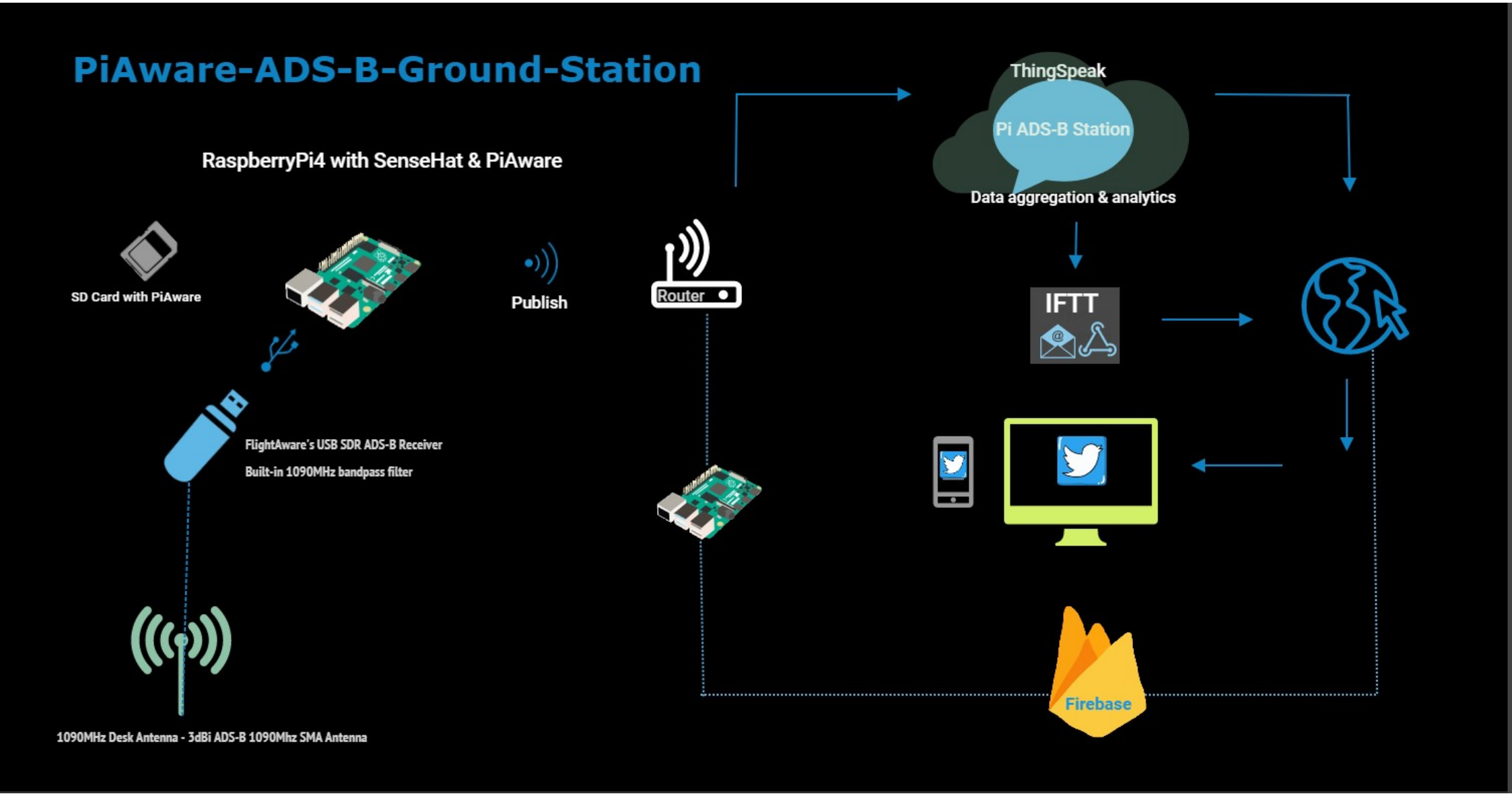
PiAware-ADS-B-Ground-Station
RaspberryPi4 with SenseHat & PiAware
SD Card with PiAware
Publish
Router
ThingSpeak
Pi ADS-B Station
Data aggregation & analytics
IFTT
FlightAware's USB SDR ADS-B Receiver
Built-in 1090MHz bandpass filter
Firebase
1090MHz Desk Antenna - 3dBi ADS-B 1090Mhz SMA Antenna

PiAware-ADS-B-Ground-Station

RaspberryPi4 with SenseHat

The RaspberryPi will hold the PiAware software any Python programs.
The SenseHat will display a message when planes are in range.

SD Card with PiAware

ADS-B receivers are electronic devices that listen for radio signals from ADS-B aircraft transponders and decodes them to determine aircraft position. PiAware is an open source software solution, created by FlightAware, to make this data accessible to everyone.

FlightAware's USB SDR ADS-B Receiver

The USB SDR (Software Defined Radio) ADS-B (Automatic Dependent Surveillance-Broadcast) receiver translates the 1090 MHz radio signal into something the computer can understand.

1090MHz Desk Antenna

A 3dBi ADS-B 1090Mhz SMA Antenna to receive the radio signals

Raspberry Pi 3 Model B

A second RaspberryPi will be used to store the data recorded.
Data will be extracted from the PiAware aircraft JSON.

ThingSpeak/ThingHTTP//ThingTweet

ThingSpeak to store and retrieve data from the RaspberryPi.
Communicate data to Twitter when certain conditions are met.
Integrated with IFTTT to receive email and push notifications.

IFTTT & Webhooks

Used for event detection, email and phone notification

Firebase

For data storage

Mobile Phone

Mobile phone to subscribe to twitter and email notifications