



# IIT BOMBAY STRATEGIC PLAN (2017-2022)





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December, 2017

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*The cover graphic, designed by Vidya Bhusan Jha, a student at the IDC School of Design at IIT Bombay, symbolizes a vibrant creativity that lies at the root of the strategic plan.*



## Preamble

The Institute has created the Strategy document through a detailed consultation process with stakeholders during 2015-2017. An Institute Strategy and Planning Committee (ISPC) was constituted in 2015 with key Institute leaders and faculty representatives. The ISPC prepared a draft strategy document with a new vision, mission, goals and action items. The draft document was presented by the Director in an open meeting with students, staff and faculty on 30th November 2016. This was followed by months of stakeholder feedback – survey questionnaires, focus group meetings with students, new faculty and staff. The document was discussed in department faculty meetings and alumni inputs were taken. The document was significantly modified to take into accounts the inputs received.

The revised document was presented to the Board of Governors and their suggestions incorporated in the final document. The Institute Strategy document has a plan for the ten identified goals for five years, action items and metrics. The Strategy document process has created a participatory process for involving stakeholders in the visioning and planning process of the Institute and a dialogue and excitement for meeting future challenges.

# Vision

To be a leading global technology university that provides a transformative education to create leaders and innovators, and generates new knowledge for society and industry.

# Mission

- ◆ To create an ambience in which new ideas, research and scholarship flourish, and from which the leaders and innovators of tomorrow emerge.
- ◆ To address problems faced by the nation and the world through the talent we nurture and the research we do.
- ◆ To provide an education that transforms students through rigorous coursework and by providing an understanding of the needs of society and industry.
- ◆ To collaborate with other academic and research institutes around the world to strengthen the education and research ecosystem.

# Core Values

The core values adopted by the Institute as enduring principles are Integrity, Excellence, Accountability, Transparency, and Empathy.

- ◆ **Integrity:** Research and teaching shall be carried out in an environment of academic freedom and honesty. The Institute will adhere to the highest standards of ethics in all its activities .
- ◆ **Excellence:** The Institute is committed to excellence in all spheres of its activities, and through internal and external reviews, and will work towards continuous improvement. The Institute will recognise exceptional efforts through awards and honours.
- ◆ **Accountability:** IIT Bombay, an Institute of National Importance established by an Act of Parliament, has been a recipient of public funds and recognizes that it is accountable to the people of India (through the IIT Council and Board of Governors of IIT Bombay) and to all its immediate stakeholders including students, staff, faculty, alumni, industry.
- ◆ **Transparency:** The Institute will function according to defined procedures and rules, which will be informed to all stakeholders. The Institute will make public all important information related to its functioning.
- ◆ **Empathy:** An awareness of the conditions of the weaker sections of our society and contributions towards solution of their problems will form an integral part of the research and education programmes of the Institute.

# Goals

IIT Bombay, as a modern research university, performs a diverse set of activities, which include:

- ◆ educating high quality manpower with the required skills and knowledge at both undergraduate and postgraduate levels.
- ◆ generating new knowledge through fundamental research.
- ◆ being a repository of knowledge and of experts.
- ◆ being a source of new ideas and independent opinions through scholarship.
- ◆ being a source of innovation leading to solution of local problems, development of new products, processes, and formation of new businesses, leading to wealth and employment generation.

Growth in vibrant economies of the world has been fuelled by innovation, disruptive technology, and product development, which have roots in state of the art research and education in academic institutions. Such institutions are strategic assets of a nation, contributing to both, national prosperity and national security. Successful institutions have strong links with local communities and industry, and contribute to the city, the region and the nation's development and growth. It is recognized that technology has a major role in transforming lives. Creating an enabling ecosystem for innovation and entrepreneurship is thus a key activity for progressive educational institutes. The Institute Strategy and Planning Committee (ISPC) has prepared the strategic plan of IIT Bombay in this context.

In addition to the broad range of activities that the Institute carries out in pursuit of its mission, the following goals have been identified to be given special emphasis in the strategic plan:

1. Enhance engagement with society and industry
2. Broaden educational areas
3. Improve internal support systems
4. Enhance student experience
5. Broaden funding base
6. Attract international students and faculty
7. Advance frontiers of knowledge
8. Enhance diversity
9. Enhance alumni engagement
10. Develop a cleaner and greener campus



Table 1. Trends in select indicators for IIT Bombay

Progress Indicators						
Year	2011	2012	2013	2014	2015	2016
Total Students	7767	8324	9207	9870	10001	10169
Total Faculty	498	538	546	573	596	625
Total Staff	1257	1237	1216	1182	1136	1054
PhD Students	1895	2046	2518	2884	2894	3022
Female Students	1165	1257	1470	1688	1762	1827
Degrees Conferred	1610	1808	1810	2270	2389	2515
Courses Offered	1428	1422	1496	1552	1636	1700
Journal Publications	823	937	1034	1210	1191	1374
Number of R & D Projects	720	757	748	807	790	924
Patents filed	100	99	76	83	142	106
Annual R & D Funding (in Crores)*	190	294	214	243	252	390
Plan Budget (in Crores) *	248	188	266	200	181	158
Non-plan Budget (in Crores) *	202	256	212	269	322	345

\* Financial Year

# 1. Enhance Engagement with Society and Industry

IIT Bombay engages with the outside world to effectively execute its stated mission as well as its activities. Through such an engagement the Institute hopes to understand needs and issues as well as to inform, educate and share best practices. This also helps to build perspective and awareness among faculty and students and is a source of creativity and innovation. The engagement makes research and teaching more relevant and often results in direct benefits to society.

