P4: Embedded Code Development Tools

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Summary of the project 4 breakout group on Wed, Aug 18, 2010

A fairly clean and simple etching process. Great for flexible PCBs that you cannot mill.
http://www.pulsarprofx.com/pcbfx/main_site/pages/
Will be added to the fab lab inventory list, like the other things marked with "Inventory" on the next slides.
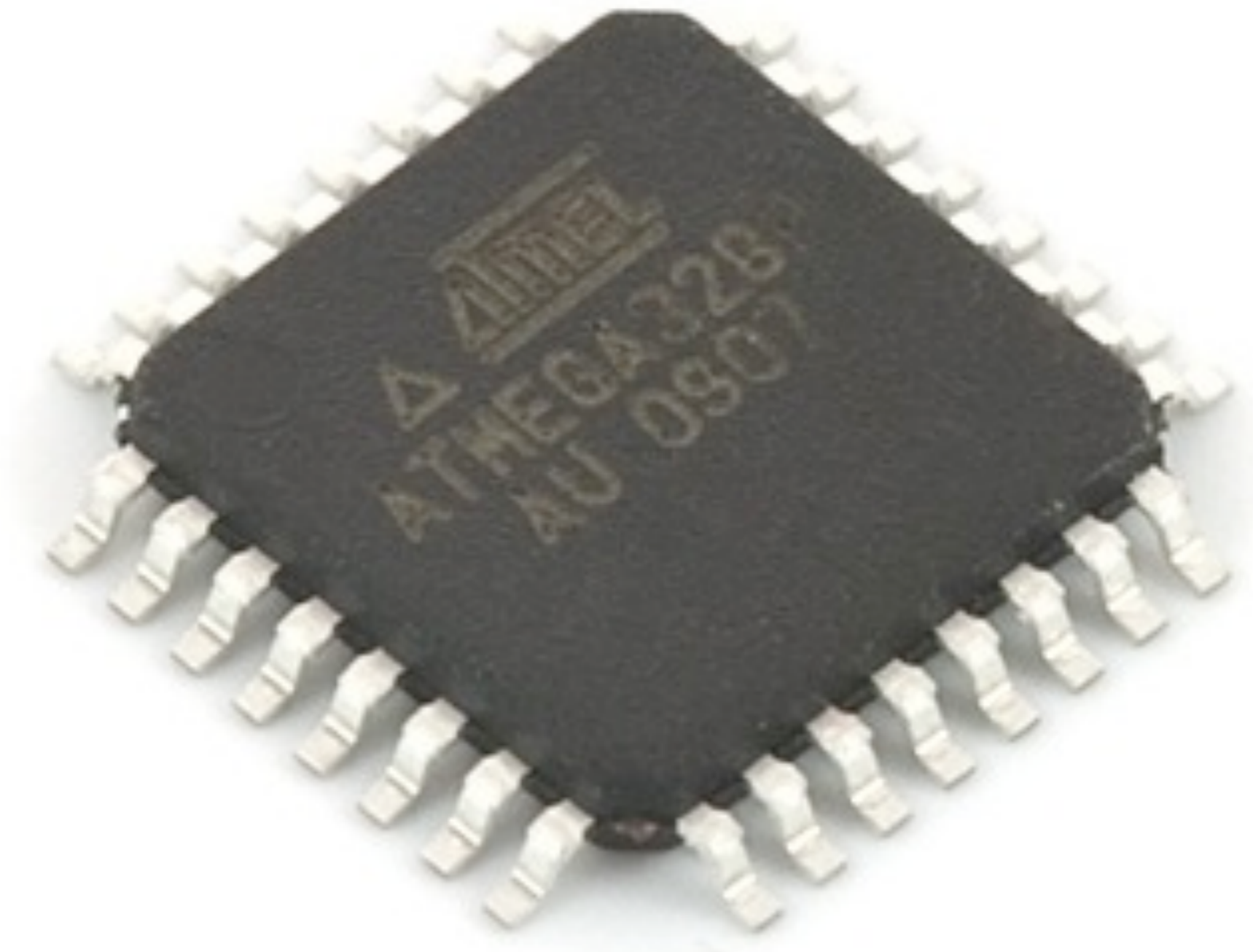
ATmega 88 ➠ ATmega 328

