



IN PURSUIT OF  
EXCELLENCE  
ENGINEERING  
EDUCATION  
THROUGH  
INNOVATION

# ***MISSION* 10X**

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IN PURSUIT OF EXCELLENCE IN ENGINEERING  
EDUCATION THROUGH INNOVATION

- ▶ Faculty Empowerment Workshops for
  - a) Teaching faculty in Engineering Colleges
  - b) Teaching faculty in Science Colleges
- ▶ Academic Leadership Workshops for Principals and Directors in Engineering colleges
- ▶ Unified Technology Learning Platform
  - a) Learning Framework
- ▶ Aarambh
  - a) E-learning Philosophy

# MISSION10X

## ADDRESSING THE ISSUE OF EMPLOYABILITY THROUGH INNOVATION

India produces amongst the largest number of engineering graduates in the world every year. Yet, not all of them are industry ready, leading to high un-employability levels.

Mission 10X was launched on September 5, 2007 to address the challenges of employability of Engineering graduates by enhancing the quality of engineering education. The key task was to develop a sustainable model to enhance the quality of engineering education in India. Though students are

the end beneficiaries, it is not a feasible option to directly target them since this exercise would then have to be repeated year after year on every new batch of students. It was in this context that Mission 10X adopted an innovative approach with a three-pronged emphasis on empowering faculty, developing transformative academic leaders and leveraging technology. Together, these three initiatives result in helping build institutions which are on par with the best in the world.

The 3 pillars of Mission 10X are

1

EMPOWERING FACULTY

2

DEVELOPING TRANSFORMATIVE LEADERS

3

LEVERAGING TECHNOLOGY

1. Empowering Faculty members to use Mission 10X Learning Approach (MxLA)
2. Developing transformative Academic Leaders to build institutions of excellence
3. Deploying Unified Technology Learning Platforms (UTLPs) to bridge the gap between industry and academia

Mission 10X is a non-profit initiative of Wipro Technologies with higher education focus for improving the employability of young Indian Engineering students. It is helping to move India forward towards global competitiveness by enhancing the quality of human capital in the country.

Since its launch, Mission 10X has achieved tremendous recognition and momentum within the field of Engineering education. The initiative has now spread to over 1,250 engineering colleges across 25 states in India and has reached out to more than 23,000 engineering college faculty.

# EMPOWERING FACULTY

## THE MISSION I0X MOVEMENT NEW WAYS TO TEACH AND LEARN ENGINEERING

Ensuring that engineering students are well-equipped for a dynamic, successful career and preparing them to become capable engineering professionals in a world full of changes, is a major challenge facing the country. To help overcome this challenge, engineering faculty members have to be empowered with new methods of teaching. Creating a motivated, empowered engineering faculty base is one charter of Mission I0X.

### MISSION I0X FACULTY EMPOWERMENT WORKSHOP

Mission I0X certificate programmes offer a unique opportunity to the faculty members of the engineering colleges to go beyond their conventional teaching practices and experiment with innovative learning techniques and styles that focus on helping the learners to:

- Imbibe higher levels of understanding of various engineering subjects
- Effectively apply the concepts learnt to varying practical situations, and
- Develop key behavioral skills required for employability



Faculty demonstrating a technical concept during the workshop



### ENHANCING TEACHING SKILLS WORKSHOP FOR DEGREE COLLEGE TEACHERS

Mission I0X in its effort to enhance the quality of teaching in science colleges has developed a 3 day experiential and interactive pedagogical intervention. The workshop empowers the science college teachers to teach various subjects inspiring way and emphasis on learning for better career and fulfilling life experience.

#### The broad curriculum includes :

- High Impact Teaching Skills using micro-teaching methodology
- Interpersonal communication and listening skills
- Using Analogies to simplify complex content
- Handling difficult classroom situations
- Learner Diversity
- Mapping teaching methodologies to learner styles
- Moving towards reflective practitioner
- Innovative Pedagogies



The first workshop was launched on 5<sup>th</sup> November 2012 at Sri Krishna Arts and Science College, Coimbatore, Tamil Nadu.

# DEVELOPING TRANSFORMATIVE LEADERS

Leadership is of critical importance in the education space. The quality of leaders directly impacts the quality of learning. Academic leaders such as Principals have a major role to play in influencing students' learning outcomes because they are responsible for creating the right environment that facilitates this process. This demands that leaders master the concepts and practice of leadership and have a global perspective.



Activity in progress,  
Academic Leadership Workshop

## THE PROGRAMME EQUIPS LEADERS TO :

### INSPIRE CHANGE

The ability to respond to change is a critical leadership imperative. This requires the leaders to define the roadmap and rally the team towards change. One of the goals of Mission I0X Leadership Programme is to equip the leaders with required competencies to take on the challenge of change in the world.

