

waag
technology & society

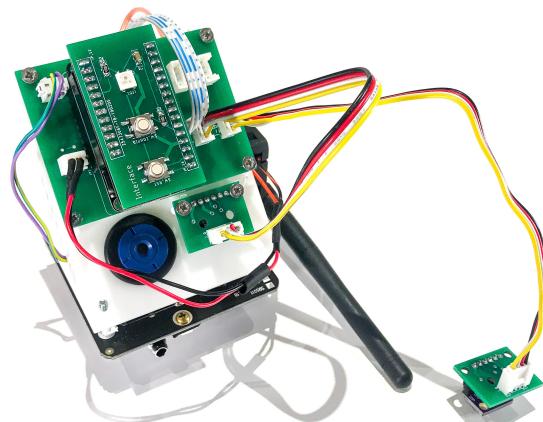
HoLu Kit for Hollandse Luchten

Emma Pareschi
18 April 2019

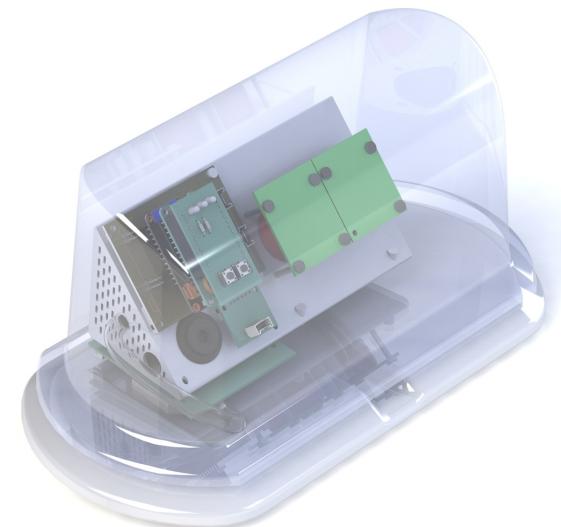
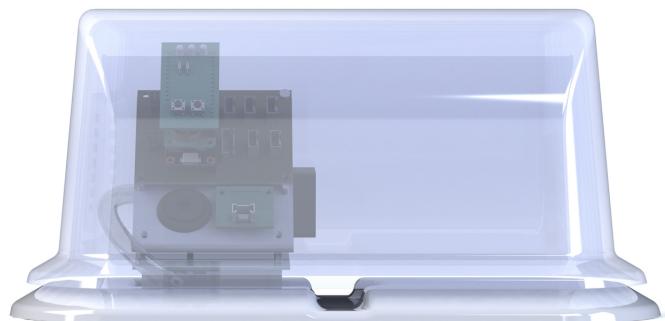
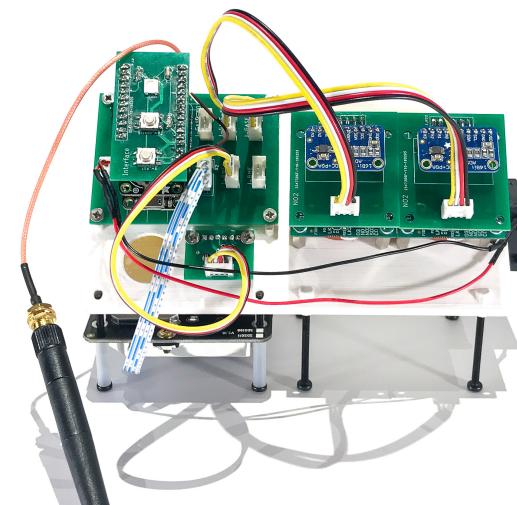


