

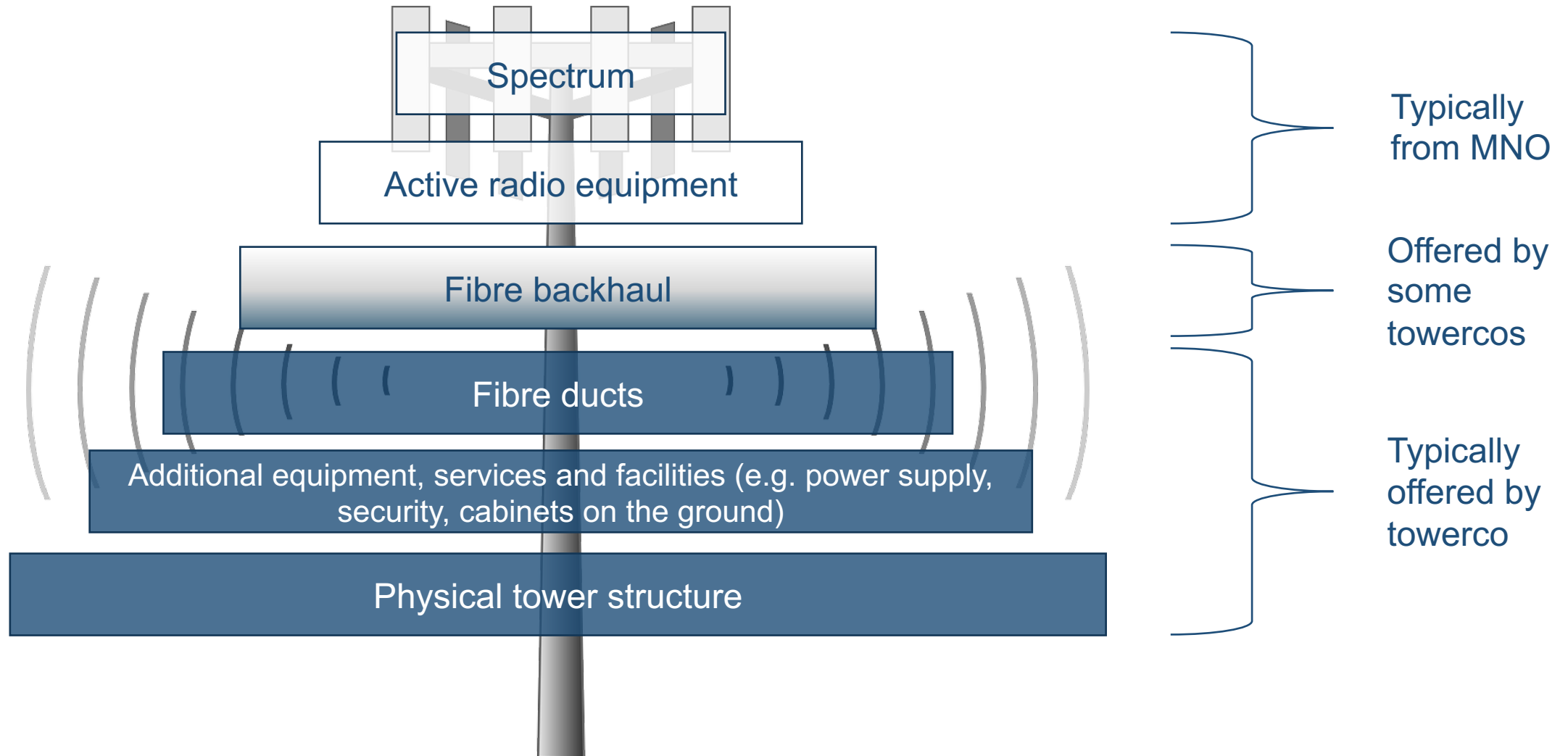
How do Tower Cos affect business models in mobile deployment

Presentation to the BCO network

Ilsa Godlovitch

30 January 2024

What do we mean by towercos?



