

A close-up photograph of a Raspberry Pi 4 Model B board. The board is green and populated with various components including a USB-C port, a USB-A port, an Ethernet port, a yellow composite video port, and a black D-sub connector. A black SanDisk Ultra II 2.0 SD card is placed to the right of the board. The background is dark and out of focus.

RASPBERRY PI

NICO MAAS

PI AND MORE 12 1/4



WER BIN ICH?

- Nico Maas
- Master of Science
- IT Systemelektroniker
- mail@nico-maas.de
- www.nico-maas.de
- @nmaas87



AGENDA

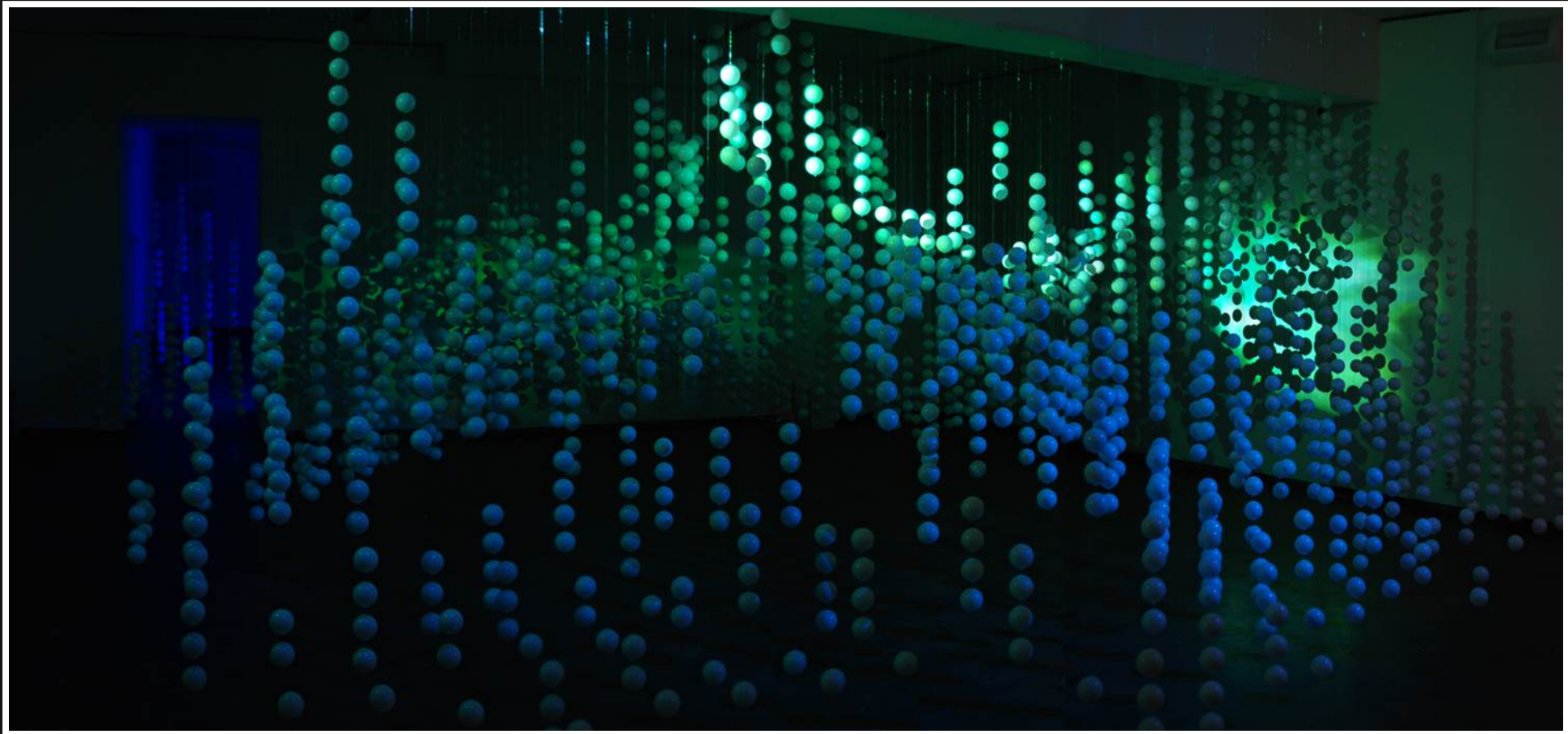
- Einführung
 - Geschichte
 - Nur der RPi?
 - Woher der Erfolg?
- Erste Schritte
- Mehr Raspberry Pi
- Ende



