



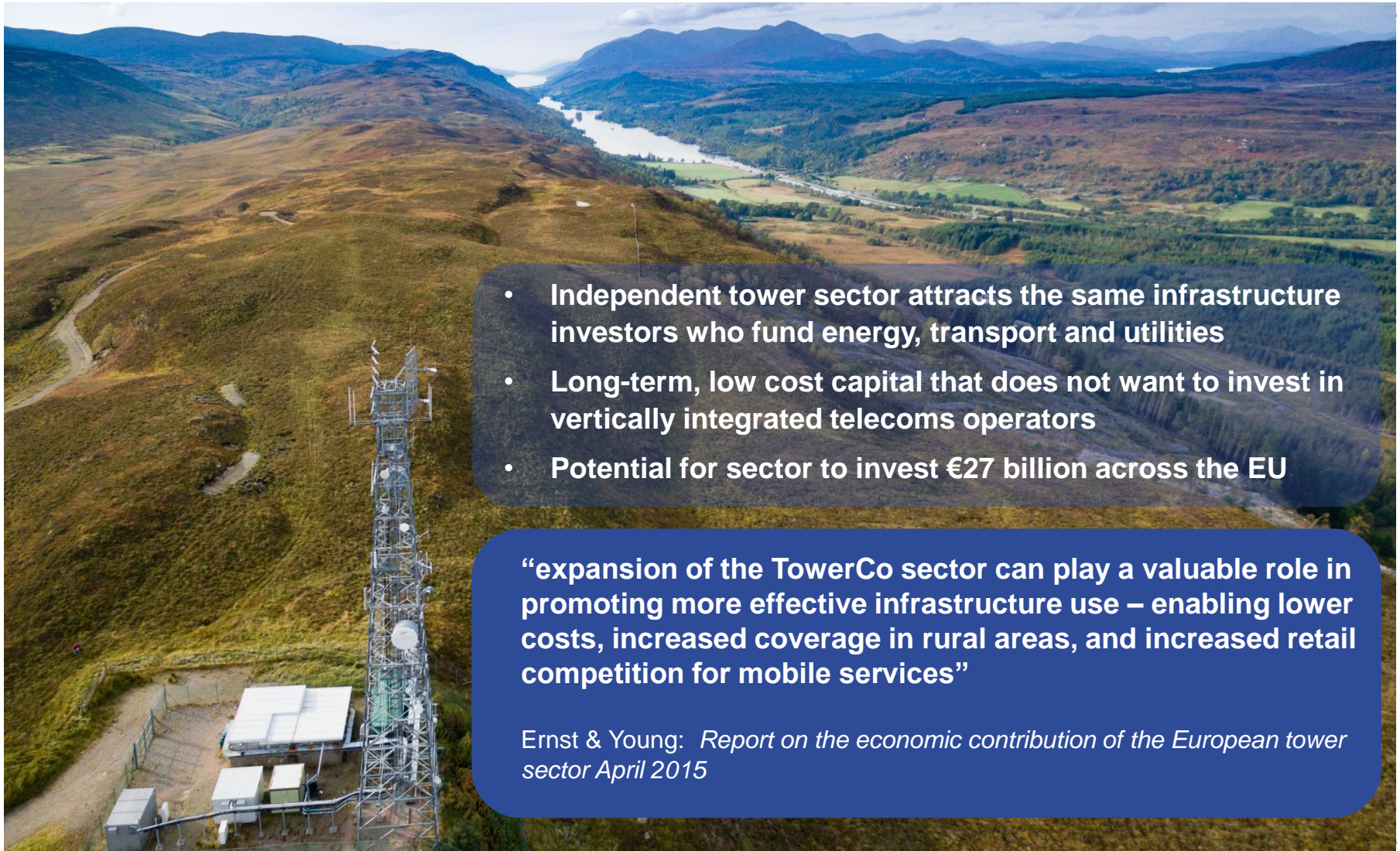
Independent Wireless Infrastructure

Enabling better connectivity,
transformational investment and fresh
competition across the EU

