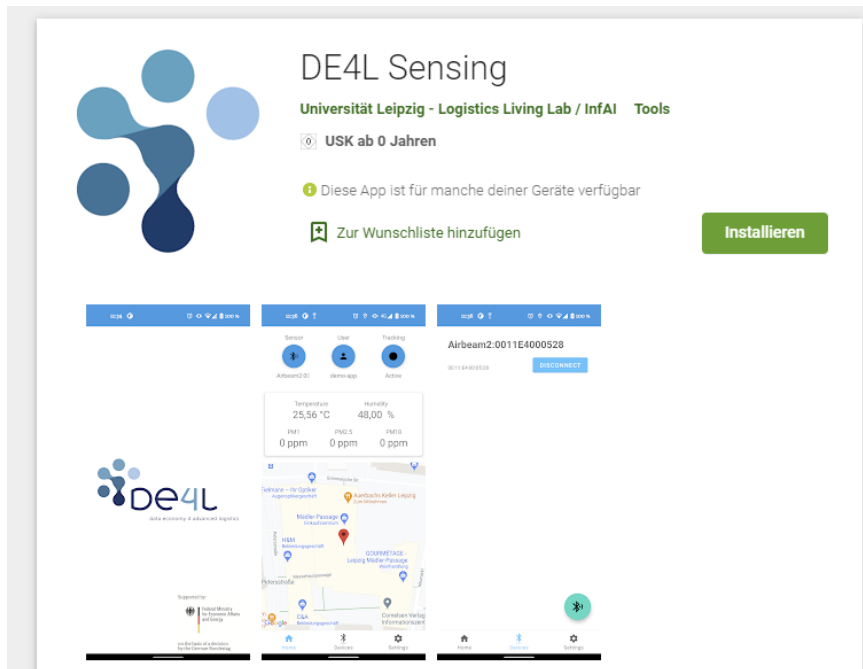


# Quickstart - AirBeam2 + DE4L Sensing App

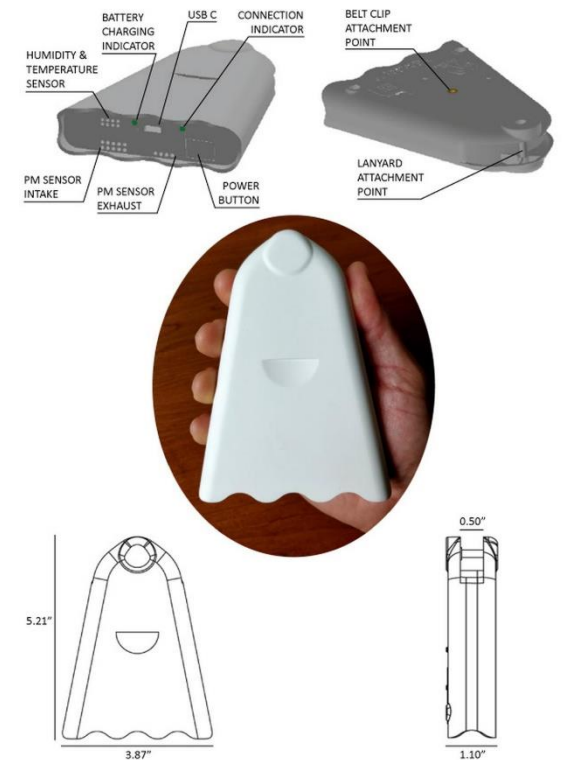
# DE4L Sensing App

- ▶ Google Play Store
- ▶ <https://play.google.com/store/apps/details?id=io.de4l.app>



