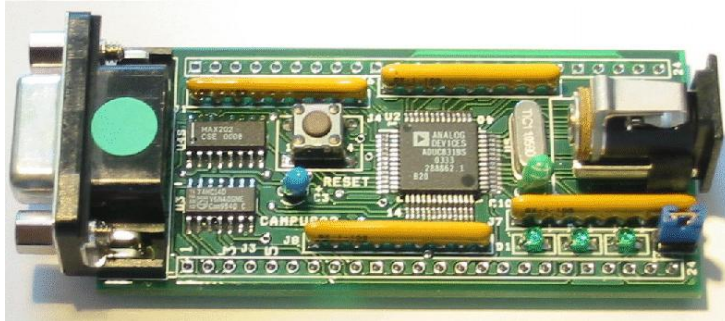
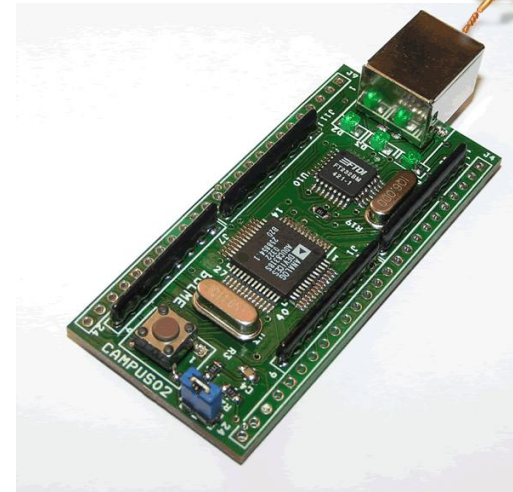




FTKL- Tagung 2011 – ARDUINO

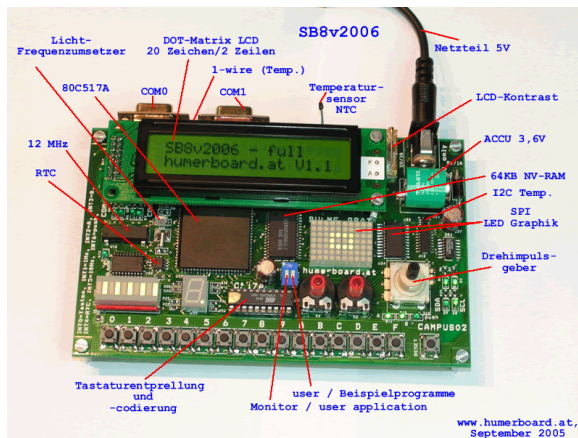


2003 - €51



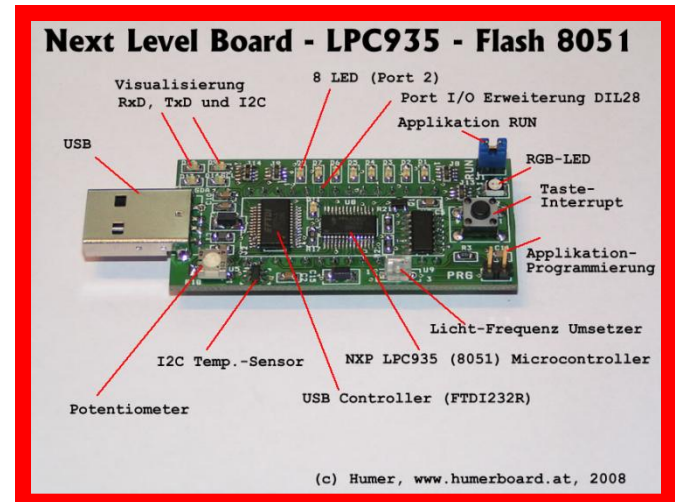
2006
€51

Hist. Entwicklung MC-Boards



2002
€200

2009
€19

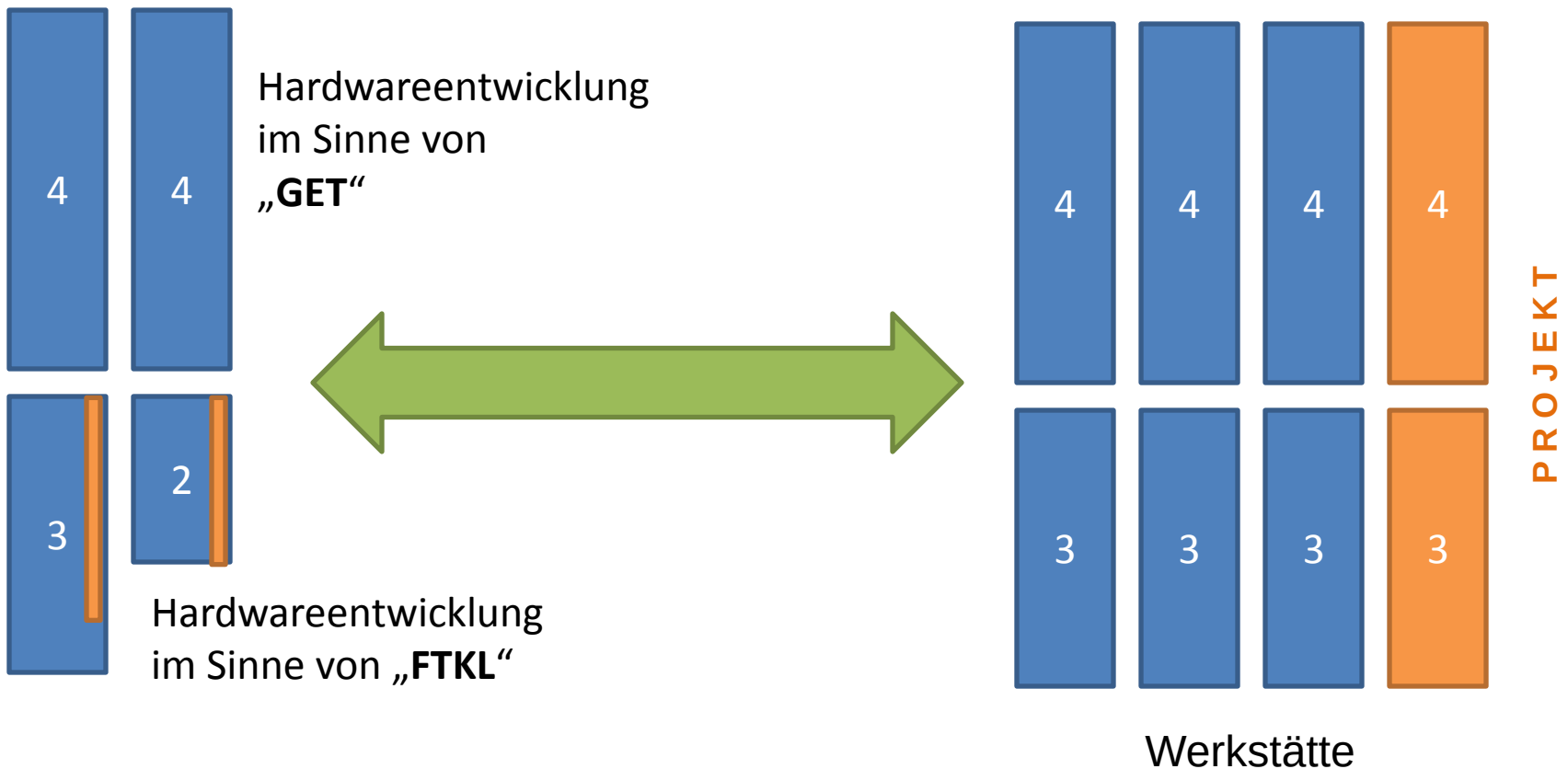


FTKL-Fachtagungsthema 2009



Changen mit LP 2010

Hardwareentwicklung – Prototypenentwicklung (Beispiel)



