

Research Output of Beacon Technology with Special Reference to Scopus Database: Scientometric Analysis

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This study explores the landscape of research on beacon technology, focusing on publications indexed in the Scopus database from 1932 to February 2025. Beacon technology, which allows smartphones to detect signals from small physical devices via Bluetooth, has seen an increasing research activity over the past few decades, particularly after the early 2000s. This study aims to analyze research productivity, authorship patterns, institutional contributions, and international collaboration trends in the field. The data set includes 4,026 documents published across a span of nearly 90 years. The analysis revealed significant growth in beacon technology research, with a peak in publications observed in 2019 and 2024. The most prolific authors, such as LI Y and CHEN Y, were identified based on their citation impact, H-index, and G-index, indicating their substantial contributions to the field. The study also highlighted the dominance of single-author publications (83.9%), suggesting that a small number of highly productive researchers drive the majority of the research output. Institutional analysis shows that Chinese universities, particularly Zhejiang University of Technology (n=65) and Wuhan University (n=66), led in beacon technology research, with a significant proportion of publications originating from China. The USA and several European countries exhibit a higher level of international collaboration, contrasting with China's domestic focused research. Beacon technology research is predominantly published in conference proceedings, with journals such as Proceedings of SPIE and Sensors (Switzerland) being key sources. The paper also identified the most cited documents, with Paull L. (2014) and Petryayeva E. (2011) leading in total citations, reflecting the sustained impact of their work over the years. This analysis provides a comprehensive view of the evolution, trends, and global distribution of research in beacon technology, offering valuable insights into its growth and impact on multiple fields.

Keywords: *Beacon technology; Mobile technology; Research impact; Scientometrics; Scopus data analysis*