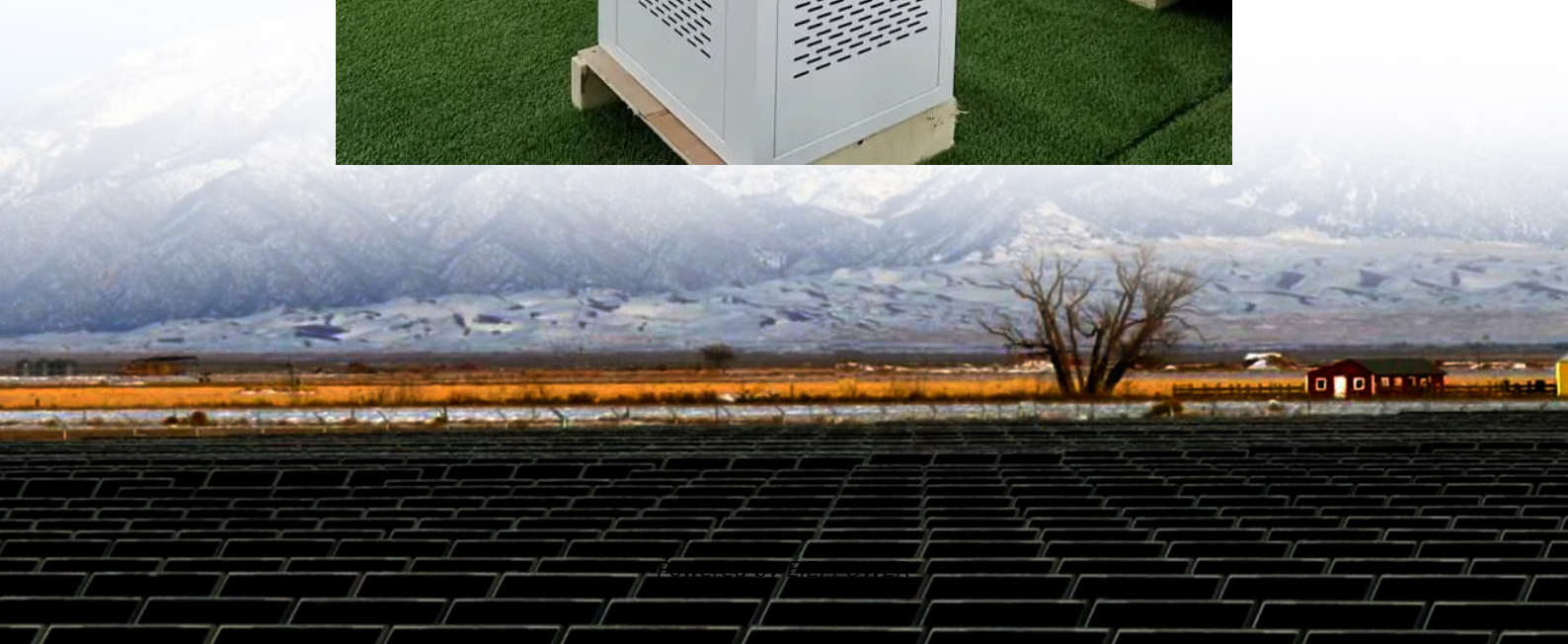


# Muscat Communications 5G Base Station 20 Years of Construction





## Overview

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How effective is 5G base station optimization in urban areas?

Comparison results of 5G base station optimization in general urban areas. As shown in Table 11, the algorithm proposed in this topic reduces the site construction cost by at least 13 %, improves the coverage by at least 5.4 %, and reduces the number of base stations by at least 17.6 % compared to other algorithms.

How many 5G base stations are there in general urban areas?

It is known that there are 20 3/4G shared base stations in this area. According to Section 5, the number of base stations in general urban areas ranges from 20 to 36. Therefore, in the simulation experiment, the optimal results of the base station layout are shown in Table 10. Table 10. Layout results of 5G base station in general urban areas.

How 5G mobile communication technology is affecting the network capacity?

With the rapid development of 5G mobile communication technology, the number of 5G users has significantly increased, leading to a corresponding expansion in network capacity . To meet the growing user demand, researchers have begun to focus on improving the throughput of base stations (e.g. Refs. [2, 3]).

Does a 5G base station save the cost of building a station?

Layout results of 5G base station in dense urban areas. From the simulation comparison results in Tables 8 and it can be seen that when  $m_1 = 0.3$ ,  $m_2 = 0.7$ , although the coverage target function result is slightly lower than the 92.8 % coverage result, the result saves the cost of building the station.



## Muscat Communications 5G Base Station 20 Years of Construction



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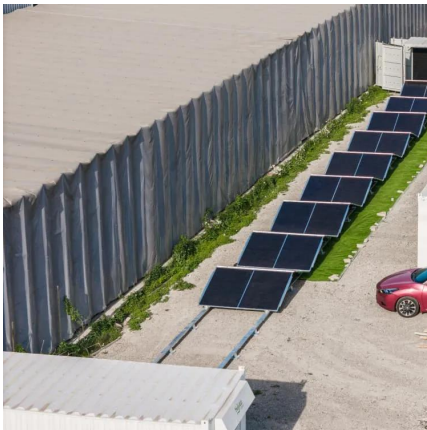
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