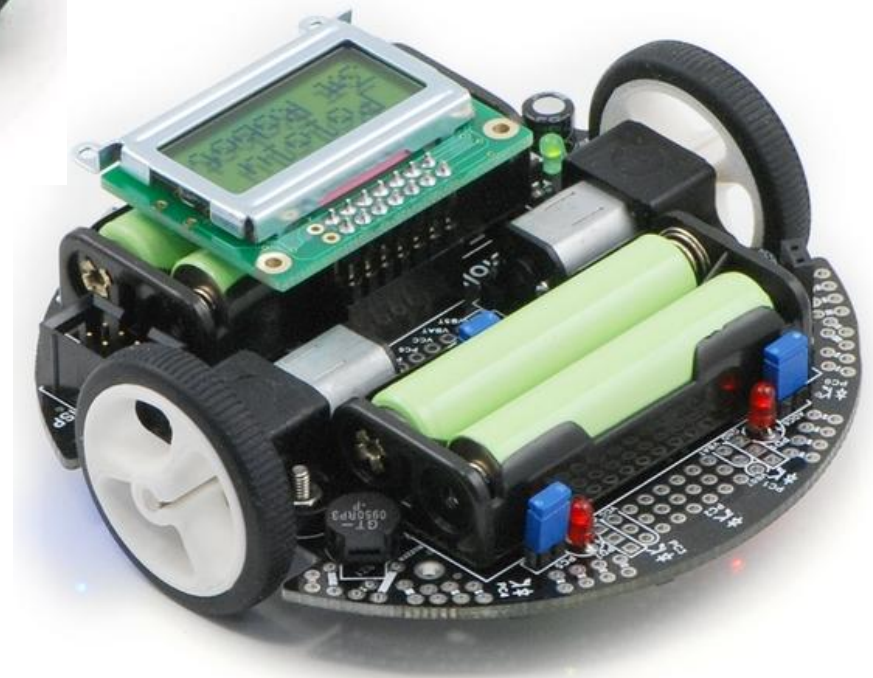


ASURO
Bausatz €50

Implementierung in der 1. Klasse
FTKL – Pläne, Werkstattzeichnung
Werkstätte - Zusammenbau