The Industrial Research and Consultancy Centre (IRCC) is the primary interface for research and consultancy projects and provides support to centres and individual faculty members to drive the engagements. Examples of major centres include the National Centre for Aerospace Innovation and Research (NCAIR), which works for industries manufacturing aerospace components, and Centre for Technology Alternatives for Rural Areas (CTARA), which focuses on technology and development in rural areas. The Continuing Education Programme (CEP) runs a wide range of courses for working professionals and the Centre for Distance Engineering Education Programme (CDEEP) provides online courses which are accessible to students all over the world. The Institute has programmes for teacher training for colleges and schools (e.g., Train10,000Teachers project) and also offers Massive Open Online Courses (MOOC) for students of other colleges.

The outside engagements have benefitted the Institute in many ways and it is planned to increase the scale and scope of interactions. The institute will aim to create an ecosystem for deeper collaboration with industry in several modes, including consultancy, sponsored research projects, technology transfer and continuing education. We will build collaborations in education through well-structured student internships (up to six months) as well as appointment of industry professionals as Adjunct Faculty. A “faculty visiting scientist scheme in industry” will be formulated to build links. The new Research Park will catalyse such interactions. The IRCC Industry Cell will be enhanced to proactively build partnerships with industry in areas of strength of the Institute. Departments will develop short term courses targeted towards senior industry personnel, with certification approved by the Senate; CEP will be enhanced to provide support to develop and market the courses. Online offerings will be made more comprehensive with a robust system of certification, particularly for postgraduate courses.

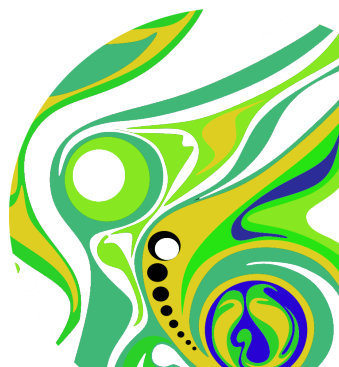
The Institute has several projects related to societal issues which result in innovative solutions that may be amenable for widespread deployment. A cell will be set up to support proof-of-concept trials and the scaling up of such solutions. The cell will also interface with local governments and NGOs to provide technical consultancy. The Institute will initiate programmes to increase its engagement with schools, starting with schools on campus and in the neighbourhood in different ways, for instance bringing students to laboratories. The Institute will also devise new schemes to engage the local community in programmes of their respective interest.

## Action points

- ◆ Create an Office for Inreach and Outreach with schools and local community.
- ◆ Create a Business Development and Industry Interface Office in IRCC to enhance Intellectual Property (IP) commercialisation, and promote industry interactions.
- ◆ Develop an ecosystem in the campus to enable and support faculty involvement in the IIT Bombay Research Park.
- ◆ Set up a business accelerator in the campus and strengthen incubation and entrepreneurship ecosystem in the campus. Enhance networking and support the development of Powai as a startup hub.
- ◆ Create a dedicated cell to promote IIT Bombay engagement with the city and the state government for capacity building and research for societal problems.
- ◆ Enhance engagement with educational and research institutions in the region with joint workshops and joint research by providing seed funding.

## Metrics/Targets

- ◆ Number of open days: one per Academic Unit per year
- ◆ Number of visitors for open days: 2000 per year
- ◆ Number of external visitors to public lectures/colloquia: 200 per year
- ◆ Target IP commercialization/licensing: 10 per year
- ◆ New industries engaged to the Institute: 20 per year
- ◆ Total number of faculty with industry engagement to: 100 per year
- ◆ Joint publications/patents with companies associated with Research Park: 20 per year
- ◆ New startup companies: 5 per year
- ◆ Number of city and state problems taken up as research projects: 10 per year
- ◆ Number of personnel trained from the city and state employees: 100 per year
- ◆ Number of TEQIP training offerings to people trained: 5 per year; 100 people trained per year
- ◆ Number of joint research projects with regional institutions: 10 per year





## 2. Broaden Educational Areas

Starting as an undergraduate engineering institution, IIT Bombay has diversified its educational offerings and increased its focus on postgraduate education over the years. The Institute today has degree programs in engineering, sciences, humanities, social sciences, design, management and several interdisciplinary areas. The Institute has undergraduate programs in engineering, physics, chemistry, design and economics with masters and doctoral programmes in all academic units.