HoLu kit v1

Basic Kit

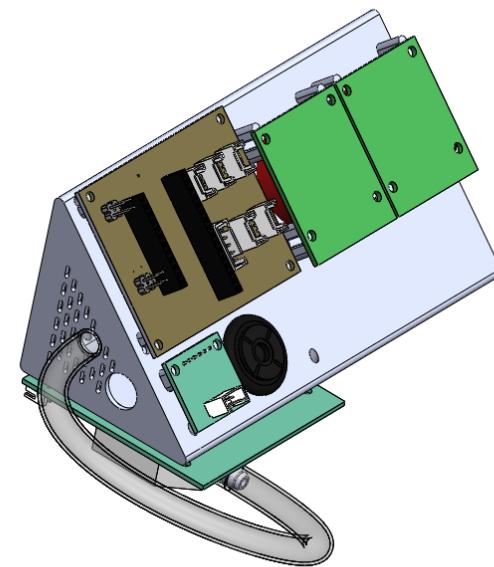
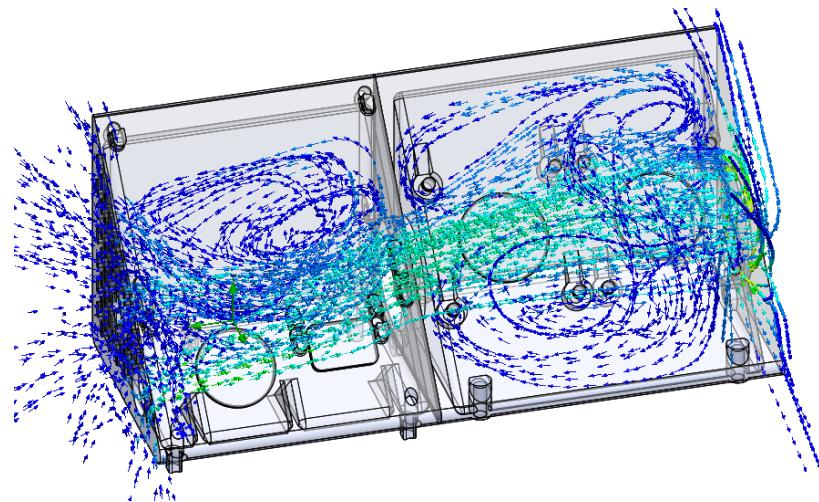
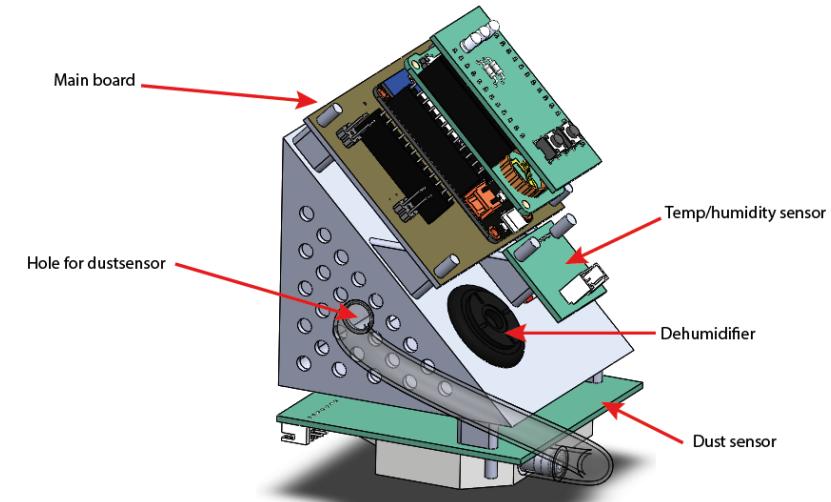
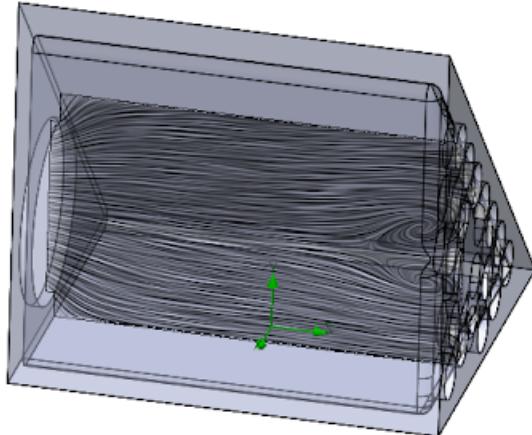


