

waag
technology & society

HoLu kit v2

Basic / Extended

Amsterdam, 26 June 2019

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**At this point of the evening you should know
how many Sensing spots you will deployed
and where.**

IT IS TIME TO BUILD THE SENSING DEVICE:

HOLU KIT

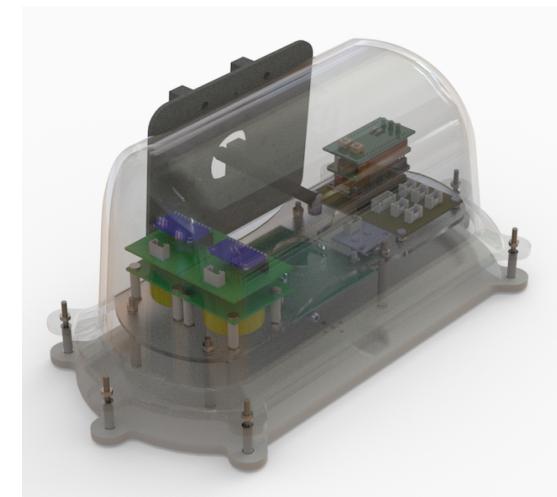
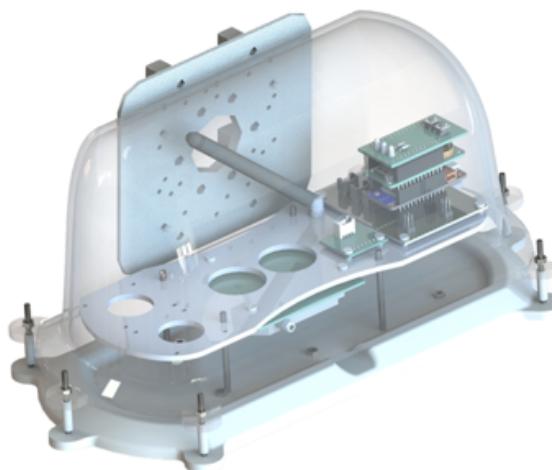
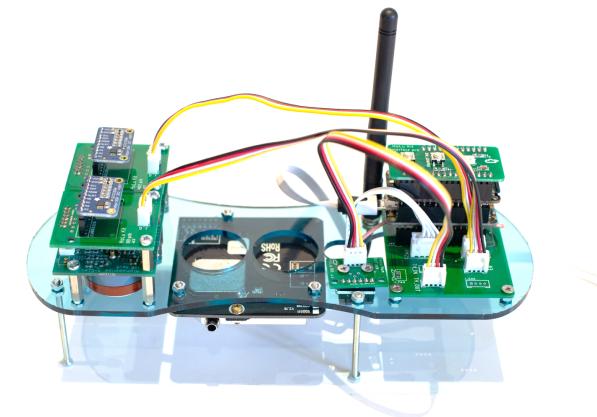
Please take a box

What is the HoLu kit?

