



# The Industry Immersion for 2014 B.Tech. Students

Blended Technical Education Program

**Summer of 2015**



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Indian Institute of Technology Jodhpur

## INDUSTRY-IMMERSION takes to Nonlinear Growth in Technology Learning

In July 2014, when we set out to launch the Blended Technical Education Program at the B.Tech. level, our profound wish was to inspire our students to build passion for technology and help solve the challenges of the Indian Industry. One of the desired elements was to have industry captains to lay the cornerstone by giving the big-picture of sectoral technologies, industry needs and research opportunities. The Program gained momentum with *Vanguard Lecture Series*, and now this has become a distinctive feature of the *Blended Program* of the B.Tech. education of the Institute. Then, this was followed by the *Grand Technology Projects (GTPs) Competition* during January-March 2015, and students became truly excited. Most of the Students saw the merit in converting their *B.Tech. Projects* to *GTPs*.

Now, we have five partners in the Industry Immersion Program, namely:

- (1) Mahindra & Mahindra Limited, Mumbai;
- (2) Larsen & Toubro Limited, Mumbai;
- (3) Tata Motors Limited, Mumbai;
- (4) TVS Motor Company Limited, Chennai; and
- (5) Tata Power Limited, Mumbai.

Beginning 11 May 2015, Students and Faculty Members will *immerse* inside these leading *technology Industries* for three successive summers. The key features of this *Industry Immersion Program (IIP)* include:

- (1) Learning-by-doing,
- (2) Experiential and cooperative learning,
- (3) Working on live assignments under the tutelage of industry professionals, and
- (4) Engaging in industry-supported projects spanning over 2½ years starting IV semester.

Through this IIP, the Industry will benefit in *at least* three ways, namely:

- (1) Get to know students better during the three years of engagement with students, before considering picking some/any of them to pursue a career with that Industry;
- (2) Have a steady pipeline of aligned technical human capital, *i.e.*, trained GETs at graduation itself; additional orientation is only minimal and effort for retraining minimized; and
- (3) Access human resources and research facilities of IIT Jodhpur to undertake R&D Projects.

And, the Institute benefits will benefit in *at least* five ways, namely:

- (1) Students will march towards becoming more competent engineering graduates;
- (2) Faculty Members will be able to look beyond the Institute and develop linkages with Industry;
- (3) Course curricula will become more real – a silent advantage;
- (4) Faculty Members will have opportunities for research and consultancy projects that are current and impactful; and
- (5) Greater sensitivity to integrate industry needs in academia, benchmark students and Faculty Members from Industry perspective, and reflect and undertake needed correction in strategies of the Institute.

The 4-year B. Tech. degree program at IIT Jodhpur offers a greater learning experience to students through the Industry Immersion activities taking place right from the first semester. This Industry Immersion Program (IIP) at the industry in addition to the B. Tech. Program gives opportunity to students to gain broader perspective of various technologies. Along with the Vanguard Lecture Series organized in the beginning of each semester, the IIP brings deeper insights and hands on experience in technological areas through Industrial training for three successive summer terms.

The first phase of the program has began in July 2014, and has witnessed two successful series of Vanguard Lectures delivered by the domain experts from Industry and Academia. For the preparations to the next phase, high-level technical teams from the five partnering Industries of IIP have visited IIT Jodhpur during February - April 2015 and selected 30 enthusiastic students from the 2014 batch of B. Tech. students for the Industry Immersion in the next three summer terms. The students have showed a great interest in the IIP and have interacted with the technical teams through their Grand Technology Project (GTP) ideas. The feedback received from the technical teams was truly exceptional, and has greatly helped to bring realism to GTP proposals.

Our new journey begins shortly. These 30 student champions along with their Faculty Mentors will be heading for the Industry Immersion Program. My heartiest congratulations to the Students and Faculty Members for taking lead in this new journey. I wish that the stay of eight weeks brings a new dimension to students' education as well as faculty research, and helps to make connections between the different aspects of their educational experience



A US \$16.5 billion multinational group based in Mumbai (India), M&M has more than 200,000 people in over 100 countries. It has a growing presence in the automotive industry, aerospace, aftermarket, components, consulting services, defense, energy, financial services, logistics, real estate, retail, and two wheelers. In 2014, the Automotive and Farm Sector (AFS) of M&M group was declared as the Second Great Place to Work in manufacturing and production, as well as the employer brand category and received an overall rank of 28 among the *Top 100 Great Places to Work* across 600 organizations spanning over 20 industries.

*Mahindra Research Valley (MRV)*, a world class R&D centre in Chennai, is the place where our Students and Faculty Member are headed for the *2015 Summer – Industry Immersion*. MRV specializes in consulting on automotive style, engineering, CAE (Computer-Aided Engineering), and project management. The multi-faceted R&D facility boasts of truly world class facilities, including a design center, an Engine Development Center (EDC), an NVH laboratory, a fatigue test and reliability laboratory, a driveline development center, an electrical and electronic laboratory, and a prototype building workshop amongst others.



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Inauguration of *i-Mahindra* Electronic Board at IIT Jodhpur on 23 April 2015



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Larsen & Toubro is a USD 14.3 billion technology, engineering, construction, projects, manufacturing and financial services conglomerate, with global operations. The company is engaged in core, high-impact sectors of the economy – infrastructure, construction, hydrocarbon, heavy engineering, power, defence, aerospace, shipbuilding, electrical & automation, mining and metallurgy. *Larsen & Toubro Limited* is one of the largest and most respected companies in India's private sector.

