

Spaceborne IoT communication : challenges, technologies and missions

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Abstract

It is of no exaggeration to state that we are entering the so called “NewSpace” age, where spaceflight technology and space access is rapidly becoming commercialized by more innovative, faster, and cheaper technology. Innovative space missions such as space based IoT, global internet, global Earth observation are emerging worldwide. In the space segment side, recent advances in space technology such as laser communication terminal, miniaturization of electronics and systems and electric propulsion are enabling new type of flexible, compact and agile missions and concepts.

The expansion of terrestrial technology for LPWAN (low power wide area network) such as NB-IoT or Lorawan are facilitating the IoT trend for Industry 4.0. Several satellite missions are in the pipeline with the aim to expand the terrestrial technology to space in order to provide economic and ubiquitous communication for IoT devices via satellite link. The presentation will give an introduction into recent challenges, technologies and missions regarding spaceborne IoT / M2M communication.

Keywords: *IoT, satellites, communication*

Biography

As a project manager and space system engineer, I worked on various space related projects in industry and university. I specialized in fault tolerant attitude control of spacecraft and extended my experience in the area of satellite network, spacecraft design, space project management and space education.