HoLu kit BASIC



HoLu kit EXTENDED

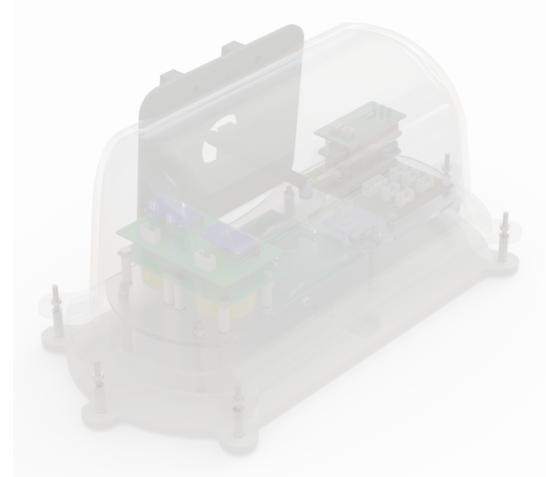
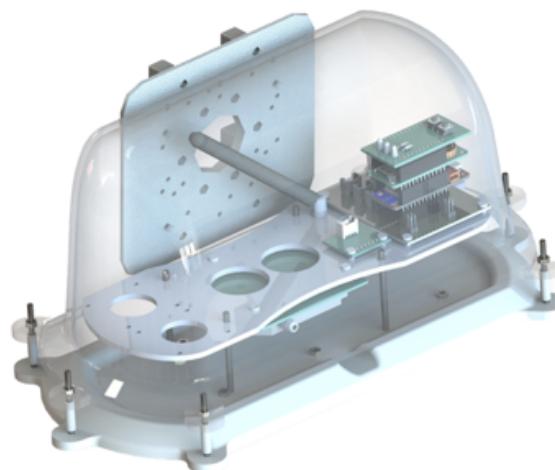
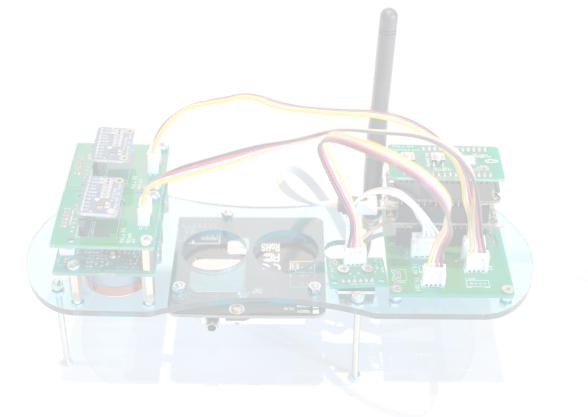


HoLu kit v2 is a modular sensors kit that allows you to measure and collect air quality/pollution data using low cost, open source, off-the-shelf and customised components.

HoLu kit BASIC



HoLu kit EXTENDED



HoLu kit v2 is a modular sensors kit that allows you to measure and collect air quality pollution data using low cost, open source, off-the-shelf and customised components.

What and how does it
measure?