*L&T Heavy Engineering* manufactures and supplies custom designed equipment to critical process industries such as fertilizer, chemical, refinery, petrochemical, and oil & gas, as well as to sectors such as nuclear power, aerospace and defence. *L&T Heavy Engineering* has state-of-the-art manufacturing facilities, which are capable of meeting the challenges of technology, quality conformance & delivery, while ensuring cost competitiveness.

Our Students and Faculty Member will be engaged with *L&T Heavy Engineering* at their Powai works. Spread over an area of 385,000 m<sup>2</sup>, the Powai campus in Mumbai is L&T's oldest facility, as well as one of the most. Along with Heavy Engineering shops capable of building to global standards, and equipped with sophisticated facilities for fabrication, machining, handling & quality control, the Powai campus houses world-class *Design and R&D laboratories* and a *Technology Centre*.



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Inauguration of *iL&T* Electronic Board  
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Tata Motors Limited is India's largest automobile company, with consolidated revenues of Rs. 2,32,834 Crores (USD 38.9 billion) in 2013-14. It is the leader in commercial vehicles in each segment, and among the top in passenger vehicles in the compact, midsize car and utility vehicle segments. With a presence across 175 countries, TATA cars, buses and trucks are marketed in several countries in Europe, Africa, the Middle East, South Asia, South East Asia, South America, CIS and Russia.

The foundation of the Company's growth over the last 68 years is *deep understanding of customer needs, and ability to translate them into customer-desired offerings through leading-edge R&D*. With over 4,500 engineers, scientists and technicians the company's *Engineering Research Centre*, the company has enabled pioneering technologies and products. The Company's Pune Engineering Research Centre has a state of the art crash test facility. *Medium and Heavy Commercial Vehicles (M&HCVs)* and *Light Commercial Vehicles (LCVs)* are manufactured at Pune plant. This is where our Students and Faculty Members will spend their Summer 2015.



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Inauguration of **i-Tata Motors** Electronic Board at IIT Jodhpur on 16 March 2015





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TVS Motor Company is the third largest two-wheeler manufacturer in India and one among the top ten in the world, with annual turnover of more than USD 1.4 billion in 2011-2012, and is the flagship company of the, USD 7.29 billion, TVS Group. TVS Motor Company has invested heavily and built state of the art product development and R&D at Hosur. The R&D team at TVS Motor Company has worked efficiently in every aspect to provide better bikes - better looks, better fuel efficiency and better performance. Our Students and Faculty Member will be immersed in production engineering and product design functions at TVS Hosur plant.



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Inauguration of *i-TV*S Electronic Board  
at IIT Jodhpur on 25 February 2015



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Tata Power's total installed capacity, today, stands at 8750 MW, with the clean and renewable energy capacity contributing 1383 MW.

The Thermal Power Stations of the company are located at Trombay in Mumbai, Jojobera and Maithon in Jharkhand, Haldia in West Bengal, Kalinganagar in Odisha and Mundra in Gujarat. The renewable space is catered by the Hydro stations located in Raigad district in Maharashtra, Dagachhu Hydro plant in Bhutan and with 511 MW wind energy generation spread across states of Maharashtra, Gujarat, Karnataka and Tamil Nadu. Tata Power also operates a 25 MW solar plant at Mithapur in Gujarat and has another 3 MW Solar generation at Mulshi, Maharashtra.

Our Students and Faculty Member will be living all the facets of Tata Power at Trombay (Thermal), Khopoli (Hydro) and Transmission & Distribution Business in Mumbai.



Inauguration of *i-Tata Power* Electronic Board  
at IIT Jodhpur on 26 March 2015



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## Starting a New Journey of Life....

As an *IITian*, much is expected of you... Your *Parents* and the *Institute* hold high expectations from you, while you are at the *Institute*, in the *industry*, and ... in *life*. By choosing to join the *Industry Immersion Program*, you have chosen a path different from others. It will put you on a pedestal of *competence* and *accomplishments* - beyond the *B.Tech. Degree*. Just one point... it is an honor to have been chosen to be part of the *Industry Immersion Program*. So, guard it *zealously!!* A new journey begins for you, *now...*

Your success during the *Industry Immersion Program* is contingent on a number of traits and values. Hope you will keep them as your watchword throughout your engagement with the *Industry* for *now* (and throughout your life *eventually*):

1. *Brand Ambassadors*

You are a Brand Ambassador of IIT Jodhpur. Your *conduct* and *personal behavior* is of incredible value to the *Institute* and prospective students in the coming years.

2. *Honor Code*

*Honor Code* is a fundamental principle of conduct for all. You are obligated to uphold the honor system. In brief: *Do not take unfair advantage of any stakeholder of the Institute (and Industry)*. Remember the session on: *Right Things to Do*.

3. *Team Work*

Believe in Your Self. *Get involved* and *be engaged* with the *projects* and *work* at the *Industry*. Build friends and learn to work in Teams.

4. *Adaptive Leadership*

Learn to face reality. Be responsible for your predicament and deal with tough challenges.

5. *Safety*

Familiarize yourself with hazards of your work place, and know how to avoid them. Know the rules of the industry. Always follow Safety norms. *Safety* is everyone's *responsibility*.

6. *Humanity*

Uphold highest levels of human integrity and dignity.

7. *Dream*

Work towards building the most admired technology that furthers interests of *Industries* and *Society*.

8. *Focus*

Commit yourself to economic development of *India* through *technological thought and action*.

9. *Character*

Be ethical, sincere and open in all transactions.

10. *Allegiance*

Be continually responsible for upholding utmost confidentiality of all information and circumstances arising out of any interaction.

*Wish You the very best!!*



09 May 2015



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