About this report

This report analyses how towercos and mobile network operators (MNOs) can respond to the network densification challenges associated with 5G roll-outs. In particular, we discuss future revenue opportunities for towercos, including increasing site numbers and backhaul provision in preparation for 5G deployments, as well opportunities in the IoT and smart cities market spaces. The report also provides recommendations for towercos and MNOs considering 5G roll-outs.

It is based on several sources:
- Analysys Mason internal research (for example, LPWA forecasts)
- interviews of stakeholders in the towerco market.

### Key Questions Answered in This Report

- As networks transition to 5G, how profitable will it be for towercos to enter the small-cells business?
- What potential revenue opportunities can towercos benefit from when participating in 5G small-cell roll-outs?
- When 5G networks begin to be deployed, what opportunities do towercos have to diversify into supplying backhaul connectivity?
- To what extent should MNOs work with towercos for their 5G deployments?
- How much revenue potential is there for towercos entering the IoT and smart-city market spaces?

### Geographical Coverage

- Worldwide
- Particular focus on developed markets in Europe and North America.

### Case Studies

- Cellnex (Spain)
- Crown Castle (USA)
- Inwit (Italy)

### Who Should Read This Report

- Strategy teams in towercos considering how they can grow their businesses as 5G networks begin to be deployed.
- Product teams in towercos examining the extent to which their industry peers have already developed business lines in new areas such as backhaul provision, as well as IoT and smart cities segments.
- Strategy teams in MNOs examining the extent to which they can partner with towercos for 5G deployments.
The densification of 5G networks offers towercos the opportunity to secure sites and take on additional roles as fibre backhaul providers. Towercos should begin preparing for this transition now. In addition, the IoT space in developed markets represents an immediate revenue opportunity for towercos, without the need to wait for 5G deployments.

It is increasingly challenging for towercos to grow revenue in their traditional macrocell tower business (for example, due to consolidation amongst MNOs). However, future 5G roll-outs may present opportunities for towercos as they imply an increase in site numbers and towercos can share resources across multiple operators, which allows them to pass on cost savings to MNOs.

This report examines how towercos and operators may be able to collaborate more closely in order to prepare for 5G. Towercos have opportunities to increase the number of sites and move further into supplying backhaul connectivity. The report also gauges the opportunities for towercos in the IoT and smart cities space.

This report recommends that towercos take an active role in network densification for 5G. Their first step will be to secure permission from local municipalities for small-cell roll-outs. Investing in small-cell backhaul is more risky, but initial results appear promising. Operators that do not already have dense fibre infrastructure need to build close relationships with towercos as 5G roll-outs begin. The report also recommends that towercos consider diversifying their revenue by building an IoT business.

Figure 1: Future opportunities for towercos

Revenue from small-cell densification

<table>
<thead>
<tr>
<th>Year</th>
<th>Small-cell revenue as a percentage of overall revenue, Crown Castle</th>
</tr>
</thead>
<tbody>
<tr>
<td>2Q 2015</td>
<td>7.8%*</td>
</tr>
<tr>
<td>2Q 2016</td>
<td>11.9%*</td>
</tr>
</tbody>
</table>

*Small-cell revenue as a percentage of overall revenue, Crown Castle

IoT and smart-city revenue opportunities

Towercos can sign partnerships with Sigfox now

Source: Analysys Mason

USD4.5 billion

Worldwide LPWA connectivity revenue

2025

Towercos can roll out a nationwide Sigfox network at a total cost of only a few million Euros

Source: Analysys Mason
Towercos are finding it increasingly challenging to achieve growth in the traditional macrocell tower market

Towercos face increasing challenges to the growth of their traditional macrocell tower businesses. However, there are promising opportunities for towercos to diversify their businesses in future by providing small cells and IoT solutions.

Some towercos that focus on the macrocell tower market (such as SBA Communications) have experienced stagnant revenue growth on a per-site basis.

A number of other factors are having a negative impact on towercos’ prospects for revenue growth in the traditional macrocell tower market. For example, growth in tenancy ratios (that is, the number of MNOs per tower) has been slow for a number of towercos (as is the case in Indonesia). In addition, a trend towards in-market mobile consolidation in some countries will further hinder future growth in tenancy ratios.

In most markets, it is unlikely that the number of macrocell towers will be increased to support expanded 3G and 4G coverage, which will limit an additional avenue of revenue growth for towercos. However, as roll-outs of 5G begin, an increase in the number of small cells will be required to support 5G’s higher frequencies, which may represent a new source of revenue for towercos.

The need for an increasing number of cell sites to support 5G will also place severe financial pressure on MNOs. However, MNOs may be able to share this financial burden by working with towercos.
Towercos can improve their overall revenue by diversifying into small-cell and IoT segments

Towercos have the opportunity to significantly expand their businesses by participating in small-cell roll-outs for 5G. There are also opportunities (albeit less sizeable) for towercos to increase revenue in the IoT segment.

This report analyses the future opportunities available to towercos to diversify their businesses away from the macrocell tower rental segment. It also considers revenue opportunities for towercos in the small-cell, as well as IoT and smart-city, segments.

The first section of the report examines how towercos can participate in the small-cell market by finding roles in small cell site rental and the supply of active equipment and backhaul. In this section, we also assess how the opportunities in these areas will change as 5G is deployed.

The second section of the report quantifies some of the revenue and profit opportunities for towercos that participate in the small-cell market. It identifies the most-lucrative market spaces for towercos to enter the small-cell value chain.

The third section of the report considers how towercos can grow revenue in the IoT and smart cities segment. It discusses towercos’ participation in this segment to date and gauges how they can best attract businesses to use their IoT offerings.

Figure 3: Crown Castle, small-cells revenue and percentage of total revenue, 2Q 2015 and 2Q 2016

Source: Crown Castle
Recommendations

1. **Towercos in developed markets should make preparations for 5G roll-outs by securing permissions for sites.**
   Towercos risk missing out on 5G opportunities as other players (such as energy companies) begin to provide the necessary increase in site numbers. Towercos have an advantage in this area as they already have experience of securing the necessary permits from municipalities for macrocell tower deployments.

2. **MNOs in developed markets without dense fibre infrastructure should consider partnering with towercos for 5G backhaul roll-outs.**
   In many markets, there are a number of mobile-only players and towercos may be able pass on cost-sharing benefits to these MNOs using their backhaul infrastructure. Towercos can benefit from providing small-cell backhaul, and Crown Castle’s strategy of offering fibre backhaul for its small-cell roll-outs has played a significant part in the growth of the company’s small-cell segment revenue.

3. **Towercos should actively explore opportunities in the IoT and smart-city segments.**
   Towerco infrastructure could be useful for IoT roll-outs as demonstrated by partnerships between Arqiva, Cellnex, Eternity Towers and Sigfox. The revenue opportunity for towercos in the IoT and smart-city segments is much lower than for the small-cells segment, but the capex involved is also low. In order to boost the effectiveness of their entry into the IoT space, towercos must partner with different players as a channel to market.
About the author

Stephen Wilson (Principal Analyst) contributes research to our *Fixed Networks* and *Wireless Networks* research programmes. He joined Analysys Mason as a Senior Analyst in November 2012, having previously worked for Informa Telecoms & Media. Stephen has more than 5 years of experience of covering the telecoms industry and specialises in analysing fixed broadband access technologies and strategies, as well as developments in European telecoms markets across fixed and mobile sectors. He has produced reports on DSL acceleration technologies as well as regular updates on European markets, notably in Central and Eastern Europe. Stephen is a graduate in Politics, Philosophy and Economics from St Catherine's College, Oxford University.
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