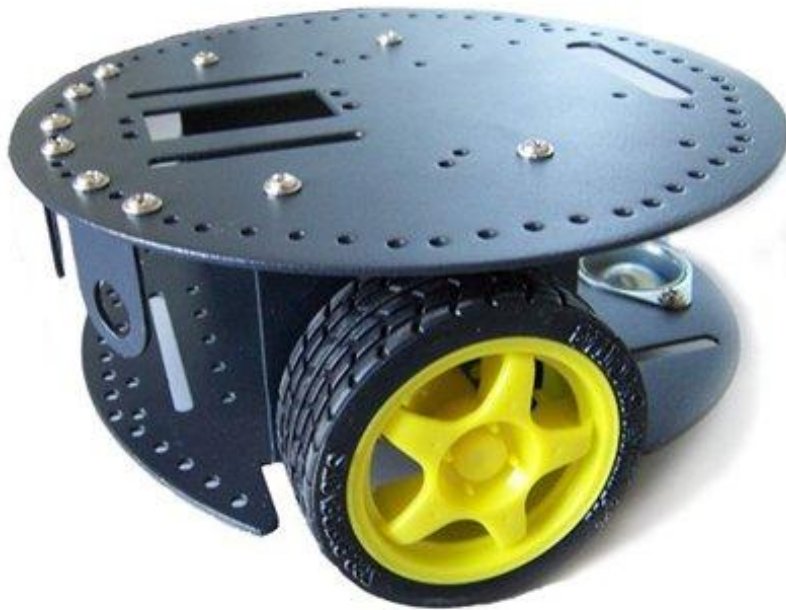
12.4.2011

3Pi
Fertiggerät €100





www.robotshop.ca



Preis €40,-





www.robotshop.ca



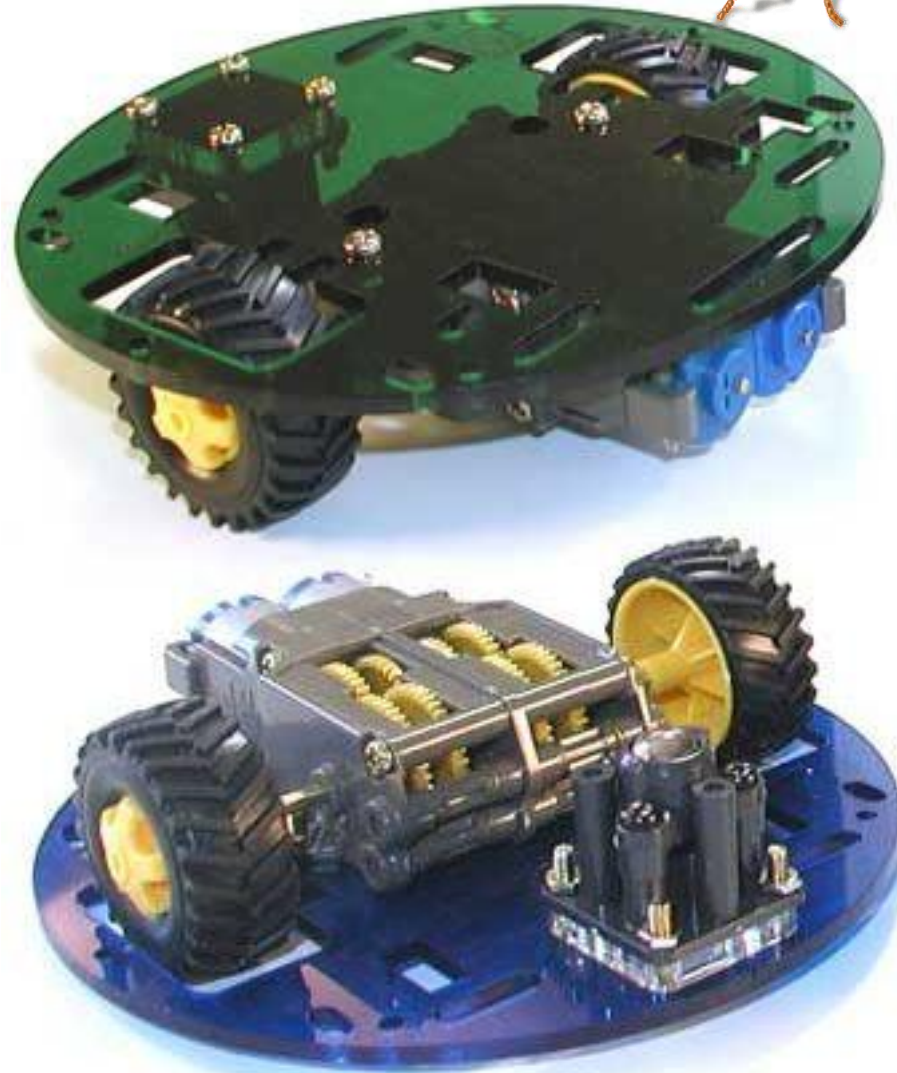
Preis €50,-





www.shop.robotikhardware.de

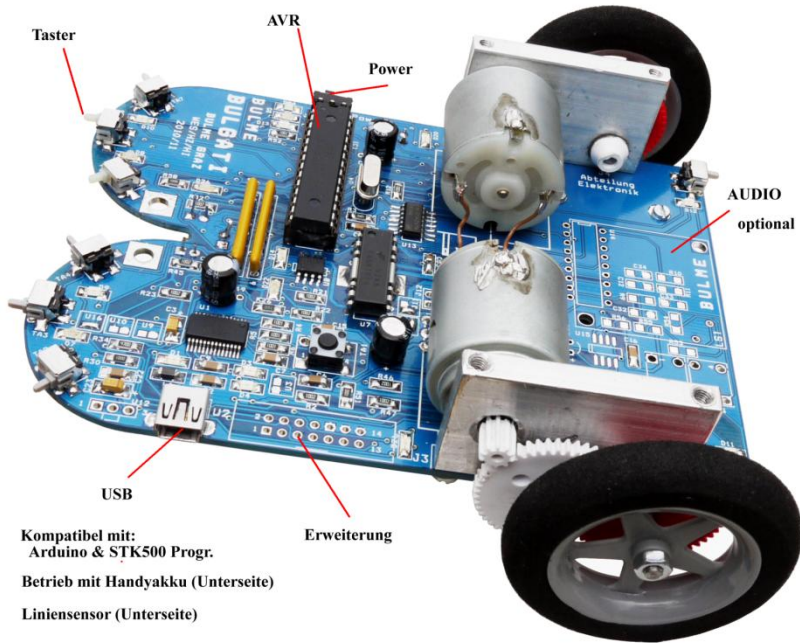
Preis €30,-



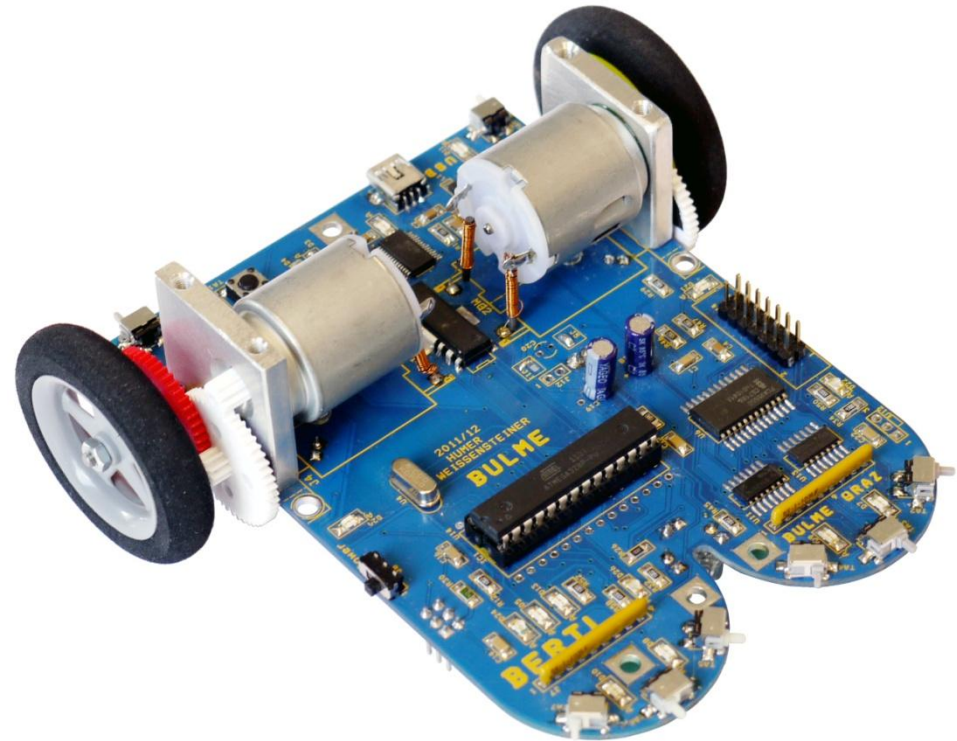
Einzelkomponenten
ca. 12 € /100 ohne Platte.



BULGATI (2011)

