

# Trends und ihre Umsetzungen...



## Arduino bis ESP32

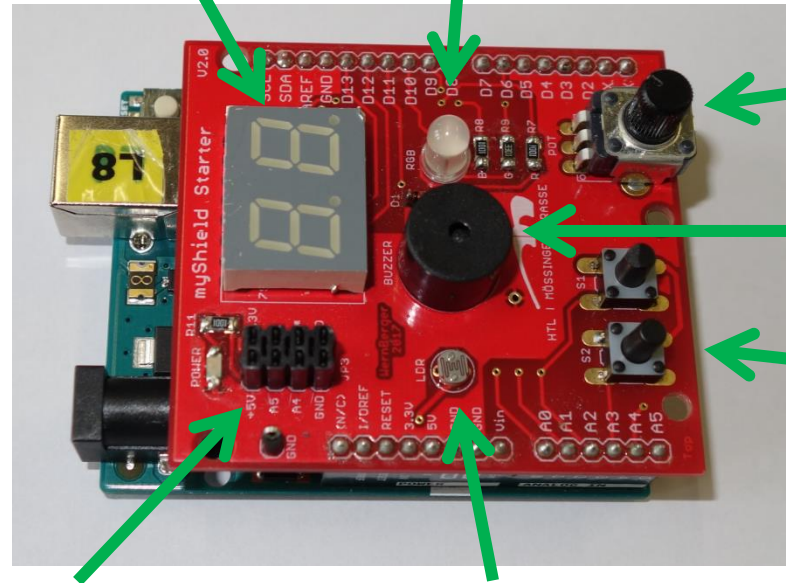
# Hello World...



**...aber wie ohne HW?**

# Hello World...

2x 7 Segment RGB-LED



Potentiometer

Buzzer

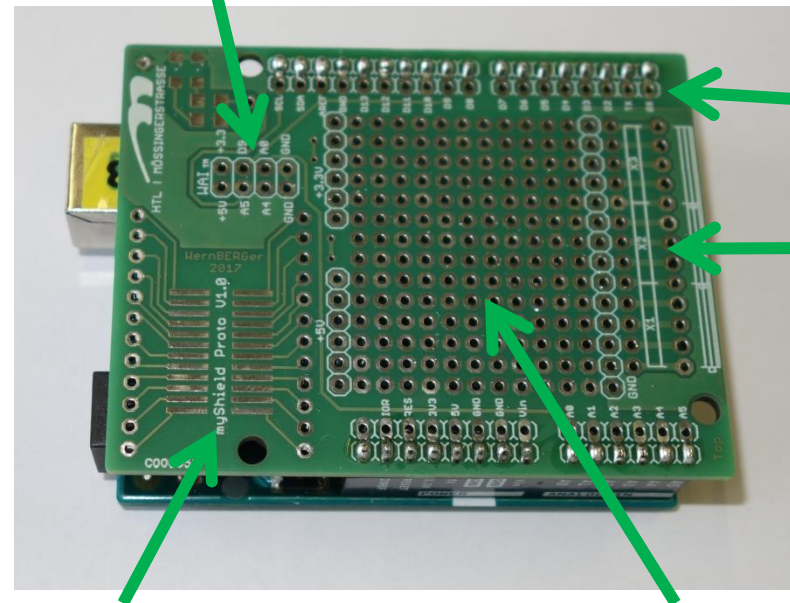
2 Taster

Interface (I2C, ADC, IO)DR

# ...geht dann nur so!

# Hello World...

Interface (I2C, ADC, IO)



2te Pinreihe (Buchsen?)

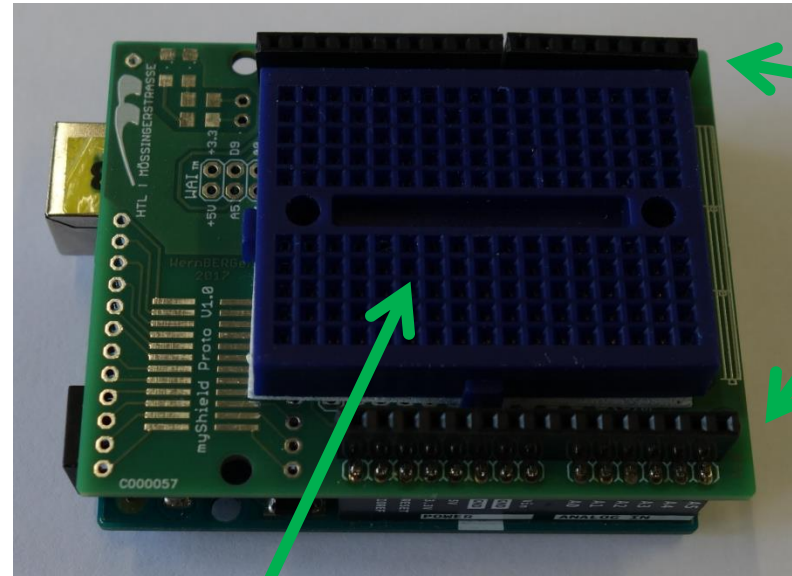
GND und +5V

SMD-Area

Prototyping Area

...oder so!

