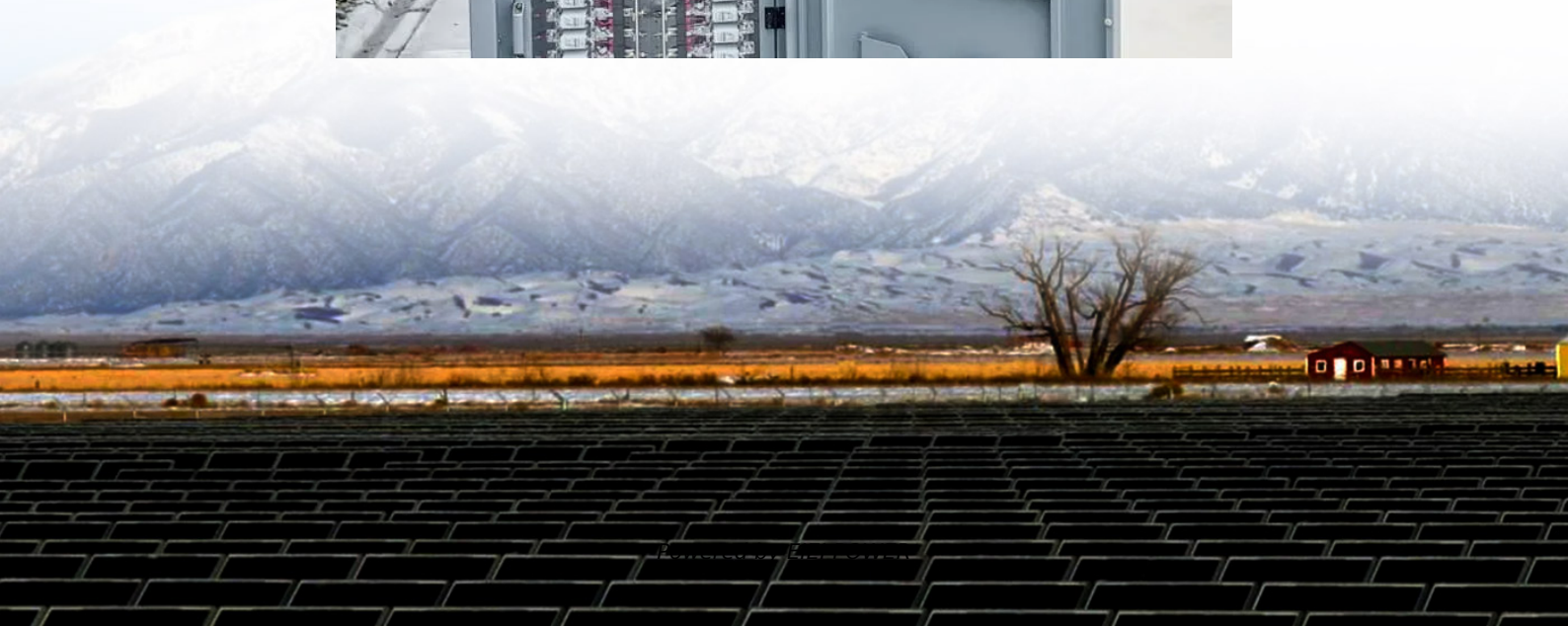


# 5G network only needs to build outdoor base stations





## Overview

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Will China build a 5G base station next year?

Technicians from China Mobile check a 5G base station in Tongling, Anhui province. [Photo by Guo Shining/For China Daily] China aims to build over 4.5 million 5G base stations next year and give more policy as well as financial support to foster industries that can define the next decade, the country's top industry regulator said on Friday.

Should 5G base stations be tripled?

To cover the same area as traditional cellular networks (2G, 3G, and 4G), the number of 5G base stations (BSs) could be tripled (Wang et al., 2014). Furthermore, Ge, Tu, Mao, Wang, and Han, (2016) suggested that to achieve seamless coverage services, the density of 5G BSs would reach 40-50 BSs/km<sup>2</sup>.

Does GIS support 5G cellular network planning in urban outdoor areas?

In this study, we developed a GIS-based optimization model to support 5G cellular network planning in urban outdoor areas. First, we employed GIS to simulate the LOS propagation of 5G signals in urban outdoor areas in a spatially explicit way.

How can a 5G cellular network be developed?

The developed model can facilitate the rollout of 5G technology. Due to the high propagation loss and blockage-sensitive characteristics of millimeter waves (mmWaves), constructing fifth-generation (5G) cellular networks involves deploying ultra-dense base stations (BSs) to achieve satisfactory communication service coverage.



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5G base stations need a high - capacity backhaul network to transfer data between the base stations and the core network. Fiber optic cables are the best option for this, as they can ...

### [Investigating the Sustainability of the 5G Base Station ...](#)

Jun 6, 2023 · Abstract--5G is a high-bandwidth low-latency communication technology that requires deploying new cellular base stations. The environmental cost of deploying a 5G ...



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Sep 1, 2025 · As critical nodes in wireless network connectivity, base stations, if not deployed with foresight and scientific planning, may not only lead to resource wastage, but also cause signal ...



### [Ambitious 5G base station plan for 2025](#)

Nov 23, 2025 · Technicians from China Mobile check a 5G base station in Tongling, Anhui province. [Photo by Guo Shining/For China Daily] China aims to build over 4.5 million 5G base ...



### **China to construct over 4.5 million 5G base stations in 2025**

China ended 2024 with over 4.19 million 5G base stations. China plans to construct over 4.5 million 5G base stations in 2025 while introducing additional policy and financial incentives to ...



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Dec 13, 2024 · It also marks the start of 5G-A commercialization, with the industry starting to build and deploy networks and exploring new uses, she added. Under to the 14th five-year plan set ...

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## **Optimizing the ultra-dense 5G base stations in urban outdoor ...**

Dec 1, 2020 · The developed model was applied to search for the optimal solutions in 5G cellular network planning for an urban outdoor area in Wuhan, China. The optimal solutions and ...



## [China's Ambitious 5G Base Station Plan for 2025: A Leap ...](#)

Dec 30, 2024 · Moreover, the implications of this 5G revolution are manifold. By building a comprehensive network of base stations, China aims to create a conducive environment for ...



## [Research on Challenges and Strategies of 5G Network ...](#)

Oct 5, 2023 · China Unicom and China Telecom have jointly built 115000 base stations through the co construction and sharing of station sites and spectrum resources, and strive to ...

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