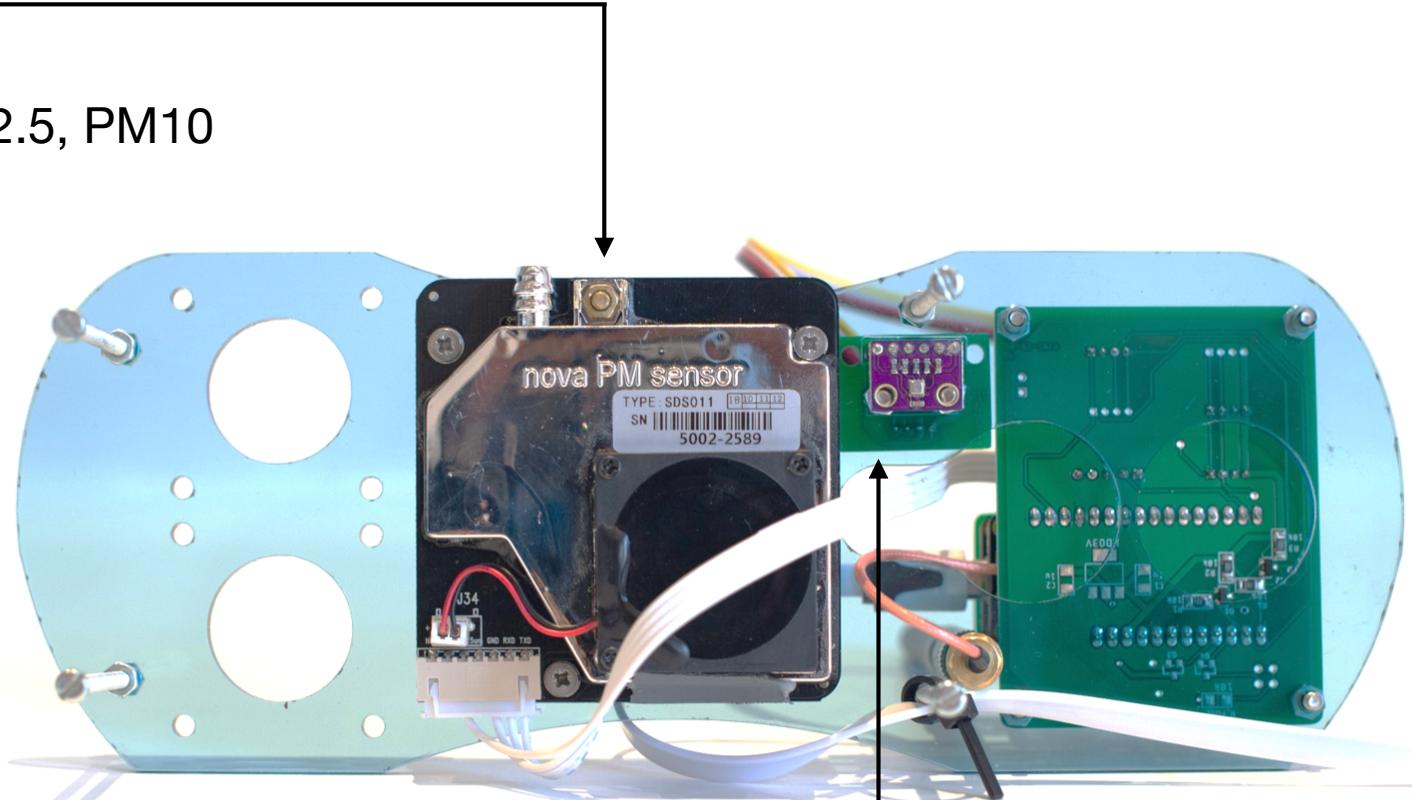
HoLu kit BASIC

Particulate Matter

sensor: SDS011

what it measures: PM2.5, PM10

unit: ug/m³



Weather conditions

sensor: BME280

what it measures: Temperature and Relative Humidity

units: °C and %

HoLu kit BASIC - LOW COST



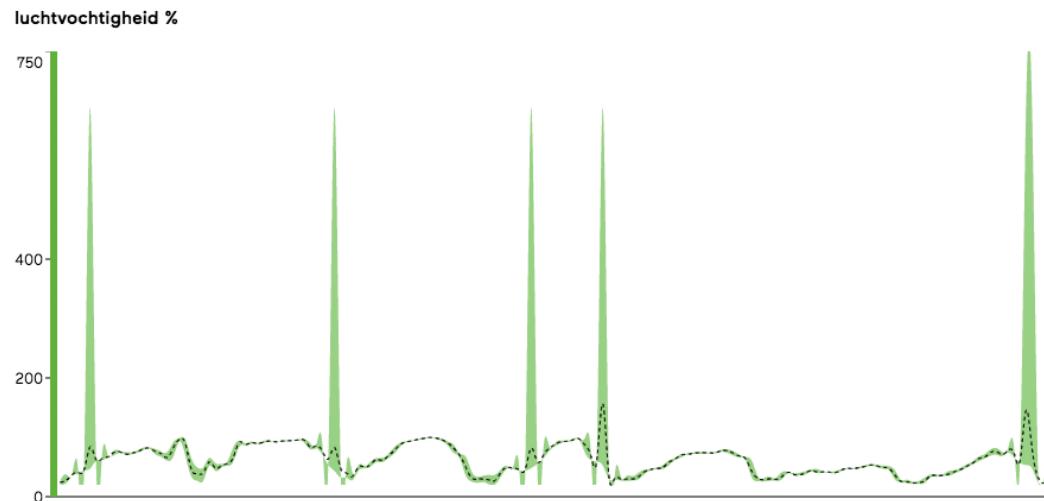
The sensors are not as accurate as professional equipments, sometimes the data is not reasonable and the measurements are affected by external factors, such as sun or humidity.