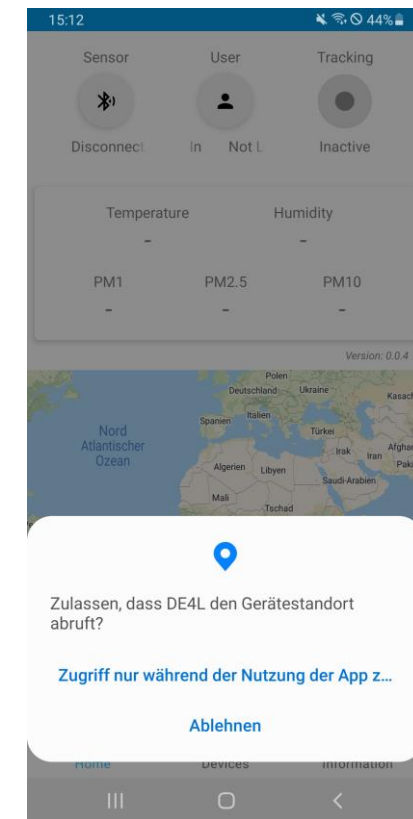
# AirBeam2

► <https://www.habitatmap.org/airbeam>



# App - Permissions - Location

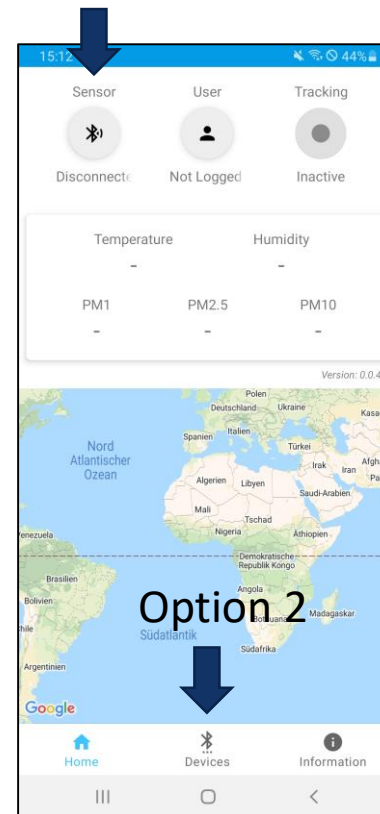
- ▶ App uses location services and within a foreground service when active - no hidden location tracking
- ▶ Select “Allowed only while in use” when asked for permission



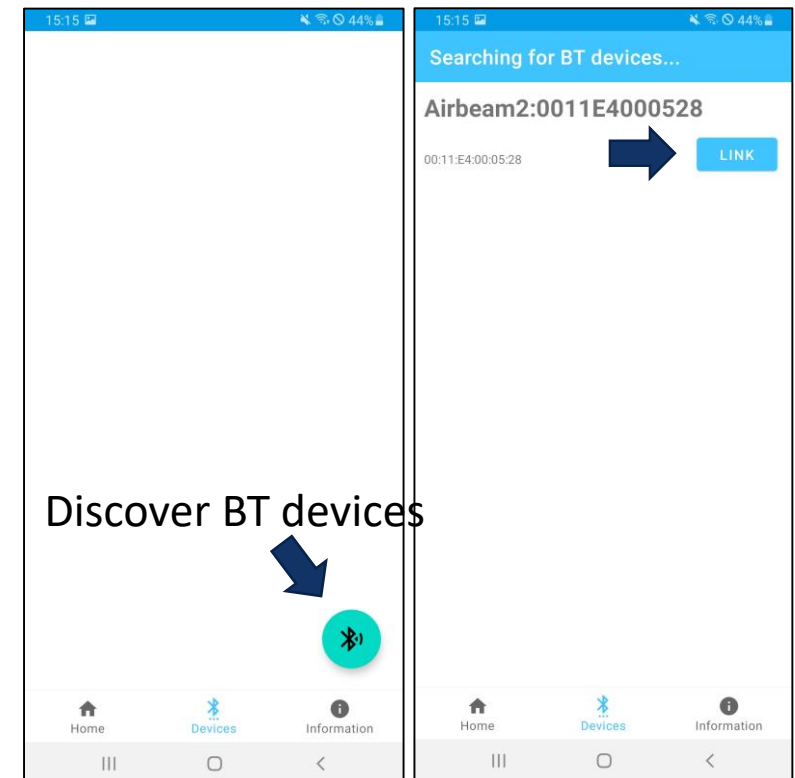
# App - Link Sensor (only once)

