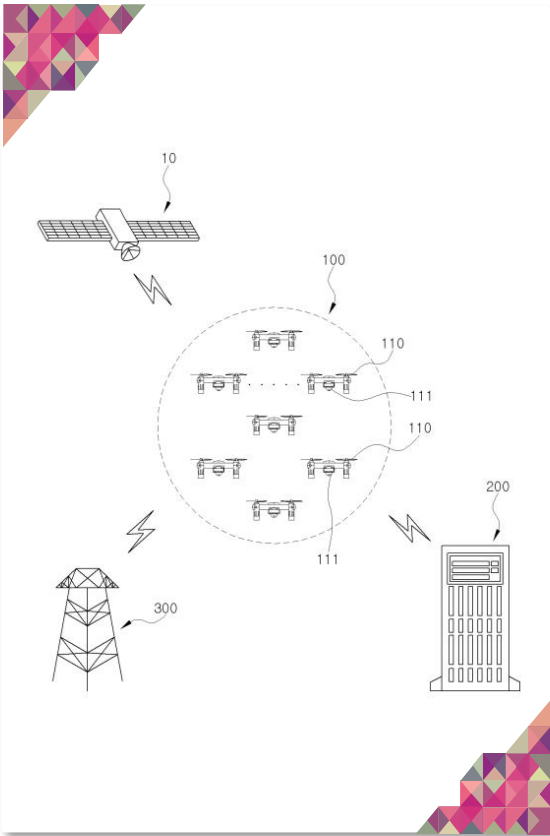


Surveillance

Representative Patent 03

- ❖ Title of Invention : **Swarm drone-based wide-area reconnaissance monitoring system and wide-area reconnaissance monitoring method using the same**
- ❖ Application Number. : KR2019-0174654



<Representative drawing>

Application of Technology and Field of Use

- ◆ Fields of surveillance for specific area, Reconnaissance system
- ◆ Difficulty in processing real-time videos due to image processing delays during surveillance and reconnaissance
 - Conventionally, data was processed stably by using offloading technique, but since this technology includes the process of the acquired image format processing, it can not solve the delay in processing time that occurs in swarm drones' own image processing or image transmission and reception.
 - Very high cost is incurred for real-time image processing on swarm drones.

Features of Technology

- A plurality of drones, each of the plurality of drones comprising Real Time Kinematic-Global Positioning System (RTK-GPS) and a camera
- A ground control station configured to receive images taken by the drones
- A reference antenna configured to transmit and receive a signal with the RTK-GPS of the drone

Surveillance

Representative Patent 03

Technical Effects

◆ Possible to obtain wide-area images without regional restrictions

- It is possible to execute missions rapidly and effectively by using a large-scale swarm drones which can obtain images of a wider area simultaneously.
- Reconnaissance and surveillance is possible in areas difficult to access.

◆ Possible to execute continuous missions

- Continuous reconnaissance and surveillance of specific areas can be possible since drones can be automatically replaced with new ones when the battery of each drone dies.

◆ Possible to operate multiple drone simultaneously

- Multiple drones can be operated simultaneously through application of swarm flight algorithms.
- AI-based object detection and image matching technology can be used to maximize its effectiveness.



<Drones in swarm-flight>

Social, Environmental, Economical Effects

◆ Possible to monitor wider area

- It is possible to search for missing persons in areas difficult to access.
- It is possible to accomplish prompt response and prevention of damage spread by quickly detecting the occurrence of a disaster and communicating the situation.

◆ Possible to monitor illegal activities occurring in specific areas

- It is possible to monitor illegal activities occurring in specific areas because a continuous monitoring for a designated area is possible.