The existing well-established programs provide a foundation for further expansion. One coordinate of expansion is starting new undergraduate programs and the other is starting new programs in disciplines that are currently not present in the Institute. Both these forms of expansion will make the student body more diverse in their interests and the educational offerings. This expansion will enrich the student experience and make the Institute more capable of addressing complex research problems. The Institute would also benefit by developing expertise in areas related to the needs of the local industry and business. The Institute is keen to encourage inter-disciplinary education. Design thinking as well as soft skills will be integrated into the departmental curriculum.

The Institute will consider new undergraduate programs in existing disciplines present in the Institute such as Mathematics, Earth Science, Biology, Management, Humanities and Social Sciences. The Institute will start a new masters program in film making, a programme which is relevant for the large film industry in Mumbai. The Institute will consider starting a new masters programme in fine arts, which will strengthen the existing design education programmes.

IIT Bombay is located in Mumbai, the financial and commercial capital of India. The Institute will explore specialized programs to address the needs of this sector, including programmes related to finance, commerce, data science and corporate law. The Institute has strengths in some of these areas but needs to build faculty expertise in others. The Institute has built up considerable strength in technology and science related to the healthcare sector with strong research programs in these areas, some of which are in collaboration with researchers in medical colleges. The Institute will explore the possibility of new academic programs related to medicine, jointly with a partner medical college.

### Action points

- ◆ Create a mechanism (Senate sub-committee) for identification of new programmes/ areas and realignment of existing programmes based on special needs of the city (possibly finance, commerce, entertainment), regional challenges, and faculty expertise.
- ◆ Initiate new undergraduate programmes in existing academic entities.
- ◆ Initiate Joint Academic programmes in Medicine/Healthcare in collaboration with medical colleges and research institutions.
- ◆ Initiate major curricular revision to broaden education and enhance skill based courses and the liberal arts foundations.

### Metrics/Targets

- ◆ New programmes introduced: 8 by 2022
- ◆ Periodic review of curriculum: once in every 5 year period
- ◆ New courses introduced: 100 by 2022
- ◆ New undergraduate programmes introduced: 5 by 2022

### 3. Improve Internal Support Systems

IIT Bombay has grown significantly with the students strength doubled over the last ten years. The complexity of its activities has increased with strong linkages and joint programmes with government agencies, industry, international universities, alumni and society. Supporting staff numbers have depleted over time and there is a deficit felt, in particular, of technical staff and staff with specialized qualifications. Although several of the Institute processes are online, the level of integration of the systems is low, resulting in duplication of efforts and a poor capability of extracting data for planning and monitoring.

The administrative load on faculty for running projects, routine department administrative activities, purchases, running CEP courses and conferences is significant. Setting up and maintaining research infrastructure is another area where faculty spend a lot of time. The Institute will create a pool of manpower to help faculty with these tasks, thus freeing up valuable faculty time for teaching, research and outreach.

The Institute has installed a modern and comprehensive Enterprise Resource Planning (ERP) system after streamlining all processes with the aim of improving efficiency and transparency of operations. The number of technical staff in the departments will be increased, including senior staff with higher qualifications. The Institute will provide additional administrative staff to departments to manage routine work such as, arranging admissions and examinations, maintenance, recording minutes of meetings, as well as specialised activities such as publishing newsletters, maintaining website and engaging with industry and alumni.

The Institute will enhance the purchase section to provide greater support for facilitating purchases in a timely manner. A conference/CEP course support cell will be set up to help arrange conferences/ CEP courses. The Institute will provide adequate staff and online systems to enable maintenance of the estate and buildings at a higher standard.

#### Action points

- ◆ Simplify systems and processes with a modern ERP system.
- ◆ Appoint and empower departmental managers to support and co-ordinate purchase, maintenance and administration in the Department.
- ◆ Implement new recruitment rules to attract qualified staff at various levels.
- ◆ Conduct annual satisfaction survey.
- ◆ Service orientation and training for staff, service response and online complaint systems.
- ◆ Establish improved faculty orientation and mentorship programme for new faculty members.
- ◆ Create a conference organizing support cell as a part of CEP.

#### Metrics/Targets

- ◆ Reduction in average processing times
- ◆ Continuous improvement on satisfaction survey scores
- ◆ Tracking and reduction in complaint redressal times

## 4. Enhance Student Experience

IIT Bombay attracts the best students of the country and offers them flexible but rigorous academic programmes and facilities for a wide range of professional and extracurricular activities. The recent rapid expansion in student numbers (Figure 1) has resulted in strained infrastructure: there is a severe shortage of hostel rooms and there are constraints on the space available for extracurricular activities. The quality of infrastructure in some cases is not of the required standard and needs upgrading.

