

# Localization-of-Things in the 5G Ecosystem

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## Abstract

The availability of real-time high-accuracy location awareness is essential for current and future wireless applications, particularly those involving Internet-of-Things and 5G ecosystem. Reliable localization and navigation of people, objects, and vehicles – Localization-of-Things – is a critical component for a diverse set of applications including connected communities, smart environments, vehicle autonomy, asset tracking, medical services, military systems, and crowd sensing. The coming years will see the emergence of network localization and navigation in challenging environments with sub-meter accuracy and minimal infrastructure requirements. We will discuss the limitations of traditional positioning and move on to the key enablers for high-accuracy location awareness such as wideband transmission and cooperative processing.

## Bio



Andrea Conti is a professor and founding director of the Wireless Communication and Localization Networks Laboratory at the University of Ferrara, Italy. His current research topics include network localization and navigation, distributed sensing, adaptive diversity communications, and quantum information science. He received the HTE Puskás Tivadar Medal, the IEEE Communications Society's Stephen O. Rice Prize in the field of Communications Theory, and the IEEE Communications Society's Fred W. Ellersick Prize. Dr. Conti has served as editor for IEEE journals, as well as chaired international conferences. He has been elected Chair of the IEEE Communications Society's Radio Communications Technical Committee. He is a co-founder and elected Secretary of the IEEE Quantum Communications & Information Technology Emerging Technical Subcommittee. He is an elected Fellow of the IET and has been selected as an IEEE Distinguished Lecturer.