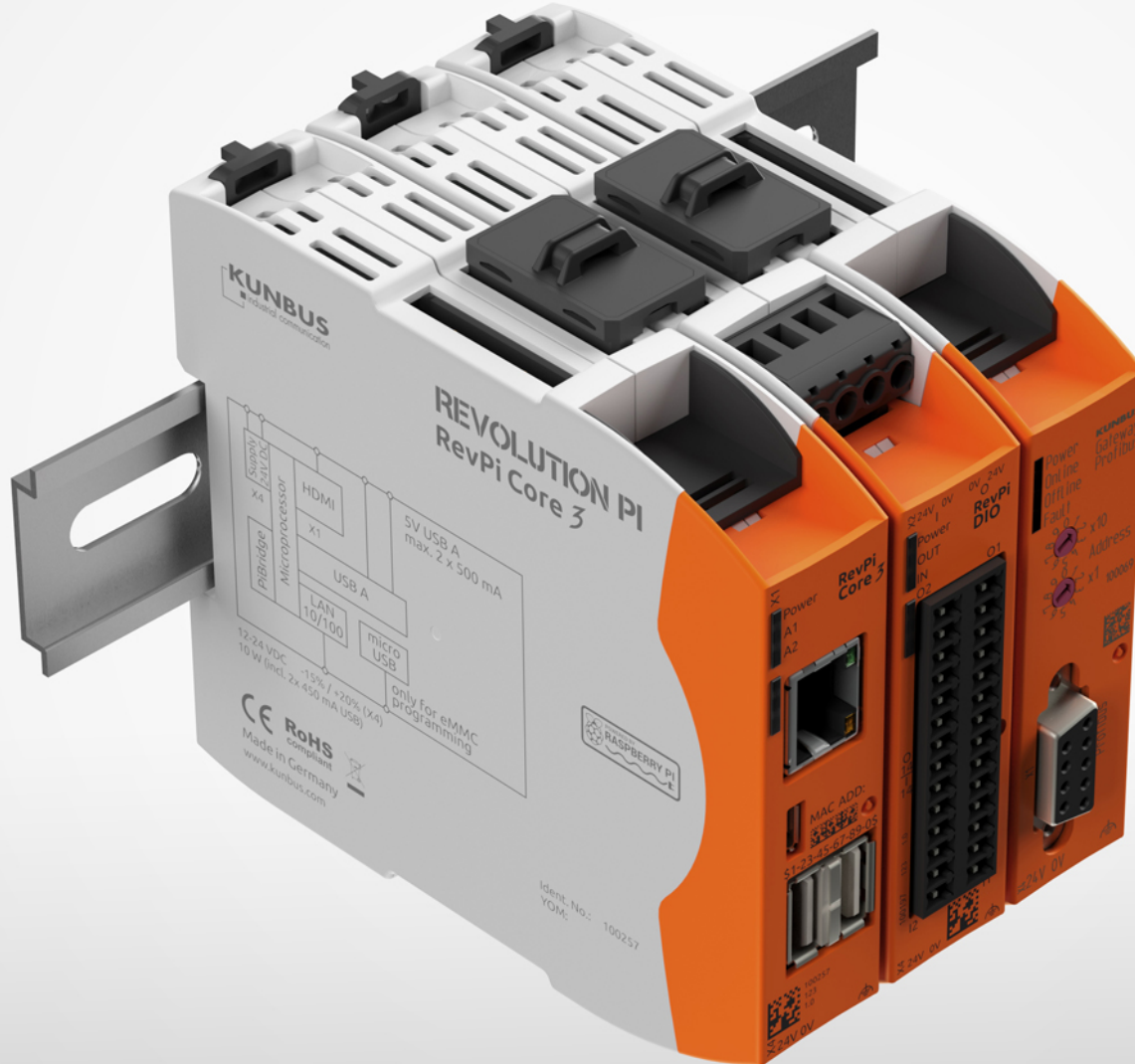
EINFÜHRUNG

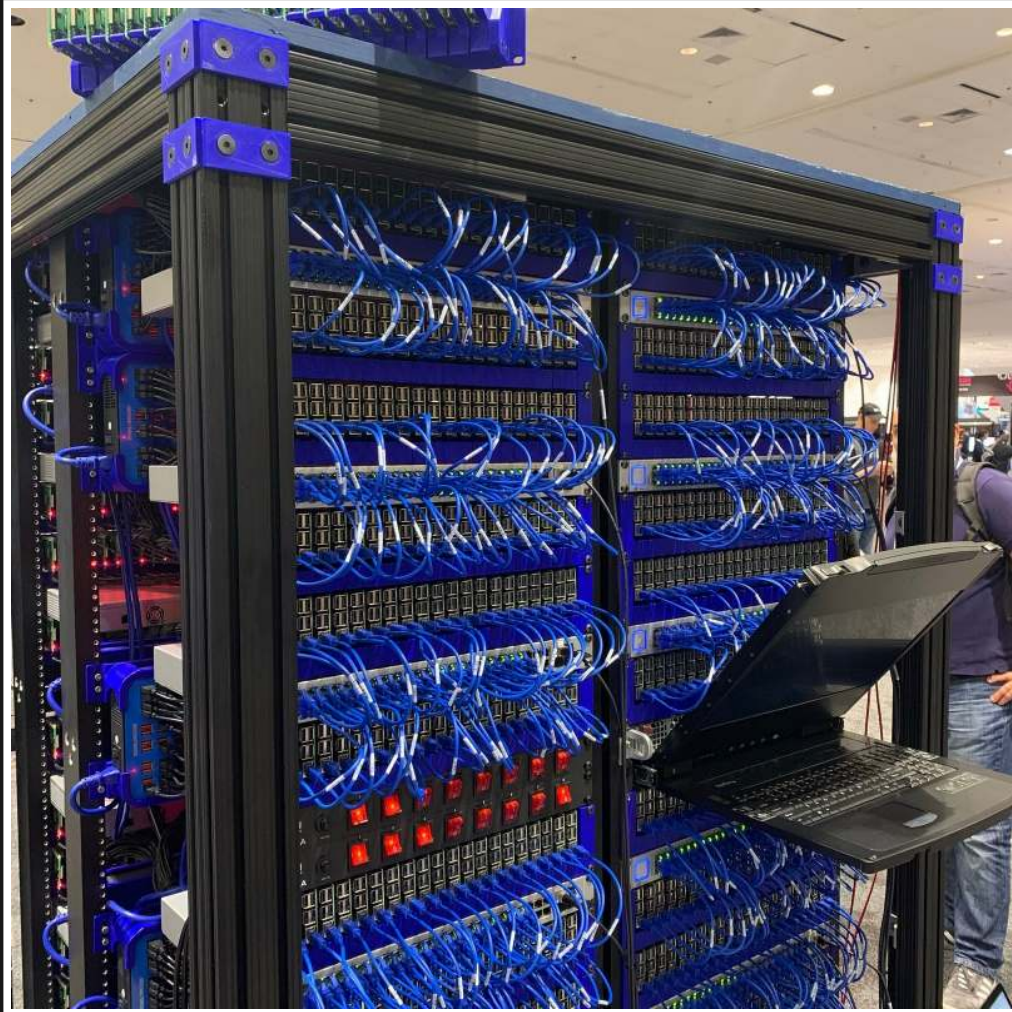


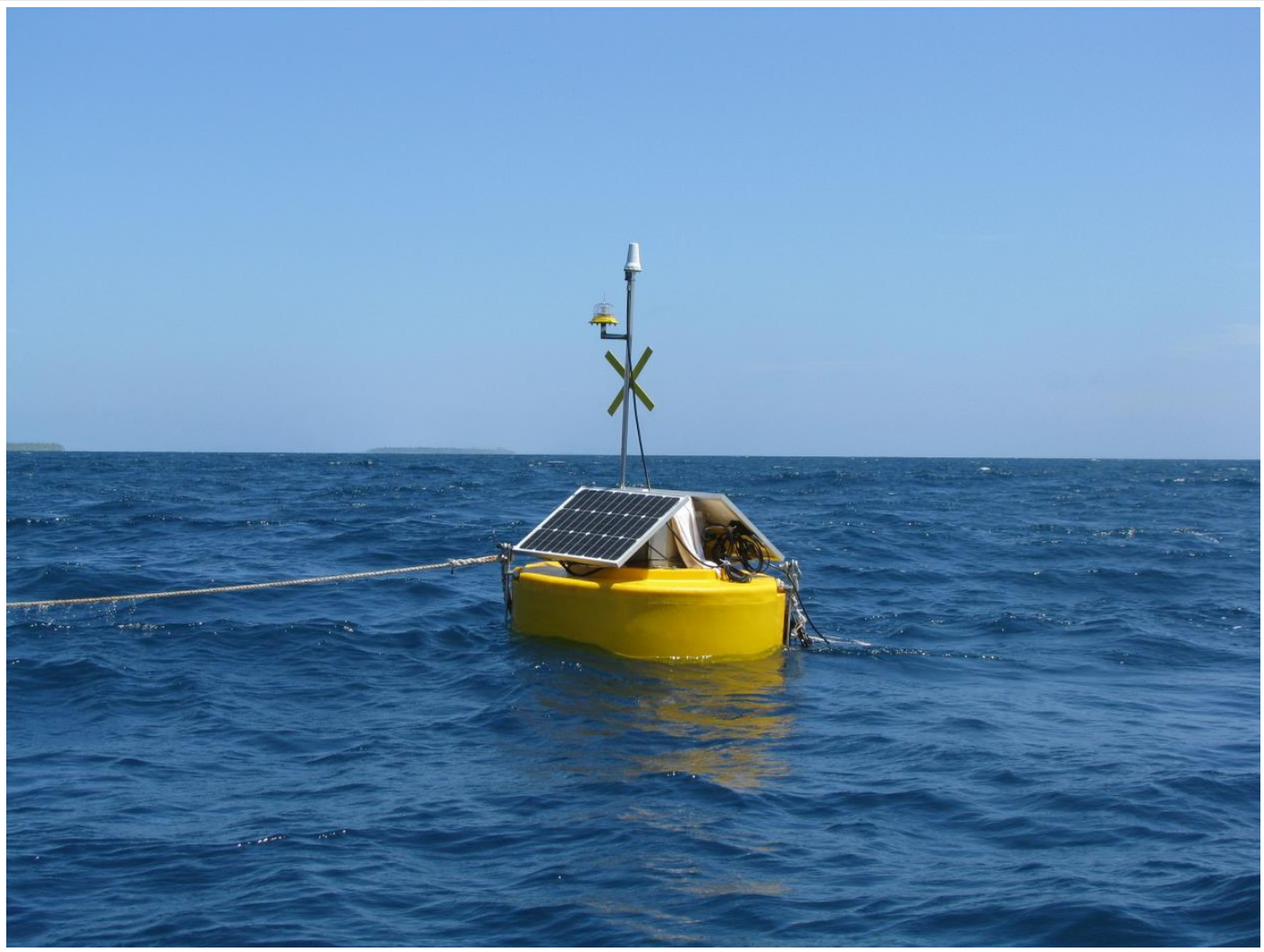




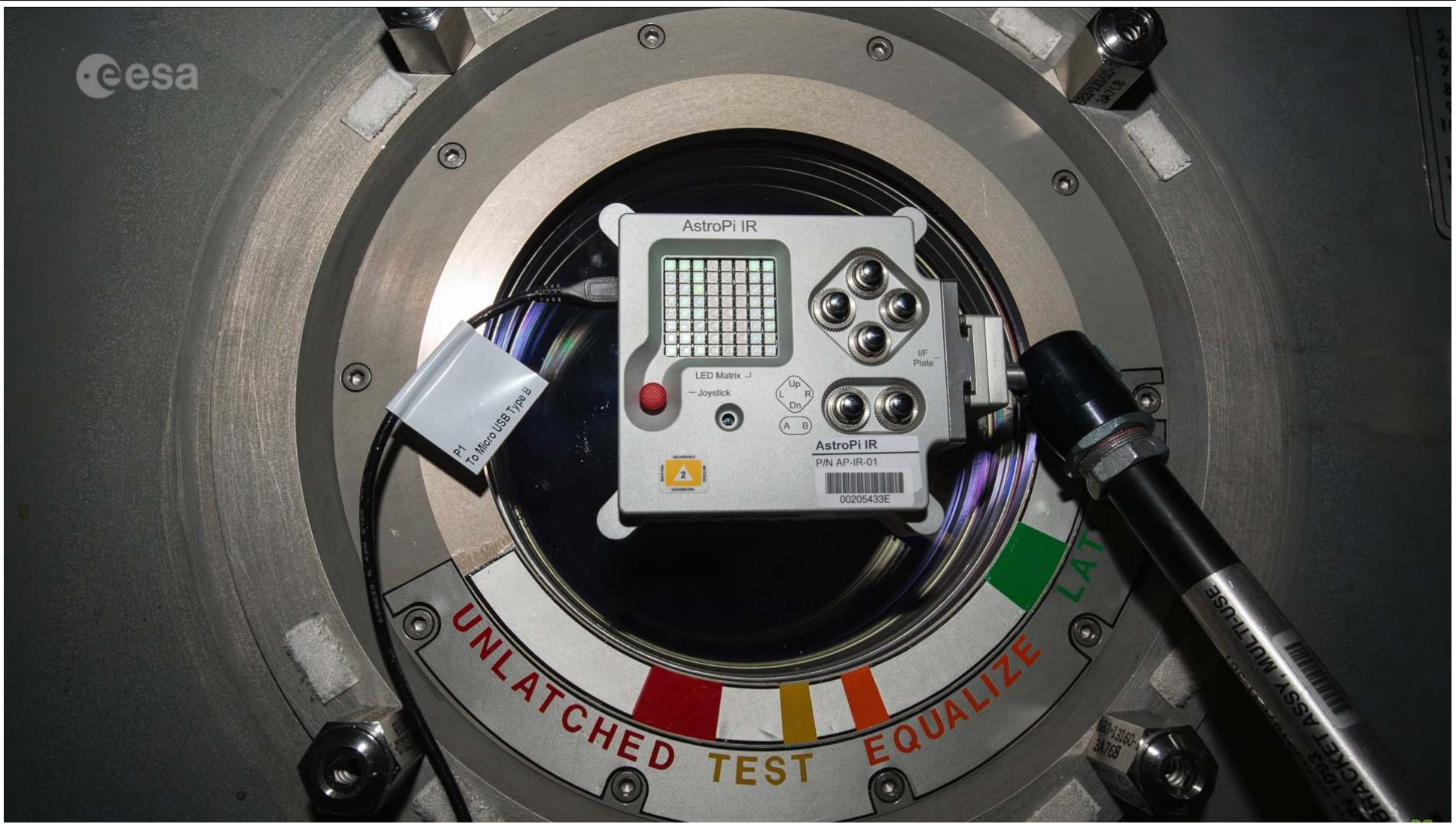














29.02.2012 - LAUNCH

10.000 Einheiten verfügbar



> 100.000 Vorbestellungen



08.09.2016 - ESTABLISHMENT

➤ ~~100.000 Vorbestellungen~~