### BUILD INSTITUTIONS

The role of institutions in helping individuals and nations to grow cannot be over emphasized. Institutions provide the necessary context and culture for learning. To leverage on the wide array of opportunities available, India needs to build excellent educational institutions.

The Leadership Programme aims to prepare leaders to build such great institutions. Till date, 218 principals from engineering colleges across the country have been benefited by the Academic Leadership Workshop.

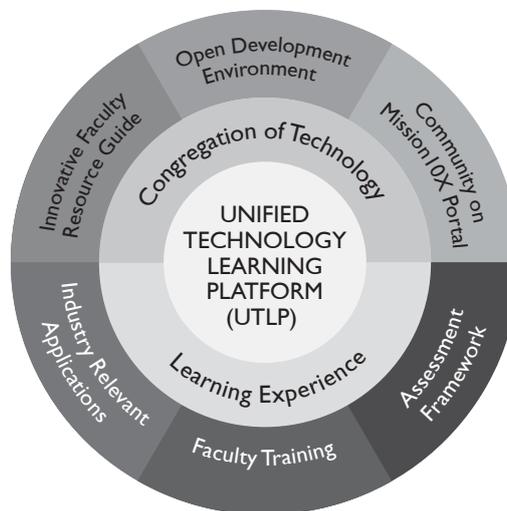


# LEVERAGING TECHNOLOGY

## UNIFIED TECHNOLOGY LEARNING PLATFORM (UTLP)

Mission I0X received many requests from faculty members during the faculty empowerment workshops to improve the laboratory practices in engineering colleges. A survey conducted among academic institutes and industry confirmed that there is a significant gap between the laboratory practices and project practices compared to the expectations from the industry. Mission I0X came up with Unified Technology Learning Platform

(UTLP) initiative to address this gap. Mission I0X took inputs from academic institutes like IITs, industry leaders and internal Wipro businesses to come up with the first platform hardware in the area of circuit branches which include Electrical & Electronics, Electronics & Communications, Computer Science, Telecommunications, Instrumentation and Information Technology.



UTLP CONCEPT DIAGRAM

UTLP has been designed by Mission I0X, for Practice Based learning (hands on) in Engineering Education. The UTLP enables the students to learn technology, integrated with important skills like communication, team work as well as capability to apply, analyze, evaluate and create. To enable this Mission I0X team has evolved frameworks for laboratory classes and projects. "Learning Framework" helps project based learning. Resource Guides help in making laboratory

classes innovative to help enhanced learning and provide a detailed structure for the same which could be administered over a semester.

Although focus with the current platform hardware is on "Embedded Systems" the concept could be applied to other streams of engineering. In particular, UTLP provides students an opportunity to work in an industry-relevant multi-disciplinary mode which is crucial in every product development.

## MISSION I0X TECHNOLOGY LEARNING CENTER (MTLC)

To operationalize the UTLP concept Mission I0X came up with a collaborative model called "Mission I0X Technology Learning Center (MTLC)". MTLC is set up by the partnering Engineering College across India to practice UTLP based learning. The faculty at MTLC institute are trained by Mission I0X in the Project based Learning and usage of Resource Guides for Laboratory Enhancement so

that they will in turn inculcate the required skills in the students.

There are 25 MTLCs established in 9 states in India. 120 Engineering college faculty have been trained on Unified Technology Learning platform (UTLP) by Mission I0X team. Additional 250 faculty members have been trained by these trained faculty members.

# AARAMBH THE E-LEARNING INITIATIVE



The Aarambh initiative developed by Mission 10X has been specifically designed to address the needs of the new faculty members who are into engineering teaching with less than three years of experience.

Getting the right start is crucial in any endeavor and Aarambh, as its name implies ensures that the process of transformation of engineering education begins at the beginning – with the new faculty of engineering colleges.

Aarambh combines the best in e-learning, self-learning and collaborative learning. It consists of NINE e-learning modules. The learning journey begins with taking the new faculty through a self-discovery and equips them with the essential skills required and ends with the planning of how to

successfully deliver content in the class. While the e-learning module can be completed at a personal pace, difficulties and briefs can be discussed at peer group sessions held weekly. This is facilitated by an appointed Mission 10Xian in the particular college and by mentors who interact regularly through webinars.

Aarambh epitomizes the new-age learning paradigm. It demonstrates to the faculty members that learning can happen anywhere and everywhere even beyond the four walls of a classroom. The Aarambh learning approach inspires them to realize that it is the teacher's responsibility to deliver information in dynamic, compelling and interactive ways.



## About Mission10x

Mission 10X is a not-for-profit trust of Wipro, launched on September 5, 2007, with an aim to enhance the employability skills of engineering graduates in India. It aims to achieve this by collaborating with academicians & leading educational institutions across the country. The Mission 10X Learning Approach empowers engineering faculty with innovative teaching techniques using which they can help learners in imbibing higher level of understanding of subjects, application of concepts learned and development of key behavioral skills.



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