Extended Kit





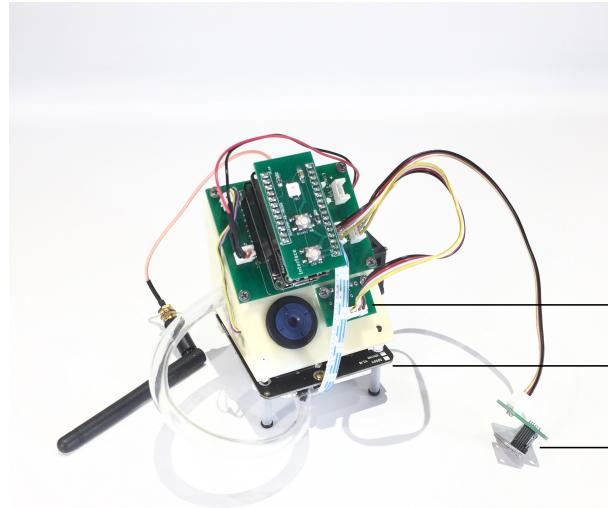
HoLu kit v1



Air chamber: the sensors measure the air that flows inside the chamber.



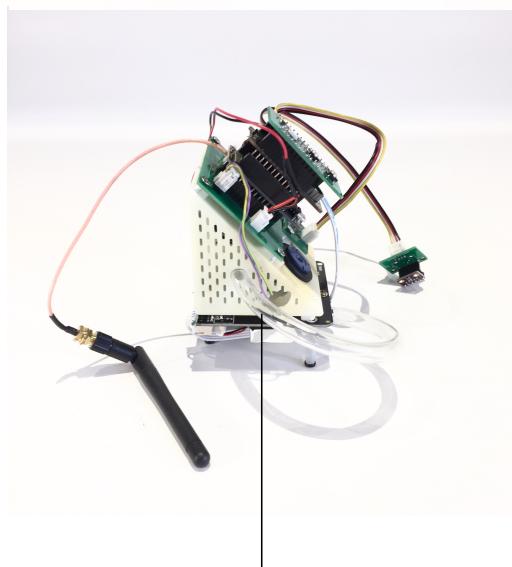
HoLu kit v1



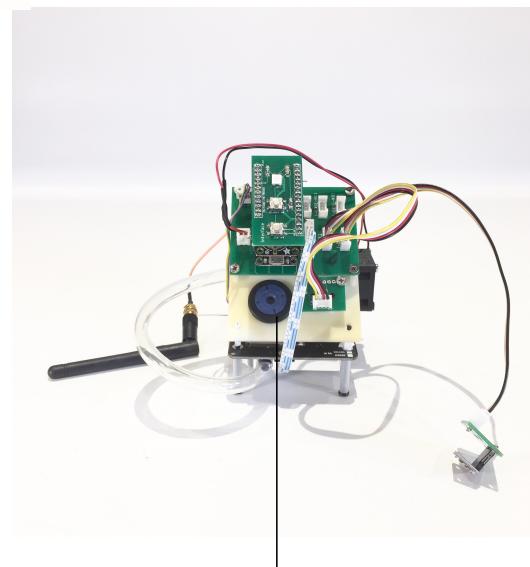
Temp/Hum inside the air chamber

PM sensor

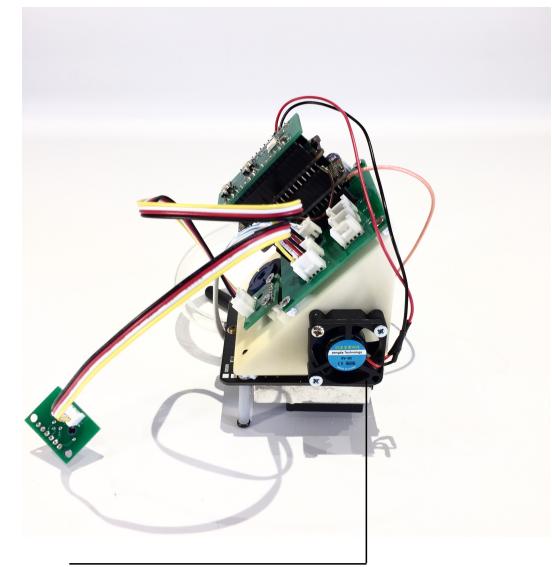
Temp/Hum inside the air chamber



Air tube



Dehumidifier