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EUROPEAN
WIRELESS INFRASTRUCTURE
ASSOCIATION



- Independent tower sector attracts the same infrastructure investors who fund energy, transport and utilities
- Long-term, low cost capital that does not want to invest in vertically integrated telecoms operators
- Potential for sector to invest €27 billion across the EU

“expansion of the TowerCo sector can play a valuable role in promoting more effective infrastructure use – enabling lower costs, increased coverage in rural areas, and increased retail competition for mobile services”

Ernst & Young: *Report on the economic contribution of the European tower sector April 2015*

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1 Introductions – the EU tower sector is growing rapidly

EWIA has 12 towerco members operating across seven EU countries – our members have over €60 billion invested in wholesale wireless infrastructure assets globally

2 Towerco industrial model

Towercos develop, acquire and operate communication towers and small cell networks which are made available on an open access/ wholesale basis

- Communications networks are increasingly disaggregated – for example, data centres, fibre providers, satellites, towers and MVNOs. Towercos are **independent** of communication network providers and focus on **open access/ wholesale provision** at the wireless infrastructure layer - creating efficiency and lowering cost of capital
- Towercos develop and maintain higher quality infrastructure that can be shared by multiple network providers. They are typically backed by infrastructure funds or public markets

Towers



Small cells – urban & indoor



Acquisition, improvement and wholesale of utility rights



- Further background is contained within the Appendices

2 Benefits of our wholesale-only business model

Tower companies enable better connectivity, promote competition and generate significant investment

Better connectivity

- Towerco independence, investment and business focus delivers **faster and increased sharing** (typically **3 networks per site - more than double the sharing rate of infrastructure owned by vertically-integrated operators**)
- Lowers **Cost of Ownership** compared to MNO self build (KPMG est -63%)

Promotes competition

- New wireless network entrants and smaller network players can get **access to infrastructure quickly**
- **Lower barriers to entry** for network launch
- Open access business model ensures **fair treatment to all networks**
- Avoids **competition issues with active network sharing**

