships in SRM IST
— SRM scholarships are awarded based on academic accomplishments,

sports and cultural excellence, and for economically challenged and differently abled students.

— **SRM Founder's Scholarship:** 100% tuition, accommodation and mess fee waiver for the students who are in top 100 in SRMJEEE Rank; in top 1000 rank in IITJEE (Main); State Board Toppers in HSC and exemplary sportspersons at National / International Level.

— **SRM Merit Scholarships :** 75% tuition fee waiver for the students who are in Top 101 to 500 in SRMJEEE; 50% tuition fee waiver for the students who are in Top 501 to 1000 in SRMJEEE

— **Other Scholarships :** 25% to 100% tuition fee waiver for the students who are Socio-economically backward; Differently Abled and Exceptional in arts and culture

End state outcome for Talent Recruitment			
	2022 Target	**2027 Target**	**2032 Target**
KRA 1: Student Enrollment			
Total Enrollment	57,000	59,000	60,000
UG: PG: PhD Mix	80:15:05	75:17:8	70:20:10
KRA 2: Student Diversity			
% International students	7%	12%	15%
KRA 3: Need blind Admission			
% of scholarships provided	5%	10%	15%

4. **Collaborations:**

In today's globalized world, in order to excel it is crucial to forge partnerships and develop network and alliances. For an institution aspiring to be world-class it has to partner with the best for knowledge development and exchange and talent management. Increased engagement with community, industry and universities locally and globally would help SRM IST in providing a holistic learning and research experience for its students and faculty.

— **Engaging with community** to enhance experiential learning for the students and helping alleviate communities that need help will help shape holistic learning for students.

— **Industry alliances** would ensure their inputs would help in designing a market-relevant curriculum and help in placements.

— **Collaboration with world-class universities/ research institutes** will help SRM with knowledge development which can happen through students and faculty exchange programs and research collaboration, besides helping them build their reputation and brand value.

    i)   **Academic Collaborations:** SRM IST would connect to the world by establishing links for students, staff, faculty and program with **partner universities around the world**.
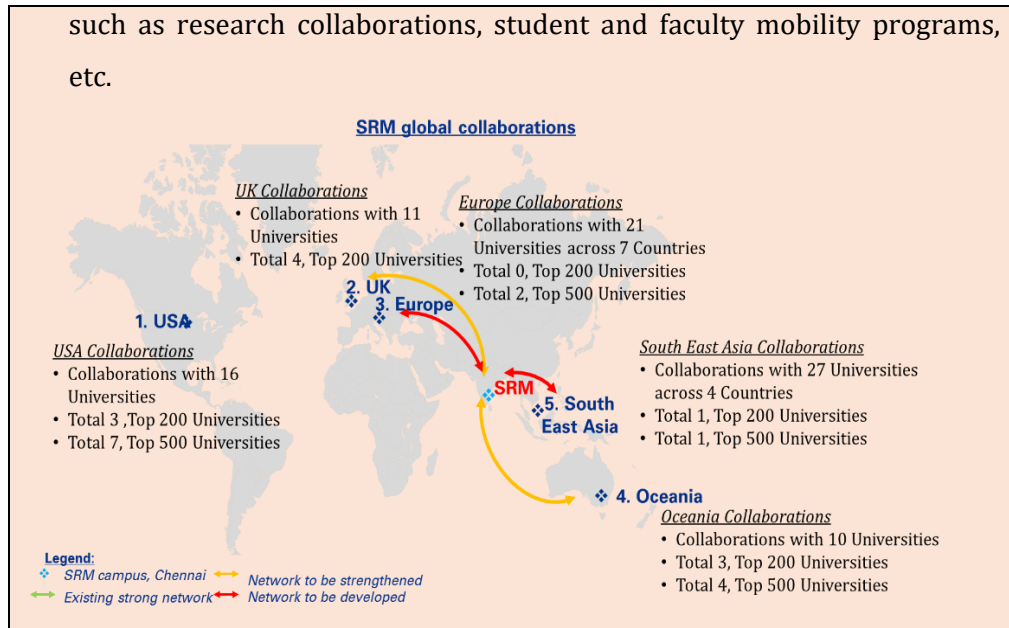
        — The institution will deepen its engagementwith already established network of global universities such as MIT, UC –Berkeley and NTU. Deepening of collaboration will entail increase in number of joint research projects with faculty from international university, curriculum development, online course development and student and faculty exchange programs. It is expected the number of collaborations with universities which figure in QS top 200 universities would increase to 60 by 2032.