HoLu kit BASIC - LOW COST

Example 2: Raw Humidity

Basic HOLU-meetstation 204: Vondelpark

Dit is een basic HOLU-meetstation. Dit prototype meet temperatuur, luchtdruk, PM2.5 en PM10. Als onderdeel van de pilot wordt er onderzoek gedaan naar de kwaliteit van de data afkomstig van deze meetstations.
Lees meer over de HOLU kit [LINK]



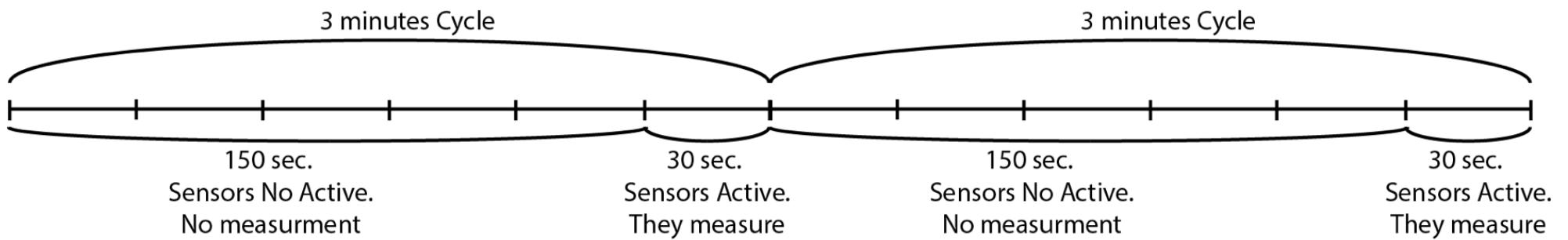
Example 1: effect of Humidity

High humidity
compromises
the PM measurements



Compensation of the PM data
based on the Humidity levels.
It is not yet applied, we are
working on it with RIVM.

HoLu kit BASIC



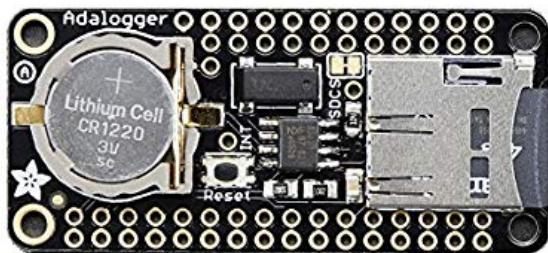
Some tech features.



Connectivity

Feather M0 LoRa Radio

It publishes every 3minutes the data over LoraWAN Network of The Things Network.



Feather Adalogger

Every 3 minutes the data are also saved on the SD-card embedded on this module

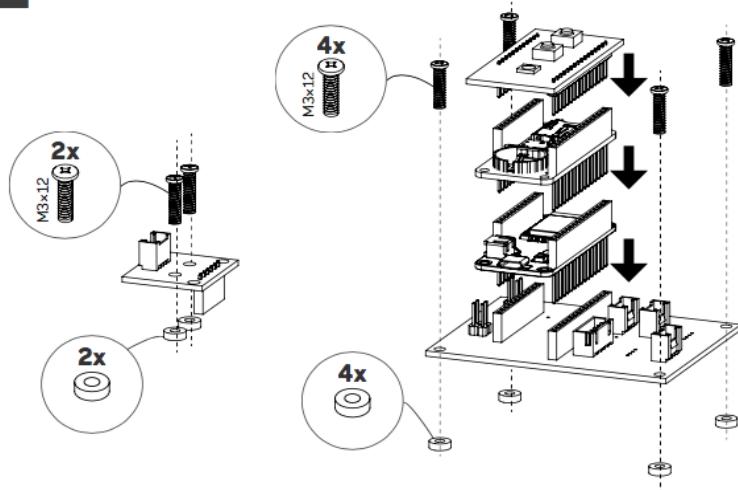


Power supply

HoLu kit is supplied by a micro USB cable (1.8m long)

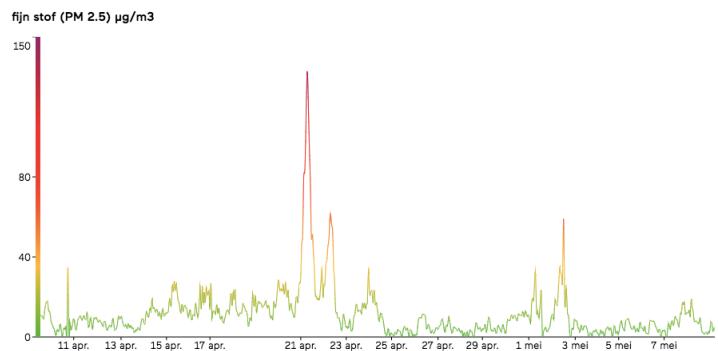
How to use it.