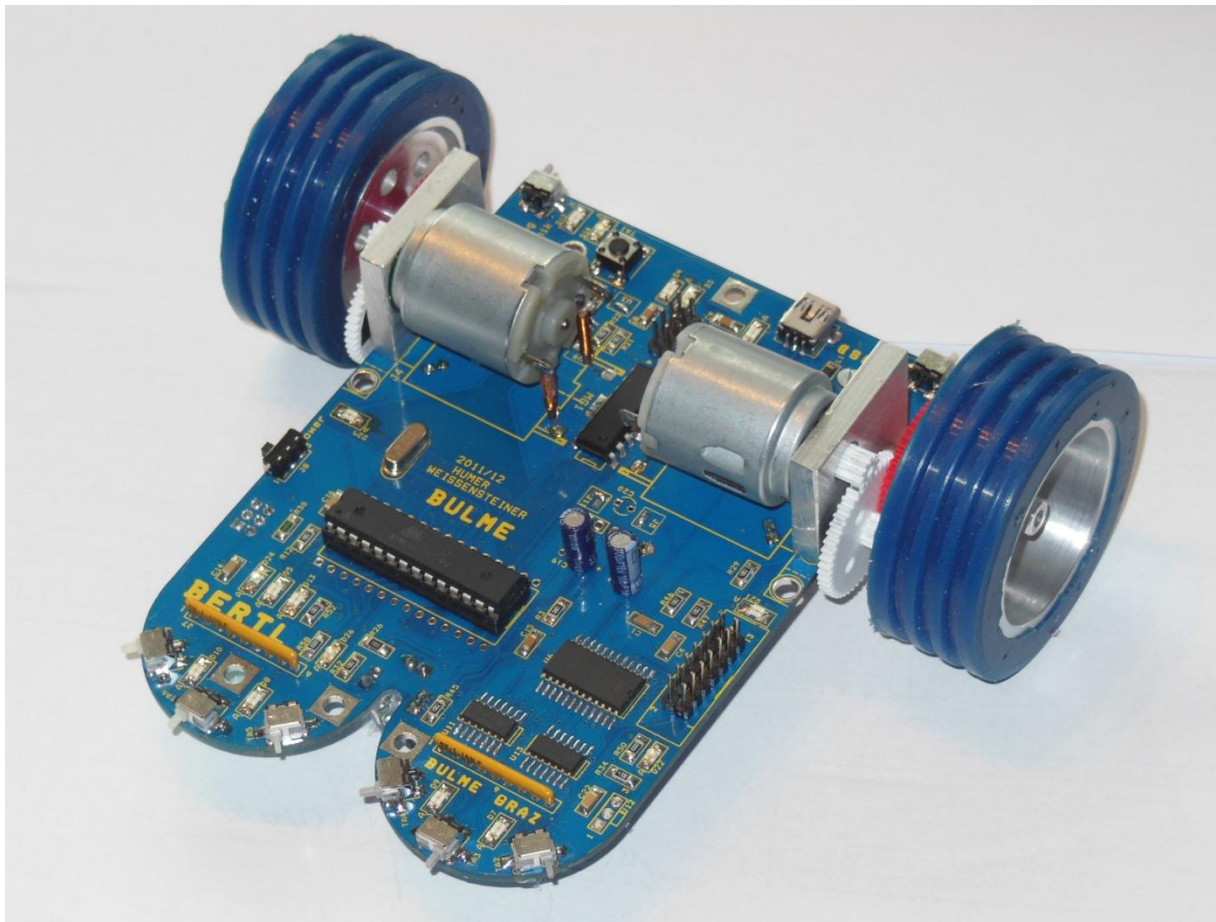


BERTL (2012)





BERTL (2012/13 ?)