10 Millionen verkaufte Einheiten



14.12.2019 - CURRENT STATE

~~10 Millionen verkauft.~~

BBC Micro: 1.5 Millionen

Sinclair ZX Spectrum: 5 Millionen

Raspberry Pi Family: > 30 Millionen

Allein im März 2020 640.000 Stück verkauft



EINFÜHRUNG GESCHICHTE





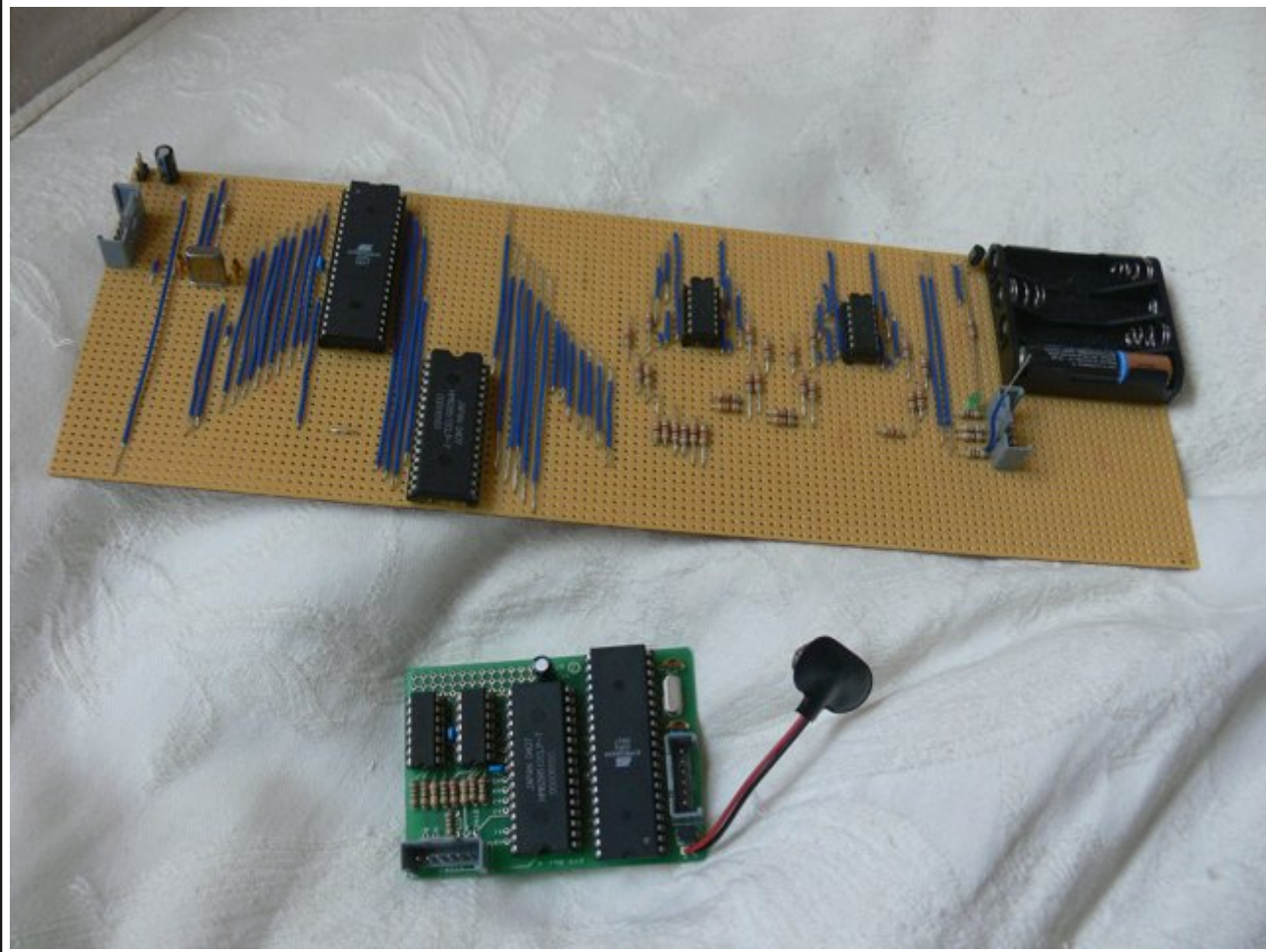
HOW DOES COMPUTER
PROGRAMMING WORK?

MAGIC.