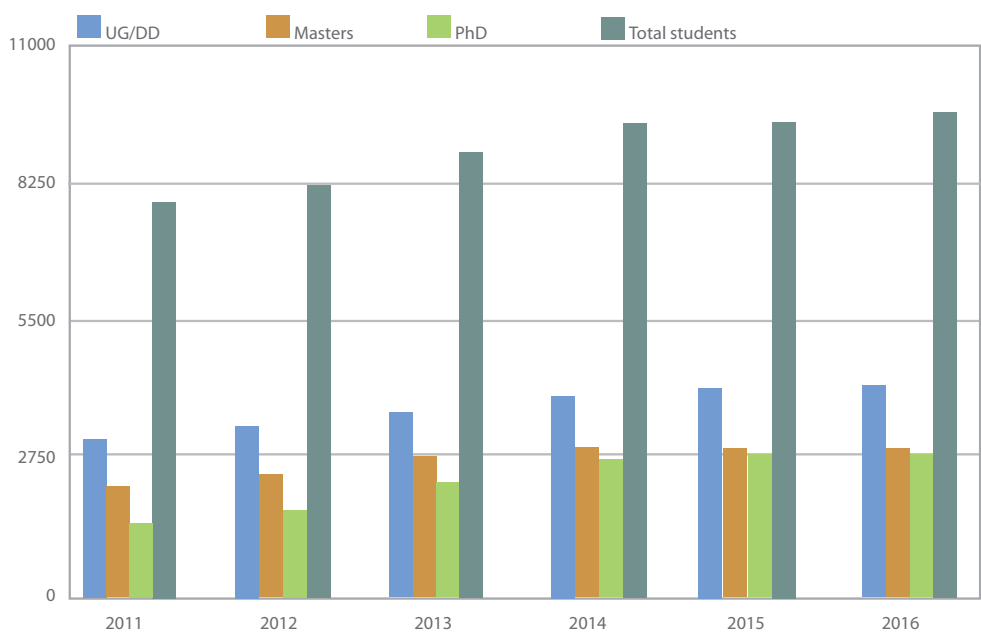


Figure 1. Student on roll under different academic programmes at IIT Bombay.

The Institute will construct new hostels, including one for married students, on a priority basis. The existing hostels will be upgraded or reconstructed, depending on the state of the structures. The facilities provided for extracurricular activities will be enhanced and facilities such as cafeterias and food courts will be built, as required.

Engagement of faculty with students, particularly undergraduate students, has reduced with increased class size. The faculty advising system will be restructured and systems to help students with academic problems will be provided counselling. The Institute will aim to have smaller class sizes, especially in department courses. A teaching/ learning centre and a writing support centre would be set up to support faculty and students.

Student interactions with administration will be simplified and automated, where possible. Students will be included in processes for planning of campus development, including green campus initiatives.

## Action points

- ◆ Construction of new hostels, including married students hostel.
- ◆ Enhance and revamp faculty advising system to improve interactions.
- ◆ Improve support systems for academically weak and vulnerable students.
- ◆ Conduct annual student satisfaction survey and setup a complaint redressal system with an Ombudsman.
- ◆ Enhanced student facilities including cafeterias, food courts and interaction spaces.
- ◆ Establish Teaching/ Learning Centre and Writing Support Centre.
- ◆ Special training for PhD students – Teaching and Entrepreneurship.
- ◆ Adequate office facilities for PhD students and post doctoral researchers.
- ◆ Support for student participation in international technical competitions, including academic credit for learning by doing.
- ◆ Supervised internships for students in industry for longer duration.

## Metrics/Targets

- ◆ Increase number of additional seats/ rooms: 2000 by 2022
- ◆ Increase number of additional married accommodation: 400 by 2022
- ◆ Number of PhD students mentored for Teaching/ Entrepreneurship: 200 per year
- ◆ Number of cafeterias / interaction spaces: 10 by 2022



# 5. Broaden Funding Base

IIT Bombay has grown in size and scale as well as in the range of activities it undertakes. Costs for running these activities are rising and there is a growing need for building infrastructure as well as modernizing and replacing existing obsolete infrastructure. There is an ambition for the Institute to be counted among the top universities of the world. Yet current funding is significantly lower than that of these universities. Although the Institute has been receiving government grants to cover a significant part of the of the recurring as well as capital expenditure from government grants, other sources of income make up as much as 45% of the income (Figure 2). Both plan and non-plan grants on a per student basis are decreasing sharply when corrected for inflation (Figure 3), hence depending on government grants is likely to constrain future growth of the Institute and there is a strong case for broadening the funding base of the Institute and increasing the non-MHRD income beyond the current 45%.