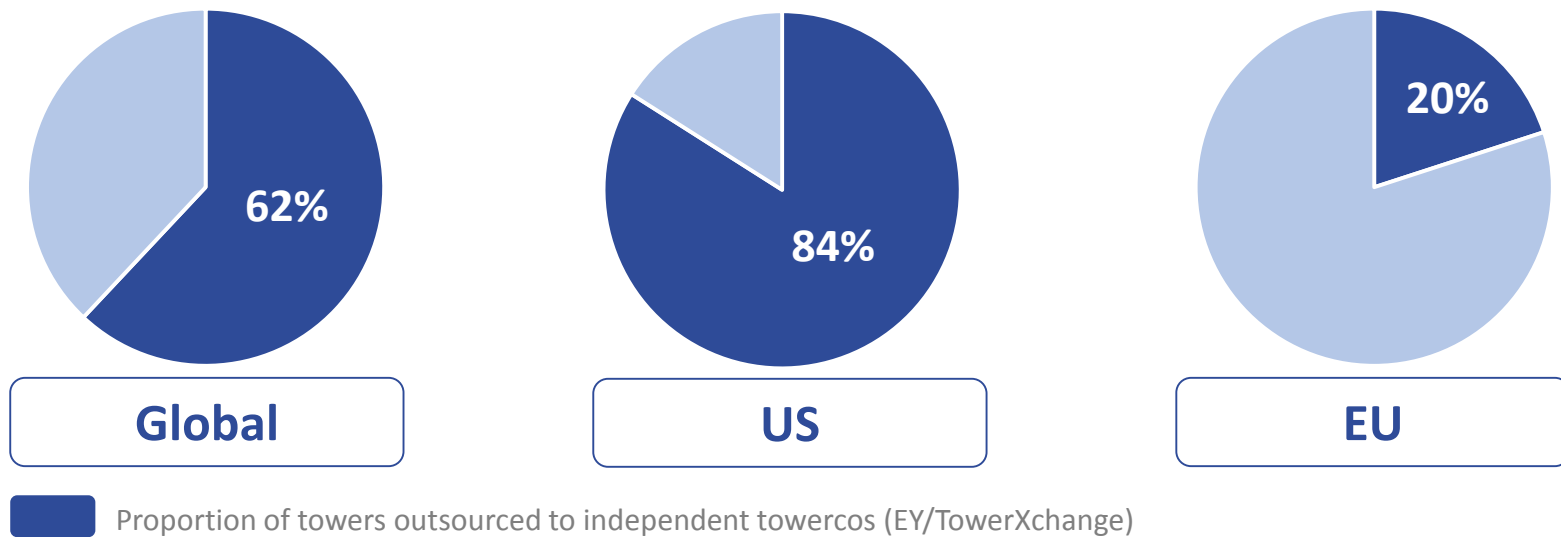
Source of significant investment

- Developing new infrastructure – willingness to risk capital with **returns contingent on sharing the infrastructure** with multiple network providers
- Acquire towers from MNOs – **releases capital to invest in core business/network upgrades**. An estimated **€27 billion** could be invested over the next decade

3 Potential for the EU Tower Sector

The independent wireless infrastructure sector is growing rapidly in the EU and represents a major new telecoms asset class

- Towercos are more efficient owners of wireless infrastructure assets – wholesale assets are more easily accessed by all network operators and are utilised at more than double the rate of mobile operator owned assets
- EY estimates sector could release €27 billion of investment over next decade



4 Regulatory considerations

- Independently owned wholesale wireless infrastructure needs a different regulatory lens - incentives to provide access are very different to infrastructure owned by vertically-integrated operators
- Well-intended measures could damage the sector – more effort required to foster challengers and to be considerate of their business models when setting policy

5 Summary

- Certain classes of telecommunications infrastructure can be more efficiently managed by wholesale providers than by vertically-integrated operators
- The towerco sector is an internationally proven industrial model. It enables access to its assets at around double the rate compared to operator owned infrastructure
- A growing independent tower sector can increase competition between network providers and enable smaller and new wireless players
- EU regulatory frameworks should consider when to intervene with no harm to investments in Europe and increase incentives to provide independent access infrastructure.

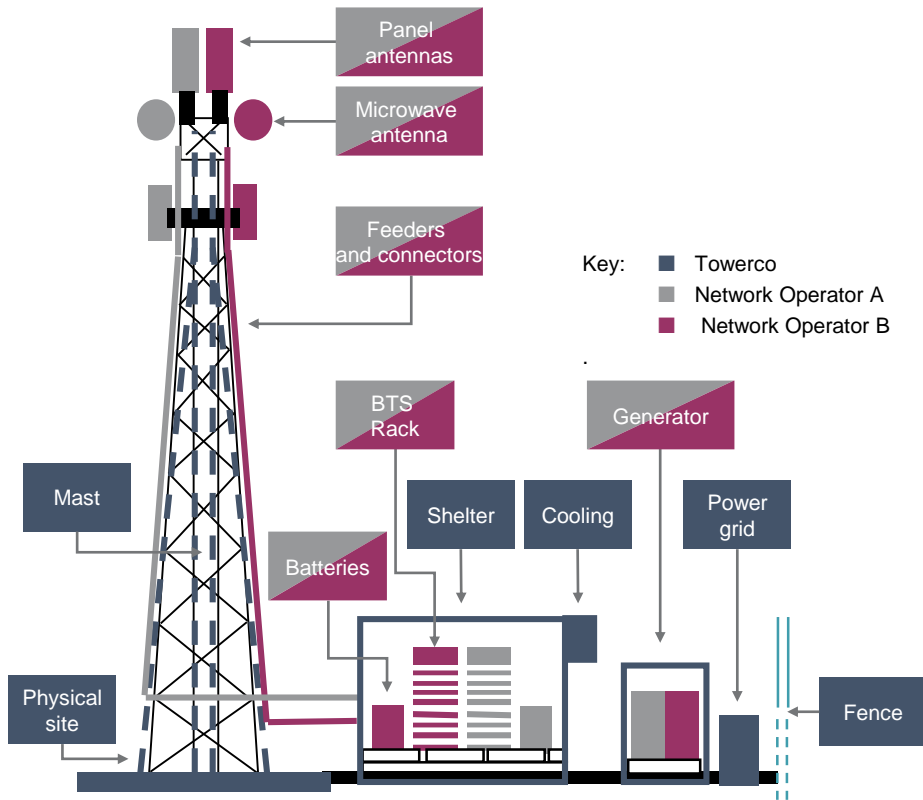
Appendices

- A Towers
- B Cash from tower sale supports MNO investment growth
- C RAN Sharing v Tower Sharing