        — SRM will establish corridor programs with US/Canada, UK, Oceania, Europe and South East Asia to engage with world class universities/institutions in those regions. SRM IST will also leverage India's strong bilateral relations with countries in these corridors focusing on priority research areas to improve engagements with academic institutions

        — The institution would identify future higher education destinations and initialize collaborations with those countries and make a mark for SRM IST globally. These would typically be with institutions in low middle income and emerging economies.

Academic collaboration for SRM IST will be done at 3 different levels depending on their intensity of relationship:

a) **Strategic Partnerships:** This will on relationship building with SRM IST in areas of **curriculum planning** and development of programs and courses, defining learning approaches, help in resource management including technology, laboratories, design labs, and spaces. **Collaborative research** which will ensure setting cluster of research labs and centers that will be multi-disciplinary in nature in SRM IST to promote joint research and offer joint PhD programs. SRM IST will try to identify international universities to be targeted for **twinning programs** by creating a mechanism to enable the transfer of credits and launch of these programs by 2022**.**

b) **Mobility Programs: Medium intensity collaborations: Student exchange programs** to facilitate short-term visits (typically of 1 or 2week) of exchange students and research scholars in between semesters. **Faculty exchange programs to teach or conduct research** for one semester or an academic year at other university. **Faculty members of the foreign universities could be nominated to be Area Leaders** of the different departments with a view to assist in the development of curriculum and content at SRM IST.

c) **Future Market Programs:** Thesewill focus on knowledge transfer between both the institutions through **conferences, guest lectures.**

Case in Point :SRM IST International Collaborations

— The institution has been able to build inroads into foreign universities with 93 active collaborations at present out of which 12 are with Top 200 Universities and 18 are with Top 500 Universities.

— SRM IST has collaborations with some of the leading universities in the world such as :
  — Massachusetts Institute of Technology
  — Carnegie Melon University
  — Harvard Medical
  — University of Wisconsin Madison
  — Kings College London
  — University of Warwick

— The collaborations with international institutions cover multiple areas

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such as research collaborations, student and faculty mobility programs, etc.

SRM global collaborations

UK Collaborations
• Collaborations with 11 Universities
• Total 4, Top 200 Universities

Europe Collaborations
• Collaborations with 21 Universities across 7 Countries
• Total 0, Top 200 Universities
• Total 2, Top 500 Universities

USA Collaborations
• Collaborations with 16 Universities
• Total 3 ,Top 200 Universities
• Total 7, Top 500 Universities

South East Asia Collaborations
• Collaborations with 27 Universities across 4 Countries
• Total 1, Top 200 Universities
• Total 1, Top 500 Universities

Oceania Collaborations
• Collaborations with 10 Universities
• Total 3, Top 200 Universities
• Total 4, Top 500 Universities

Legend:
❖ SRM campus, Chennai
Existing strong network
Network to be strengthened
Network to be developed

ii) **Increased Industry engagement** by showcasing universities work and its impact on research areas of national priority by leveraging combined time, talents and treasure of industry experts to advance SRM. Engagement with industry is crucial to understand the needs of industry, leverage their expertise, access their data, and attract funding to build solutions that cater to the needs of the market. With dynamic technological changes the role of industry in the envisioned CoEs, curriculum development and research becomes crucial.SRM IST Industry collaborations will be administered by SRM at 3 different levels depending on their intensity of relationship.

a) **Knowledge Enterprise Relationships:**Through establishment of CoEs, SRM IST will collaboratively work with key industrial partners. Cooperative research will be a major focus of CoEs which includes **contract research with a CoE, consulting by faculty,** and certain group arrangements specifically for addressing immediate industry problems.

b) **Industry Partnerships:** This will be taken care by Industry Interaction cell and Academic cell which will ensure facilitation of corporate training, recruitment of recent university graduates and employing student interns, co-authoring of research papers by university and industrial firm members, recruitment of adjunct faculty from industry.