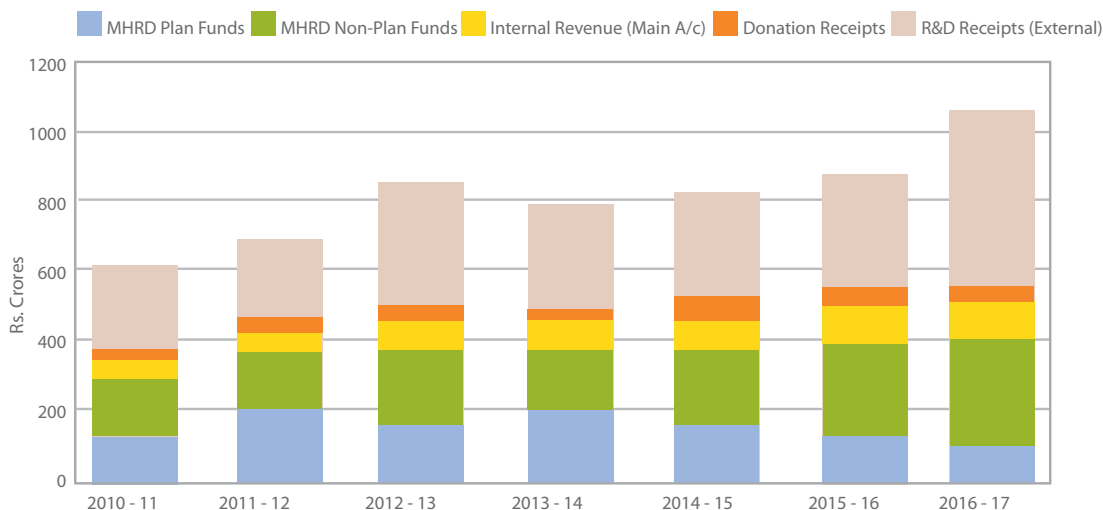


Figure 2. Summary of receipts to the Institute over the last 5 years

IIT Bombay has developed a strong reputation for excellence and reliability and has a large number of well-wishers and supporters. The Institute also has developed a potential for engaging with government departments and industry on significant projects. There is a possibility of leveraging this potential to generate financial support for the Institute. The primary sources of income other than government grants from MHRD are fees, research and consultancy income, interest on corpus funds and donations (Figure 2). The Institute should continue to make a case to the government for a base level of support to take care of expenses such as salaries and pension, scholarships and library subscriptions, basic infrastructure and its maintenance and at the same time work to increase alternate sources of funding. Fees for regular students are unlikely to be increased significantly in the near term. However, increases in fee income are possible for well targeted professional courses and short term courses for executives. Research funds have

been increasing and this needs to continue with a greater emphasis on industry funds. The growth of consultancy income has been slower and the fraction of faculty involved in this activity is small. Schemes to increase consultancy projects need to be developed. Donations are also growing; to further enhance this, alumni, foundations, industry CSR and other well-wishers need to be systematically tapped. The spending of the funds also needs to be more carefully planned. Donation projects, industry sponsored projects and consultancy projects need to be better costed to take into account all expenses, direct and indirect, in running the projects.

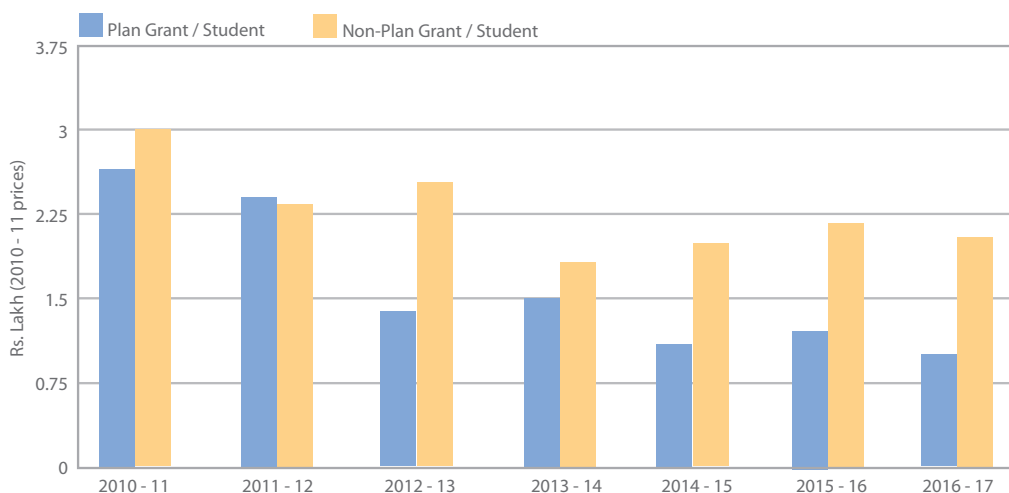


Figure 3. Support from government grants (MHRD) on a per student basis, corrected for inflation

To achieve greater support from all sources the first step would be to enhance engagement with all stakeholders, including government, society, industry and alumni, to understand their needs and interests. This needs greater participation from all sections and internal stakeholders within the Institute, as a joint and shared responsibility.

