IIT Bombay at a glance

- Campus area: 530 acres (5.3 sq. km)
- 15 Depts., 1 School, 4 IDPs & 8 Centres
- Faculty strength: 508 full time, 90 adjunct
- Support staff strength: ~1300
- Total number of students: ~7500
- Project research staff: ~750

- Number of Ph.D. degrees awarded in 2011: 173
- Number of P.G. degrees awarded in 2011: 1168
- Number of research publications in 2010: 1226
- Number of patent applications in 2010: 96
- Research funding in 2010-11: ₹ 179.8 Crores
IIT Bombay (IITB) engages in research, education, training, technology development and related activities in most areas of technological and scientific interest. Today, the Institute is one of the centres of academic excellence in the country and on par with some of the best institutions in the world. To fulfill its mission of promoting research that makes a difference, the Institute invites industry to be partners.

**Why should industry collaborate with IITB?**

- Avail new ideas and the research ecosystem at IITB
- Partner in knowledge creation, technology development & manpower development
- Avail complementary skills and upgrade capabilities
- Access to infrastructure and resources
- Pursue multidisciplinary approach
- Leverage public funding
- Access to new technologies
- Avail First-Right-to-Commercialise
- Access to qualified personnel for recruitment

Currently, IITB has active engagements with ~350 Indian and international industries. The interactions have been multi-dimensional.

<table>
<thead>
<tr>
<th>Indian Industries</th>
<th>Modes of Interactions</th>
<th>R&amp;D projects</th>
<th>Labs / Endowments</th>
<th>Student sponsorship</th>
<th>Consortia</th>
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<td>BG Exploration and Production India</td>
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<td>Crompton Greaves</td>
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<td>Cummins India</td>
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<td>Forbes Marshall</td>
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<td>Larsen &amp; Toubro</td>
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<td>ONGC</td>
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<td>Reliance Industries Limited</td>
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<td>Schlumberger Asia Services</td>
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<td>Tata Consultancy Services</td>
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<td>Unilever Industries</td>
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<td>IBM Corporation</td>
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<td>Intel Corporation</td>
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<td>Infineon Technologies</td>
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<td>Siemens Power Generation</td>
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<td>Yahoo</td>
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**Representative interactions with industries**

IITB has several modes of interactions as listed below:

### Consultancy Projects

- Short term projects to solve specific problems of industry, lasting 1-2 years
- Expected results at the end of the project are jointly defined at the beginning
- Cost of a consultancy project usually depends on the nature of the problem to be solved
- ‘Routine testing’ is not encouraged

**Representative themes for consultancy projects**

- Technology assessment / management, project assessment
- Product / process design / development
- Simulation / modeling / optimization
- Software development
- Advisory retainership
- Limited troubleshooting / testing
Sponsored Research Projects

- Long term projects for new knowledge generation in current, emerging and futuristic areas, lasting 2-5 years
- Deliverables include IP generation, manpower and publications
- A detailed project plan with budget will be mutually agreed upon

Sponsored Students

- Industry may sponsor a student in a field of their interest
- Sponsorship includes a stipend and a contingency grant
- Publications arising out of work done by the student will acknowledge the support from industry

Cost of sponsoring a student for the various programmes:

<table>
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<tr>
<th>Degree</th>
<th>Monthly stipend in ₹</th>
<th>Stipend per year in ₹</th>
<th>Duration in years</th>
<th>Contingency</th>
<th>Total Cost in ₹</th>
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<tbody>
<tr>
<td>M. Tech.</td>
<td>8,000/- to 14,000/-</td>
<td>96,000/- to 1,68,000/-</td>
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<td>70,000/- to 1,00,000/-</td>
<td>2,62,000/- to 4,36,000/-</td>
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<td>Ph. D.</td>
<td>18,000 to 30,000/-</td>
<td>2,16,000/- to 3,25,000/-</td>
<td>4</td>
<td>1,36,000/- to 60,000/-</td>
<td>10,00,000/- to 15,00,000/-</td>
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</table>

A new ‘Industry Award Scheme’ has been introduced wherein the MHRD scholarship of a Ph.D. student may be augmented with an award from the Industry.

Sponsored Research Labs / Facilities

- Industry may sponsor a facility / lab in an area of interest to help build IITB infrastructure
- Such facilities and labs will be shared with the sponsoring industry and may also be open to others on a case-to-case basis

Examples of laboratories / facilities set up with sponsorship from industry

- Applied Materials Nanofabrication Laboratory
- Cummins Research Engine Laboratory
- PowerAnser Lab
- Yahoo! Hadoop Cluster

Chair Professorships

- Distinguished academic position in the Institute
- Endowment costs ₹ 60 lakhs
- Around 20 chairs have been established at IITB by industries and alumni

Examples of few Chair Professorships

- L&T Chair
- Forbes Marshall Chair
- Praj Industries Chair
- Bajaj Group Chair
- Shailesh Mehta Chair
- Romesh Wadhwani Chair
Precompetitive Consortia
- Enables resource pooling for research in emerging areas
- IITB has consortia with members from both industries and Govt. funding agencies
- An industry / multiple industries may partner with IITB to set up a consortium or join existing consortia

Consortia at IIT Bombay
- Centre of Excellence in Telecom (IITB, Tata Teleservices Ltd. & DoT)
- National Centre for Aerospace Innovation and Research (IITB, Boeing & DST)
- National Solar Thermal Power Research Testing, & Simulation Facility (IITB & industries)
- Healthcare Consortium (IITB, TMC, KEM, Strand Life Sciences & Span Diagnostics Ltd.)

Licensing of Intellectual Properties of IIT Bombay
- Includes designs, devices, processes and software in the areas of healthcare, energy & environment, information & communication technology, manufacturing, special needs, design, transportation, rural development and others
- Over 100 technologies licensed / deployed
- For technology licensing, visit http://www.ircc.iitb.ac.in/IRCC-Webpage/Licensing.jsp

Sample IP transfers to industry
- Biosensors for health monitoring
- Tube-tube heat exchanger
- Mobile social networking platform
- Hindi wordnet
- Thermoelectrically cooled two wheeler helmet
- Supercritical fluid extraction technology
- Electro slag remelting technology

Intellectual Property (IP) Policy
- IP arising out of collaborative / sponsored R&D projects will be the joint property of IITB and the partnering / sponsoring industry
- Partnering / sponsoring industry will be given an option of First-Right-to-Commercialise
- Terms and conditions regarding transferring / assigning / licensing these rights to such industry shall be mutually agreed to and governed by a separate written agreement

Continuing Education Programme (CEP)
- Institute faculty & scientists offer numerous courses in critical areas of technology
- Open & inhouse programmes, certificate courses, etc. are offered
- For more details, visit www.iitb.ac.in/~cep

For R&D brochures, visit http://www.ircc.iitb.ac.in/IRCC-Webpage/publication.jsp

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Website: www.ircc.iitb.ac.in/Partnership

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