Annual earnings from sponsored projects and consultancy projects is expected to be **INR 900 crores by 2032**.

Case in Point :SRM IST Industry Engagement
— SRM Institute of Science and Technology continued its strategic engagement with Taiwan when it signed two MoUs on student internships, industrial research and setting up of specialist laboratories at the university. Taiwanese ICT Company AnaGlobe Technology, a leader in VLSI and chip design, and 'Taiwan Internet of Things Alliance', entered into a collaboration with SRM IST
— Under the collaboration, research will be carried out in VLSI and chip design. A joint VLSI Design and Embedded Design Centre will also be set up at the university. NTHU, a top university in Taiwan, with a QS ranking of 161 and Asia ranking of 31, is the mentor university for SRM's on-campus Taiwan Education Centre (TEC).

iii) **Collaborations for Societal Impact:** SRM IST will work for community development and create societal impact given the presence of multiple disciplines and strong student base.

    a. Community development will be largely driven through its Centres of Excellence setup in areas such as **Public Health, Education, Public Policy, Cultural Diversity, Environment, Habitat and Sustainability.**

    b. The institution will promote long-term relationship with local community including district of Chennai and nearby areas to promote SRM IST as a hub of knowledge-based activities through community outreach programs. For example it will partner with NGO's to organize health campus in nearby villages to promote health drives in association with COE with public health.

    c. The institution will undertake activities that improve association of local community with the institution and build its reputation as one that **integrates community development along with education**.

End state outcome for Collaboration			
Particulars	2022 Target	2027 Target	2032 Target
KRA 1: COLLABORATIONS WITH ACADEMIA			
No. of collaborations (with global top 200	25	45	60

institutes/universities)			
% students outbound through semester exchange	10%	15%	20%
KRA 2: COLLABORATIONS WITH INDUSTRY			
% of faculty sourced from industry (adjunct Faculty mode)	3%	5%	10%
KRA 3: COLLABORATIONS WITH ALUMNI			
Funds from alumni (Cumulative till date) (INR)	30 crore	120 Crore	350 crore

Key Enablers

These strategic pillars will be enabled by the presence of a robust governance structure in the university, an enabling infrastructure and availability of sufficient funding.

Infrastructure:

A dynamic learning environment as envisioned in the 15 year strategic plan of the institution will also need infrastructure that supports the innovative teaching and learning environment.

i. **Pedagogy enhancement infrastructure**- Today, learning happens everywhere: in and out of the classroom, on and off campus, in formal and informal settings. SRM IST's academic infrastructure will be evolved to foster a new culture of learning that is increasingly multi-dimensional, global, social, experiential, and interactive. In line with the changing pedagogy that will incorporate the concepts of active and blended learning, flipped classrooms, and technology enabled classrooms, etc., the conceptual design of the interiors of the buildings will change. The structure of the classrooms would move away from a single focal point that is the teacher at the blackboard / presentation slides to focal points which would be congregation of students who have group specific deliberations on each topic.

ii. **Infrastructure to promote inter-disciplinary learning and experience:** Knowledge creation, knowledge dissemination, and community engagement are at the heart of SRM IST. Colleges and universities are essential environments that bring together faculty, staff, researchers, and students both formally, in traditional learning environments, and informally, outside of the classroom. The academic infrastructure in SRM will be redesigned in such a

manner that not only facilitate formal collaboration but also frame informal casual engagement in dynamic, flexible, and effective "non-classroom" environments across the campus, both inside and out. An area, the knowledge hub will be conceptualized and developed which will be the center for inter-disciplinary activity in the institution.