## Action points

- ◆ Leverage IIT Bombay Development & Relations Foundation (IITBDRF) as a systematic approach to donations and for enhanced engagement with stake holders.
- ◆ Increase internal revenue through masters level courses, executive programmes and professional courses.
- ◆ Improve financial management using ERP and establish methods for costing space, facilities, utilities and managing costs.
- ◆ Increase research projects from industry (Research Park, Uchchatar Avishkar Yojana) and establish Centres of Excellence.

## Metrics/Targets

- ◆ Increase Donation receipts: Rs.100 crores per year by 2022
- ◆ Increase internal revenues: Rs.150 crores per year by 2022
- ◆ Increase consultancy and industry R&D receipts: 100 crores per year by 2022

## 6. Attract International Students and Faculty

IIT Bombay has welcomed international students, primarily in its postgraduate programmes. However their numbers have remained small. We propose to take a number of initiatives to increase the number of undergraduate and postgraduate international students to 10% of the student population as decided by the IIT Council. The presence of international students will enrich the experience of all students as well as build alumni links in different countries.

The Institute will improve hostel and other facilities to welcome international students. The International Relations Office will be expanded to assist the students seeking admission, students on the rolls, and for carrying out publicity of programmes in target countries.

The admission process will be streamlined and made online to facilitate student applications. Joint Entrance Exam and Graduate Aptitude Test in Engineering will be conducted in several countries and the Institute will participate in the conduct of these examinations. Students admitted to the PhD programme will be given a teaching assistantship and tuition waiver on par with Indian students.

The Institute will build links with reputed universities in the countries from which we expect students to establish faculty and student exchanges as well as research collaborations. Such links would establish the credibility of the Institute for postgraduate education destination.

The Institute has very few International faculty members. Special programmes would be devised to attract international faculty to work on contract basis for up to 5 years.

### Action points

- ◆ Increase number of staff in the International Relations Office.
- ◆ Enhance information availability and publicity in target countries to attract students. Enhanced link with partner international universities by providing dedicated budgets.
- ◆ Facilitate student exchange and joint-PhD programmes.
- ◆ Attract international faculty on long term appointments.

### Metrics/Targets

- ◆ Increase percentage of International students (exchange students and regular students): 10% of new admissions in 2022
- ◆ Increase number of long term international faculty: 15 by 2022

# 7. Advance Frontiers of Knowledge

Research is the core activity of the Institute and forms the basis of the ability of the Institute to advance knowledge and to address the challenges of industry and society. Research also links directly to the quality of education and the reputation of the Institute over the last two decades, IIT Bombay has increased its research output significantly (Figure 4).

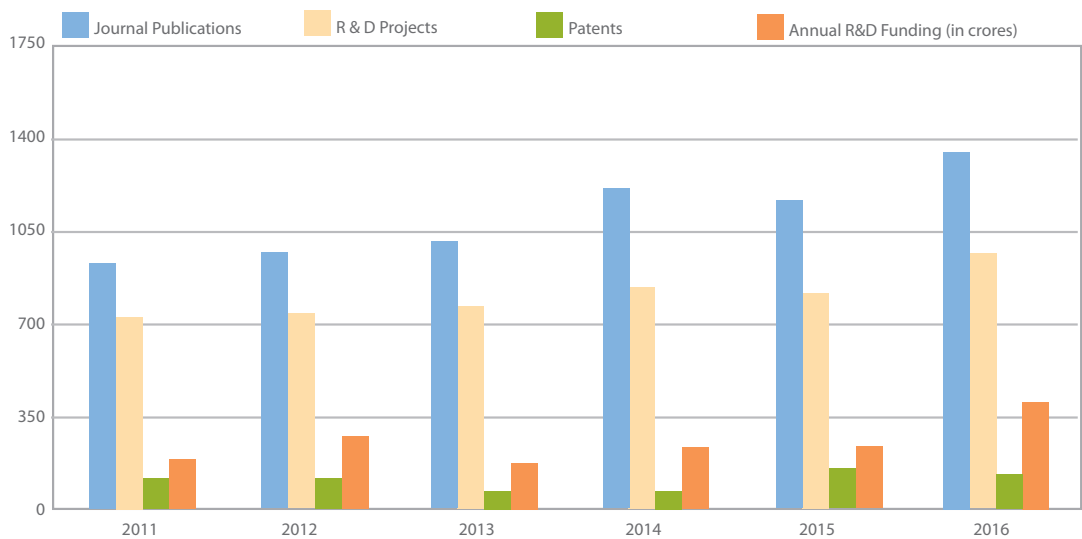


Figure 4. Research and Development in IIT Bombay

Several research groups are internationally recognized and faculty members are engaged in several projects of national importance. The Institute will continue its efforts to enhance its research contributions.

The Institute will continue its efforts to attract outstanding young faculty, senior faculty and postdoctoral fellows. The process for recruitment of PhD students will be improved to proactively attract the best students. The Institute will take a systematic approach towards nominating faculty and students for awards and honours.

The Institute will continue to enhance the environment of academic enquiry by arranging colloquia and seminars by accomplished researchers worldwide alongwith speakers from IIT Bombay; thus increasing interaction among researchers from diverse fields .