全
有
漫

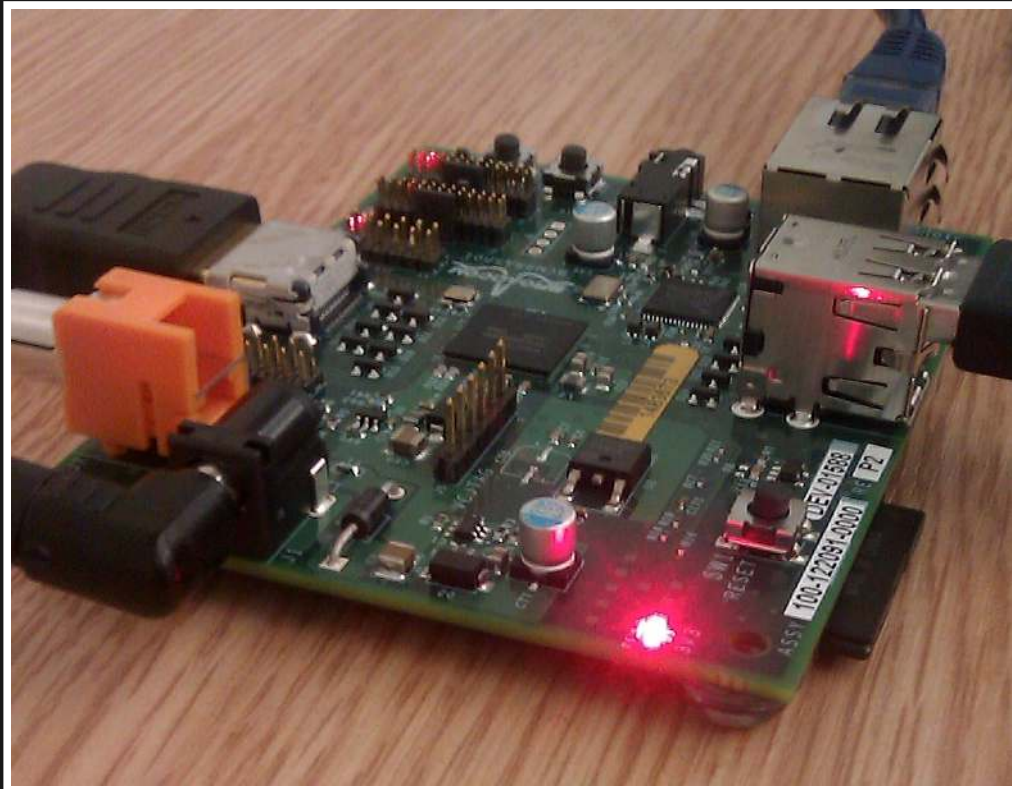


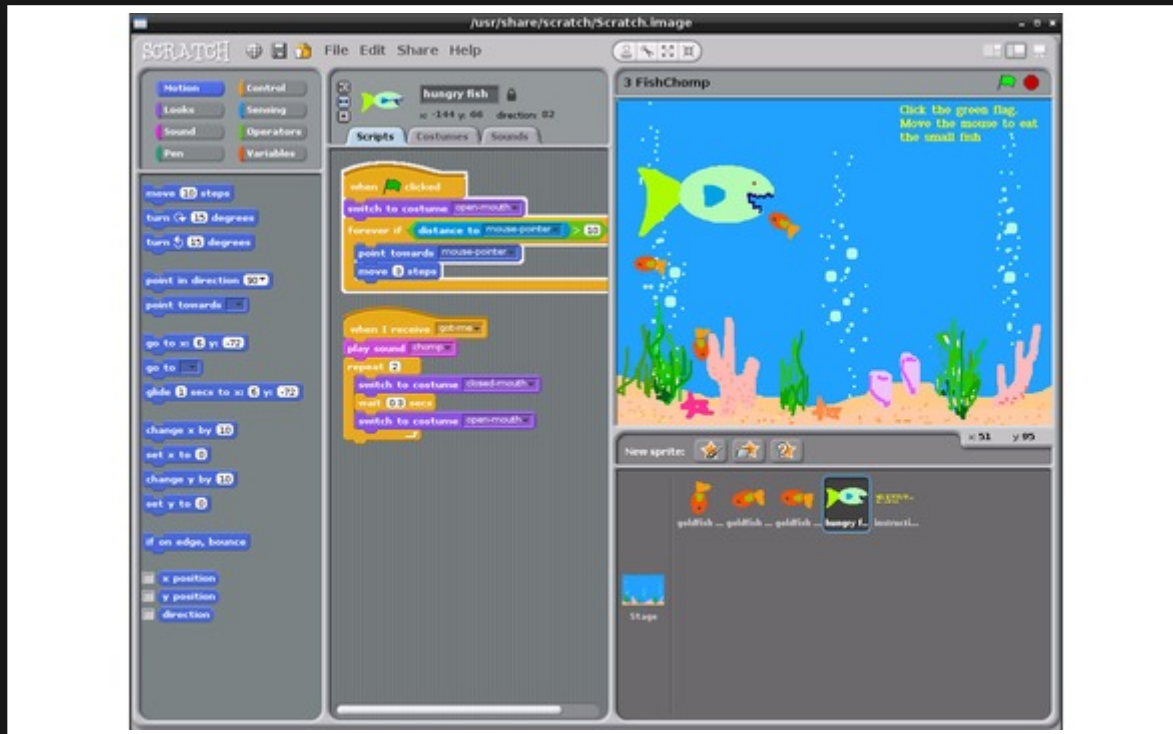


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Welcome to ROBCO Industries (TM) Termlink
Password Required
Attempts Remaining: ■■■■
0x3700 :<;):*#=[:# 0x37C0 )+SIZE*='^#<
0x370C /-^}%]@!(,?! 0x37CC #|%%HUNT#"")
0x3718 >)}:=#).=/?< 0x37D8 ./\_)({|PART
0x3724 /-}{#"!)#$(+ 0x37E4 ' :>ROLL! :| ; ^
0x3730 ]|)}^%--%$-=$ 0x37F0 @BORN"@|'|\|
0x373C ORT#-@^<#%/ 0x37FC ;*^,$|[ $@<%
0x3748 |*)*%_/SOME* 0x3800 <!( [ <-> ] (= `
0x3754 \\\"\\>+(!*"#5 0x3814 =]BURN+>/'[ ;
0x3760 |/'+TIME.-+} 0x3820 ,<(\,+;)$>:/
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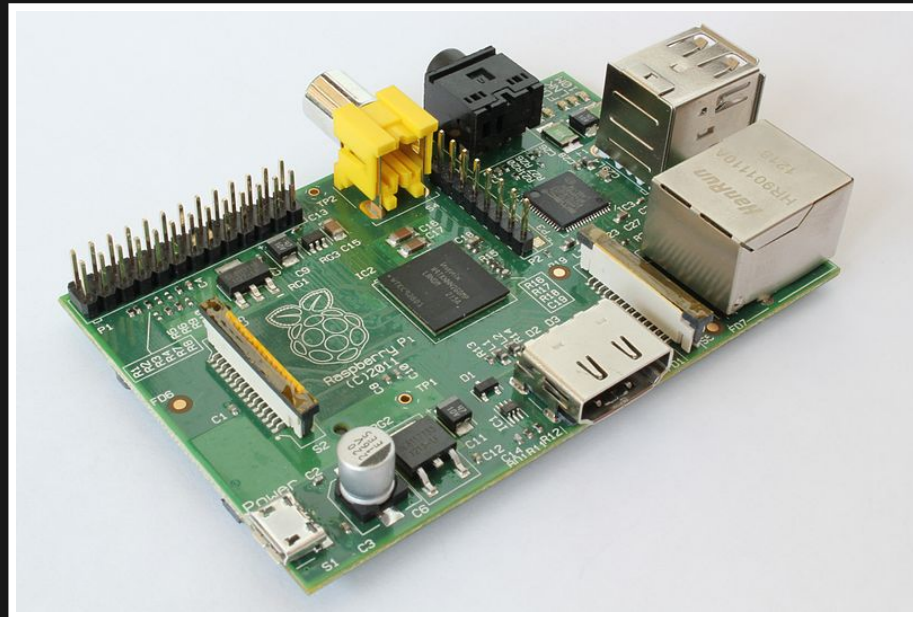








RASPBERRY PI MODEL B, 2012



RASPBERRY PI MODELL B V2

- 700 MHz ARM
- 512 MB RAM
- Full HDMI
- Cinch Video
- Stereo Audio
- USB 2.0
- 100 Mbit Ethernet
- 35 USD



EINFÜHRUNG NUR DER RPI?



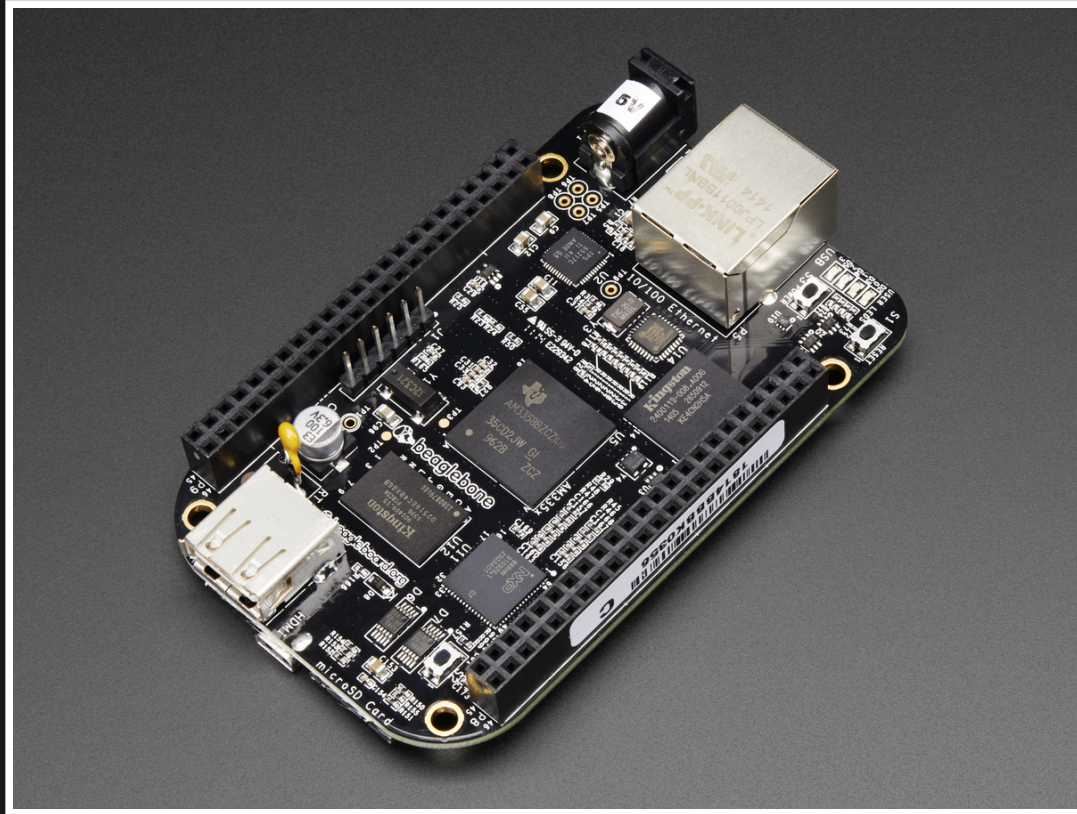
WARS DAS SCHON ;)?



