AIRQO ANALYTICS PLATFORM USER GUIDE

Version 1.0

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How To Access Air Quality Data From The Airqo Platform

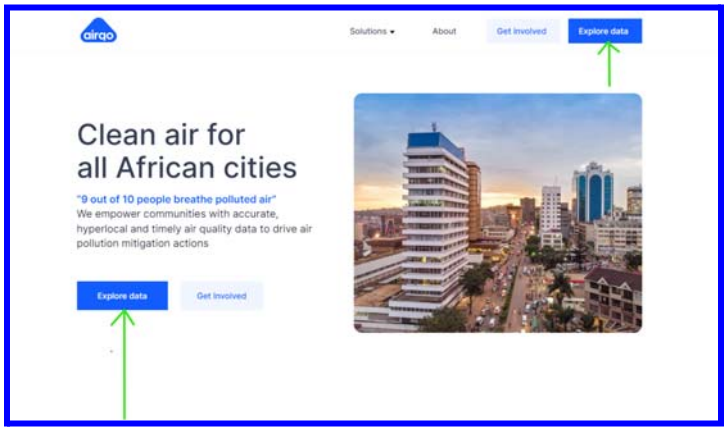
The AirQo Analytics platform allows national and local governments, as well as citizens, access air quality information from our low-cost air quality monitors deployed across major African Cities. This enables them to view various air quality insights.
By signing up and logging into the AirQo Analytics platform, you get access to data of concentrations of Particulate Matter (PM); a pollutant mainly used in quantifying the quality of air. Particulate matter concentrations on the platform are categorised under $PM_{2.5}$ and PM_{10} where the figures are representations of particle sizes in micrograms per cubic metre ($\mu g/m^3$).

Below are the steps and stages undertaken to request, access and interact with the AirQo Analytics Platform

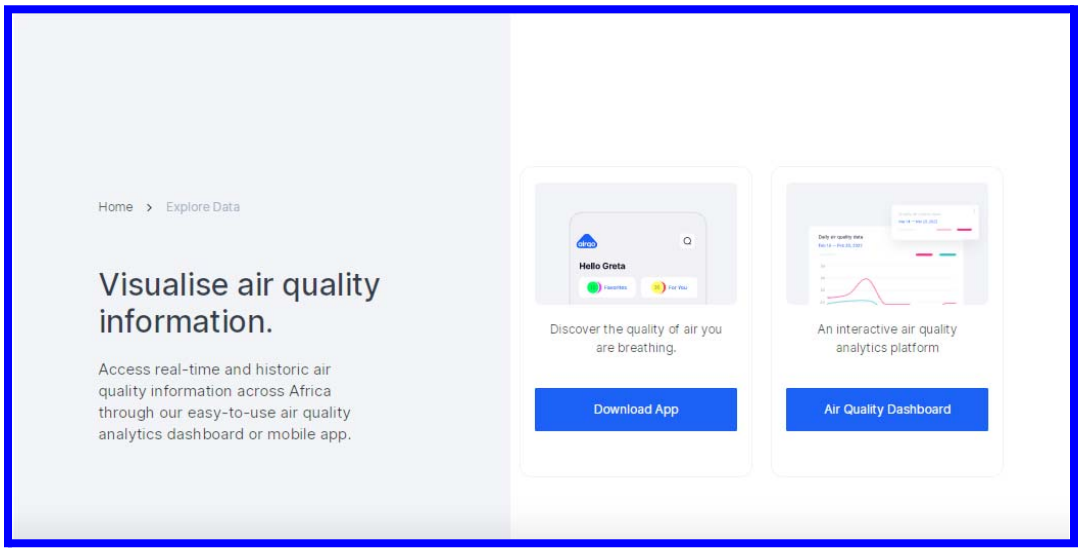
Request Access

To request access to air quality data on the AirQo Analytics platform:

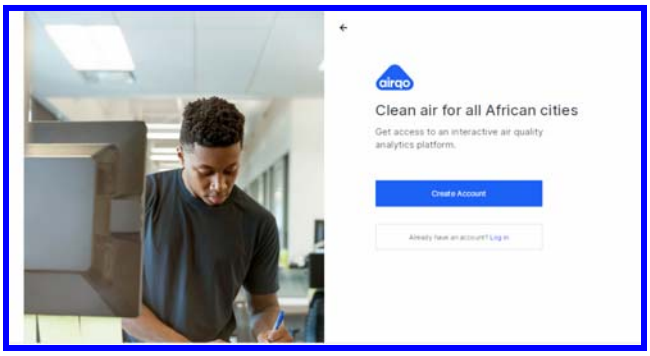
1. Click the Explore data tab as visualised below.