iii. **Sustainable Infrastructure Strategy:** Adaptive re-use is one of the most sustainable strategies available in infrastructure development in higher education. When appropriately planned, the repurposing of an existing building can support a university's sustainability goals and reduce capital costs. SRM IST will revamp its infrastructure in such a way that the new buildings can be rejuvenated by integrating modern technology, repurposed to include efficient use of space, and rejuvenated with flexible interior environments at a later point in time. The infrastructure development will be "long life, loose fit" solutions that anticipate the future in a flexible and adaptable way.

iv. **Research Infrastructure**-The 12 CoEs would be built over a period of the next five years. These CoEs would have state of the art equipment to enable world class research and innovation. The CoEs would be developed in such a manner that the interior environment will be highly functional yet inherently flexible. The CoE will house classrooms and project spaces that will be constructed of demountable partitions, which allow them to be quickly reconfigured according to a specific project team's needs. The spaces will be highly dynamic and responsive to constantly evolving research and demands. Plug-and-play utilities will allow for ease in reconfiguration of spaces. Transparency, views, and lighting are key drivers for the design of the interior spaces, but a percentage of solid modular panels adds a level of privacy and a place for required technology and displays

v. **Technology in Infrastructure:** Innovation and technology would cut across each of the strategic pillars; be it academic, research, talent recruitment strategy or global networking and collaborations. The institution will leverage technology to enable the effective implementation of its long-term strategy.

   a) **Inter disciplinary communication:** Enhancing communication between various stakeholders in the institution to build an inter-

disciplinary ecosystem. Students and faculty of various disciplines will be brought together on a single platform via *Vision.* The platform will allow all faculty and students to know the current research areas, prospective areas of interest of all individuals to promote collaboration. All students, irrespective of the degree they are pursuing, will be brought together on an online platform to promote interaction between a diverse set of students. Barriers of classes and subjects will not be present through the implementation of *SRM Live.*

b) **Pedagogy:** Tech powered classrooms allowing for innovative pedagogical approaches like (i) flipped classrooms, (ii) MOOCs, (iii) Collaborative learning, etc., would be built. This will push our education delivery towards global standards. Capabilities will also be built for the institution to develop their own digital content and eventually launch MOOCs themselves.

c) **Administrative ease:** Operational efficiency will be enhanced through the deployment of a host of tech enabled management systems.

vi. **Academic and housing** -The number of students who will be taking the on campus program will increase from 54,000 in 2017 to 60,000 in 2032. Renovations will be undertaken in academic infrastructure. A state-of-the-art library/ knowledge management systems would focus on developing collaborative thinking spaces which would facilitate outside the box thinking and provide impetus to innovation.

vii. **Campus Experience for Students:** SRM IST's mission is to be a distinctive, pioneering and connected institution that shapes the future through educating and empowering people to meet the real challenges of tomorrow. SRM IST would deliver an excellent campus experience in an outstanding physical environment which benefits the University community and contributes to the economic, social and cultural life of the region. A number of core values shape our vision on campus experience - Student-centred; Self-reliant; striving for excellence and Innovative. The key strategies to be adopted for providing an excellent campus experience are:

— Provide an outstanding student living experience

— Enhance social and recreational facilities and develop an outstanding campus life experience

— Support the University's contribution to the economic, social and cultural life of the region

— Progress the development of the University

Governance:

A flexible governance mechanism would allow the institution to make significant strides towards the realization of its goals. Governance will be based on the themes of:

A. **Autonomy and oversight**: Each school and administrative function will set their own individual strategies along with the Vice Chancellor of the institution. Along with the strategy, a set of targets and boundary conditions will be prescribed against which the progress towards realization of the strategy will be measured.

B. **Segregation of academia and administration**: Administrative and administrative tracks will be kept separate since the people requirement of individuals in the two tracks will be different. A shared services (HR, finance, payroll management, estate management, international relations, etc.) centre will be established that will service all the schools.

C. **Transparency and accountability:** Transparency will be present at two levels – institution to external stakeholders and within the institution. For external stakeholders, annual reports, and sub research, academic and process reports will be published. Internally, a 360 degree feedback process along with recourse for appraisals will be present. A management hotline will also be instated to escalate issues. To ensure accountability, targets will be set every year during the strategy decision phase, against which each function will be measured.