NEIN :)!



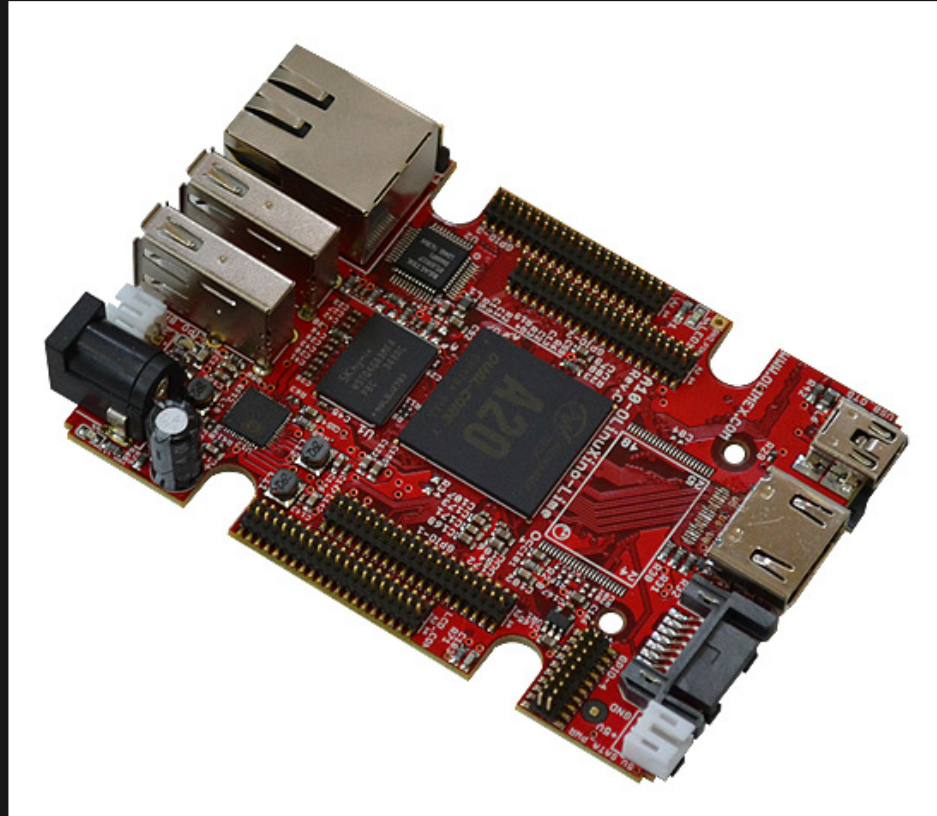
BEAGLEBONE BLACK



1 GHz, 512 MB RAM, 2 PRUs



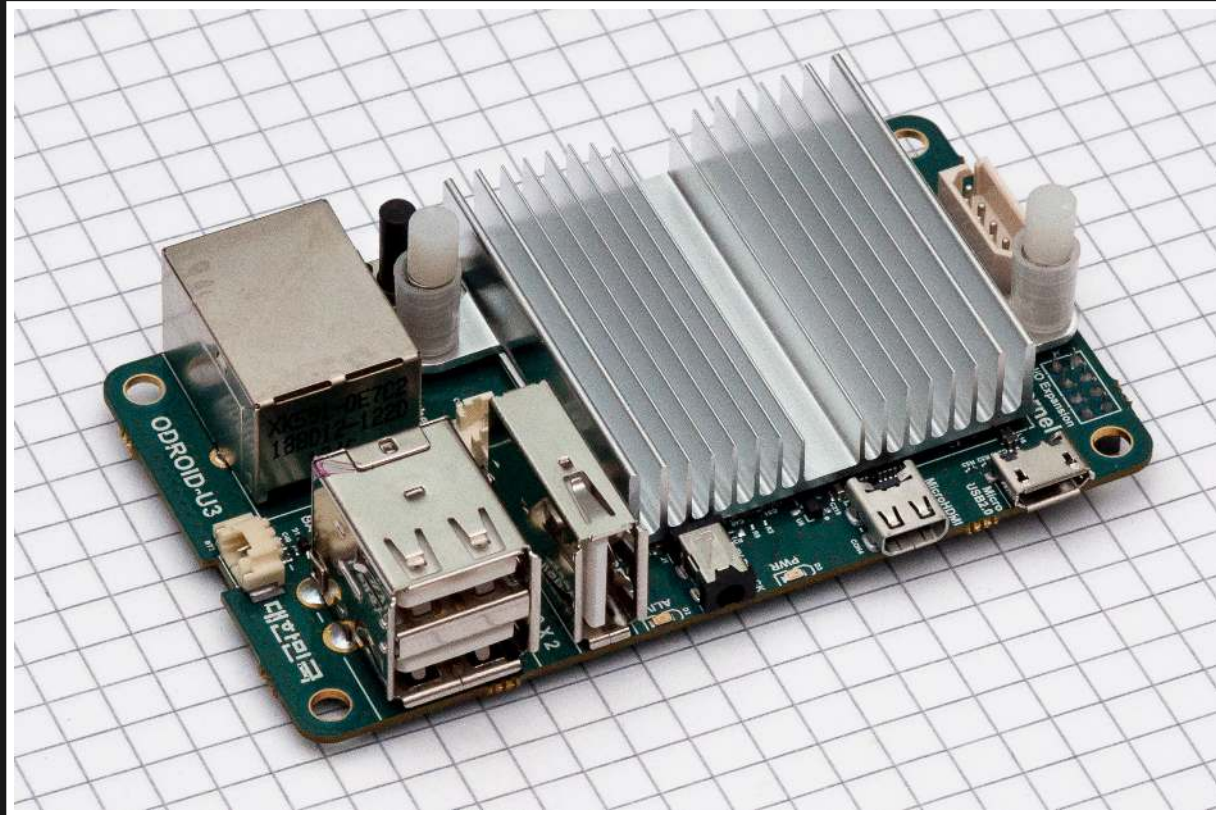
OLIMEX (Z.B. A20 OLINUXINO-LIME)



1 GHz Dualcore, 512 MB RAM, 160 GPIOs + SATA



HARDKERNEL ODROID (Z.B. U3)



1.7 GHz Quadcore, 2 GB RAM, eMMC

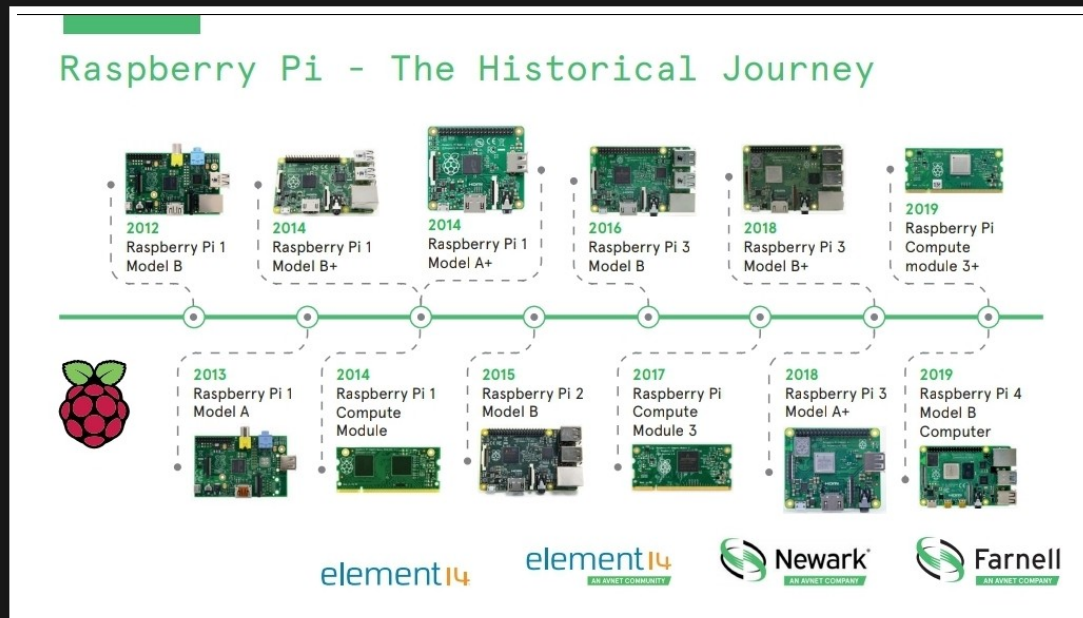


KONKURENZ BELEBT DAS GESCHÄFT!



EINFÜHRUNG

WOHER DER ERFOLG?



RASPBERRY PI MODEL B, 2012



35 USD



1.) PREIS

Für 35 USD - ein “vollwertiger Rechner”*?