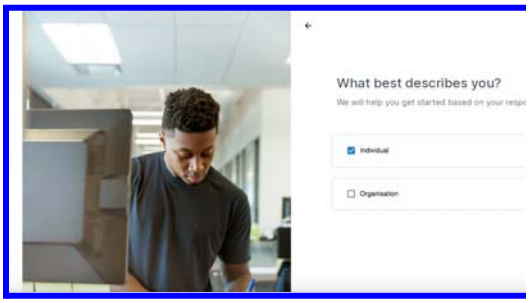
2. A screen will be displayed that provides options to:
    a. Download the AirQo mobile app where you can easily monitor air quality of your own areas of interest covered in the AirQo network.
    b. Access the AirQo Analytics platform.

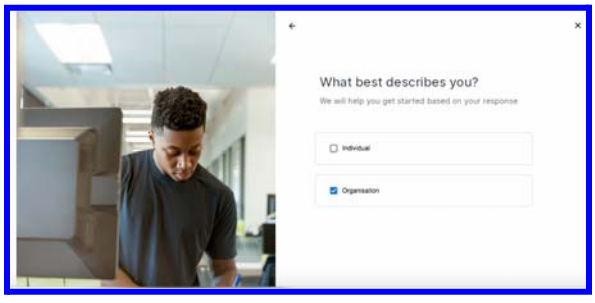


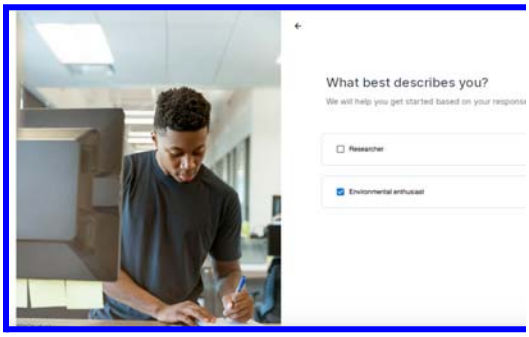
3. You can go on to request access to the platform by clicking on the **Air Quality Dashboard** button. Additional steps in the request access and account setup are described below:
    a. Click **Create Account**