D. **External advisory:** At both the Board of Governors (BoG) at least 10 external members will be present and at the Board of Management (BoM) (both explained later), at least 3 external members will be present. In addition, the sub committees under the BoM (such as the academics committee, research committee, etc.) will involve external advisors.

Dr. Nicholas B. Dirks was named the 10th chancellor of the University of California, Berkeley on November 8, 2012, and served in that role between June 1, 2013 and July 1, 2017. An internationally renowned historian and anthropologist, he is a

	leader in higher education and well-known for his commitment to and advocacy for accessible, high-quality undergraduate education, to the globalization of the university, and to innovation and collaboration across the disciplines and between universities and outside partners.
	Dr Jamshed Bharucha is a Distinguished Fellow at Dartmouth College, where his research and teaching are focused on education data science. He is President Emeritus of Cooper Union, a college located in Manhattan, New York City, having served as the 12th President of Cooper Union from July 2011 through June 2015.
	Dr. Prasant Mohapatra is a Professor in the Department of Computer Science and is serving as the Dean of Graduate Studies and the Vice-Provost of Graduate Education at the University of California, Davis. He served as an Associate Chancellor during 2014-16, and the Interim Vice-Provost and the CIO during 2013-14. He was the Department Chair of Computer Science during 2007-13, and held the Tim Bucher Family Endowed Chair Professorship during that period.
	Pradeep K. Khosla became UC San Diego's eighth Chancellor on August 1, 2012. As UC San Diego's chief executive officer, he leads a campus with more than 35,000 students, six undergraduate colleges, five academic divisions, and five graduate and professional schools. With annual revenues of $4.3 billion in fiscal year 2015, UC San Diego is an academic and research powerhouse, with faculty, researchers and staff attracting more than $1 billion in research funding a year.

Vijay Kumar has been providing leadership for sustainable technology-enabled educational innovation at MIT for the past 21 years. He is currently MIT's Associate Dean of Digital Learning and the Executive Director of the Jameel World Education Lab (J-WEL). Vijay has been responsible for strategy development and leading units engaged in the effective integration of information technology and media services in education.

Snapshot of SRM in 2032

Student Strength

Total Student Enrollments	60,000
Total PhDs	**6,000**
Total PG Students	**12,000**
Students enrolled in online/ EDP	1,20,000
International Students	**10, 200 (4,800 UG + 5,400 PG)**

Faculty

Total Faculty	**6,000**
No. of Faculty with PhD	**4,800**
No. of Industry Faculty	**600**
No. of International Faculty	**600**
No. of Queen bee faculty	**150**

Research

Total Centres of Excellence	12
Total Publications/ Citations	**33,600/ 3,36,000**
Patents filed	**250**
Revenue from Research	**INR 900 crore**
Number of startups incubated	100
No. of collaborative publications	8,400

Collaborations

Collaborations with Top 200 universities	**60**
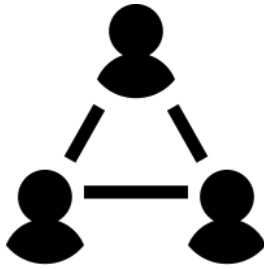
% of outbound students through exchange programs

Cumulative funds raised from alumni

2,400

INR 350 crore

IMPACT CREATED BY SRM IN THE NEXT 15 YEARS

SRM over 15 years : Epicenter of Education, Research and Innovation

Produce 2.13 lakh graduates (on campus); 6.2 lakh online students

Total of 3.2 lakh publication ; 27 lakh citations

~ 80,000 international students, ~5000 international faculty

Graduates with employment : ~1.7 lakhs; Further Study :~ 35,000

2000+ patents, INR 6000+ crore research income; ~1000 startups

12 CoEs/ 100+ labs and research centres

State of the Art Infrastructure

Strong Governance – International Academia/ Industry

Funds/ Endowments of more than INR 3000 crore

Positive Impact and Key Contributor to India's National Priorities

MAKE IN INDIA · स्वच्छ भारत एक कदम स्वच्छता की ओर · Digital India Power To Empower · Smart City · Skill India · STARTUP INDIA STAND UP INDIA