

AEMET miniMET Project update



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EUMETNET workshop on crowdsourcing, Exeter, UK, March 2019

Previously on miniMET...



<https://agora.fmi.fi/display/CROWDSRC/EUMETNET+Crowdsourcing+workshop+Helsinki+2018>

At eu.mininet.net: [EUMETNET Crowdsourcing workshop Helsinki 2018](https://agora.fmi.fi/display/CROWDSRC/EUMETNET+Crowdsourcing+workshop+Helsinki+2018)

One year later...

Summary:

- A practical social experience
- Specifications
- Working prototypes
- A web portal

A practical social experience I



The **Environmental Education Classroom** of the Town Hall of Pozuelo de Alarcón in Madrid, the **Avintia Foundation**, the **Adecco Foundation** and the **Association Afanias** join in a project that unites environmental education, sustainability, social and labor inclusion of people with disabilities, in a workshop on miniMET stations, led by Fernando Asanza.

A practical social experience II



In addition to the social aspect that was very enriching for everyone, this experience of the Pilot Project has allowed to discover design errors and construction difficulties, which led to change and improve it.

Specifications I

- Low cost meteorological and air quality sensors

Attending considerations and advices of WMO GAW (Global Atmosphere Watch):
http://www.wmo.int/pages/prog/arep/gaw/gaw_home_en.html

Low-cost sensors for the measurement of
atmospheric composition: overview of topic
and future applications

valid as of May 2018

Editors: Alastair C. Lewis, Erika von Schneidmesser and Richard E. Peltier



WORLD
METEOROLOGICAL
ORGANIZATION



World Health
Organization



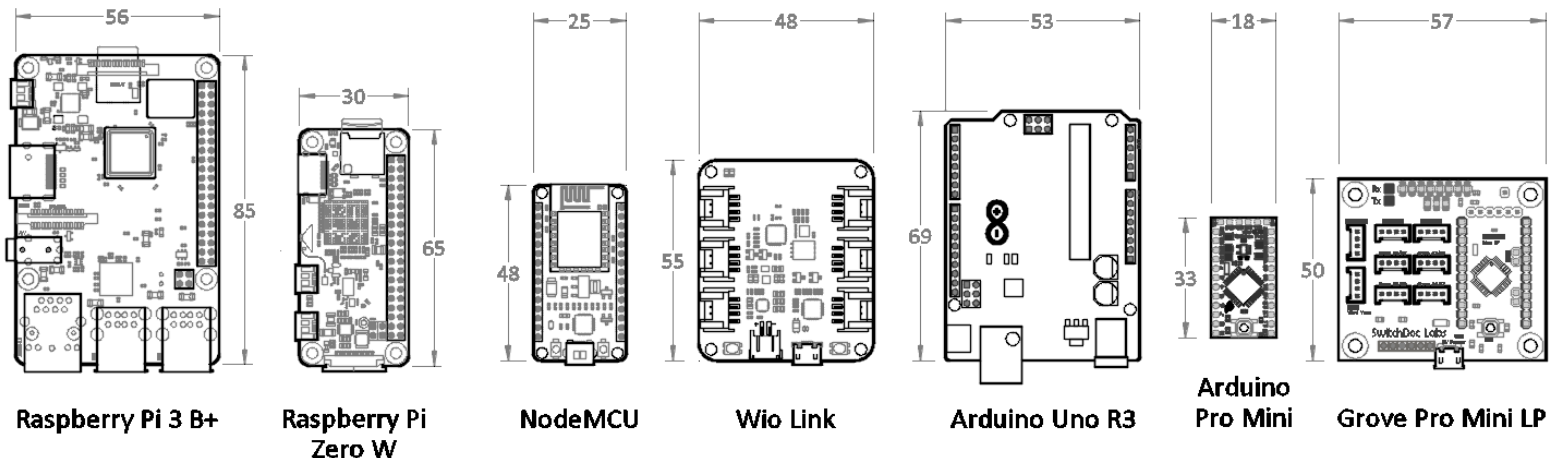
Guide for Urban Integrated
Hydro-Meteorological, Climate and
Environmental Services

Specifications II

- Data acquisition and quality flagging
Adapted to the processing limitations of the possible CPU
- Data transmission methods, formats and protocols
Metadata and ApiKey identifier of each station
- Construction of the station, shelter and electronics
- Location conditions and limitations on placing the station.

Specifications III

Low cost meteorological and air quality sensors



miniPCs w/Linux OS

ESP8266 based boards

Arduino based boards

Optional CPU must lead with above and below specifications

Data acquisition and quality flagging
Data transmission methods, formats and protocols







A web portal: <http://minimet.net>



HOME: <http://minimet.net>
(leads to blog <http://raspimax.es>)

<http://taller.minimet.net>

<http://docs.minimet.net>

<http://a2030.minimet.net>

<http://eu.minimet.net>

<http://es.minimet.net>

<http://uk.minimet.net>

A web portal: <http://taller.minimet.net>



TALLER DE DESARROLLO DE PROTOTIPOS DE LA ESTACIÓN MINIMET

Proyecto miniMET v10.0 20180901
email: minimet@aemet.es



ESQUEMA GENERAL DE LA ESTACIÓN

SENSORES DE BAJO COSTE

CPU BASE DE PROTOTIPOS

GARITAS Y CAJAS

ENERGÍA

PROTOTIPOS:

ARDUINO UNO

ARDUINO MINI LP PRO

NODEMCU ESP2866

WIO LINK

RASPBERRY PI 3B+

RASPBERRY PI ZERO W

RASPBERRY + ARDUINO

miniMET

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DOCUMENTACIÓN Y ESPECIFICACIONES TÉCNICAS ESTACIÓN MINIMET

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email: minimet@aemet.es



SENSORES - FICHAS TÉCNICAS

ESPECIFICACIONES:

ADQUISICIÓN DE MEDIDAS

CONSTRUCCIÓN

UBICACIÓN

ENVÍO DE DATOS

DOCUMENTOS GENERALES DEL PROYECTO

miniMET

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[Unofficial prototype/model website of miniMET Project]

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SWAFS-13-2017 Action: AEMET's miniMET Presentation

The miniMET Project v2.0 by AEMET document

An interview to the inventors of miniMET at LZONE blog

EUMETNET Crowdsourcing workshop Helsinki 2018

YouTube miniMET presentation at Helsinki workshop

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A web portal: <http://uk.minimet.net>



[Unofficial prototype/model website of miniMET Project]

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miniMET

THE MINIMET MANIFESTO

THE MINIMET PROJECT v2.0

CITIZEN SCIENCE, SOCIENTIZE, RRI/SWAFS

THE COLLABORATIVE OPENDATA

THE EDUCATIONAL COMMUNITY

RasPiMAX: OPEN SOFTWARE + FREE HARDWARE

A TECNOLOGY PROJECT

*Thank you very much
for your attention*





EUMETNET workshop on crowdsourcing, @ Met Office, Exeter, UK, March 2019