# Hello World...



**2te Pinreihe (Buchsen)**

**Prototyping Board**

**...oder so!**



# Und los geht die Reise...



**...mit je 18 Stücke für Übungen!**

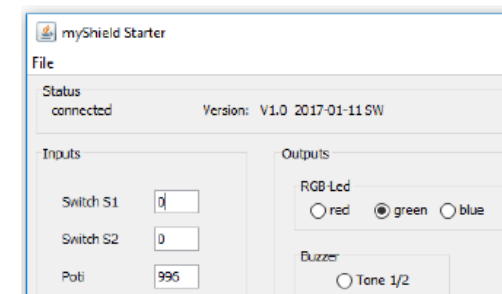
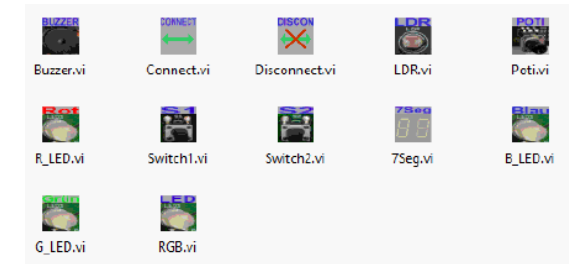
# Und los geht die Reise...



**...mit je 8 Stücke fürs Labor!**

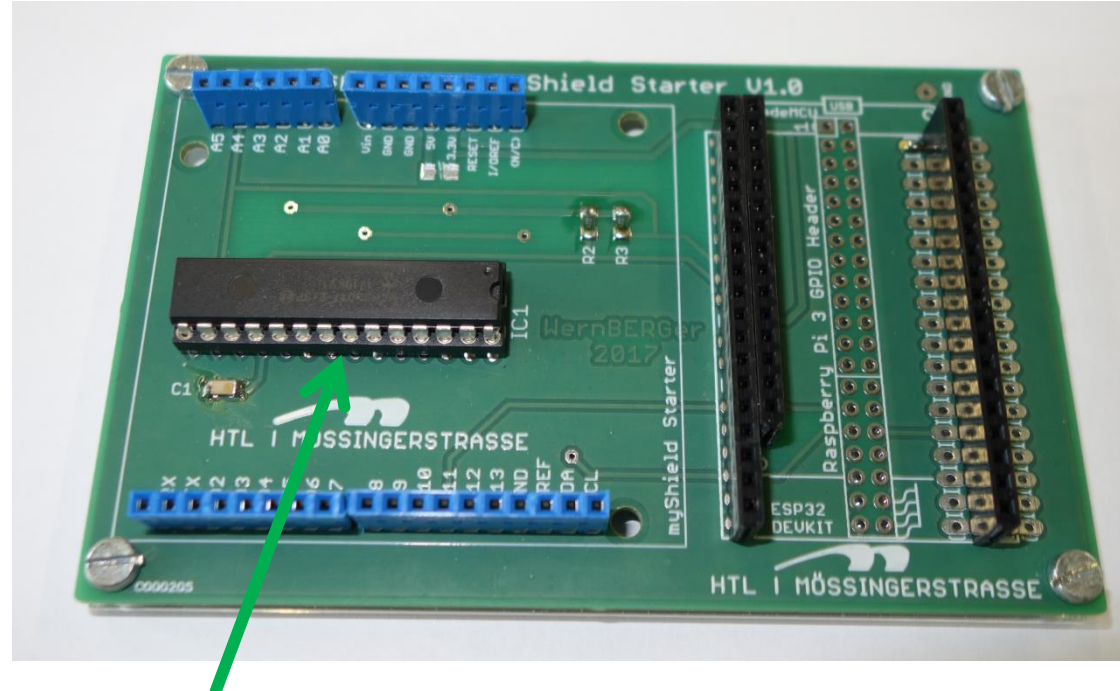
# Software dazu...