Forced Air-flow

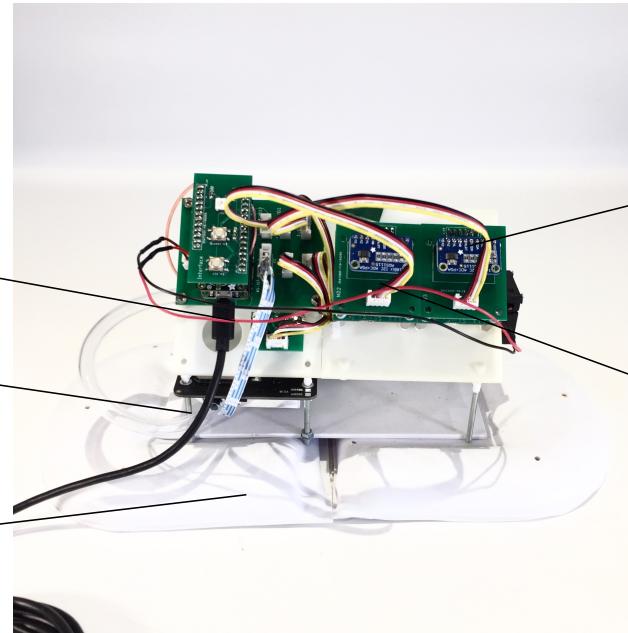


HoLu kit v1

Temp/Hum inside
the air chamber

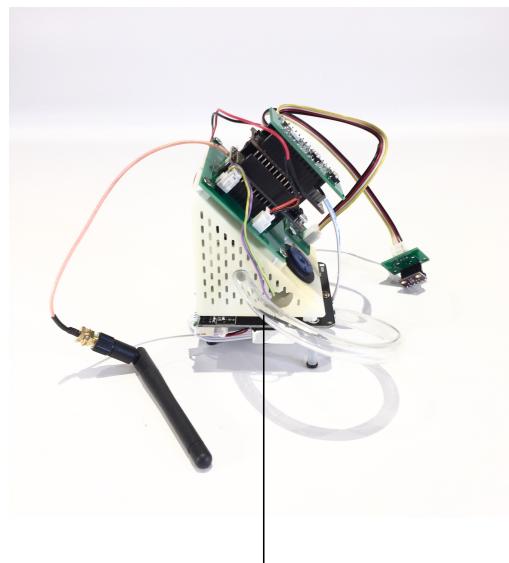
PM sensor

Temp/Hum outside
the air chamber

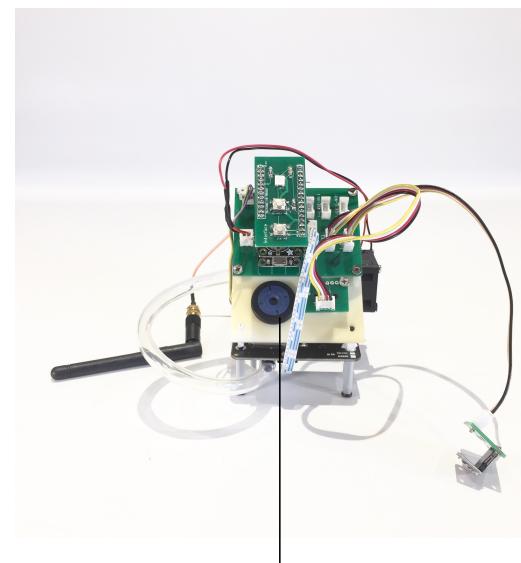


O3

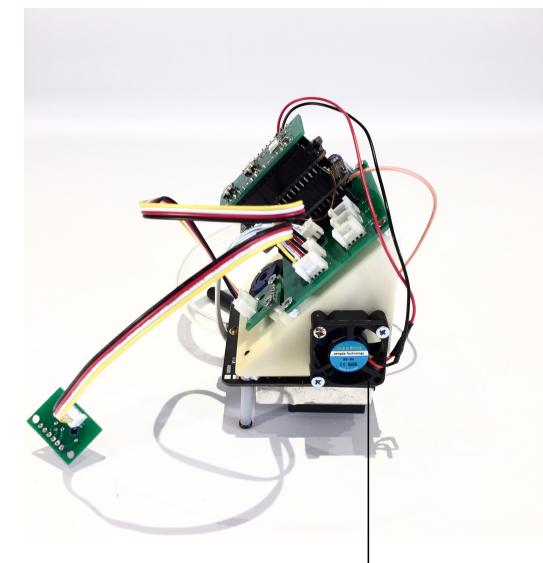
NO2



Air tube



Dehumidifier



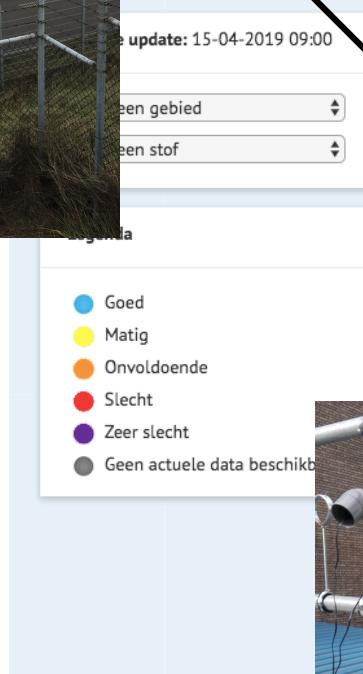
Forced Air-flow



First Iteration



Velsen-Reyndersweg
