

## Representative Patent 00

- ❖ Title of Invention : **Atmospheric information measuring apparatus for multi-copter using inertial sensor**
- ❖ Application Number. : KR2017-0097640

### Application of Technology and Field of Use

#### ◆ Weather forecast, Fine dust measurement

#### ◆ A pitot tube part of the existing atmosphere measurement device is not suitable for the multi-copter

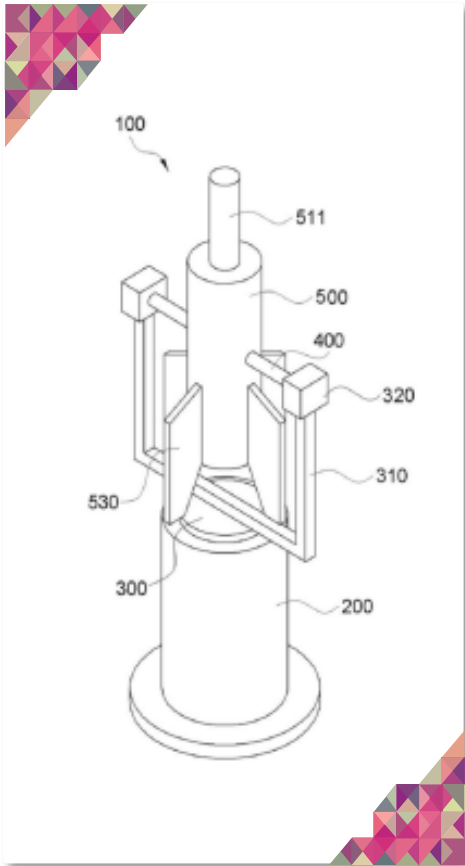
-The existing device is suitable for a high-speed forward flight because the pitot tube part faces forward in the flight directions, but it is difficult to use the existing device in the multi-copter that can fly in all directions.

#### ◆ Limitations caused by the size and weight of atmosphere measurement devices

- It is impossible to install existing devices on small-sized multi-copter due to the size and weight of the existing devices.

### Features of Technology

- A fixed body part with one side extending in the first direction in a hollow tubular shape and another side fixed to the multi-copter
- A rotating part coaxial with the fixed body part, extending in the first direction and connected to one side of the fixed body part
- A connecting part with a pair of longitudinal shafts extending in the first direction, supporting the pair of longitudinal shafts, and in which an axis perpendicular to the first direction is coupled to one side of the rotating part
- A pair of fixing parts formed at both ends of the pair of shafts in the connecting part
- A probe extending in one direction
- A rotating shaft extending in a direction perpendicular to the first direction and passing through the probe, both ends of the rotating shaft are respectively connected to a pair of fixing parts



<Representative drawing>

# Climate/Environment

## Representative Patent 02

### Technical Effects

#### ◆ Safe flight regardless of air currents

- Safe flight of a flight vehicle is possible by measuring a direction and speed of a surrounding flow field in real time and transmitting information to a flight control computer even in complex airflow conditions.

#### ◆ Possible to add various sensors

- Weather observation is possible as additional sensors that measure temperature, humidity, and fine dust can be installed.

#### ◆ Installation on various flight vehicles due to versatility

- Due to the small size, it can be installed on small multi-copters as well as flight vehicles of various sizes.
- Due to a wide measurement range, it can be installed on existing fixed-wing and rotary-wing aircrafts in addition to multi-copters.



<Seoul full of fine dust>

### Social, Environmental, Economical Effects

#### ◆ Increase in real-time yellow dust and fine dust concentration measurement accuracy

- Since sensors capable of measuring the temperature, humidity, and fine dust can be added, it is expected to accurately monitor the concentration of yellow dust or fine dust in each area.

#### ◆ Safe rescue in disaster situations

- It is expected that victims can be safely rescued, or relief goods can be delivered even in disaster situations with rapid air currents.