

What is a FabLab?

The FabLab concept was first introduced to South Africa in 2005 by the Department of Science & Technology (DST) under the auspices of the Advanced Manufacturing Technology Strategy-Implementation Unit (AMTS-IU) and managed by the Council for Scientific and Industrial Research (CSIR). It is a concept that originated as the educational outreach component of Massachusetts Institute of Technology's (MIT) NSF-funded Centre for Bits & Atoms (CBA). A FabLab consists of a suite of off-the-shelf, industrial grade, digital fabrication tools, an electronics workbench, seven computers, programming tools, and is supported by open source design software.

The FabLabs are a small-scale version of a production factory. While the FabLab cannot be used to manufacture thousands of assembly-line products, it can be used by individuals to create prototypes from arts and crafts to engineering and architecture models. Computer based design or drawing software, in most cases Open Source software, is used to create designs that are then automatically manufactured by an appropriate cutting, milling or forming machine.

The cross-cutting nature of the fabrication technologies lends itself to basic science, engineering and technology (SET) education, needed to stimulate the "can make" attitude amongst the youth, especially those still affected by the digital divide. Access to the FabLab gives any community a head start in basic engineering and design technologies, and an opportunity to experiment and learn from others while being creative and innovative.

FabLab Video <http://www.youtube.com/watch?v=Y1Hifu8BDHA>

The Purpose of a FabLab

The FabLabs can also be used to enable grassroots inventions by providing a platform where

communities can have access to advanced tools that can help people make products to address local needs. The strength of the FabLab initiative is that users get to complete the concept-design fabricate process to make physical products, i.e. a fully 'hands-on' experience. The environment created in the FabLab is that of peer-to-peer learning which enables anyone with or without a technical background to learn and have a space to experiment and, as far as possible, making their imagination tangible.

The FabLabs intent is to contribute towards the National System of Innovation (NSI) activities which encompass among others, the production of highly skilled human capital required for research and development.

There are currently six (6) fixed FabLabs and one Mobile FabLab in South Africa.

FabLab Charter

Mission: fab labs are a global network of local labs, enabling invention by providing access for individuals to tools for digital fabrication.

Access: you can use the fab lab to make almost anything (that doesn't hurt anyone); you must learn to do it yourself, and you must share use of the lab with other users and users.

Education: training in the fab lab is based on doing projects and learning from peers; you're expected to contribute to documentation and instruction.

Responsibility: you're responsible for:

- safety: knowing how to work without hurting people or machines.
- cleaning up: leaving the lab cleaner than you found it.

- operations: assisting with maintaining, repairing, and reporting on tools, supplies, and incidents.

Secrecy: designs and processes developed in fab labs must remain available for individual use although intellectual property can be protected however you choose.

Business: commercial activities can be incubated in fab labs but they **must not** conflict with open access, they should grow beyond rather than within the lab, and they are expected to benefit the inventors, labs, and networks that contribute to their success.