

Application of IoT in Civil Engineering and Geodesy

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Key words: Deformation measurement; Engineering survey; GNSS/GPS; Low cost technology; Real estate development; Spatial planning; Urban renewal; IoT; application; geodesy; civil engineering

SUMMARY

IoT (Internet of Things) represents an advanced connection of devices, systems and services. Sensor networks, software systems and numerous industrial and open protocols enable the functioning of a large number of IoT systems. In combination with artificial intelligence and cloud computing, IoT offers new opportunities for smart applications in many industries including civil engineering and geodesy. Some of the benefits of using this system include improvements of industrial processes, products and services, greater dependability and lower operational costs. Significance of IoT concept is proven also by the Fourth Industrial Revolution (4IR or Industry 4.0) which describes the digital transformation and blurs the boundaries between the physical, digital and biological worlds. 4IR includes the usage of technologies that have become even more accessible and less costly in the last few years, among which is IoT. The paper presents IoT concept, constituent elements and its way of functioning. The emphasis in the paper is given on the analysis and presentation of possible application of this modern concept in the field of geodesy and civil engineering. IoT and its application in general in these areas is still in development, but it is also of great importance and interest. Some of the applications analyzed in the paper are smart building and city concept, SHM (Structural Health Monitoring), smart well monitoring system, etc.