ATmega 88 gets replaced with the newer ATmega 328 (which is also in the latest Arduinos).
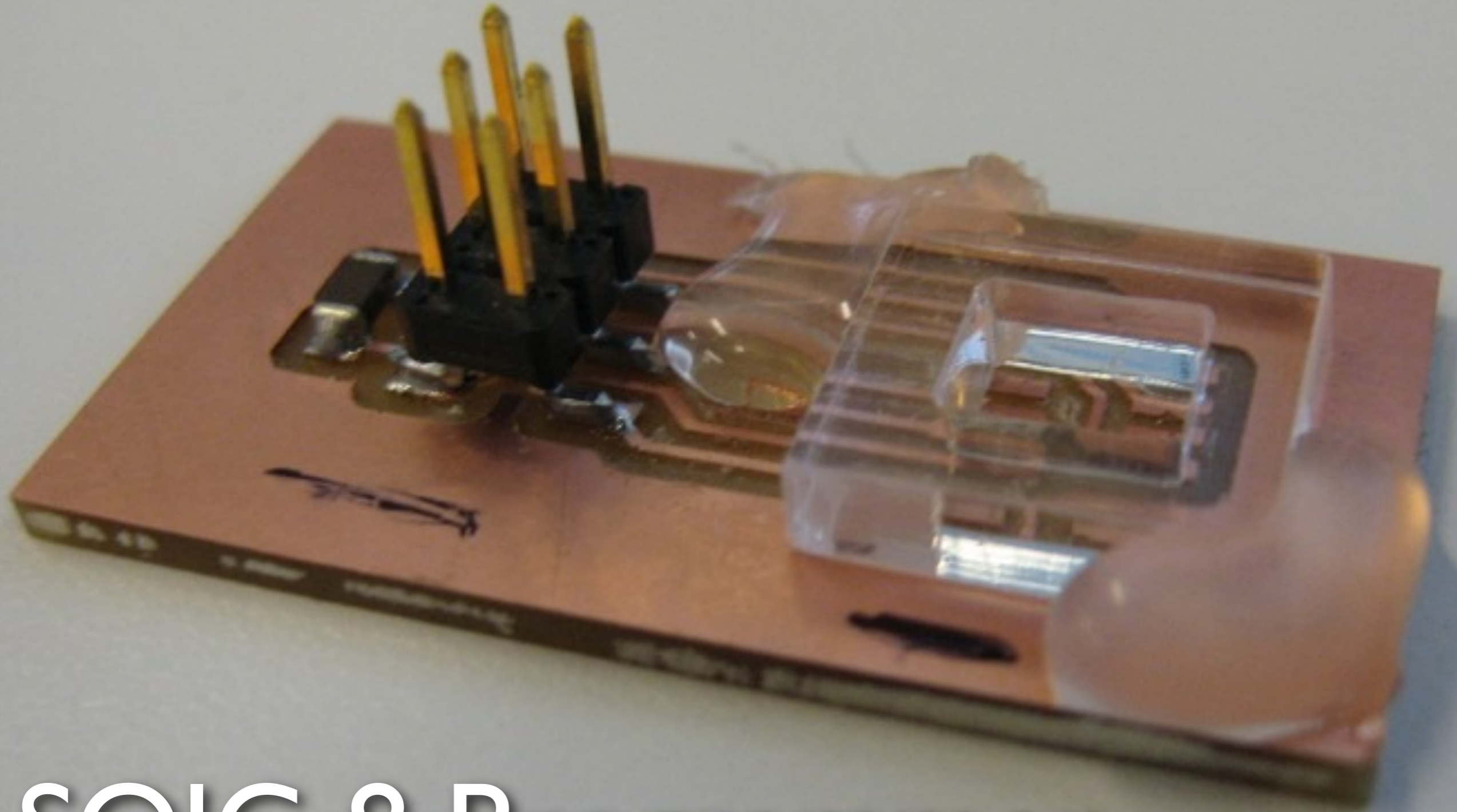
STmicro 32F103C8T6
ATmega 328
ATtiny 44/45