- ▶ Link AirBeam2 sensor with app

Option 1

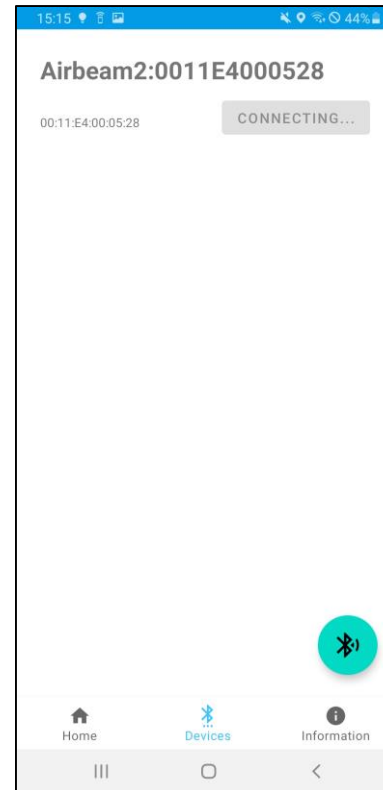
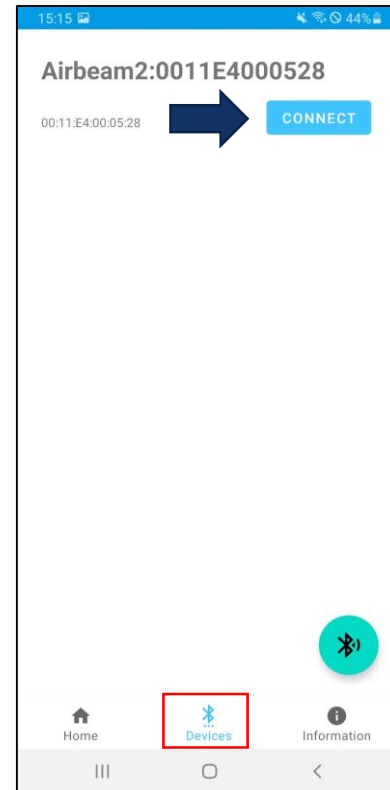


Option 2

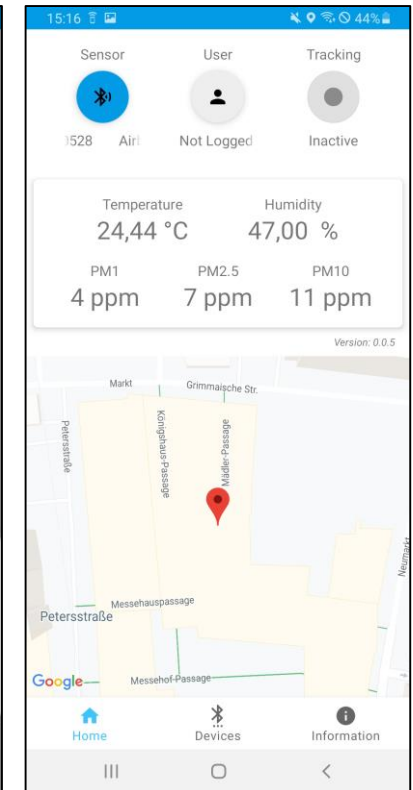


# App - Connect Sensor

- ▶ Press „Connect“ in „Devices“ screen
- ▶ Connection process can last up to 60 seconds
- ▶ When the AirBeam2 is connected the first time, a pairing notification is shown by Android
- ▶ On success, the white LED of the AirBeam2 lights up in white color and the app automatically switches to the „Home“ screen

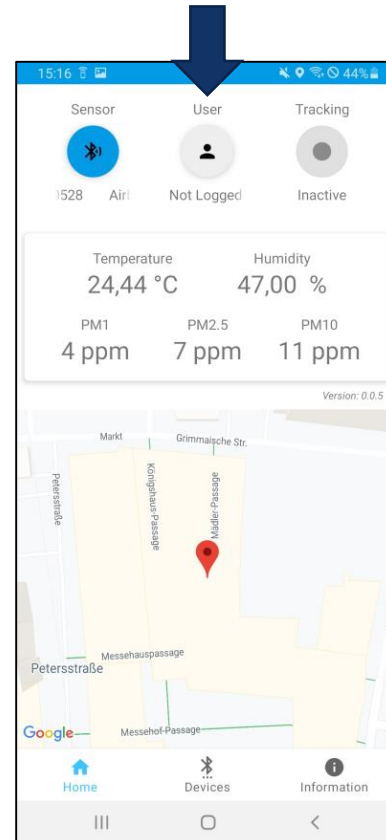


(On first connection only)