Basic kit 1



Wijk aan Zee-De Banjaert
Basic kit 2
Extended Kit 4

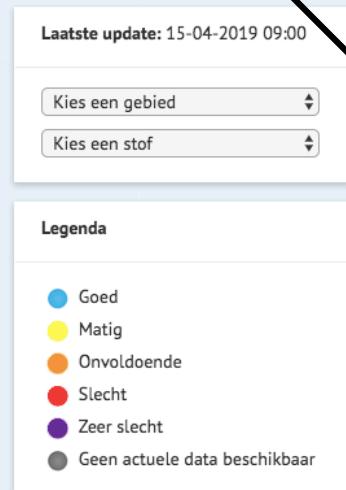


Amsterdam-Vondelpark
Basic kit 3
Extended kit 5

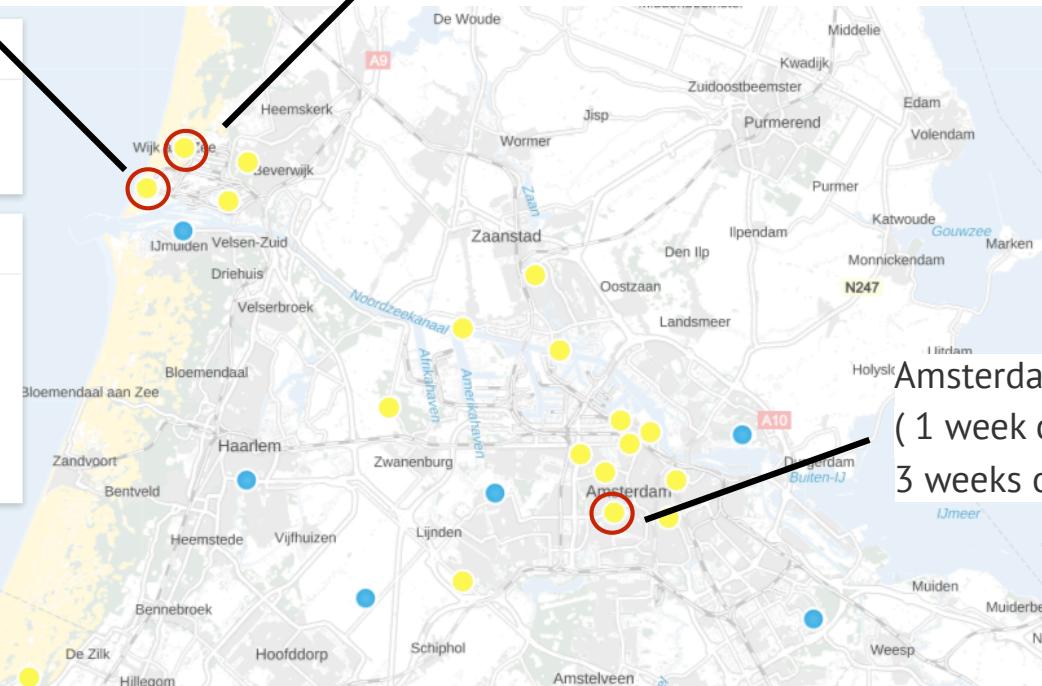


First Iteration

Velsen-Reyndersweg
(4 weeks offline)



Wijk aan Zee-De Banjaert
(4 weeks online)



Amsterdam-Vondelpark
(1 week offline -
3 weeks online)