The Institute will provide support to students and faculty to present their research at international and national conferences, and will encourage the holding of conferences with a strong research focus in the campus.

The Institute will encourage collaborative research within by supporting the formation of multidisciplinary Centres devoted to specific themes. The Institute will build collaborative



links with peer universities within India and outside India and will create programmes for PhD students to work in partner universities for short periods to broaden their research experience.

The Institute will continue to support setting up of major research facilities, which are of use to several faculty. The Institute will build additional space for research laboratories of a high quality, offices for postdoctoral researchers, seating areas for PhD students and also enhance placement support for PhD students.

The Institute recognises that access to quality data is essential for research. The Institute will set up mechanisms to provide faculty and researchers access to the data needed for research and evolve a policy for data access and use.

## Action points

- ◆ Establish mechanism to support high impact research through an annual call for proposals and a process for identification of thrust areas.
- ◆ Enable access to data required for research and specify a data use and access policy.
- ◆ Encourage formation of multi-disciplinary research centres in high potential areas and enable cluster faculty hiring.
- ◆ Proactive and flexible mechanisms to attract high quality faculty and researchers. Create search process to attract students to the PhD programme.
- ◆ Encourage and support advanced research conferences at the Institute.
- ◆ Enable PhD student exchanges with partner international universities.
- ◆ Enhance facilities and working environment for PhDs and post doctoral researchers.
- ◆ Departments to set up awards committees to help identify and nominate faculty and researchers for national and international awards.
- ◆ Dedicated staff in Placement cell to promote and enhance PhD placements.

## Metrics/Targets

- ◆ Research output and impact should continue to increase. This would be reflected by increased publications per faculty, citations per faculty, citations per paper (this would not be specifically targeted, but would emerge as an outcome of enhanced research)
- ◆ Increase in annual research funding: Rs 500 crores per year by 2022
- ◆ Establish new multi-disciplinary centres: 10 by 2022
- ◆ Increase licensing: 10 per year; and patenting: 150 per year by 2022



# 8. Enhance Diversity

The Institute will encourage diversity and strive to provide an inclusive and supportive environment to physically handicapped, minorities and weaker sections of the society. IIT Bombay strives for equal representation from men and women among its faculty, students and staff members. We currently have about 27% women staff members, 13% women faculty, and little over 18% women students. The Institute would like to create an enabling environment and take initiatives to move towards greater number of women in the campus.

The number of women undergraduates are particularly small (8%) and special efforts will be made to increase these numbers. Specifically, an information campaign will be carried out to inform school children and their parents of the opportunities for women in engineering, particularly engineers graduating from IITs.

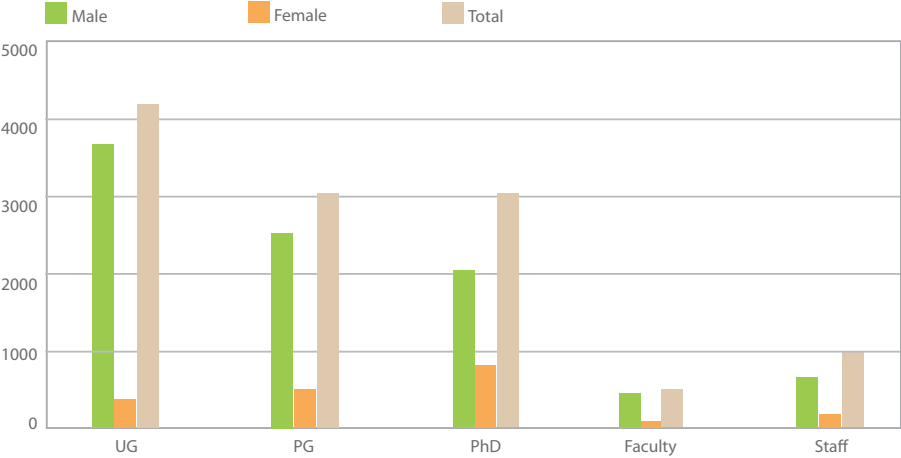


Figure 5. Gender distribution in IIT Bombay for the year 2016.

## Action points

- ◆ Create a Diversity Cell to address needs/complaints of diverse individuals/groups on the campus and ensure fairness and no discrimination.
- ◆ Good hostel facilities for women students. Increase in accommodation for married women and PhD students.
- ◆ Increase the size of day care facility so that more staff members and students can use it.
- ◆ Focused outreach to present women students, alumni, faculty members as role models to school students and convey the exciting career opportunities provided by an engineering and science education.
- ◆ An annual audit of facilities and campus infrastructure to enhance access and convenience for the physically challenged.
- ◆ Enhance percentage of women students in new admissions.
- ◆ Explore flexible working hours or the option of work from home for students with young children or ailing dependents.