- **Firmware für den Arduino**  
(String-Befehle z.B. XLR1, XA0, usw.)
- **LabVIEW-Library** `myMyShieldStarter.llb`
- **MATLAB-Klasse** `myMyShieldStarter`
- **Java-Library** `JMyShieldStarter.jar`
- **Doku und Beispielprogramme**





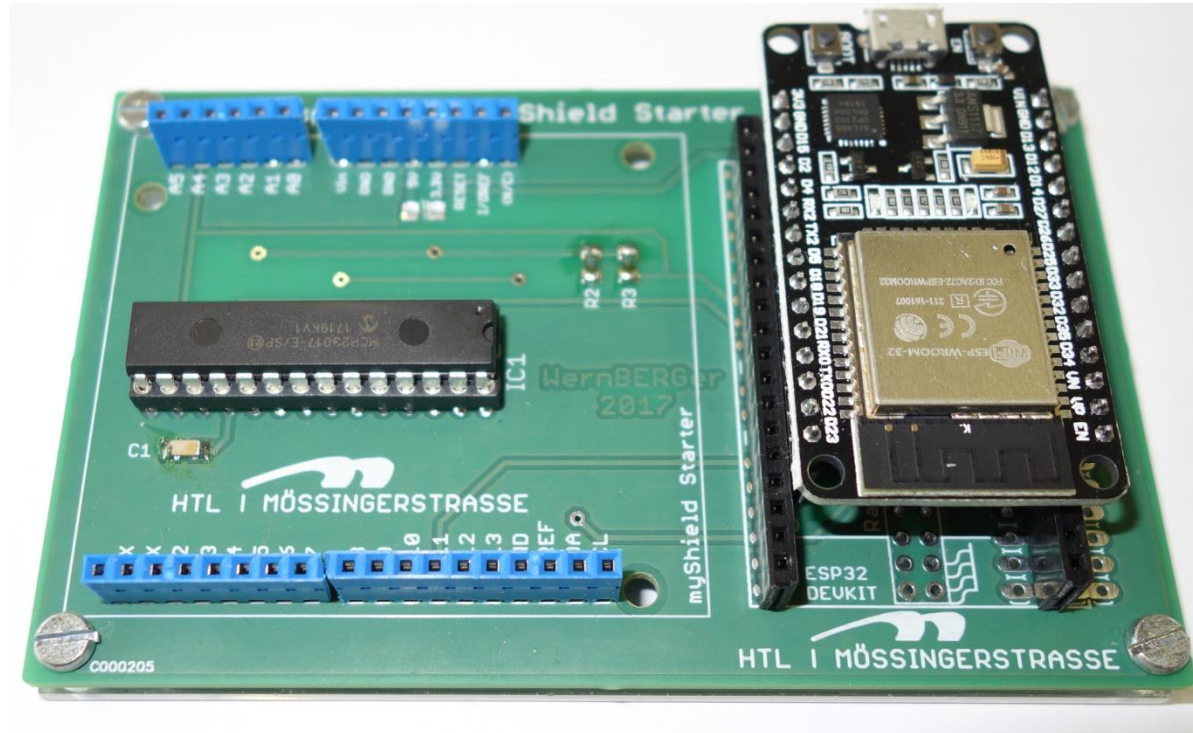
# Hello WiFi...