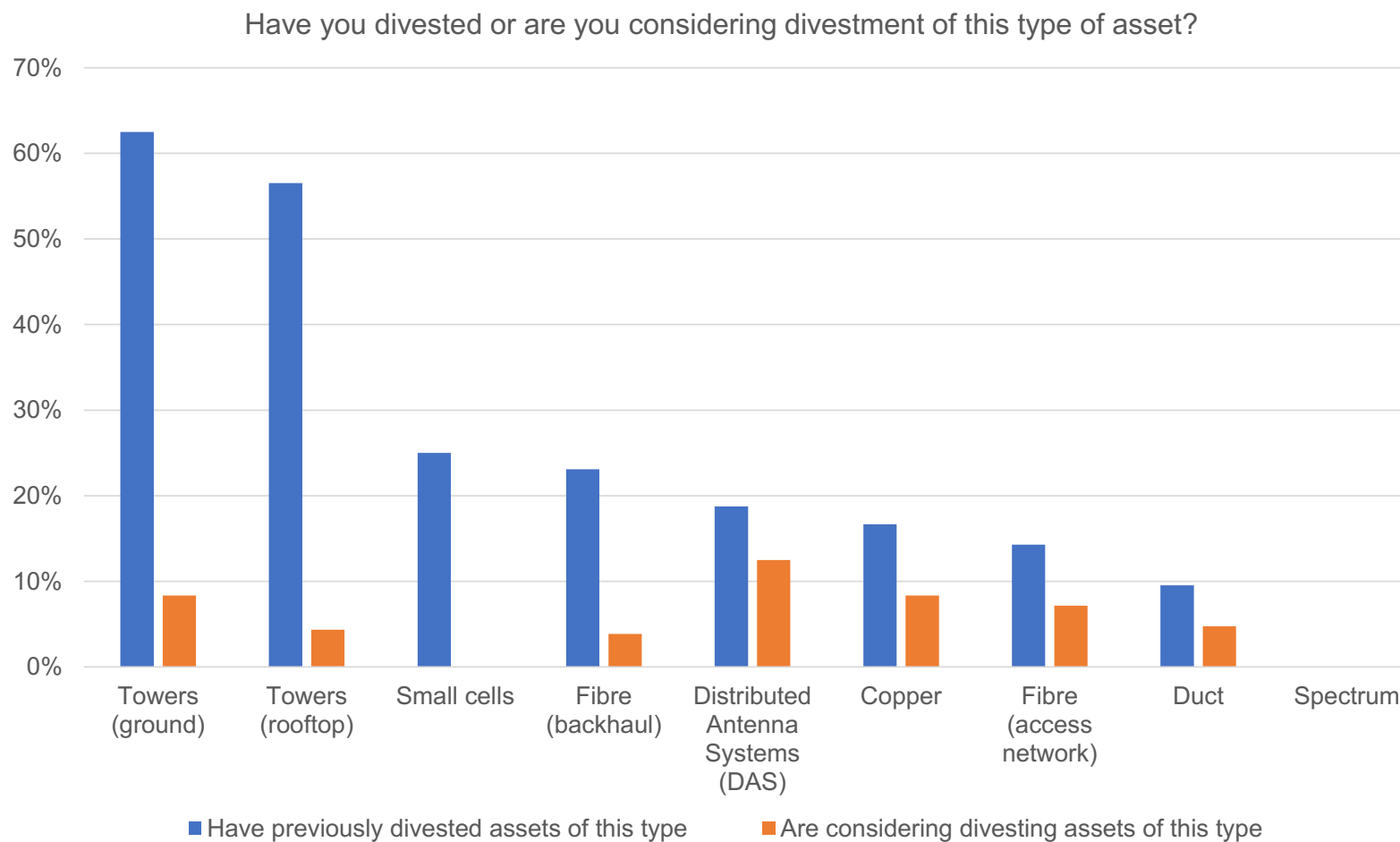
Overview of towercos in the EU



Towercos are now prevalent across Europe, and control majority of physical mobile infrastructure. Different models exist: wholly owned, JV, independent

In other world regions, incl. the US, independent towercos typically provide a majority of mobile towers e.g. US American Tower, Crown Castle and VerticalBridge

Trends in divestiture of mobile infrastructure



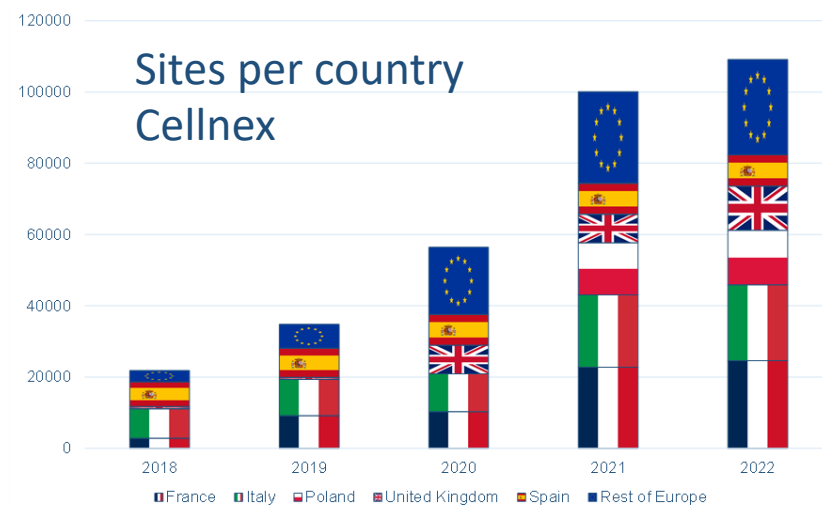
- Towers have been the main object of divestiture, far fewer companies divested fixed network infrastructure.
- Among the companies that divested towers are Telefónica, Vodafone and Iliad.
- Divestiture normally starts with incorporating a separate but fully telco-owned infrastructure subsidiary e.g. Totem, Deutsche Funktum.
- Some divestiture has happened in one further step, e.g., Telefónica’s complete sale of all towers to ATC Europe; others only sold part of their towerco to investors and step by step, e.g., Vodafone.
- Divesting telcos remain as anchor tenants on the divested network / favourable conditions.