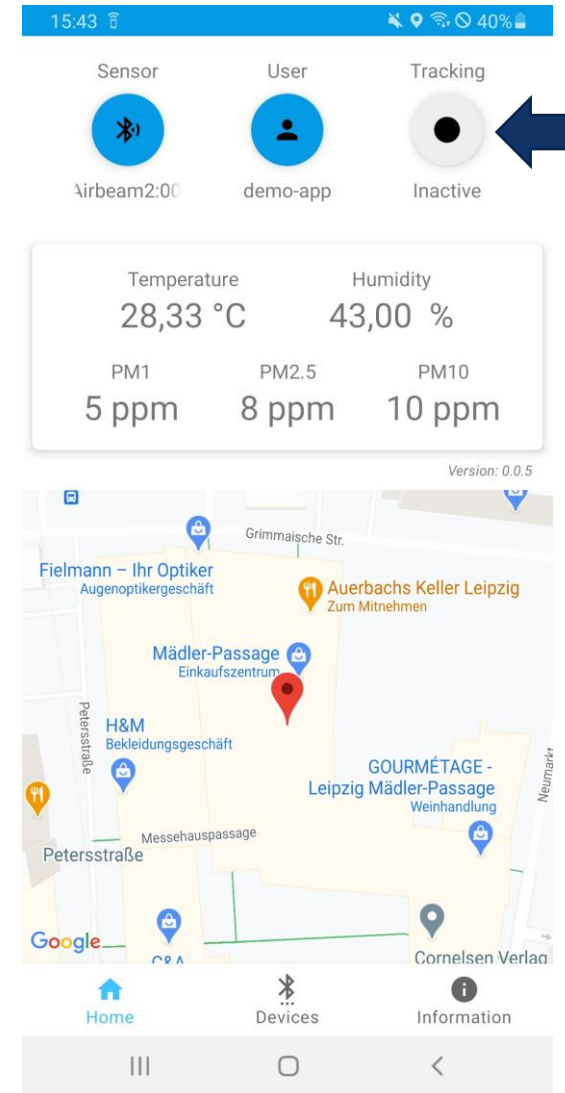
# App - Login

- Use your OAuth2 account to login



# App - Start Tracking

- ▶ Tracking can only be started when a sensor is connected and a user logged in



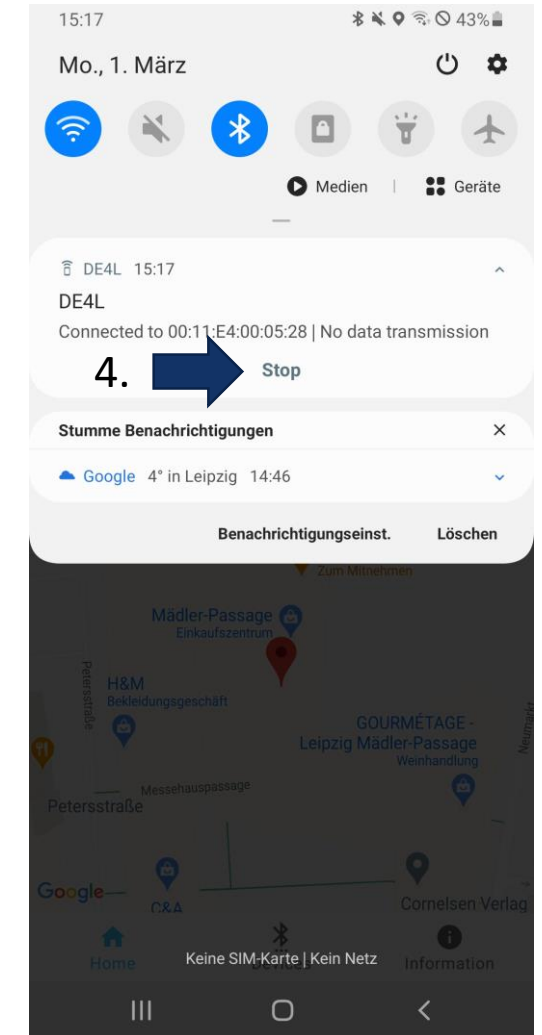
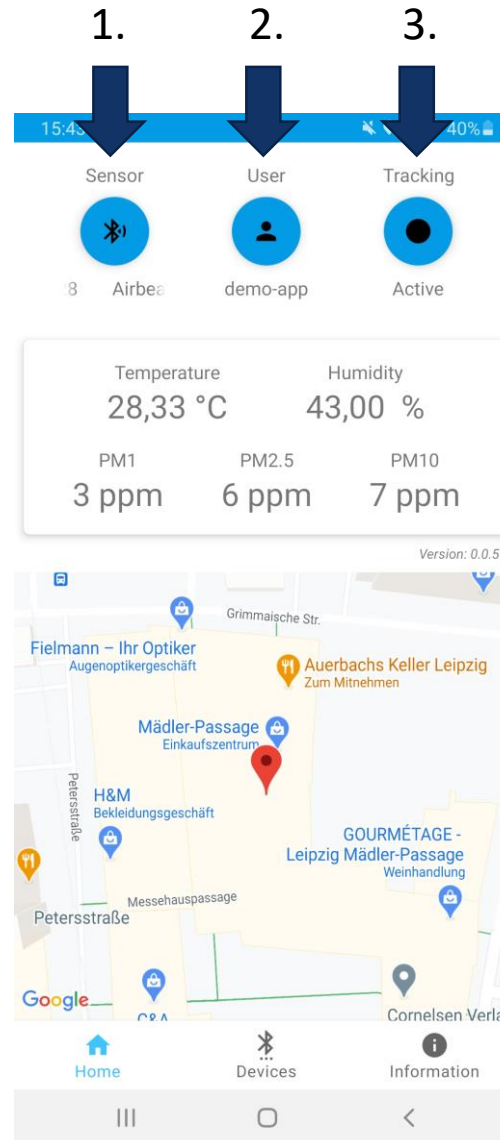