I2C – Board-Expander

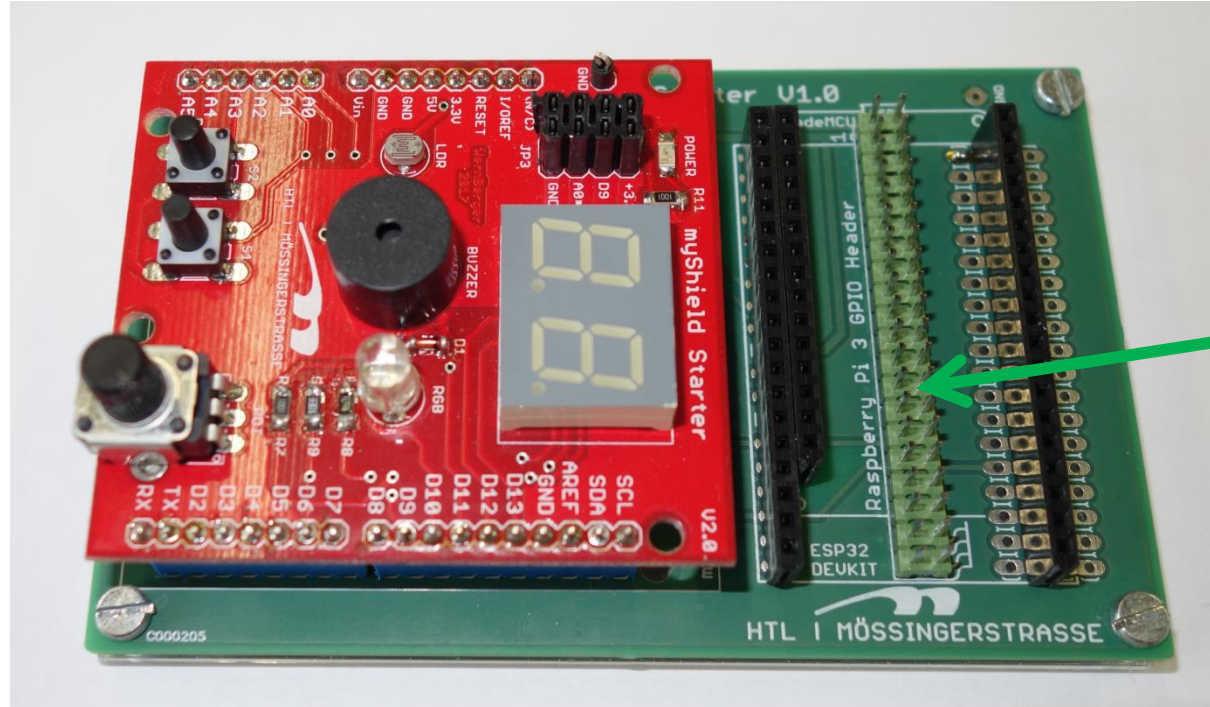
...und wie?

# Hello WiFi...



## ...ESP8266/ESP32?

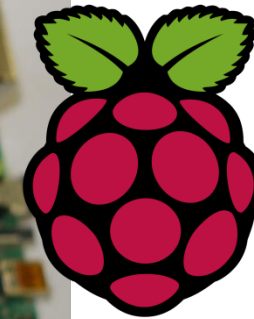
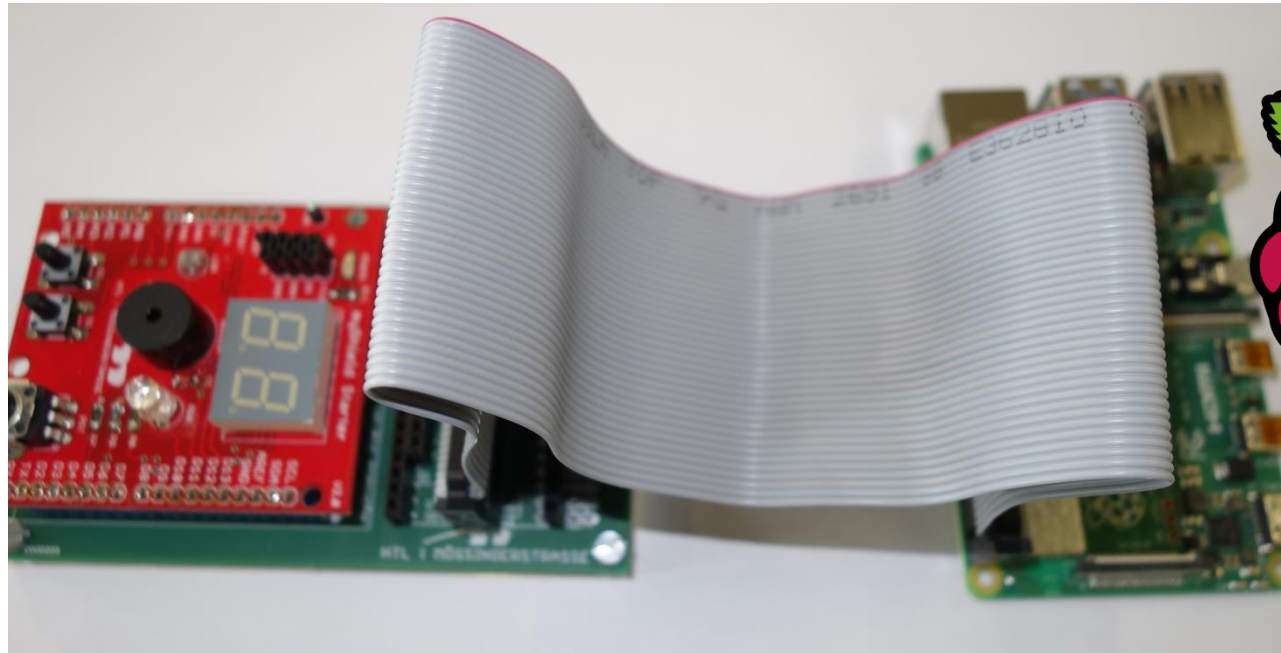
# Hello WiFi...