2



Station: Amsterdam-Vondelpark

Meetstation Vondelpark, aan de noordrand van het Vondelpark, is een stadsachtergrondstation. Op deze locatie wonen veel mensen en er zijn geen drukke wegen, havens of industriegebieden in de buurt. De Overtoom ligt op ongeveer 64 meter met gemiddeld ongeveer 15000 voertuigen per dag. In opdracht van de gemeente Amsterdam meet de GGD Amsterdam hier de luchtkwaliteit.



1) Assemble the kit following the assembling manual. Don't forget to write down the ID of your kit

2) Locate the kit in your desired place and power it

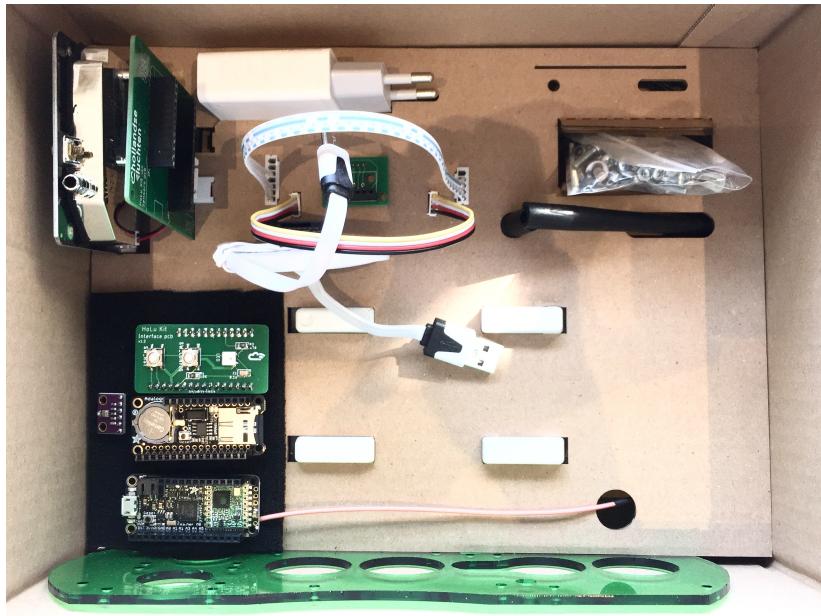
3) Check the data on Hollandse Luchten platform

Where to see the data.



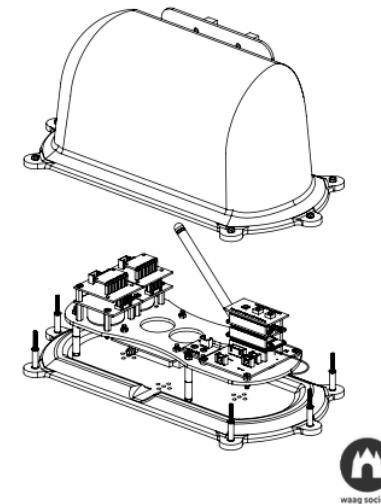
DATA ARE NOT YET CALIBRATED OR COMPENSATED
The data are RAW MEASUREMENTS

In the HoLu kit package you find all the parts and tools to assembly the kit.



HOLU

Air Quality Sensor Kit
BASIC/EXTENDED



To visualise your kit on the map we need to register it. Alain will pass through your working stations to register the HoLu kit with you.

More information about the HoLu kit can be found in the manual and on
<https://hollandseluchten.waag.org/>