Growth of eLSI:

Labs Established as on January 2020

370+	125+

- ■ Number of Established Labs
- ■ Labs in pipeline

320+
125+
16
35

Pilot | Phase-I | Phase-II | Ongoing
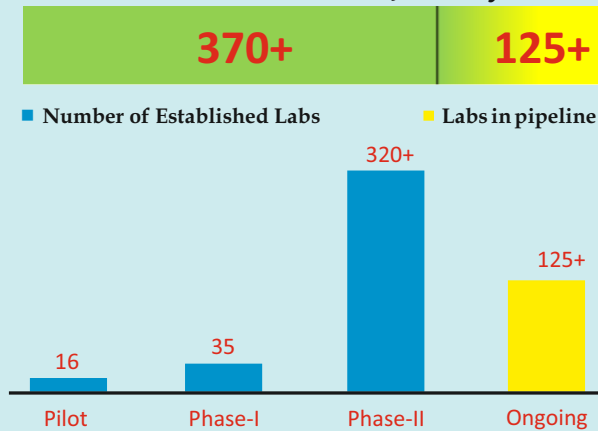
e-Yantra labs established in 370+ colleges across India.
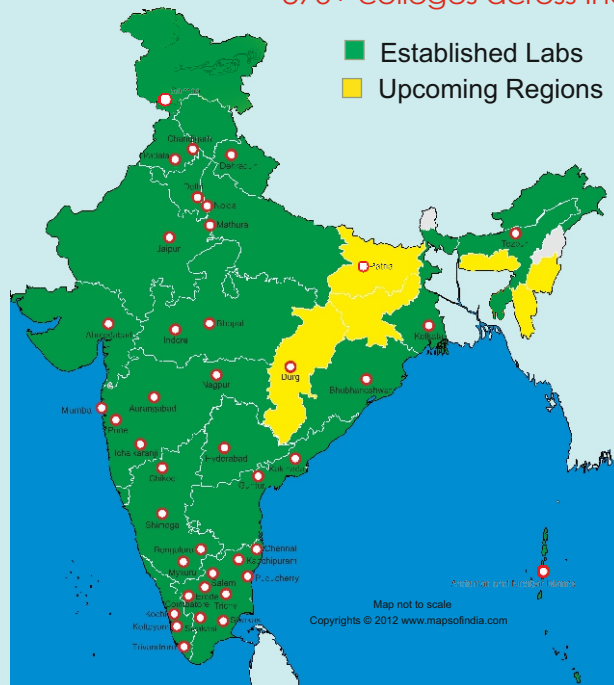
- ■ Established Labs
- ■ Upcoming Regions

Map not to scale
Copyrights © 2012 www.mapsofindia.com

e-Yantra Competitions:

For Students:

e-Yantra Robotics Competition (eYRC):

Engages students using Project Based Learning (PBL) to implement a solution to a real world problem. Robots, accessories, training material, and rulebook are given to the teams selected for participation, free of cost. Winners get exciting prizes and an opportunity to get internship at e-Yantra, IIT Bombay.

For Teachers:

Task Based Training (TBT):

Engages teachers through hands-on experiments in a step-by-step manner with exciting prizes and certificates.

For Students, Teachers and Colleges:

e-Yantra Ideas Competition (eYIC):

eYIC is the basis for e-Yantra to build a startup eco-system around a college e-Yantra lab. We solicit ideas from student-teacher teams from eLSI colleges as the basis for innovative projects and for sustained use of Robotics labs set up through eLSI.

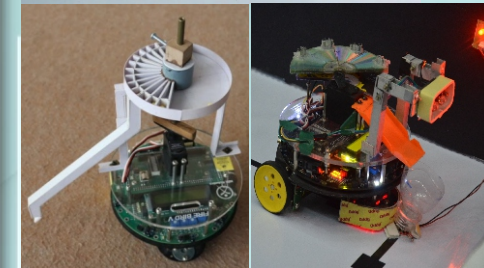### e-Yantra Team

Contact details:

Web-site: www.e-yantra.org
e-mail: support@e-yantra.org
Phone: 022-2576-4986; 022-2572-0184
Facebook: www.facebook.com/eyantra

Engineering a better tomorrow

e-Yantra
Lab Setup Initiative (eLSI)

@yantra

Embedded Systems & Robotics Lab

Supported by e-Yantra Lab Setup Initiative (eLSI) - IIT Bombay
Funded by MHRD under National Mission on Education through ICT (NMEICT)

Department of Computer Science and Engineering IIT Bombay

Two Day Workshop

e-Yantra Lab Setup Initiative (eLSI)

e-Yantra is a project hosted by IIT Bombay to spread education in Embedded systems and Robotics and is sponsored by Ministry of Human Resource Development (MHRD) through the National Mission on Education through ICT (NMEICT).

e-Yantra Lab Setup Initiative (eLSI) supports infrastructure creation at colleges by providing a platform for inducting teachers in Project Based Learning or "Learning by doing". We train teachers in theory and applications of Embedded systems and Robotics, in addition to providing guidance in setting up an Embedded Systems and Robotics lab at the college.

eLSI enables colleges to teach Robotics and Embedded Systems by:

- Training team of 4 teachers from a college in basics of Embedded Systems theory and Micro-controller programming through an on-site (at a local centre) 2-day workshop.

- Engaging teams through Task based Training (TBT) – where teachers are trained to implement experiments on a robot over a period of two/three months. Each college team is given a Robotic kit along with tutorials and accessories and is taken step-by-step through hands-on training by the e-Yantra team.

- Providing support and advice to set up a Robotics lab so that by the time the teachers are trained, the lab is ready at the college for the teachers to get their students involved through projects.

How does the college Benefit?

Benefits:

The main benefit of engaging with e-Yantra is to empower teachers and students and to create a culture of innovation and entrepreneurship in a college through e-Yantra initiatives. We not only help set up infrastructure and provide training but also through our considerable network identify resources in industry and alumni to help realize these goals in colleges hosting our labs.

More specific are the following outcomes:

- Better Final year projects in the area of Embedded Systems and Robotics.
- Access to a vast resource of open source projects and tutorials.
- Sustainability of the established lab through participation in the e-Yantra Ideas Competition (eYIC).
- An opportunity to setup an agriculture based IoT-testbed through the e-Yantra Farm Setup Initiative (eFSI).
- Better prospects for a college to gain visibility and attract local industries for internships and placements.

e-Yantra Ideas Competition

Online Lab Inauguration Ceremony

- Integration of hands-on experiments with regular theory sessions through teacher manuals shared via a resource portal.
- The established lab along with its sustainable ecosystem helps a college during accreditation.

How does a college participate?

It is in the interest of the college to invest in creating infrastructure – a Robotics lab where students have an opportunity to explore interdisciplinary skills and to prepare them for either industry or startups.

- A college needs to commit the following to participate in this initiative:

1. Funds to equip a basic Robotics lab (in addition to space and other infrastructure for a lab)
2. A team of 4 teachers to be trained by e-Yantra.

e-Yantra Symposium (eYS) at IIT Bombay