MIPT Fab Lab

THE RAPID PROTOTYPING LABORATORY

МФТИ

THEORY AND…WHAT ABOUT PRACTICE?

The Problem

The Task

The Decision

When it comes to prototyping most students inevitably face a problem. To get their idea developed into a product prototype, they have to go to big engineer companies that have neither capacity nor opportunity for quick and cheap modeling, thus making a process of prior art expensive, prolonged and uncontrolled. So often it simply never comes to prototyping!

 It's urgent to provide students with an opportunity to materialize their innovative ideas giving them access to modern technologies and digital fabrication equipment for high-speed and reasonably priced prototyping of new products and testing daring ideas.
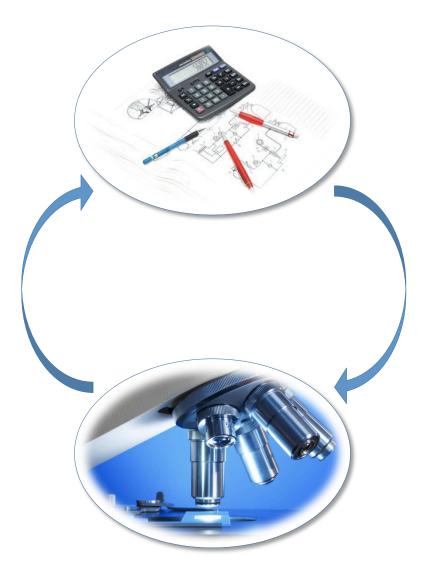
Also it will allow engineers and technical staff from different factories to explore modern equipment and have a "test drive" of Fab Lab equipment.

A Fab Lab model solves the problem and assumes the task by providing means for invention creative environment and latest digital technologies within one's curriculum.

MOSCOW INSTITUTE OF PHYSICS AND TECHNOLOGY

- At MIPT where best future engineers study there is a kind of a Fab Lab field.
- Within its framework students can obtain practical skills using modern product engineering software and scientific playground
- The Rapid Prototyping Laboratory was created to prepare engineers-to-be for using professional equipment and digital software in their work

- Since MIPT focuses a lot on research activities as an integral part of curriculum it is ad extremum interested in laboratories and fields for both students and postgraduate students to work on their diploma projects and/or have an opportunity to create their prior art devices with a potential for further commercialization of research results

The Rapid Prototyping Laboratory based on a Fab Lab model – is a ground gathering the specialized equipment and software for digital production thus making it possible, easier and fast to create prototypes of various devices, materialize inventive ideas and become technically creative.

It gives access to an up-to-date means and approaches for invention of almost everything.

It is a set of creative ways for studying the product engineering and engineering any product

MEMBERS

The members of The Rapid Prototyping Laboratory can use every Fab Lab facility to produce and invent and create anything but for that harming other people.

Herewith they undertake to study and work on their own to co-operate with other members to share their knowledge skills and experience

Every member is expected to participate in creating manuals and other paperwork.

The members of The Rapid Prototyping Laboratory can explore modern technologies and equipment to make innovation and optimization on their factories.
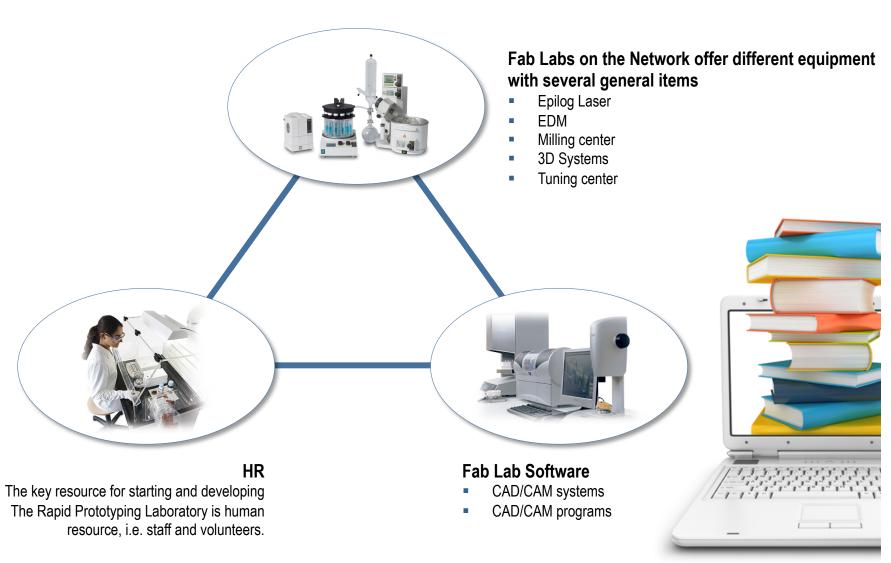
The Rapid Prototyping Laboratory is based on practical training when working on a project, independently reading of methodical manuals and consulting other members.

RESOURCES

Fab Labs on the Network offer different equipment with several general items

- Epilog Laser
- EDM
- Milling center
- 3D Systems
- Tuning center

HR

The key resource for starting and developing The Rapid Prototyping Laboratory is human resource, i.e. staff and volunteers.

Fab Lab Software

- CAD/CAM systems
- CAD/CAM programs

PHILOSOPHY

- ✓ The members of The Rapid Prototyping Laboratory are responsible for safety, working without harm to themselves their colleagues or tools and equipment, keeping the laboratory ever-clean, helping when installing or fixing the equipment and maintaining a workshop record

- ✓ Commercial activity does not run counter to the idea and task of a Fab Lab model hence it can become an equal part of its projects if not interfering other members or their work

- ✓ Nonetheless commercial projects are expected to be developed beyond not within The Rapid Prototyping Laboratory

- ✓ Successful companies once Fab Lab members are welcomed to sponsor The Rapid Prototyping Laboratory and its network

- ✓ Companies and factories are welcome to become Fab Lab members
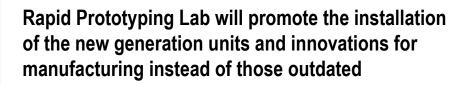
COMMERCIAL ACTIVITY

MIPT Fab Lab potential allows it to undertake contracts for making various details including non-standard ones

Rapid Prototyping Lab will promote the installation of the new generation units and innovations for manufacturing instead of those outdated

MIPT Fab Lab will accordingly provide trainings necessary to enable personnel and staff support to work with the new generation technologies

THANK YOU!