# App - Start Tracking

- ▶ 1. Disconnect Sensor  
*(Data transmission and tracking is stopped automatically)*
- ▶ 2. Log out  
*(Data transmission and tracking is stopped automatically)*
- ▶ 3. Stop Tracking

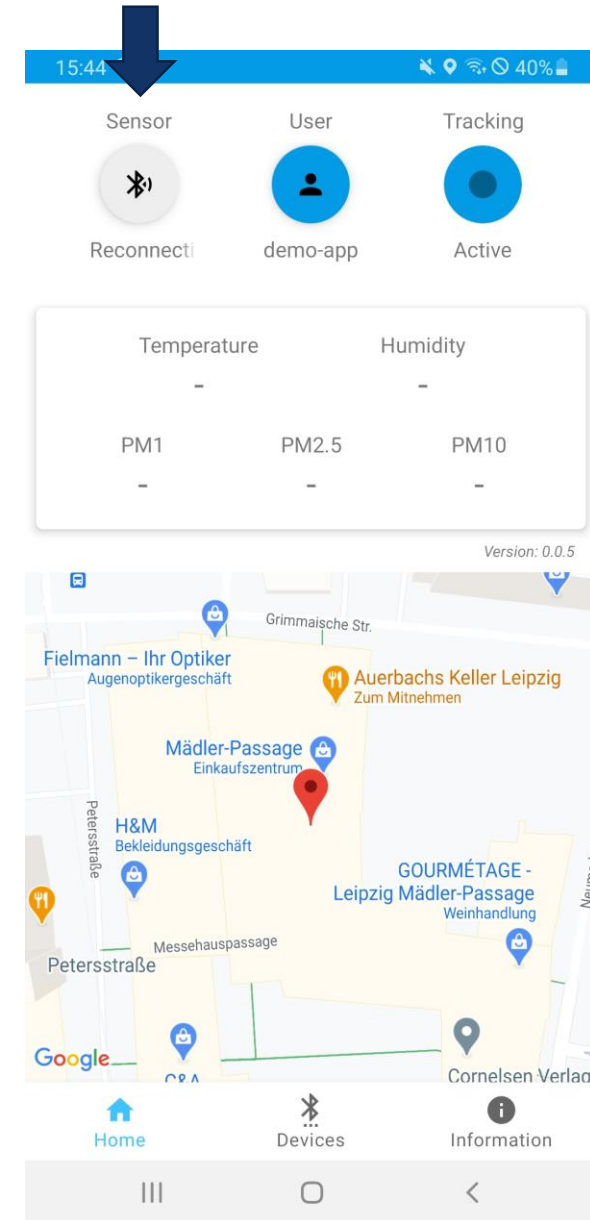
Notification in status bar

- ▶ 4. Stop Tracking and disconnect sensor



# App - Features - Reconnect

- ▶ In case the connection to the sensor is lost unexpectedly, the app tries to reconnect
- ▶ To cancel the reconnect trials, press the sensor „button“



# Data transmission

- ▶ The app transmits data to an MQTT Endpoint in real-time
- ▶ Transmitted data includes sensor measurements, timestamp, location, username and the current app version.

t	airBeamId	00:11:E4:00:05:28
Ⓢ	appVersionCode	5
🌐	location	{ "lon": 12.3753958, "lat": 51.3393969 }
Ⓢ	raw	5;AirBeam2:0011E4000528;AirBeam2-PM1;Particulate Matter;PM;micrograms per cubic meter;µg/m³;0;12;35;55;150
t	sensorType	PM1
#	sequenceNumber	6,009
📅	timestamp	Mar 1, 2021 @ 16:06:01.965
Ⓢ	username	demo-app
#	value	5