RasPI - Stecker

## ...myShieldStarter?

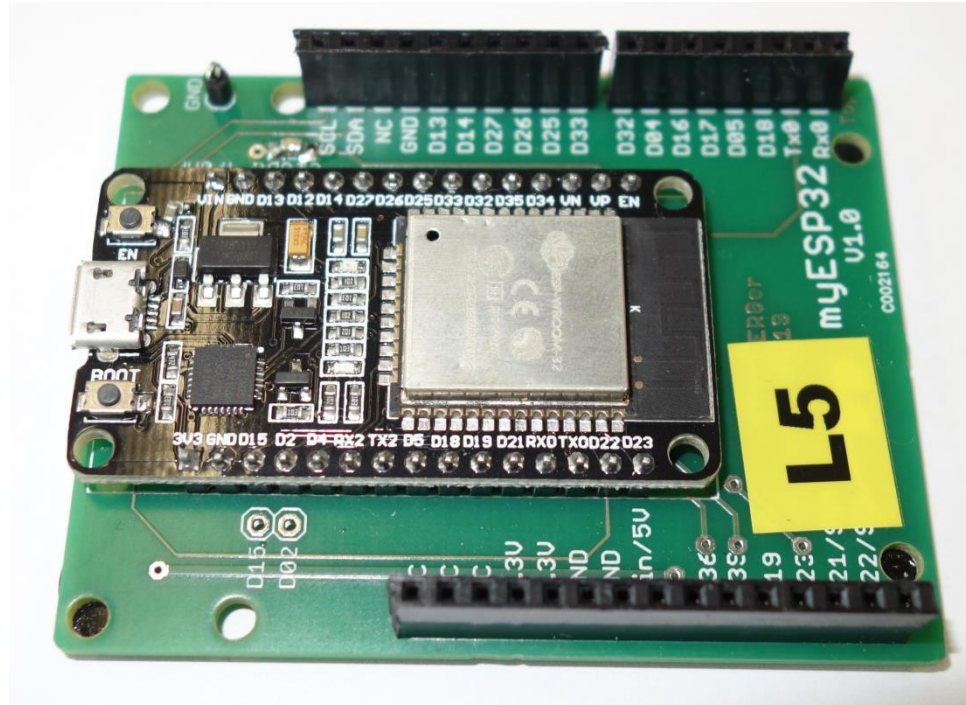
# Hello Raspberry Pi...



...myShieldStarter?



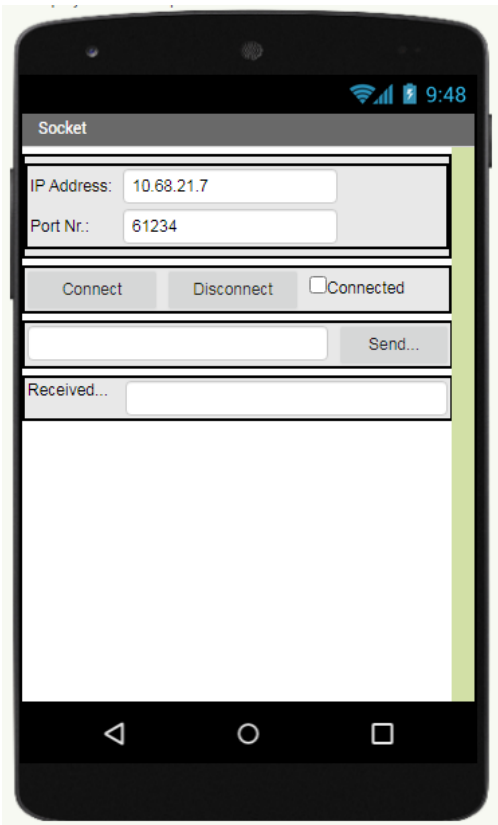
# Hello WiFi und BLE...



...myShieldStarter?