FTKL-Tagungsthema: AVR/Arduino

open source -

Entwicklungssystem für

- Windows
- Mac OS X
- LINUX



25€/BBG

Bild: ARDUINO Konzept
www.arduino.cc



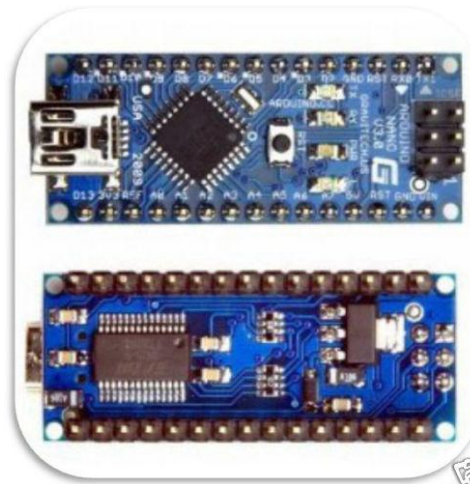
XXXduino Basisplatinen

25 €

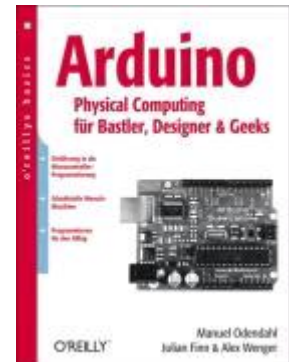


35€

ATMega 128



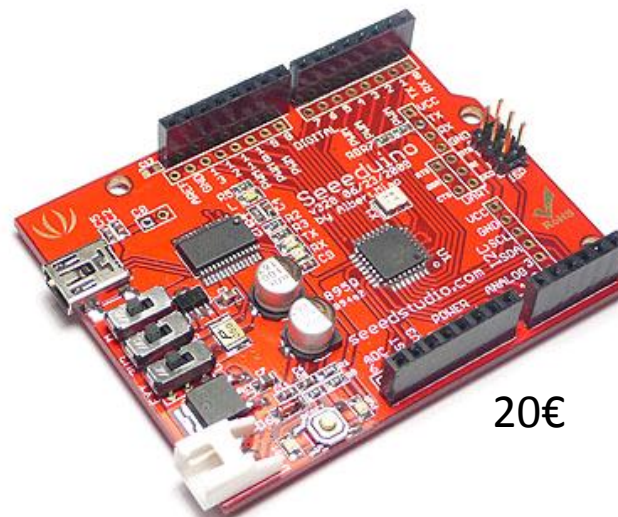
20€



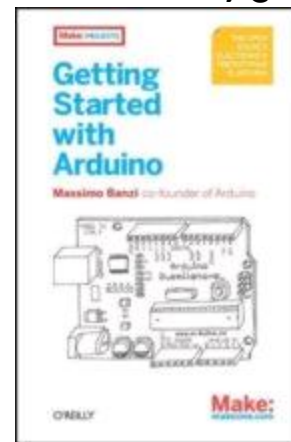
7€



Atmega 328 .. 20€



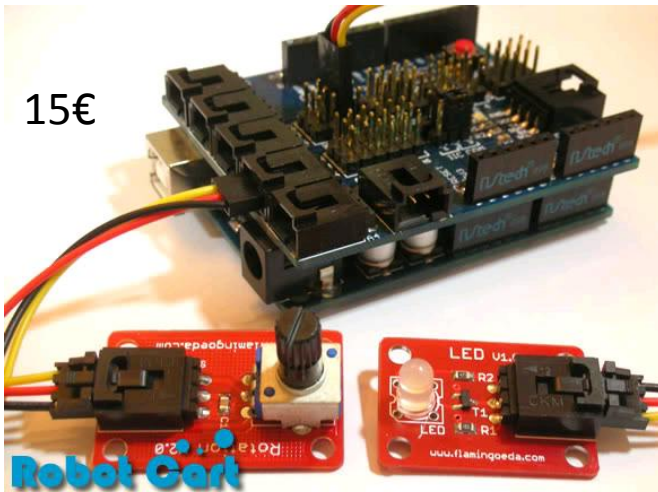
20€





XXXduino Zusatzplatinen

15€



LCD Modul

15€



25€



Arduino Ethernet Shield

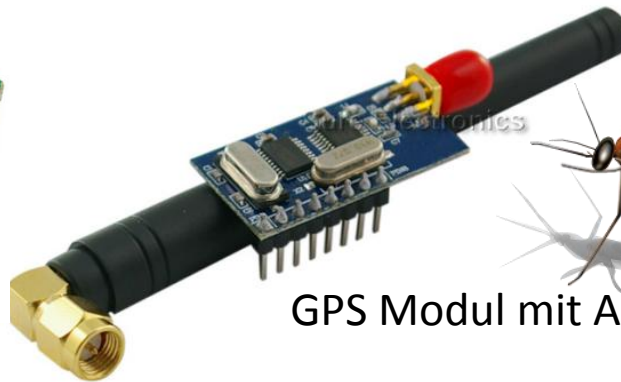


FTKL- Tagung 2011 – ARDUINO

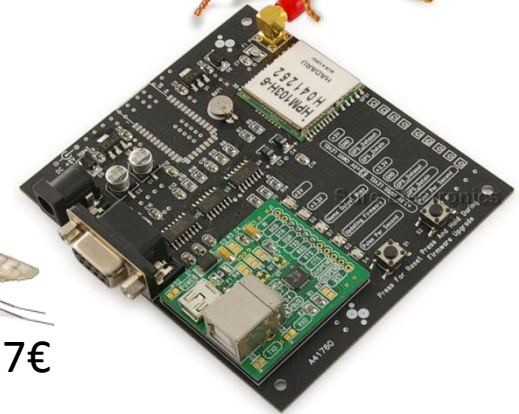
Gyrator 14€



Transceiver 433MHz 9€



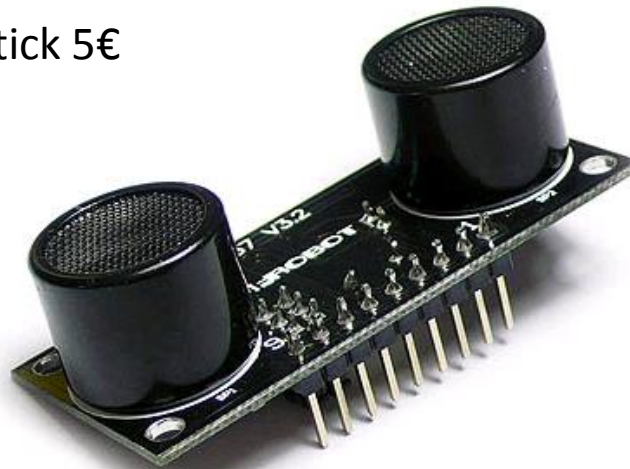
GPS Modul mit Antenne 27€



Joystick 5€

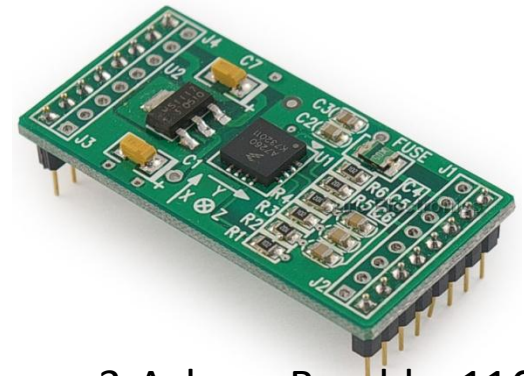


funRobo



Ultraschall Entfernungsmesser 9€...20€

3-Achsen Beschlg. 11€



2-Achsigter Kompass 35€



www.sureelectronics.net, www.seeedstudio.com
www.sparkfun.com



ARDUINO – Nächste Generation?

<http://www.digilentinc.com>

Microchip® PIC32MX320F128 processor

80 Mhz 32-bit MIPS

128K Flash, 16K SRAM

Compatible with many existing Arduino™ code examples, reference materials and other resources

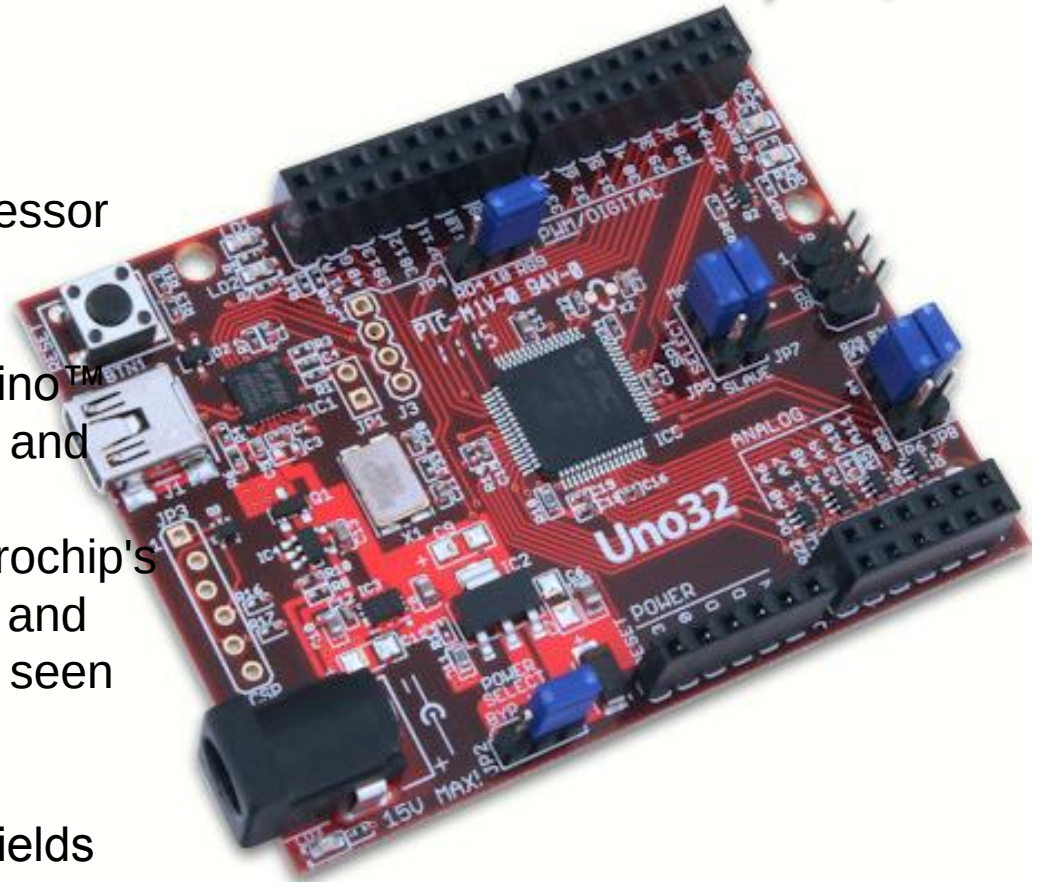
Can also be programmed using Microchip's MPLAB® IDE (along with a PICkit 3 and our PICkit3 Programming Cable Kit, seen below)

Arduino™ "Uno" form factor

Compatible with many Arduino™ shields

42 available I/O

User LED

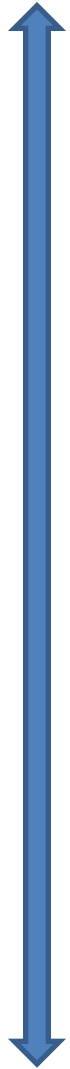


30 €

FTKL- Tagung 2011 – Zukunft?