The data are average of 30seconds measurements, every 3 minutes. Data sent to the server:

- Timestamp
- PM2.5
- temp/hum inside the air chamber
- temp/hum outside the air chamber
- NO2
- O3



Considerations

Due to:

- uncertainty of the technical choices
- complex assembly

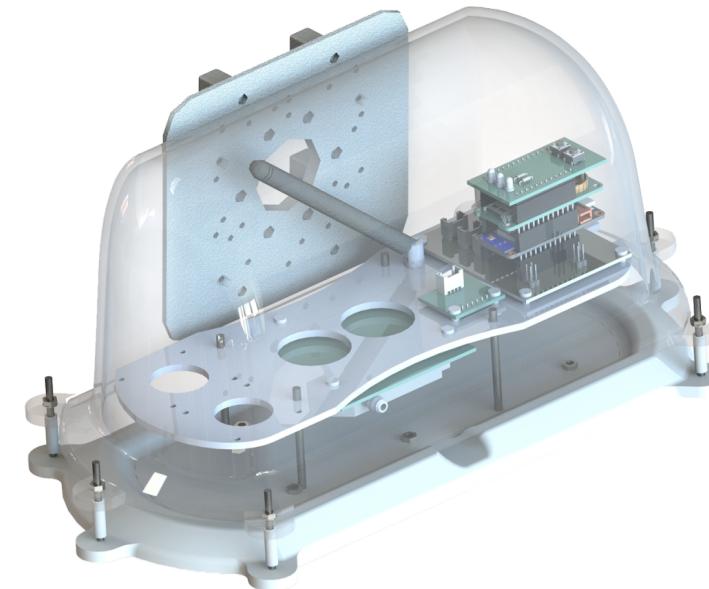
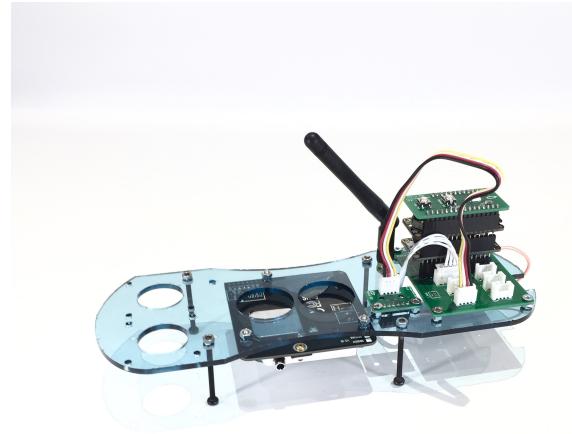
We decided to move to a simpler and reliable configuration: no air chamber.