# Hello App Inv. (BT & WiFi)...



Socket

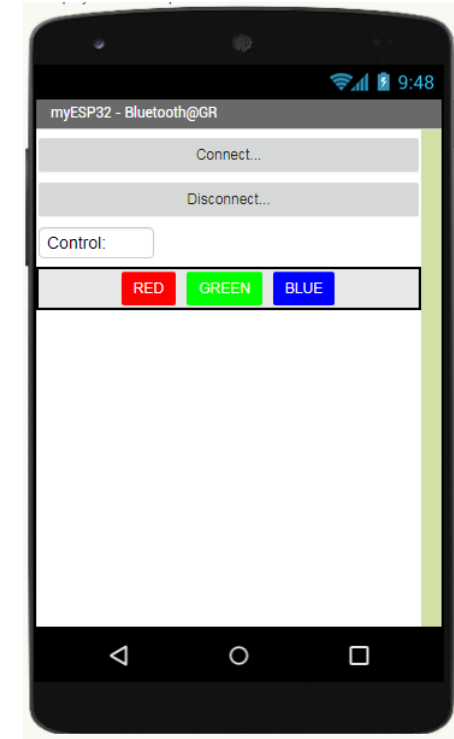
```

when Screen1.Initialize
do
  call MqttTCP1.Connect
  ipAdreess "193.36.189.42"
  port 1883
  idDevice "grApp"
  userName "htl-IoT"
  password "iot..2015"

when buttonON.Click
do
  call MqttTCP1.Publish
  topic "htl/gr/led"
  message "1"
  retained true
  qos 0

when buttonOFF.Click
do
  call MqttTCP1.Publish
  topic "htl/gr/led"
  message "0"
  retained true
  qos 0
    
```

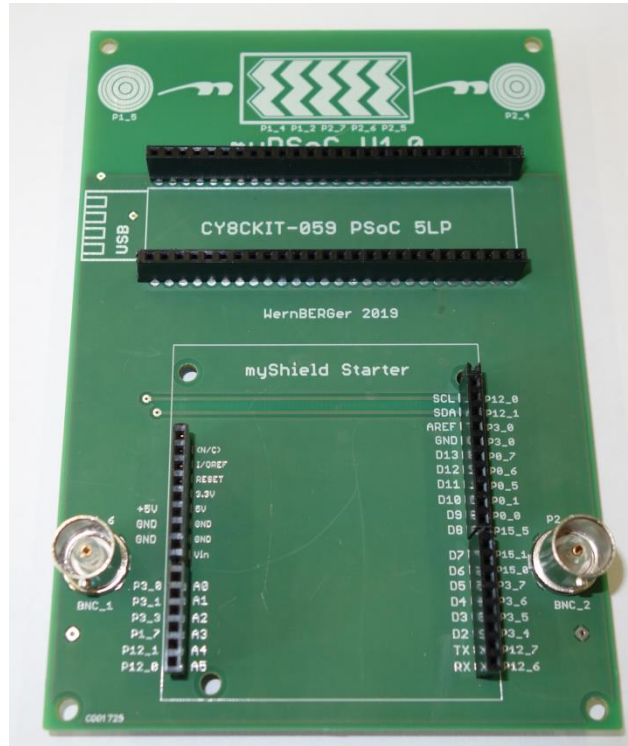
MQTT



Bluetooth

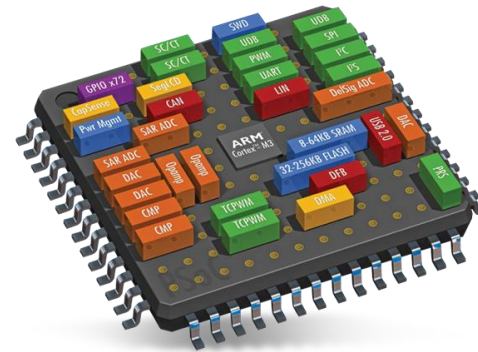
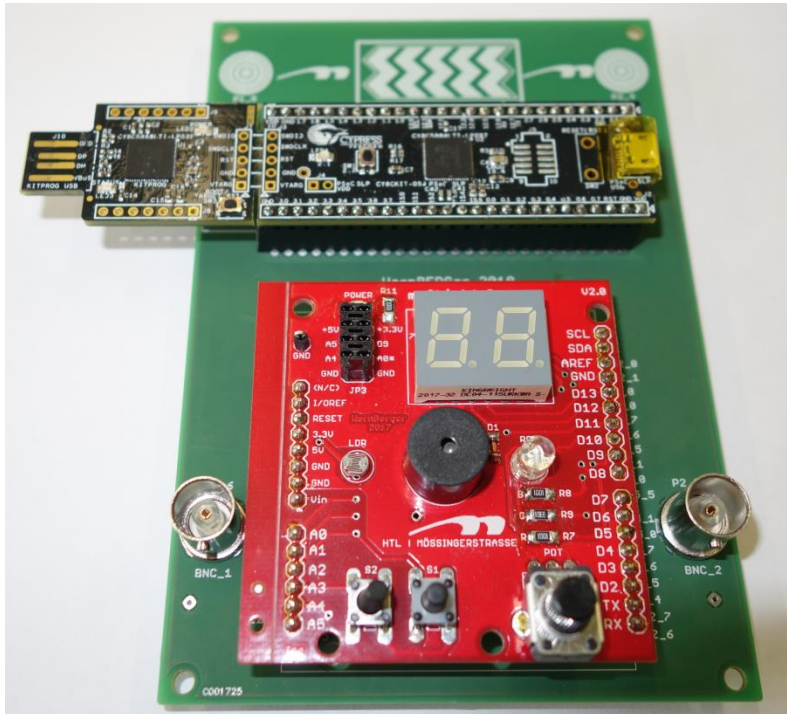
...myShieldStarter?

