FabLab – rapid prototyping laboratory
A FabLab is a laboratory concept that's being developed at MIT with as main goal to facilitate people to build virtually 'anything'. *(from the MIT site) Fab Lab is an abbreviation for Fabrication Laboratory. It is a group of off-the-shelf, industrial-grade fabrication and electronics tools, wrapped in open source software and programs written by researchers at the Center for Bits and Atoms. Currently the labs include a laser cutter that makes 2D and 3D structures, a sign cutter that plots in copper to make antennas and flex circuits, a high-resolution milling machine that makes circuit boards and precision parts, and a suite of electronic components and programming tools for low-cost, high-speed microcontrollers ..Researchers have written another program for Fab Labs which helps users share their files and experiences as they work, so that users can teach each other rather than relying on a fixed curriculum: http://fab.cba.mit.edu.*
In the Netherlands, according to http://www.fablab.nl, six FabLabs are operational. They allow for sharing of designs, ideas, production processes, etc.

FabLab for CreaTE
There are many production facilities at the University. At CTW for Industrial Design there are facilities for special techniques like 3D scanning, ABS 3d printing, foam modeling, polyurethane casting and vacuum forming. These technologies allow for 3D models to be evaluated by 'look and feel' but don't allow (much) for working prototypes. One of the core ideas of the FabLab is to allow for **rapid prototyping** of fairly complex working mechanisms, integrating mechanical makeup, production process, electronics and software. The direct contact with the production machines 'shapes' the design methodology that's being used by students. They learn to think within the boundaries of their equipment, which allows for – or requires in a sense more - creativity than just being allowed to design 'anything'.

FabLab in phases
There is much to say for the idea of starting up a stand-alone FabLab, as separate facility, specially for CreaTE (and possibly shared by ME and ID) However, to facilitate the starting up, it might be a good idea to start up the lab in phases, by adding the special 'FabLab' equipment on a location in the vicinity of existing production infrastructure or workshop. For instance using the CTW workshop, but adding one Create FabLab room with the specialized computer infrastructure and desktop manufacturing machines. Also use can be made of existing facilities such as the 2D laser cutter already present. However, one of the strengths of a FabLab is to enable students to operate machinery themselves, constantly being in touch with their work, saving time and learning more.

Necessary equipment
An estimation of costs of machines and equipment is made below. Not taken in account are the costs of lab-floor rental, personnel, etc. Most important are the special machines listed on top, for a total of approx. 23.000 EUR
Machines
- Roland CAMM-1 Servo GX-24 Desktop Vinyl Cutter   1500
- Roland MDX-20 Desktop 3D milling machine   4500
- Epilog Mini 24 2D laser cutter   12000
- ShopBot PRSstandard BT32 CNC router   5000

Handtools
- Screwdrivers, pliers, sanding tools, cutters, etc.   2000
- Bandsaw, drillpress, hand drill   2000

Small electronics lab
- Programmers, controllers   500
- Oscilloscope, Reflow oven   1000
- Power supply, function generators   1000

Other equipment
- Desktop PC's,   2500
- Workbenches,   4000
- Closets, chairs   2000
- Basic set working materials,   2000

Total   *40000*

Necessary personnel
At MIT a great deal of the FabLab supervision is done using camera surveillance and communication facilities using PC. For usage of the more complex machines a tutorial by an instructor will be necessary.

The official (big inventory) list of the MIT FabLab can be found on
http://fab.cba.mit.edu/about/fab/inv.html

References
http://www.fablab.nl
http://fab.cba.mit.edu/