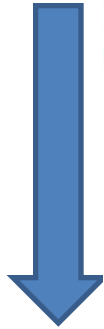


I .. V Jahrgang



7.11.2011

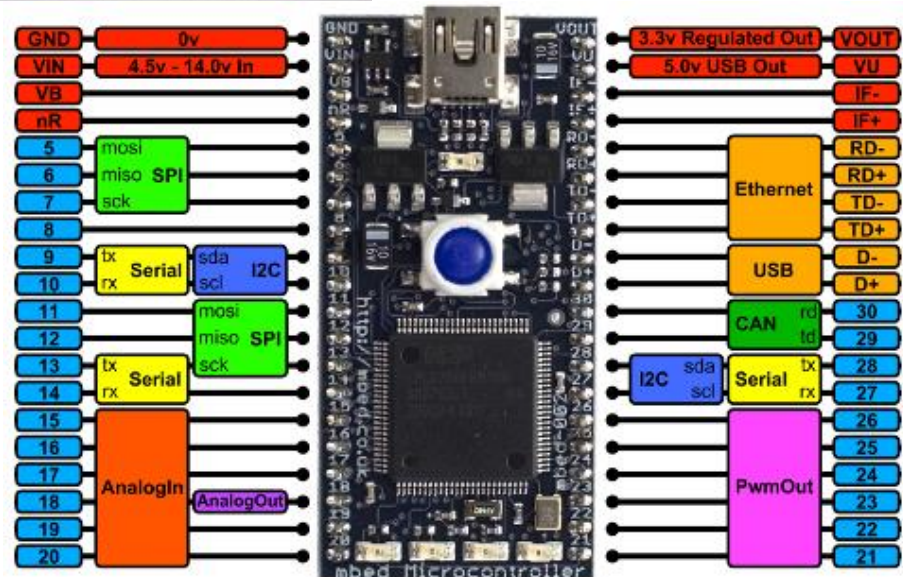
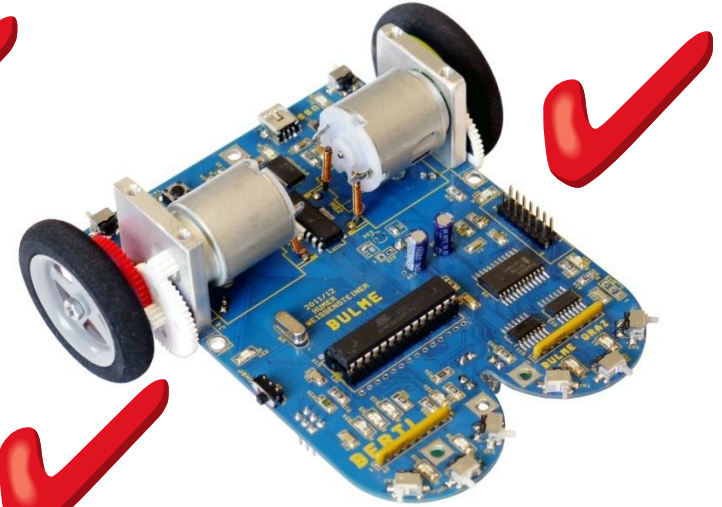
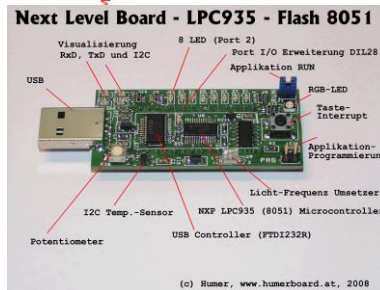
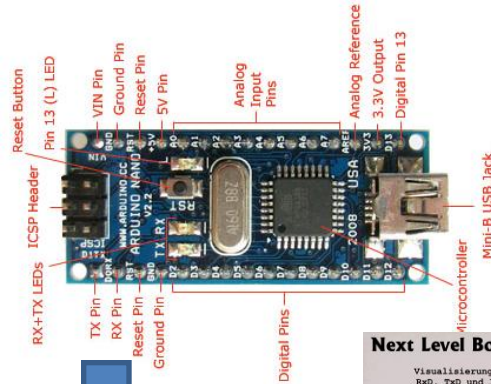
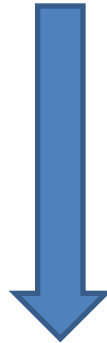
Arduino / AVR o. PIC