# Hello PSoC...



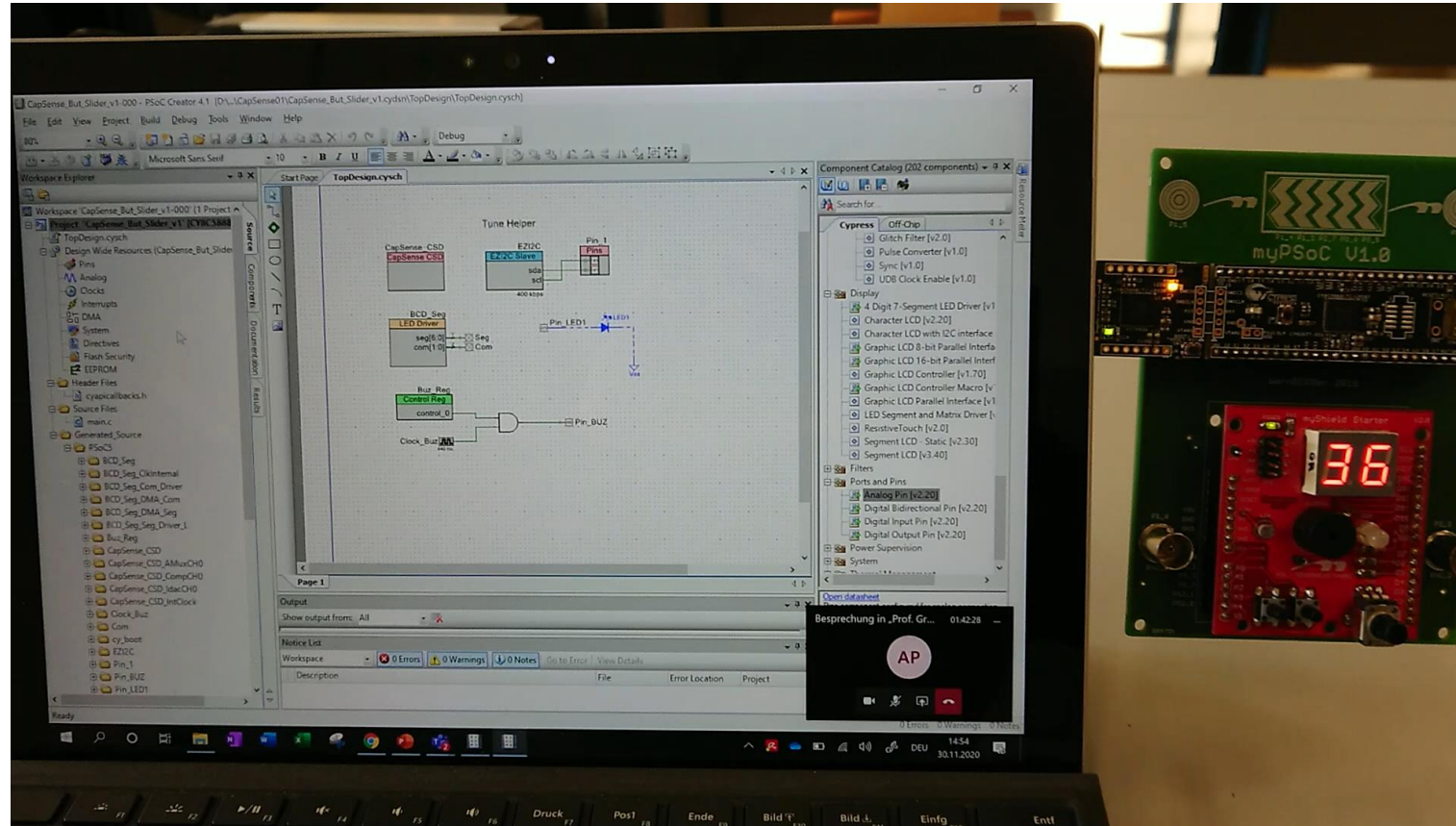
## ...myShieldStarter?