A Towers

Mobile tower infrastructure – schematic of site ownership and responsibility

Mobile tower infrastructure

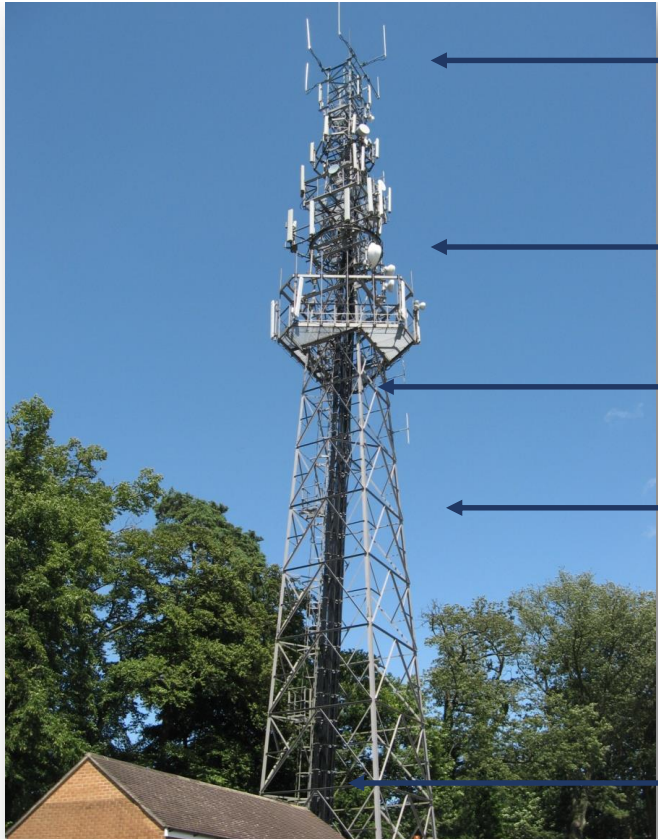


	Area	Tower Company	Network Op
Assets	Wireless equipment		✓
	Antennas		✓
	Civil works	✓	
	Tower	✓	
	Shelters	✓	✓
	Power supply	✓	✓
		Grid power supply Air-conditioning	
Contracts	Fences	✓	
	Ground lease	✓	
	Access management	✓	
	Operations and maintenance	✓	✓
		Infra operations and maintenance	
	Energy supply	✓	✓

A Towers

Independent tower companies achieve higher levels of tower utilisation through investment and business focus

A UK based 40m shared tower serving 5 different networks



Panel antenna – used to transmit signals for customer serving radio access networks (owned and provided by the tenant)

Microwave antenna – used for point-to-point connections as an alternative to a fibre backhaul link (owned and provided by the tenant)

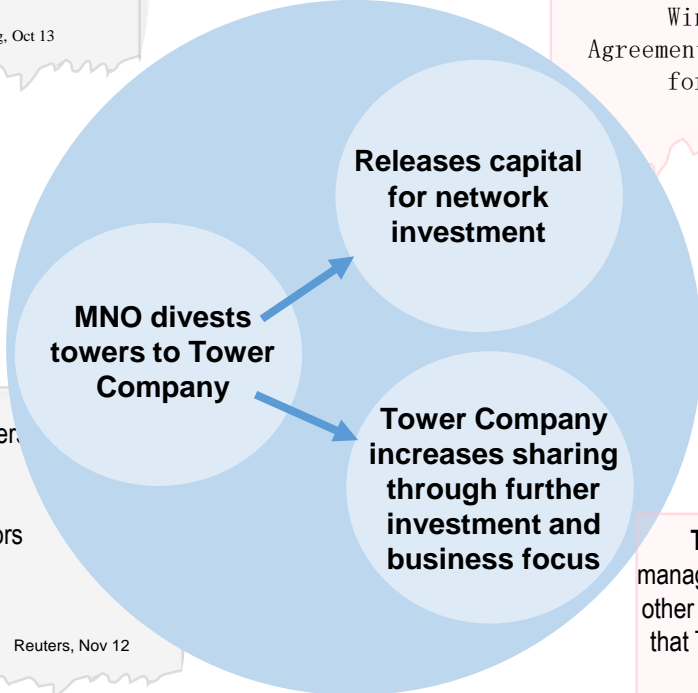
Feeders – connecting antennas and microwave dishes to radio equipment at the base of the tower