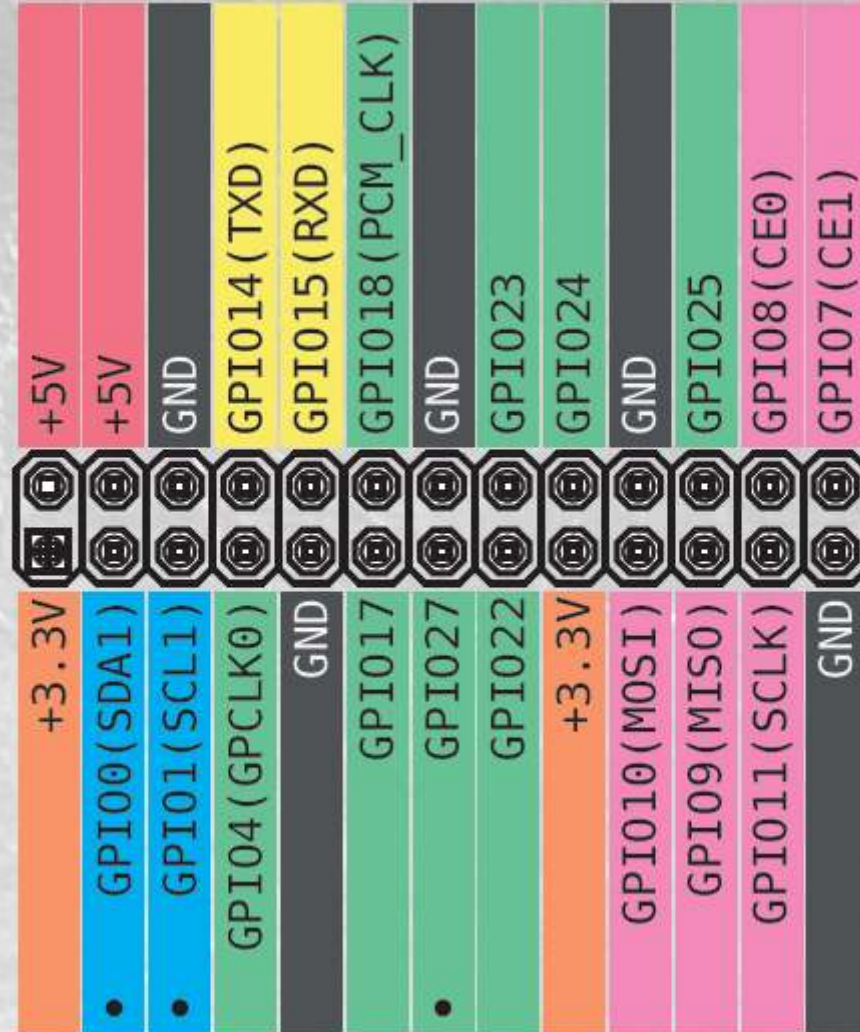
* Zubehör erforderlich...



