

Revolutionizing Land Survey in the 5G era

Kim Muni (Republic of Korea)

Key words: Cadastre; 5G, AR, VR,

SUMMARY

5G is the next generation mobile communication which is under standardization work worldwide.

Data transfer speed will be 10 times much faster than 4G, which is being used nowadays, so hologram and virtual reality are expected to become commonplace in the next few years.

International Telecommunication Union (ITU) describes 5G as providing up to 20Gbps data transfer speed and at least 100Mbps everywhere.

Anyone can download a super high-definition(UHD) movie within 10 seconds.

The official name of it is “IMT-2020” and it aims to commercialize the technology globally by 2020.

The reason why all ICT companies compete to develop 5G technology is

because 5G serves as the basis for everything in the coming IOT (internet of things) age.

ICT will be applied in all IOT industries.

The fourth phase of the Industrial Revolution, in which all industries will converge through ICT, is underway.

Land surveying

d the data latency rate must also be lower.

The clearer the quality, the more the capacity is increased.

To this end, a very fast network is needed and 5G will make it possible.

In 5G, the feasible technique can be divided into first AR, VR and second IOT.

In places where surveyors have a hard time because of poor survey environment such as those surrounded by a mountain or sea, the construction site can be accessed and analyzed, using virtual reality and augmented reality.

Land owners can find the survey records, as well as work and discuss any questions with the surveyors in real time through AR,VR such as hologram.

5G communication technology can also make IOT technology possible, because it can handle a big amount of data.

Add Cadastral control points to the “Beacon”, which is a representative of the IOT, and it will mean shorter time for surveyors who are looking for particular points. Moreover, whenever the land is covered with snow or dirt, or even if it disappears, the surveyors can still get the latest records in real time.

The purpose of this study is to describe the prospect of an advanced and revolutionized survey environment under the 5G environment.