Tower – owned by the tower company

Cabin – tower companies provide space and power for operators' equipment

Overall facility – the tower company has responsibility for health and safety compliance, multi operator use issues, real estate management, site operations and ongoing investment in site and services to support customers' network requirements

B Cash from tower sale supports MNO investment growth



AT&T is banking \$4.85bn from yesterday's cell-tower deal with **Crown Castle**. The agreement which involves leasing or selling 9,700 wireless towers to Crown Castle, makes AT&T the latest carrier to offload antenna sites to independent operators, letting the company focus on growth areas... as it undertakes a \$14bn network upgrade.

Bloomberg, Oct 13

Proceedings of **Telecom Italia** listing of Inwit, about 800m€ in 2015, were used to increase investments in both mobile and ultra broadband fixed networks

Bloomberg, Aug 15

Bouygues Telecom has agreed to sell 2,166 mobile towers in France to **Antin Infrastructure Partners** for €205m. Such "tower sale and leaseback" deals are becoming increasingly common, as cash-strapped telecoms operators seek alternative means of financing their activities. Antin will set up a company called **FPS** to own, operate the towers and rent capacity to Bouygues and other telecom operators.

Reuters, Nov 12

Bouygues Telecom capex for network upgrade increased by 15% per annum during the 3 years of the sale of 2000 towers to **TDF** (2002-2004).

Bouygues Group Registration documents

Spain's **Abertis Infraestructuras** has agreed to buy 90% of the tower business [Galata] of Italy's **Wind** for €693m. For Wind, the deal serves as a way to generate cash for its parent... Following the sale, Wind will enter into a so-called Tower Services Agreement for an initial term of 15 years with Galata for the provision of a broad range of services.

Wall Street Journal, Mar 15

KPN has entered into an agreement with **American Tower Corporation** to sell a portfolio of mobile towers in Germany for a cash consideration of EUR 393 million. KPN will use the cash proceeds of this transaction to continue to invest in the accelerated mobile network roll-out in Germany.

Business Wire 2012

Telefonica created a new business unit (**Telxius**) responsible for management of its mobile towers... around 15,000 towers in Spain and other countries... will initially be brought into the unit. Telefonica noted that Telxius would provide a more specialised and focused approach, with the aim of increasing services provided to other operators, improving the return on capital and allowing Telxius to participate more actively in the growth opportunities that exist in the industry.

FierceWireless, Feb 16

C Tower Sharing v RAN sharing

‘TowerCos provide a means of sharing passive infrastructure in a way that is pro-competitive and reduces barriers to entry for new MNOs and other Network Operators’ Ernst & Young

- Competition over network coverage and capacity is the key driver of investment for mobile operators
- Extending network coverage and capacity requires mobile operators to make increased investment in both 1) existing points of presence and 2) new points of presence (cell splitting)
- RAN sharing produces cost savings but eliminates network competition between competing operators to be in a location and over the level of network investment at that location e.g. (2G+3G) v (2G+3G+4G) v (2G+3G+4GMIMO) v (2G+3G+4GMIMO+ additional sectorisation)
- Tower sharing maintains competition between networks and makes it easier for new and smaller network operators to participate in the market
- RAN sharing projects should be assessed in the same manner as M&A – i.e. they reduce the number of competing networks. Markets with both RAN sharing and proposed MNO mergers should be carefully considered
- Tower divestments represent a potential MNO merger remedy