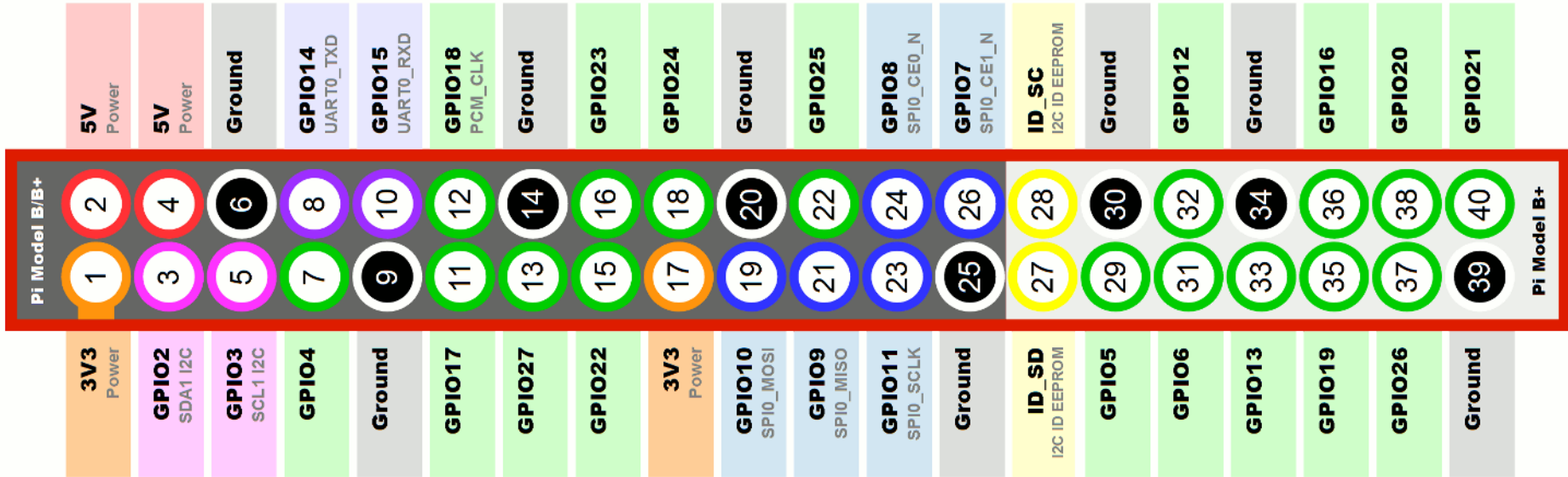
2.) GPIO

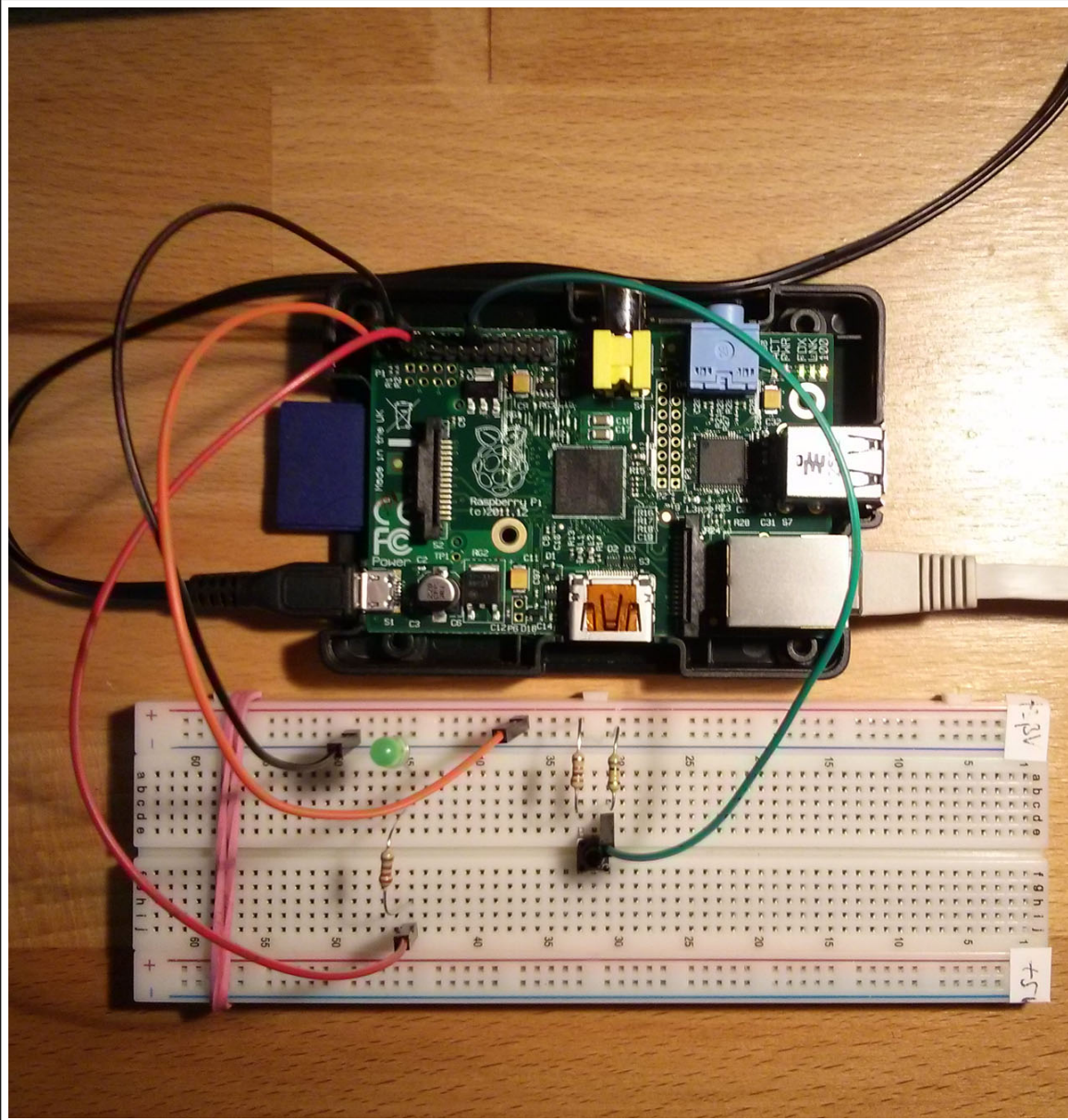


Raspberry Pi GPIO connector (P1) pinout



• = changed since board revision 2





3.) COMMUNITY

The screenshot shows the Raspberry Pi website homepage. At the top, there is a navigation menu with links for Hardware, Software, Books & magazines, Learn, Teach, and About us. The main banner features a Raspberry Pi 400 keyboard computer with the text "Raspberry Pi 400" and "Your complete personal computer, built into a compact keyboard". A "Find out more" button is located below this text. To the right of the banner is a "Coronavirus update" section with a "Donate" button. Below the banner, there are four featured blog posts: "Smart Fairy Tale" (2 comments), "Code your own Pipe Mania puzzler | Wireframe #46" (1 comment), "Learning at home with the Raspberry Pi Foundation" (17 comments), and "Meet team behind the mini Raspberry Pi-powered ISS" (1 comment). A "More from the blog" button is centered below these posts. At the bottom, there is a "Learn at home" section with a "Join us!" button and a photo of a smiling woman with glasses.

Hardware Software Books & magazines Learn Teach About us

Raspberry Pi 400
Your complete personal computer, built into a **compact keyboard**
[Find out more](#)

Coronavirus update
Our educational mission has never been more vital. We are supporting teachers, learners and, parents during the lockdown with [Learn at home](#). [Donate](#)

Smart Fairy Tale 2 comments

Code your own Pipe Mania puzzler | Wireframe #46 1 comments

Learning at home with the Raspberry Pi Foundation 17 comments

Meet team behind the mini Raspberry Pi-powered ISS 1 comments

[More from the blog](#)

Learn at home
To help keep young people occupied, entertained, and learning at home, we offer free resources for everyone anywhere in the world.
[Join us!](#)



4.) BETRIEBSSYSTEM

Raspberry Pi OS

Compatible with:

[All Raspberry Pi models](#)



Raspberry Pi OS with desktop and recommended software

Release date: December 2nd 2020

Kernel version: 5.4

Size: 2,949MB

[Show SHA256 file integrity hash:](#)

[Release notes](#)

[Download](#)

[Download torrent](#)

Raspberry Pi OS with desktop

Release date: December 2nd 2020

Kernel version: 5.4

Size: 1,177MB

[Show SHA256 file integrity hash:](#)

[Release notes](#)

[Download](#)

[Download torrent](#)

Raspberry Pi OS Lite

Release date: December 2nd 2020

Kernel version: 5.4

Size: 438MB

[Show SHA256 file integrity hash:](#)

[Release notes](#)

[Download](#)

[Download torrent](#)



Third-party software

Here are some other operating systems you can use with your Raspberry Pi



LibreElec

A Kodi Entertainment Center distribution

[Download](#)

Ubuntu Desktop

An open source desktop operating system that's widely used around the world, complete with all the essential applications for home, school, and work

[Download](#)

Ubuntu Server

A popular flavour of Linux for cloud and data centre environments

[Download](#)

Ubuntu Core

Ubuntu for embedded environments, optimised for security and reliable updates

[Download](#)

RetroPie

Turn your Raspberry Pi into a retro-gaming machine

[Download](#)

TLXOS

30-day trial of ThinLinX's Debian-based thin client for Raspberry Pi

[Download](#)

5.) EIN RPI FÜR JEDEN VERWENDUNGSZWECK



RPI 4B+



RPI 400



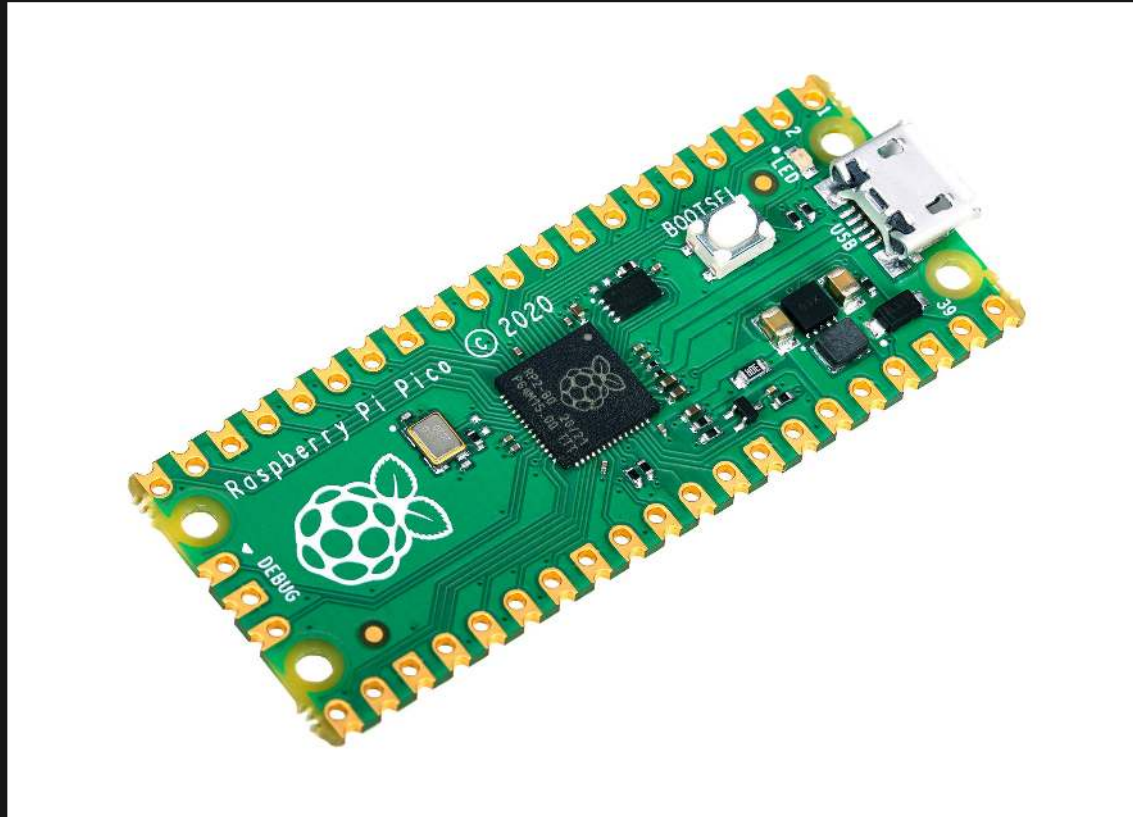
RPI ZERO W

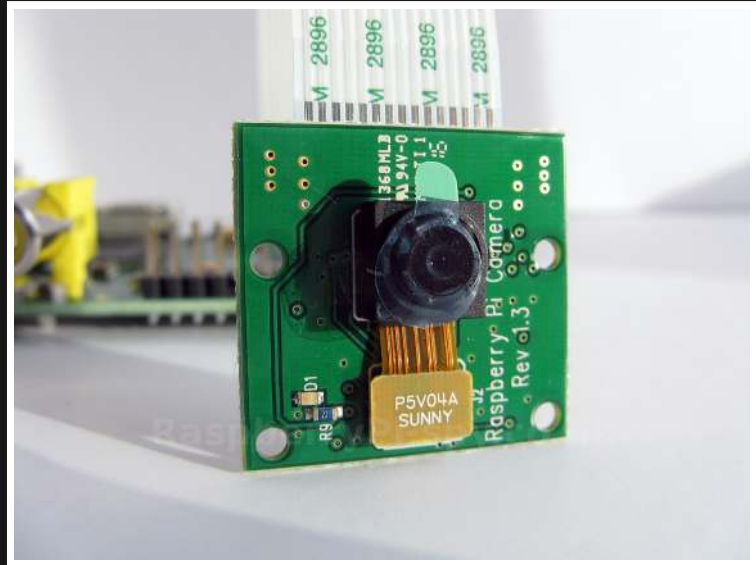
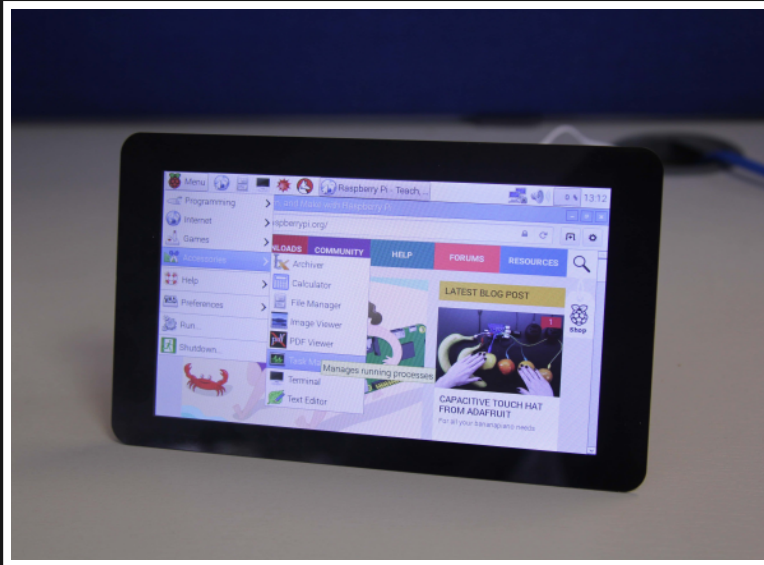