## Metrics/Targets

- ◆ Increased percentage of women entrants in students (20% by 2022), staff and faculty
- ◆ Number of outreach programs to attract female students: 10 per year

## 9. Enhance Alumni Engagement

Alumni have been key stakeholders in the Institute's evolution and growth. The IIT Bombay Heritage Foundation (established in the US) and the IIT Bombay Alumni Association (established in India) have been active in networking with alumni and giving back to the alma mater. Alumni achievements have been a source of pride for the Institute and have contributed significantly in society. There are 32 active alumni chapters in various cities in India and the world. There have been several successful initiatives from the alumni such as, Young Faculty Award, Hostel Alumni Team Stewardship (HATS) and Financial Aid Programmes to support some of the Institute goals. Donations from the alumni have resulted in creation of new infrastructure (convention centre, sports facilities, innovation centre, refurbishment and creation of new Department buildings) and support towards student facilities and counseling. The Faculty Alumni Network (FAN) has helped the Institute in identifying and attracting young researchers and academics to faculty positions at the Institute. The Institute has been recognizing alumni with Distinguished Alumnus, Young Alumnus and Distinguished Service Awards. The Institute conducts several events to engage with alumni within India and around the world. A dedicated office headed by the Dean (Alumni and Corporate Relations) manages alumni interactions, supported by a new entity, the IIT Bombay Development and Relations Foundation.

The Institute has more than 50,000 alumni. The Institute will make efforts to enhance the engagement with all alumni. The focus will be on a two way interaction. The Institute is committed to lifelong involvement with all students who will continue to be part of the IIT Bombay family even after they graduate. The Institute will build its engagement on adding value and support to the alumni in their careers and professions with specialised training, lectures, access to the latest research and help with networking. The Institute will welcome alumni visits to the hostels and departments and will provide opportunities for alumni to interface with students and faculty and participate in the research and educational activities at the Institute.

### Action points

- ◆ Create an Alumni Centre at the Institute to support alumni visits, activities and engagement.
- ◆ Initiatives for supporting alumni needs for continued learning and career improvement. Lifelong Learning Modules targeted for Alumni through the CEP office.
- ◆ Multiple interaction modes such as, interaction between alumni and students, mentoring, interaction between alumni and faculty, alumni inputs for curriculum development, alumni support for student placements and internships, alumni involvement in Department Advisory Committees and in enhancing the innovation ecosystem at IIT Bombay.
- ◆ Enhance effectiveness of the FAN to pro-actively identify potential IIT Bombay faculty.
- ◆ Engage alumni as adjunct faculty.

### Metrics/Targets

- ◆ Number of alumni visitors to Alumni Centre and the Institute: 1000 per year
- ◆ Number of courses/workshops/networking events for alumni: 10 per year

## 10. Develop a Cleaner and Greener Campus

The most distinctive characteristic of the institute is its close-knit and integrated residential community. Housing is guaranteed for all students, faculty and staff allowing for a blending of academic and residential life. Approximately 20,000 people live on this large campus of 489 acres, with Vihar and Powai lakes on either side and surrounded by green hills. This residential experience is central to the Institute's educational programme, and offers its residents a supportive and enriching environment, full of opportunities for working beyond office hours and personal growth.

The Institute is committed to grow sustainably and develop as a model clean, green campus. The existing Green Campus Committee which consists of representatives from students, faculty and staff decides campus policies to promote sustainable practices and maintain the flora and fauna of the campus. This committee will be supported by a cell that will monitor, implement and enable the policies and initiatives of the Committee. Initiatives will include smarter buildings, energy efficient appliances, increased use of renewable energy, improved solid waste and waste water management systems, increased recycling, and making the campus more pedestrian and cycling friendly. The campus will move towards a reduced energy and carbon footprint (low carbon campus) and a zero discharge campus. New innovative technologies for energy, waste management and emissions control will be showcased on the campus and their viability assessed. The Institute will engage with the municipal authorities and the local community to maintain and improve the health of Powai Lake.

### Action points

- ◆ Exemplar with showcase IIT Bombay technology deployment.
- ◆ Low carbon campus growth.
- ◆ Involve students in campus planning including green campus initiatives.
- ◆ Monitor metrics by creating a network of sensors and report sustainability metrics.

### Metrics/Targets

- ◆ Setup a cell which will monitor, implement and enable policies and initiatives of the Green Campus Committee
- ◆ Establish Green Campus metrics and work towards reducing carbon footprint water footprint, energy footprint
- ◆ Improvement on green metrics

Additional information on the Strategic Plan (2017-22) is available at:

<http://www.iitb.ac.in/en/about-iit-bombay/iit-bombay-strategic-plan-2017>



## Institute Strategic Planning Committee (ISPC)

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ISPC was supported by Dr. Pravasini Sahoo.



*Growth in vibrant economies of the world has been fuelled by innovation, and disruptive technology, and product development, which have roots in state of the art research and education in academic institutions. Such institutions are strategic assets of a nation, contributing to both, national prosperity and national security.*