The future hierarchy of low-end, midrange, and hi-end microcontrollers used in the fab lab. http://search.digikey.com/scripts/DkSearch/dksus.dll?Detail&name=497-6063-ND. AVR Xmegas and AVR 32-bit controllers didn't make it because of flaky product and tool support.
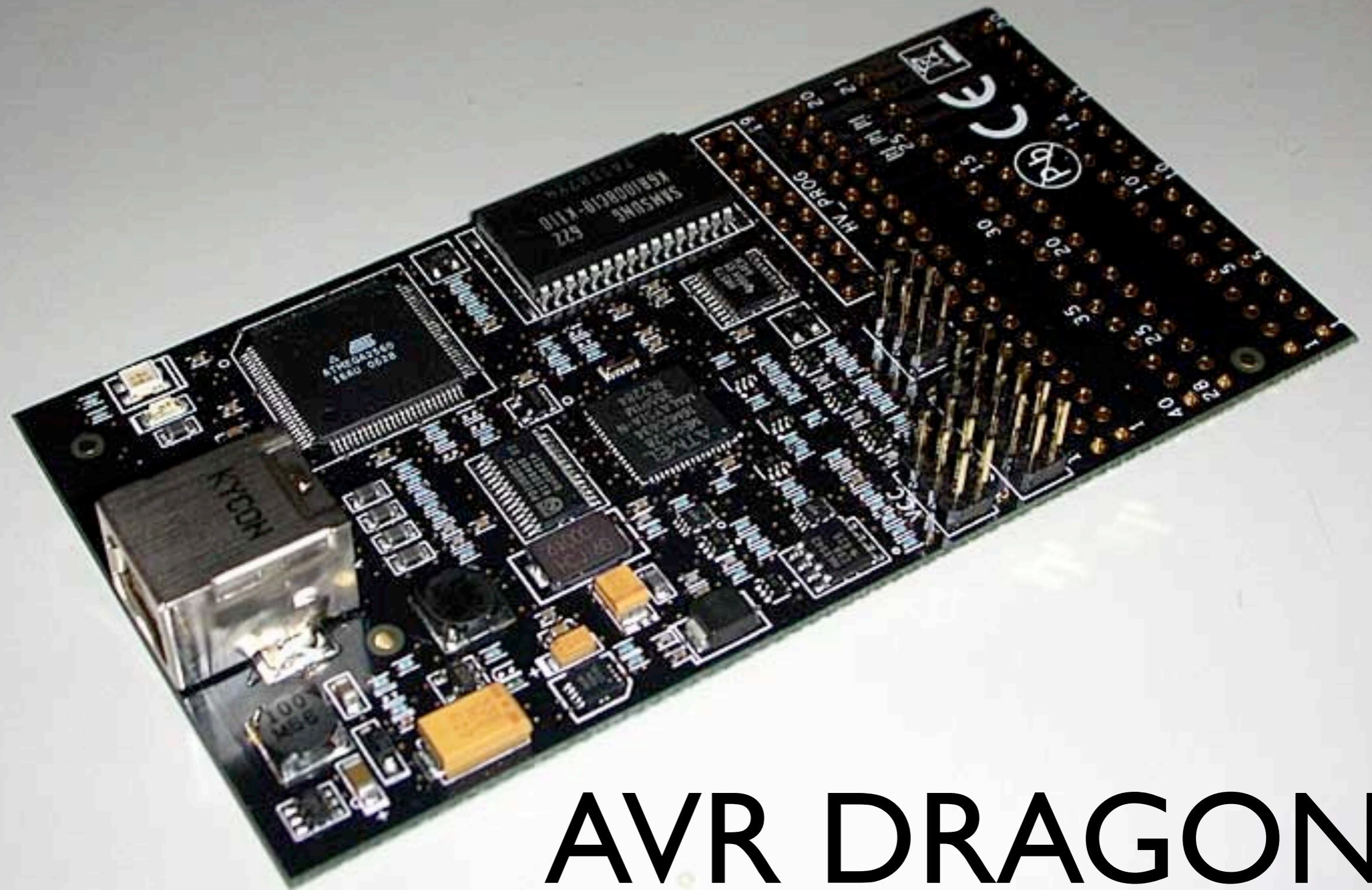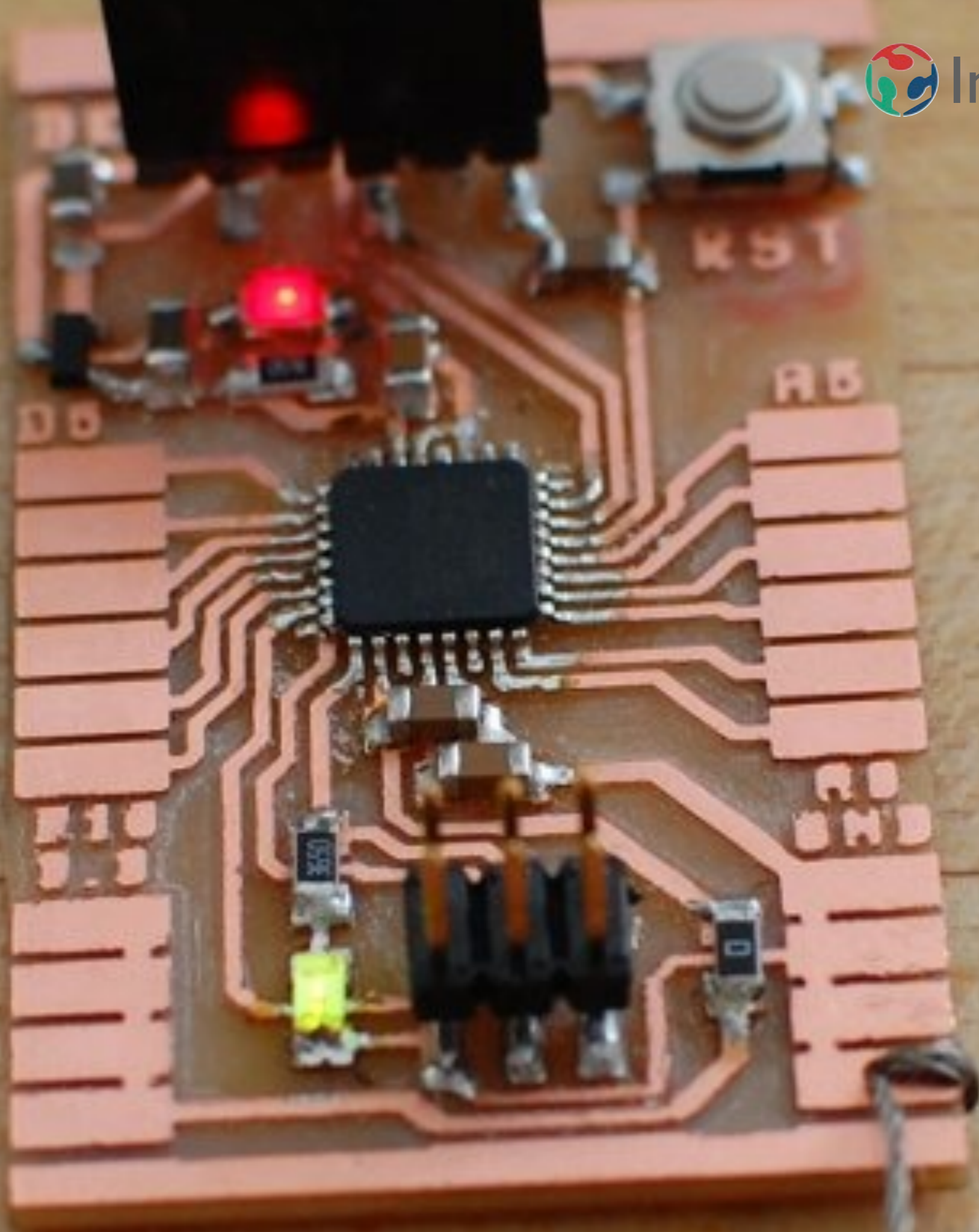
SOIC-8 Programmer