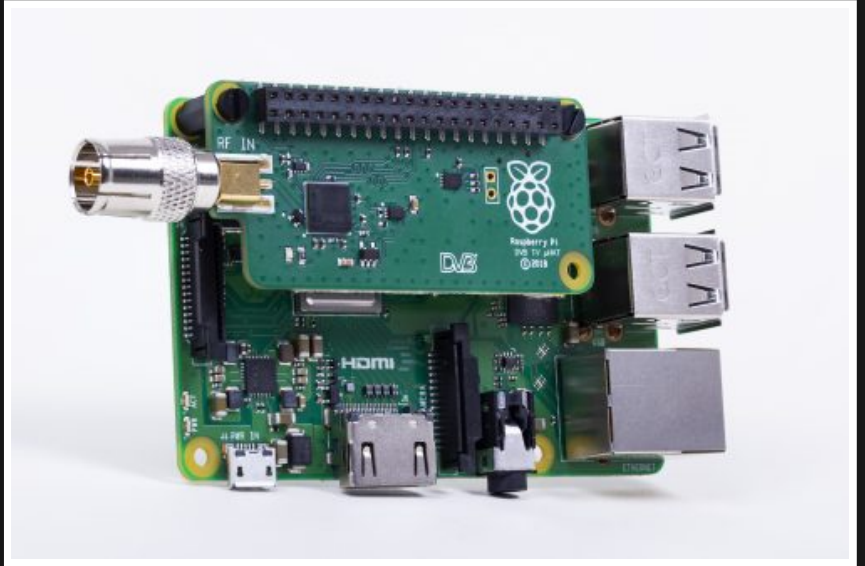
RPI COMPUTE MODULE 4



RPI PICO







ERSTE SCHRITTE



RASPBERRY PI 4 MODELL B+



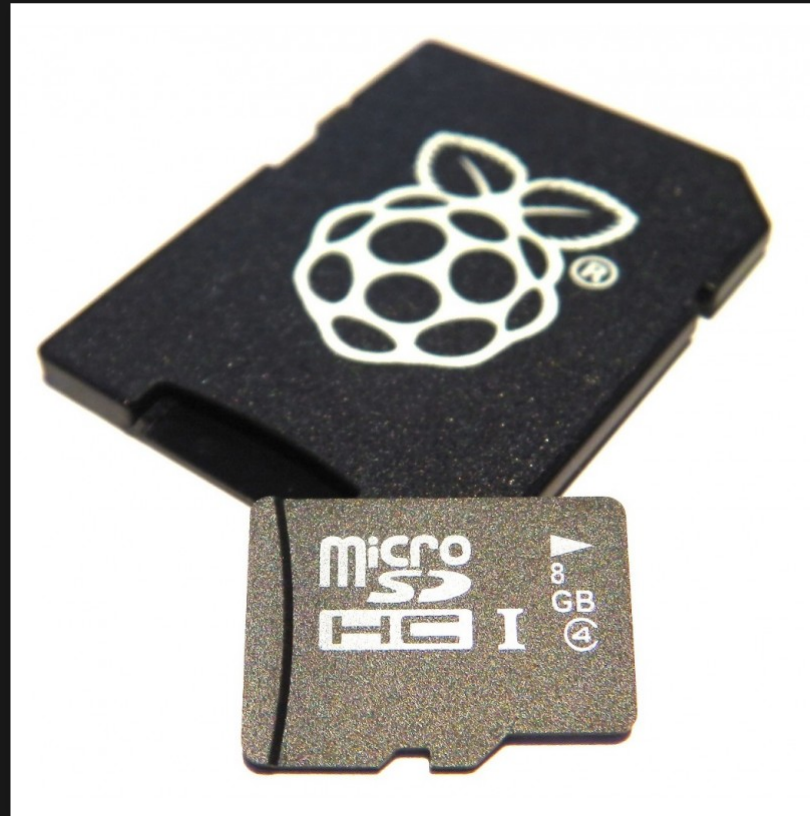
RASPBERRY PI 4 MODELL B+

- 1.5 GHz ARM Quadcore (64 bit)
- 1 (nur bei Einführung), 2, 4 oder 8 GB RAM
- 2x Micro HDMI
- 3,5 mm Klinke Video / Audio
- 2x USB 3.0 / 2x USB 2.0
- Gigabit Ethernet (mit PoE Support)
- Bluetooth 5.0
- WLAN (802.11.b/g/n/ac)
- ~ 39,90€ (2 GB Version)



ZUBEHÖR: MICRO SD CARD

>= 8 GB, Markenhersteller, Class 10



ZUBEHÖR: USB-C NETZTEIL

$\geq 3 \text{ A}, 5 \text{ V}$



ZUBEHÖR: GEHÄUSE



ZUBEHÖR: ÜBERSICHT



INSTALLATION

- Raspberry Pi Imager installieren:
<https://www.raspberrypi.org/software/>
- Micro SD Karte in den PC stecken & Imager starten
- “Raspberry Pi OS (32-bit)” als OS wählen
- SD-Karte auswählen
- “Schreiben” klicken
- Sobald fertig, Micro SD entnehmen, in RPi einlegen
- Alle Stecker verbinden und mit Strom versorgen



MEHR RPI? GUTEN QUELLEN



INTERNET

- Allgemein: <https://www.raspberrypi.org>
- Installation: <https://www.raspberrypi.org/help/>
- Forum: <https://www.raspberrypi.org/forums/>

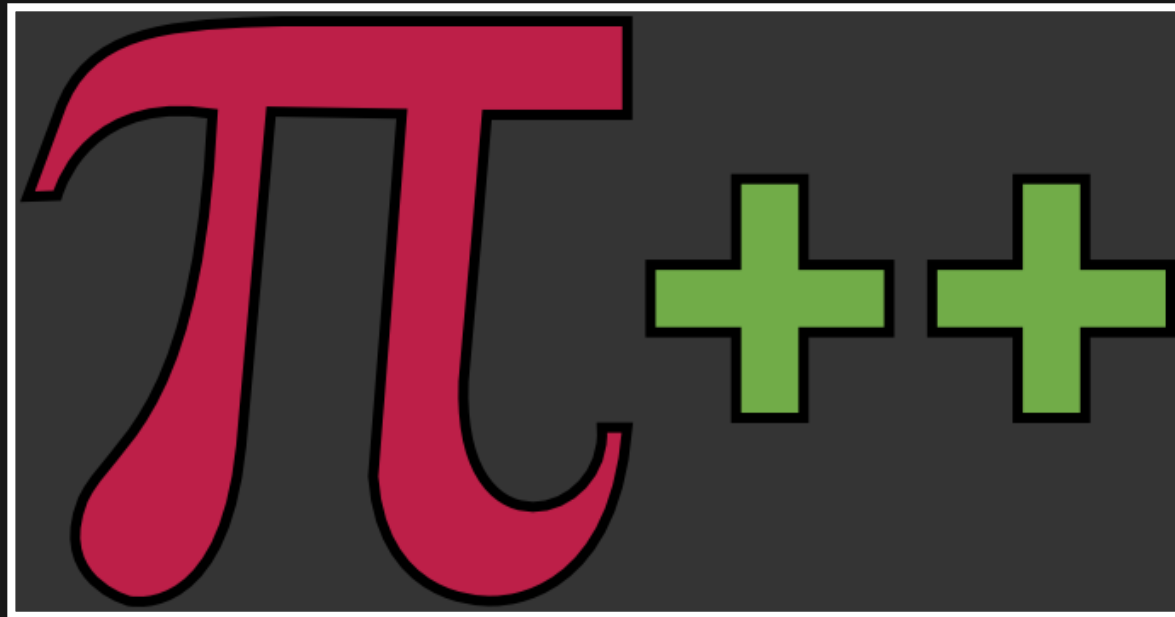


BÜCHER & KITS

- Raspberry Pi Foundation
- elektor
- Rheinwerk
- Franzis
- Conrad



RASPBERRY PI JAMS



<https://piandmore.de/>



FRAGEN?

Danke für Ihre Aufmerksamkeit -
und viel Spaß auf der PAM 12 1/4 :)!

www.nico-maas.de