# Hello PSoC...



...myShieldStarter?

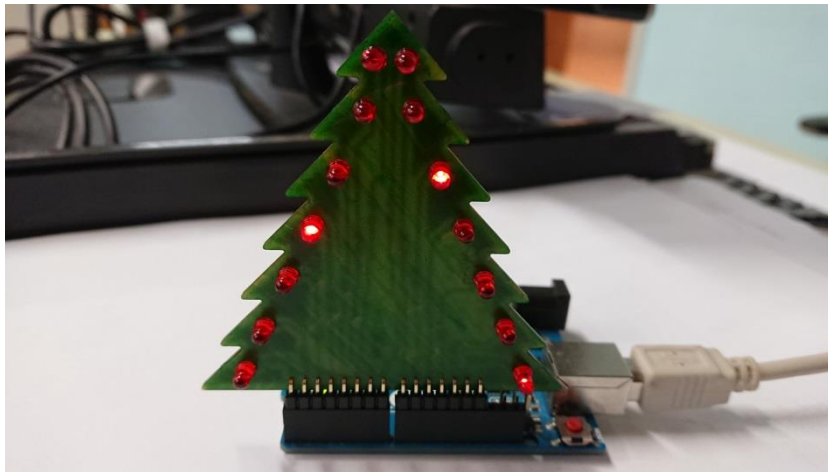
# Hello PSoC...Demo





# Projekte

- mySmartDisplay (1BHEL)
- myXmasTree (1CHEL)



1. Wie würden Sie das Gesamtprojekt "mySmartDisplay" bewerten?

33  
Antworten

★★★★☆  
Durchschnittliche Bewertung 4.42

11. Sollten in Zukunft alle 1. Jahrgänge so ein Projekt durchführen?

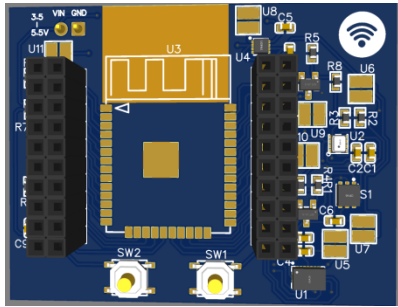
● Ja 33  
● Nein 0



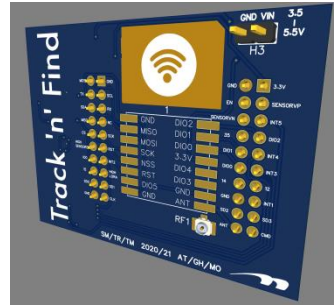
## „Agiles Transitionsprojekt“



# Comming soon...



Long Range Wide Area Network



## LoRa-Modul

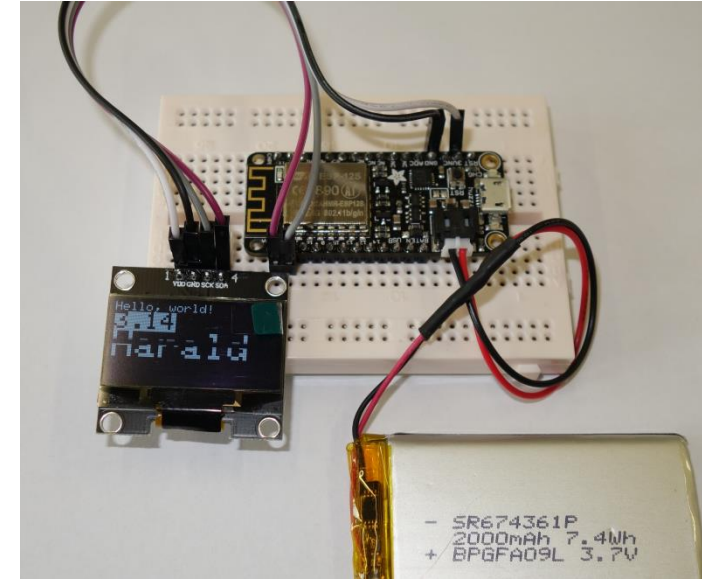
- LoRa (RFM95)
- BMP280
- SHT21
- BMX055
- ESP32

ca. 25€ bei 15 Stk.



## myOLED

SSD1306 128x64 / 128x32



## Adafruit HUZAZH32

# G'sund bleiben!