Simple adapter for one-time flashing of ATtinys. Use with the 100-byte ATtiny bootloader developed at MIT, for board designs without ISP headers.
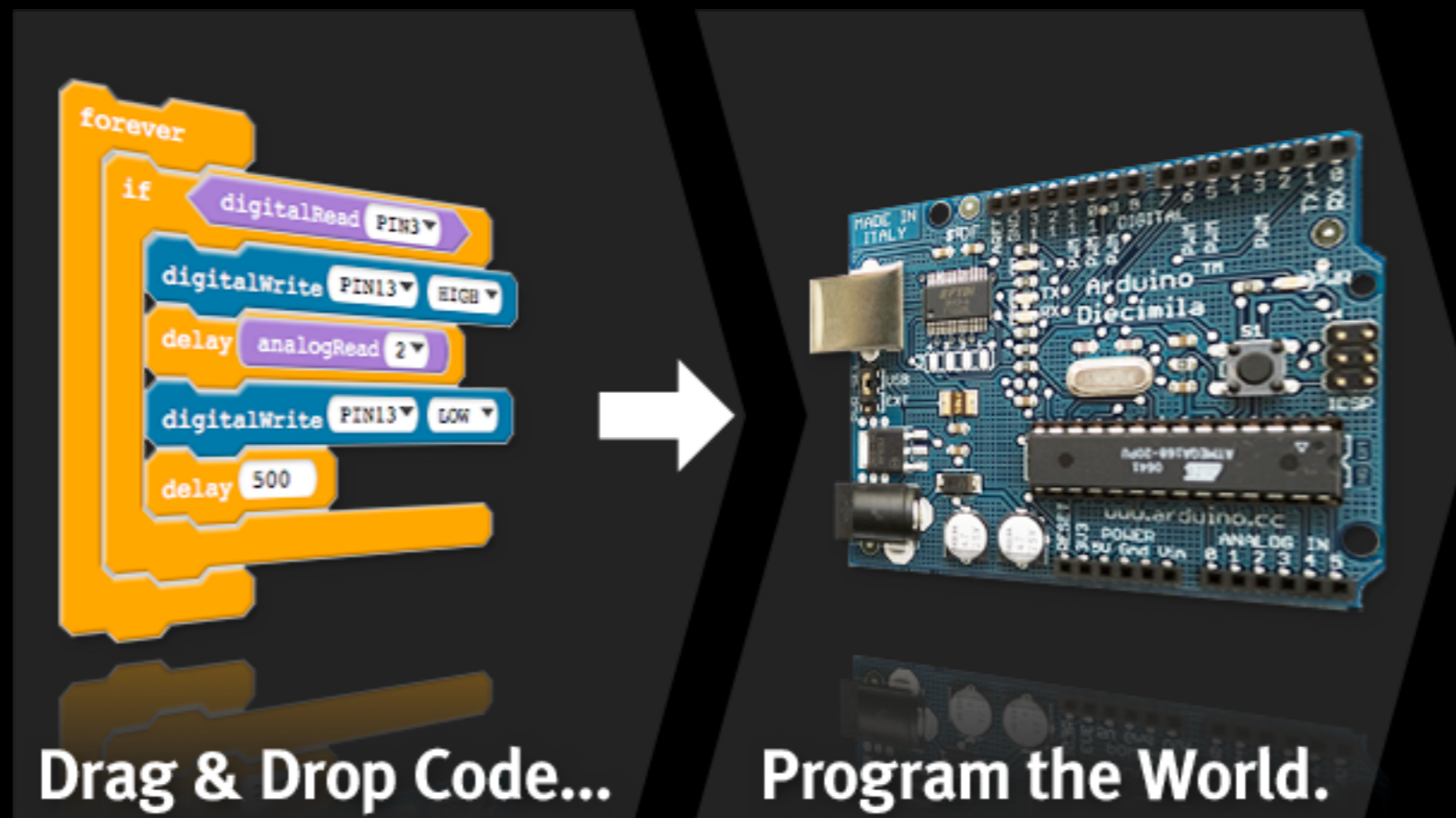
AVR DRAGON

Fabio

Inventory

http://makeyourbot.org/fabio-1-0
Fabbable Arduino-compatible board

Modkit

Graphical interface for programming microcontrollers, much more complete than other attempts in this field.

ALA

Modkit

Arduino

AVR GCC

~~Assembler~~

The future hierarchy of programming environments
Assembler dropped, AVR GCC the default, others optional
ALA: Asynchronous Logic Automata (see Neil's paper)

HTMAA
Good Pain

Fab Lab Outreach
Learn On Demand

The two roles of fab labs: Supporting a bottom-up class like How to Make Almost Anything, and supporting top-down, on-demand learning with typical fab lab visitors