- no forced air flow
- no dehumidifier
- no plastic tube for the sds

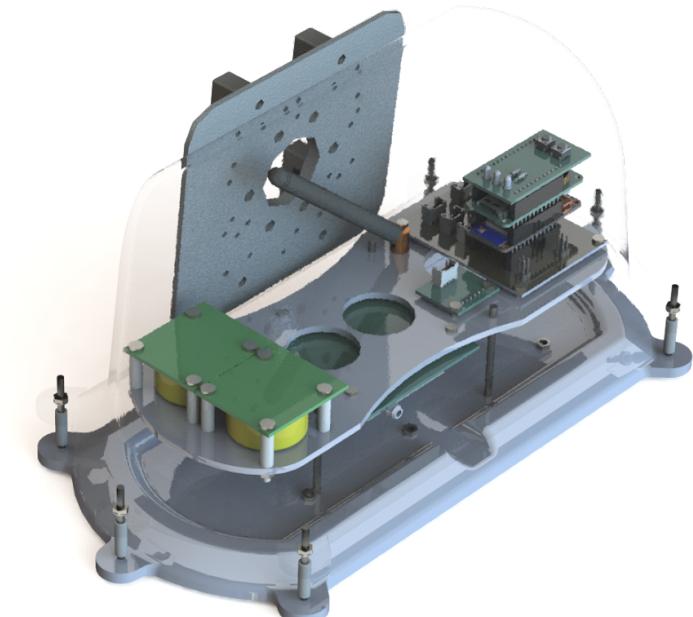
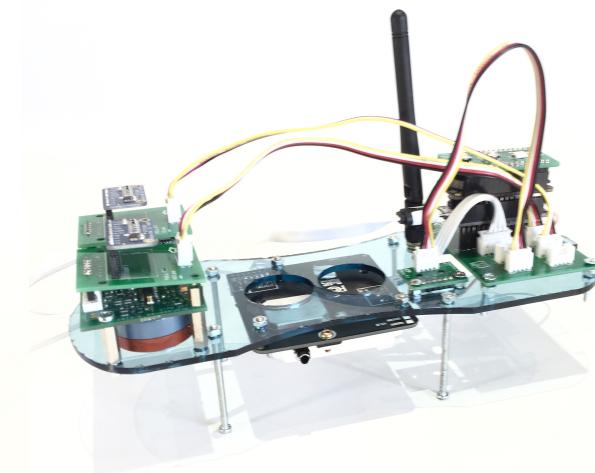
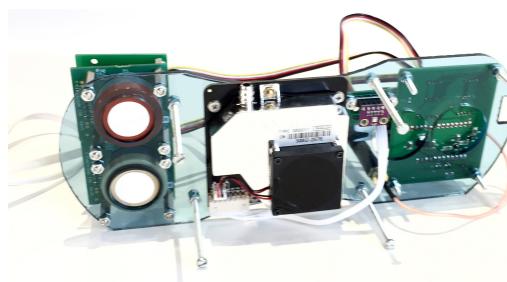


HoLu kit v2

Basic Kit



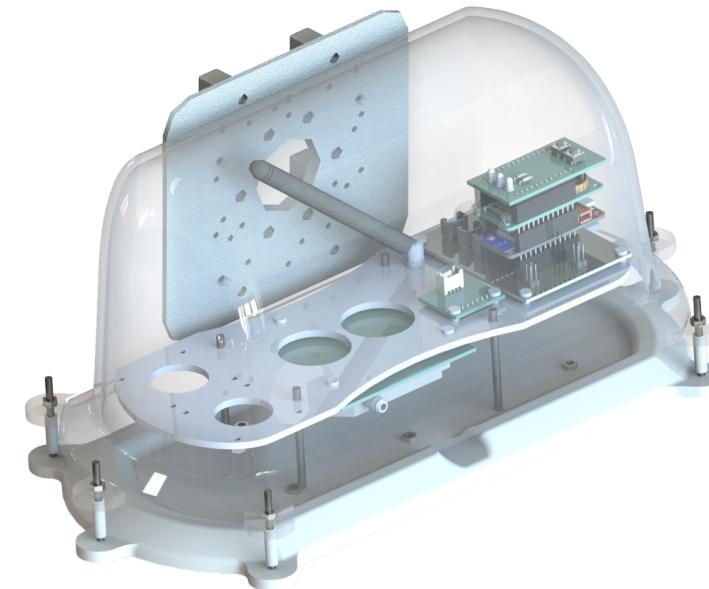
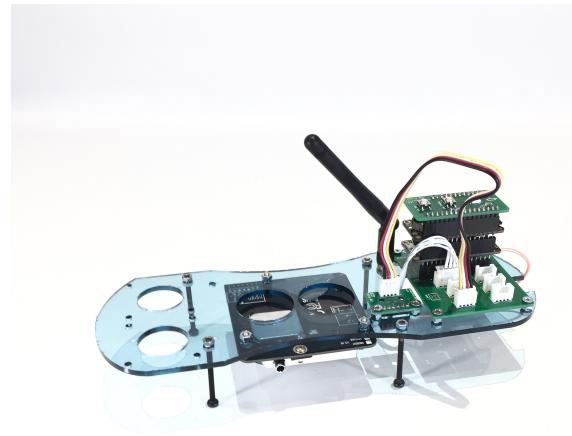
Extended Kit