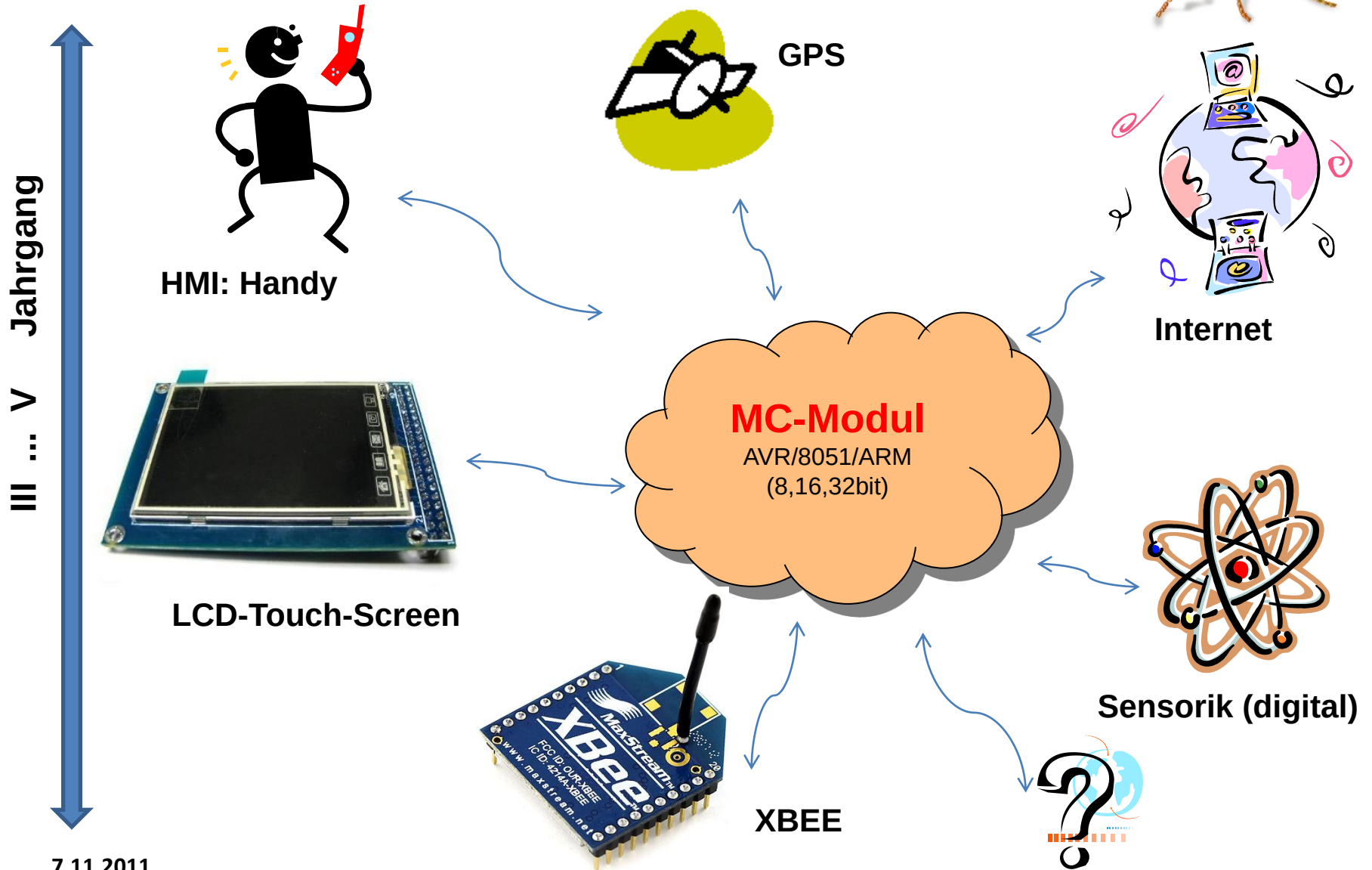


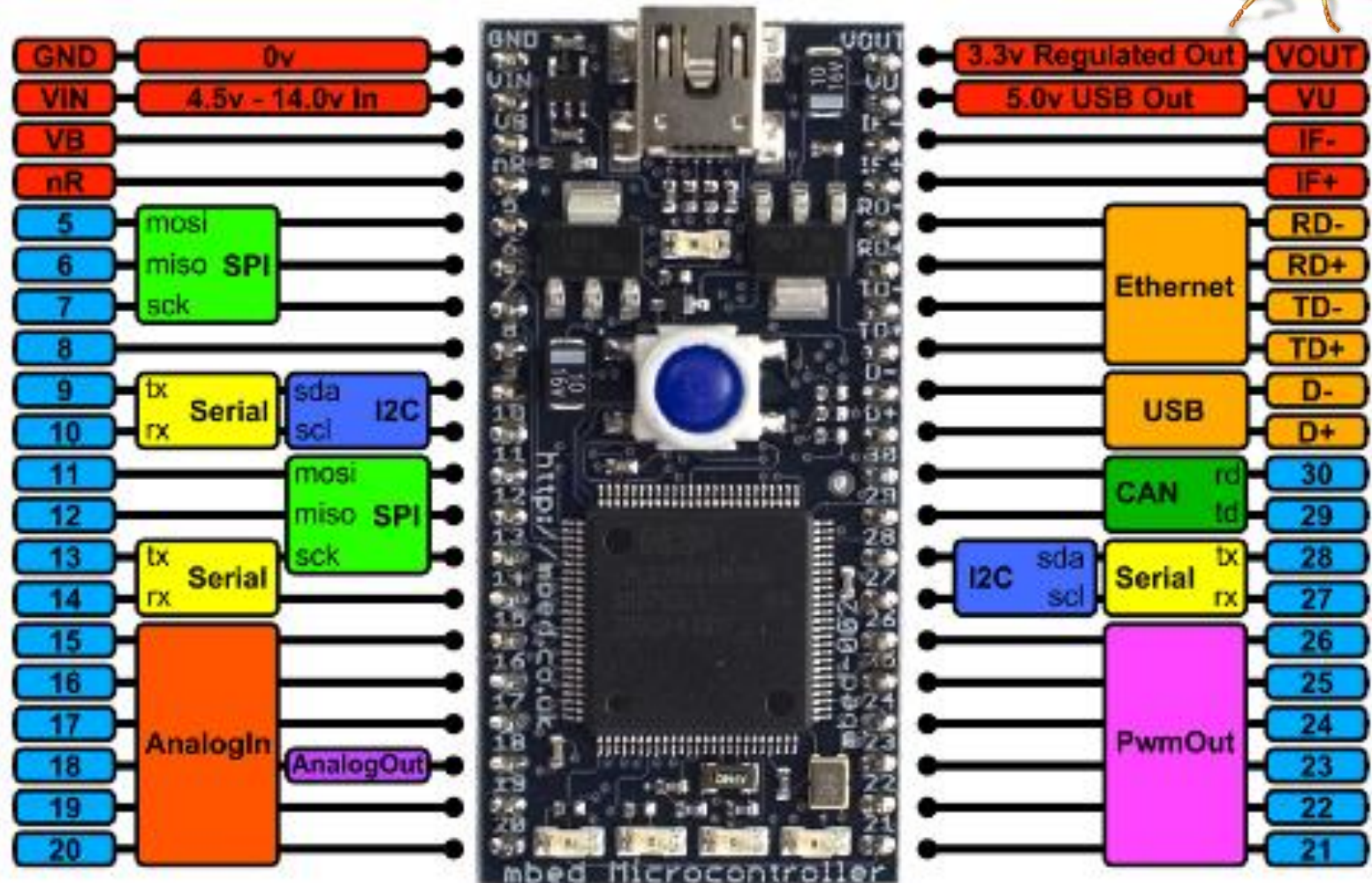
Ev. 8051-Flash

Cortex – M0 o. M3

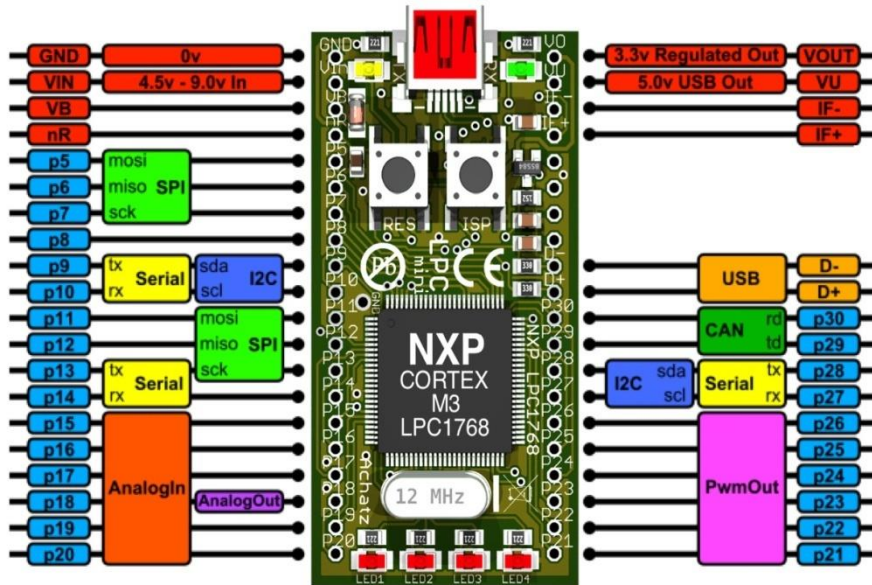
mbed



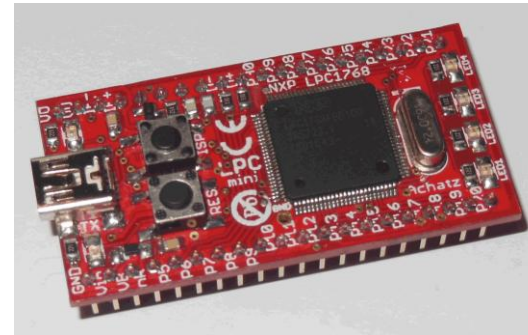




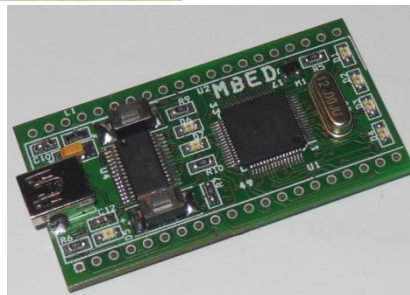
www.mbed.org



Cortex M3 (mbed) LPCmini
Materialpreis ca. 20€
Werkstätte – löten und testen

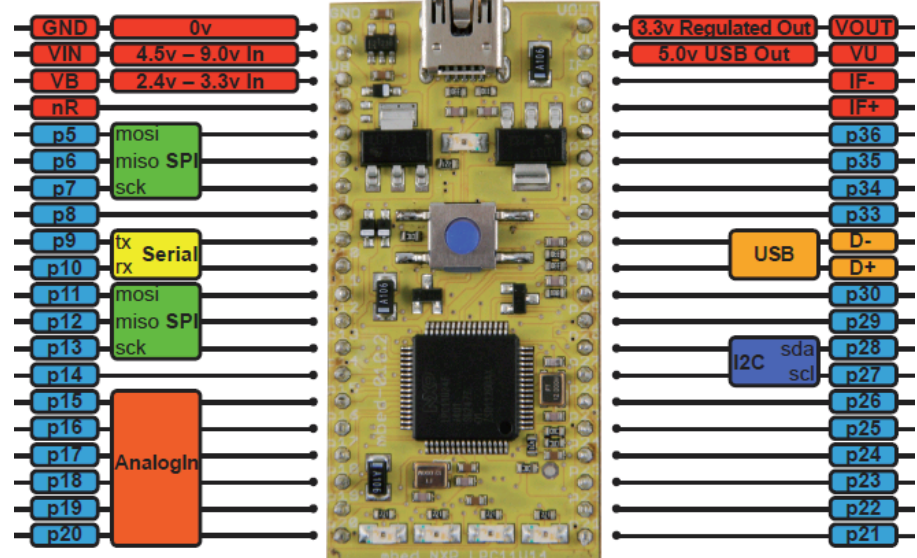