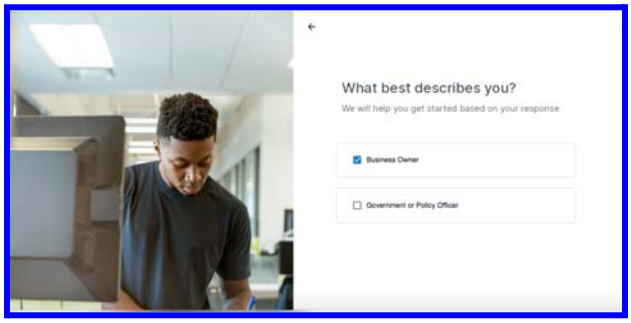


    b. Choose individual or organisation based on your category

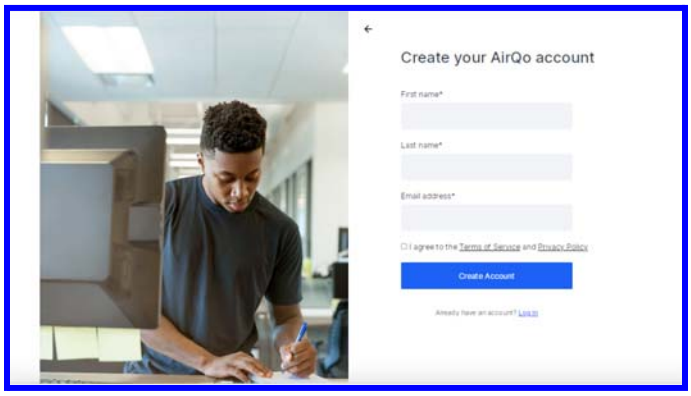








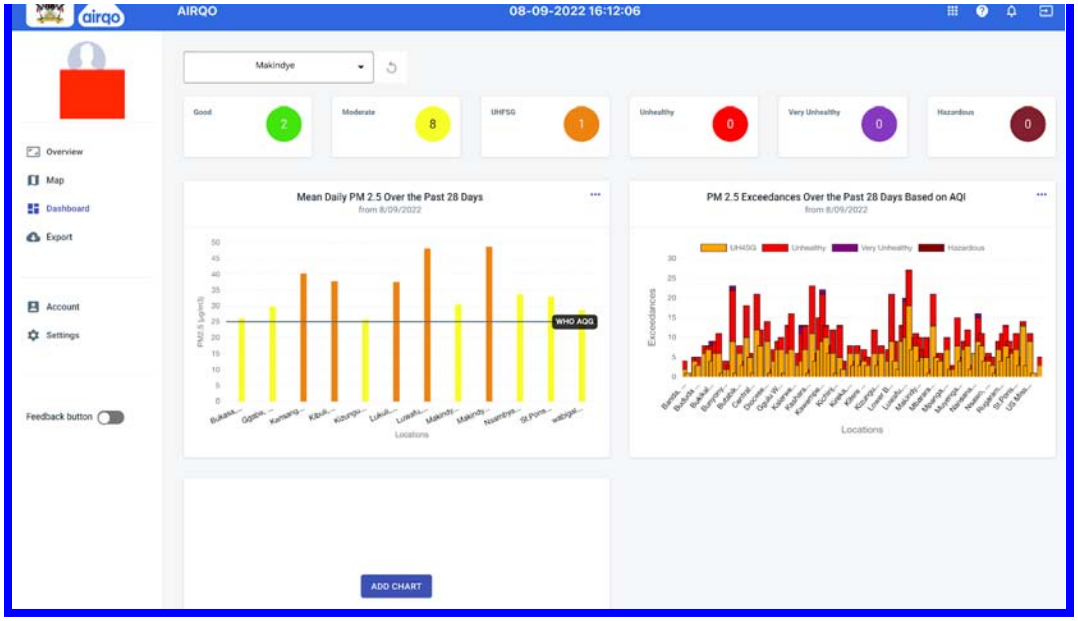
d. Following successful selection of your user category, you can go on to create a user account for data access on the AirQo Analytics platform by filling the form information and clicking **Create Account**. If this event is successful, you will receive a confirmation email on the email address provided in the form; and after a successful review of the details provided, a follow-up email will be sent with your **account details**, *one time* **log-in password** and other necessary information.



To **log in** after account set-up, repeat steps 1-3 and choose **Log in** instead of creating an account.

Interfacing the AirQo Platform

Following successful account set-up and log in; You will be directed to the main dashboard visualised below.



From the visual above, the platform has four main features which are: **Overview**, **Map**, **Dashboard** and **Export**.

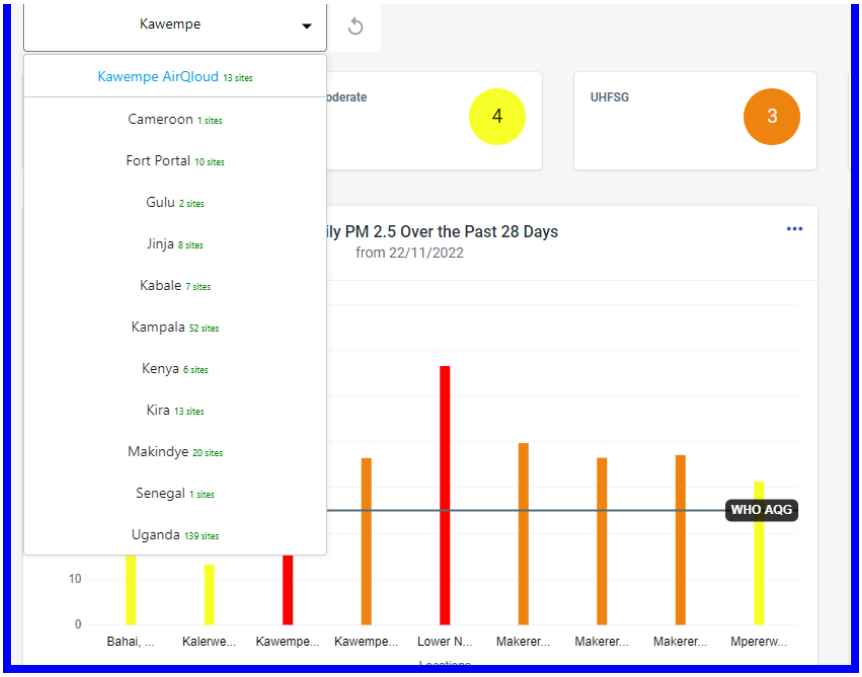
1) Dashboard

The Analytics Dashboard is the first point of entry to the AirQo Analytics Platform (visual above). It is an interface that allows users to display data graphically to identify trends, correlations, make informed decisions and generate reports. The displayed graphs on the dashboard represent data received from the specified AirQloud devices with information about:

- The monitors in the AirQloud (region with a group of AirQo monitors) categorized according to their AQI readings
- The mean daily particulate matter concentration ($PM_{2.5}$), collected from the AirQloud's sites over a span of 28 days and represented by bar graph and
- The daily exceedances of the AirQloud's sites above the WHO recommended pollution levels represented by a bar graph.

A user can toggle between AirQlouds for a bird's eye view of air quality analytics, click AQI cards to view the sites within, save charts in different formats and more.

i) Toggle between AirQlouds



This section enables a user to choose a region where his or her location of interest lies.

ii) Air Quality summarisation cards.

These cards give a brief overview of air quality within a chosen AirQloud based on data from individual monitors. See example below.

These cards show the number of air quality monitors in the AirQo network and the quality of the air they are recording in real-time.

For example, the visual above shows that:

- 11 monitors are recording moderate air quality.
- 25 monitors are recording air quality is unhealthy for sensitive groups (UHFSG).
- 57 monitors are recording unhealthy air quality while,
- 5 monitors are recording very unhealthy air quality, and
- 1 monitor is recording hazardous air quality.

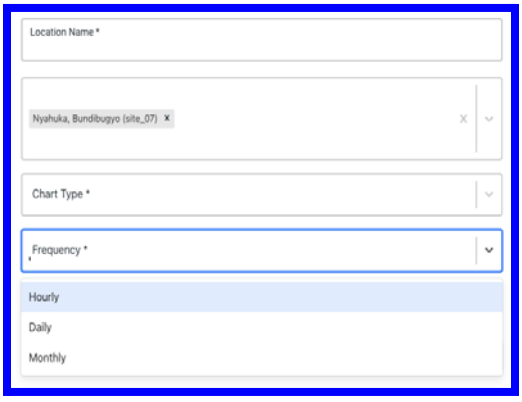
iii) Data Visualization

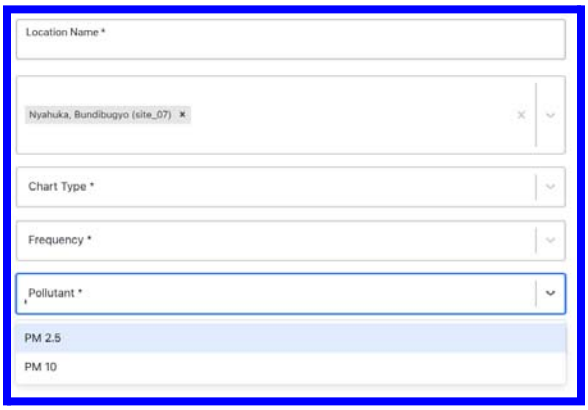
The dashboard is customizable and allows for creation of different types of graphs that represent data as needed by the user. This feature is accessed through the **add chart** button and allows for customization of data according to a select network of monitors. Sites are the main data points and should be selected before plotting on a chosen chart.

iv) Custom chart analysis and Data download

Once the add chart button is clicked, the following interface will appear which will require the user to fill the chart/location- name, site, chart type, frequency and pollutant. The site section allows the user to add as many sites of interest for data comparison. However, sites are limited to selected AirQlouds. Therefore, sites will appear depending on the AirQloud selected. It is impossible to compare sites from different AirQlouds.

The figures below provide a walkthrough analysis based on sites from one AirQloud:





Following successful fill out of the information, click add chart to have visuals of how data between sites compares. By clicking on the setting icon in the top right corner of the chart, you get a drop down menu which provides options for saving, printing, customisation or even deleting of the created chart.