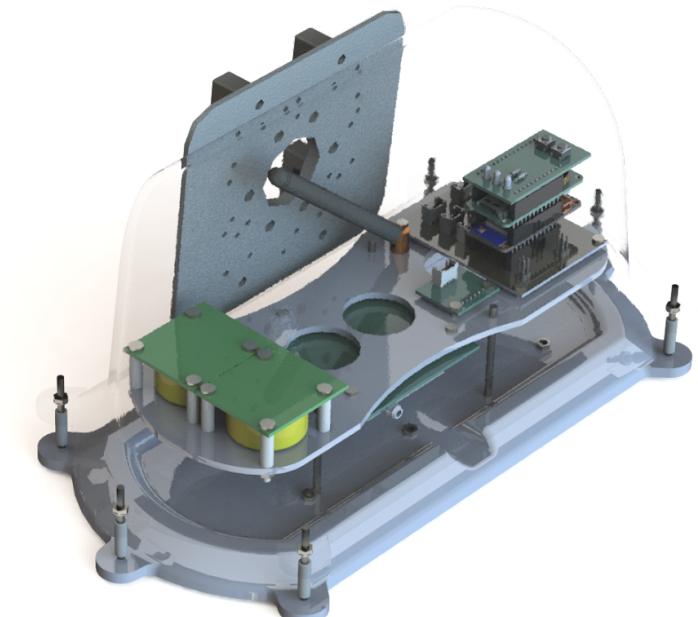
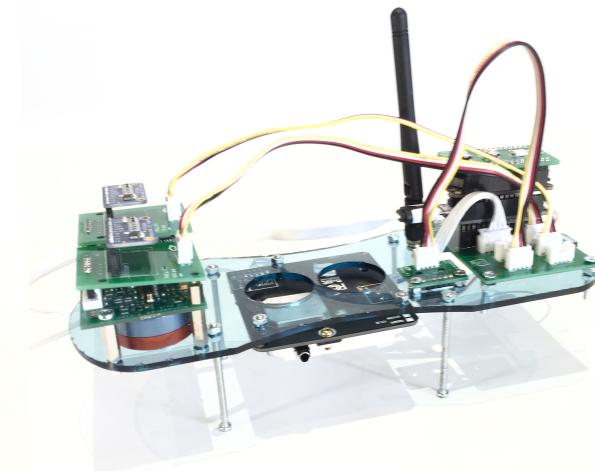
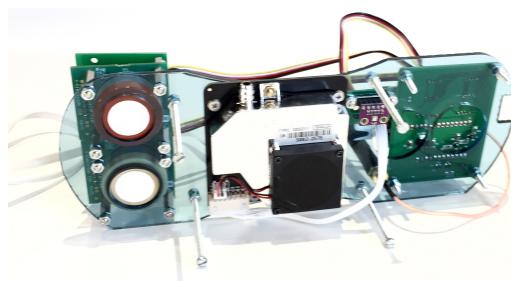


HoLu kit v2

Basic Kit



Extended Kit





HoLu kit v2

Data

The data are average of 30seconds measurements, every 3 minutes. Data sent to the server:

- Timestamp
- PM2.5
- PM10 for evaluation purpose, no visualisation
- temp/hum
- NO2
- O3

Second Iteration