Eigenbau
BULME GRAZ



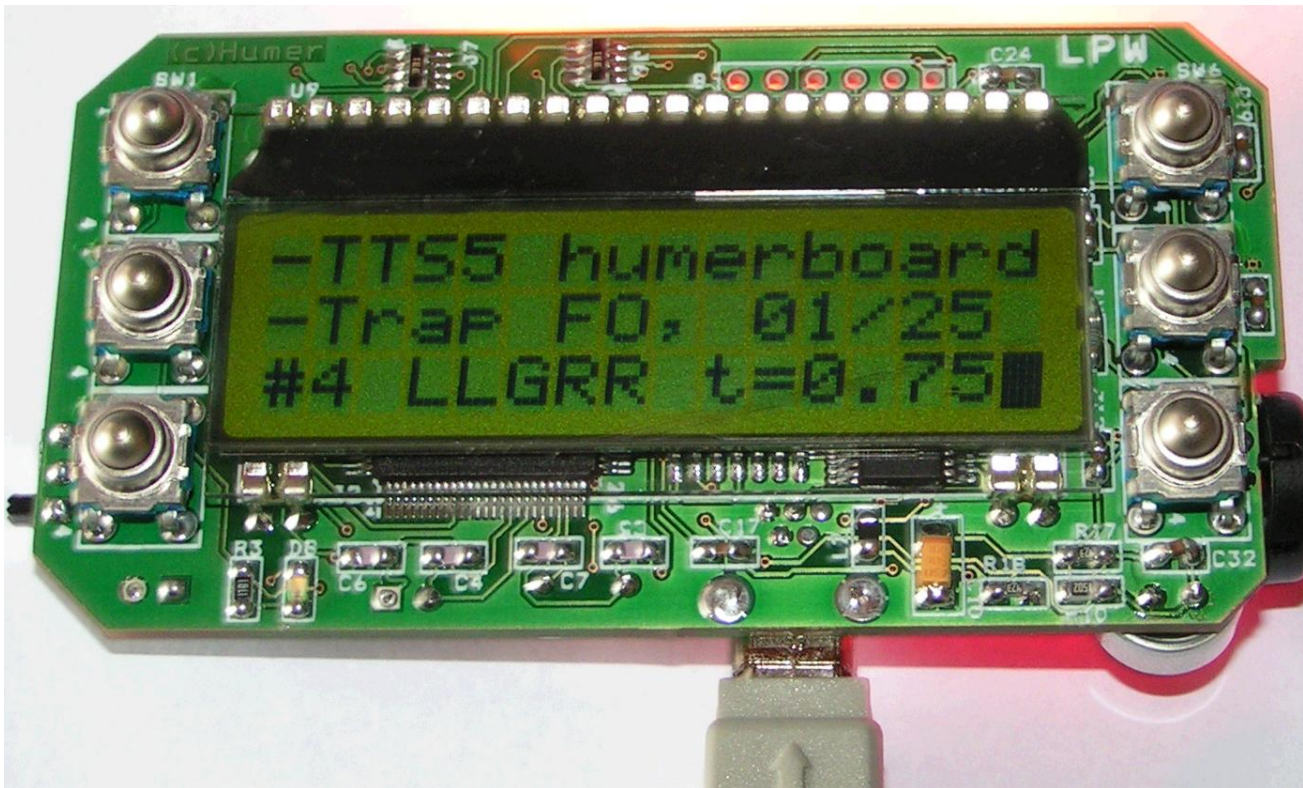
Eigenbau
BULME GRAZ

Cortex M0 (mbed)
Materialpreis ca. 10€
Werkstätte – löten und testen





Mbed-Beispiel: Diplomarbeit „Trap Training System“



Beschleunigung
und
Gyrator 3 Achsen
Kompass
Luftdruck
Puls



TERMIN FTKL-Tagung 2012

Thema: mbed

- Mo., 5. November 2012
- BULME Graz
- 2 Halbtage
- CortexM3- Implementierung