2) Map

The air quality map shows an overview of AQI readings across the AirQo network. This allows users to view the distribution of AirQo devices across Africa and other affiliated devices across the world, as well as view predicted air quality values for the various AirQlouds represented through a heatmap. The AQI key in

the bottom left corner allows users to make sense of the AQI readings shown by the monitors and it changes according to the pollutant chosen.
To check if your device is online and is registered on the AirQo network for data access and visualisation, log into the AirQo Analytics Platform and checkout for that device on the **Map** to see whether it is connected.

i) Toggles on the map for more visualisations

Click on the settings symbol in the upper right corner, and choose:

1. **Heatmap** to view the predicted AQI per AirQloud by zooming into the AirQloud and hovering over with a cursor.
2. **Sensors** to view the available air quality monitoring devices and their AQI readings.
3. **Calibrated Values** to view calibrated monitor readings.

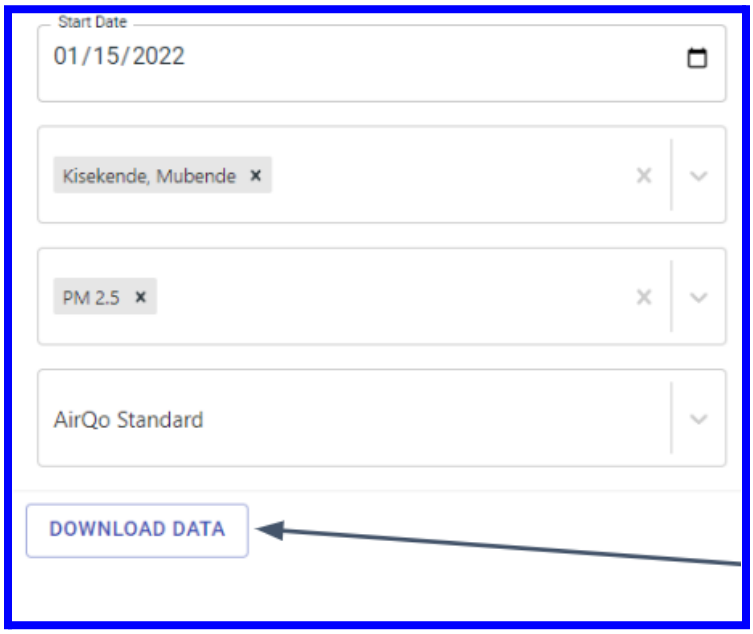
Click on the Pollutant button on the top right corner of the map (in blue) in order to view AQI readings according to $PM_{2.5}$ or PM_{10}.

ii) Map Controls

The map allows you to zoom in and out using your mouse/trackpad controls in order to have better visibility depending on the area of interest. But there's also accessibility controls in the bottom right corner that allow users to zoom into the map, zoom out of the map, rotate the map and also view the map in full screen mode.

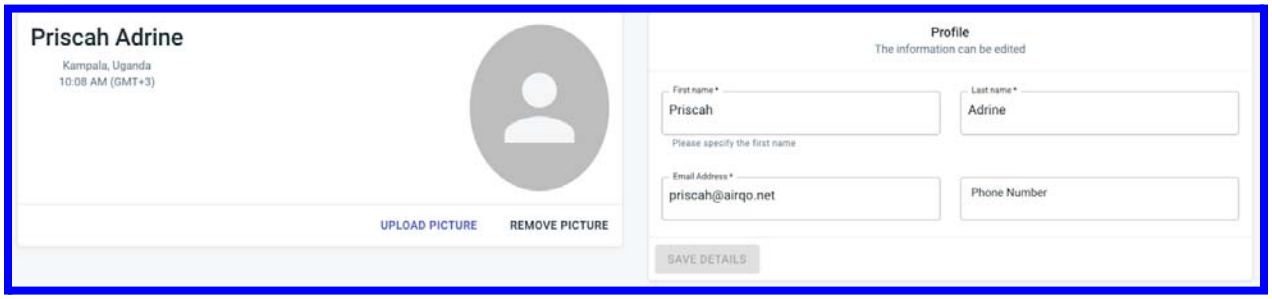
3) Export

The AirQo platform provides the option to access and download air quality datasets. This feature can be found on the platform's sidebar as **Export**. Here, you'll be able to stipulate a range of dates required, desired sites, pollutant(s), file type and data standard before exporting data. After proper fill out, you can click download data to export the data.



Managing your account and profile

You can manage your account and change your password by clicking the settings button on the left-hand side.



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