

## Case Studies of Drone Use for Land Management

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### Summary

1) The wider use of drones, through further advancement of technologies like sensors and wireless communication, will not only lead to better and faster delivery but also include management of disasters, facilities, onsite construction and factories, cultural assets and forestry resources.

- Drones mounted with regular, infrared or multispectral cameras can go to areas not accessible by people and send high-resolution images of areas requiring monitoring.

2) While the EU has classified three categories of risk caused by drone applications and proposed different safety criteria with easing regulations, the U.S. maintains strict regulations.

3) The Korean government keeps systemizing regulations to widen drone application areas to jumpstart industry, as well as a policy to form a grid-like drone road by establishing 3-D high-resolution spatial data.

- For free application of drone use, a variety of projects are being pushed for such as the designation of test areas and a survey of the boundaries of land ownership rights.

- In the case of local governments, the devising of ordinances and implementing related works are ongoing for jumpstarting the drone industry

4) Because of the extensive scope of drone use in assessing the status of land use, conducting facility management and disaster monitoring and restoration, and providing real estate data, the need for regulatory improvements and additional infrastructure is urgent.

### Policy recommendations

① In a city with many tall buildings, infrastructure such as antennas for smooth wireless communication, takeoff and landing facilities, ultra-accurate location providing system and roads for drones is needed.

② The designation of areas where drones can operate in, based on the status of land use, must be managed based on spatio-temporal zoning, and geofencing technology can be used to send alerts of any drone encroachment in prohibited areas.

③ A platform and institutional basis should be prepared to share and sell 2-D and 3-D spatial data collected by drones.