Percentage based on infrastructure companies that marked for the type of asset that they own this type of asset and/or have divested this type of asset and/or are considering divestment of this type of asset. In total, 32 companies answered the question on ownership and (potential) divestiture of assets.

Scale and expansion of towercos

| Company | Number of sites in Europe | Country split (EU + relevant other countries): | Ownership / type of towerco |
|-----------------------|---------------------------|---|--|
| Cellnex | 110,830 | FR: 24,598; IT: 21,287; PL: 15,500; UK: 12,410; ES: 10,462; PT: 6,398; CH: 5,421; AT: 4,529; NL: 4,079; SE: 2,864; IE: 1,921; DK: 1,563 | Independent |
| Vantage Towers | 46,100 (without JVs) | DE: 19,800; ES: 8,400; EL: 4,900; CZ: 4,000; PT: 3,400; RO: 2,300; HU: 2,200; IE: 1,300 | Telco-investor JV |
| Deutsche Funkturm | 34,600 | Only active in Germany, sister company active in Austria | Telco-investor JV |
| American Tower | 30,900 | DE: 14,800; ES: 11,800; FR: 4,300; <i>US: ~43,000</i> | Independent |
| TOTEM | 27,100 | FR: 19,500; ES: 7,600 | Telco-controlled |
| INWIT | 23,300 | Only active in Italy | Formerly two-telco JV, now largely independent |

Includes all towercos with at least 20,000 sites in Europe; **bold**: Focus companies for this study; Source: Company reporting



- The largest TowerCos control 20,000 or more sites in Europe
- The independent TowerCos Cellnex and American Tower have expanded significantly through acquisition in the last 3 years

Opportunities and threats for telcos & towercos

Opportunities

For telcos

- Higher valuations
- Release cash
- Reduce debt
- Boost 5G investment capacity
- Focus on core business
- Reduced capex
- Efficiencies wrt infr sharing
- Loss of control
- Dependency on third parties wrt coverage / QoS
- Higher opex (lease payments) – risk of increases after agreements expire

For TowerCos

- Increased tenancy ratios / boost returns on investment
- Expand customer base (B2B, IoT, WiFi, FWA)
- Expand infrastructure e.g. hosting for edge computing, small cells, DAS, backhaul
- Practical / legal constraints on consolidation
- Increasing interest rates esp. where high debt
- Regulatory oversight / potential for price control

Threats

Wholesale products and clients

- All surveyed tower infrastructure companies offer passive access to towers (as well as small cells/DAS if available), active access is rarely offered; MNOs (and other access seekers) need to deploy active infrastructure (radios, antennas etc.) on the towers themselves
- Several towercos also offer their towers to IoT network providers (e.g. LoRaWAN, Sigfox, networks of utilities), some also offer their towers to other access seekers such as terrestrial broadcasters and public administrations
- Tower access is also used by WiFi/FWA companies (e.g., from Cellnex)
- Several towercos reported the expectation of emerging wholesale demand for access to small cells in the future but very limited demand as of now.
- Fibre backhaul is offered by Cellnex (France, Spain), INWIT (Italy) and to a more limited extent by American Tower (only in Spain). This is however not a core product

Conditions to access towerco infrastructure

- Access conditions to towerco infrastructure are typically **bespoke**, with a few exceptions e.g., State Aid, terms resulting from competition law commitments
- Access to passive infrastructure e.g., towers may be provided on the basis of a “Master Lease Agreement” (e.g., ATC). Prices can be set based on standard criteria e.g. using price grids to link charges to the physical space needed, and the location of the tower. Agreements may also include (partial) CPI linkage. Often used caps in CPI linkage (e.g., at 2 or 3 percent) are however lower than inflation in recent months/years.
- Agreements are typically based on a long term lease (e.g., via IRU). The most common lease periods are 6-10 years and 11-20 years although longer leases have been agreed in certain cases. There may be more favourable conditions for “anchor” tenants which divested their infrastructure.
- Short term lease options may also be available (e.g., by some towercos for non-anchor/secondary tenants that co-locate at an existing site).
- Several mobile infrastructure companies indicated that at the end of the contract period, the contract is automatically prolonged until actively terminated by the customer. This particularly holds for anchor tenants

Examples of terms and conditions

- In the mature US market, MNOs lease cell tower space for 5-10 years with multiple renewal terms. Rates range from \$1,500-\$3,500 per tenant per month with a rent escalator e.g. of 3%, with no discounts for increased tenancies. Rooftop antennas have lower rent (between \$1,000-\$3,000).
- In Europe, as an example of conditions linked to State Aid conditions, ("Piano Italia 5G,") which was granted to INWIT, TIM and Vodafone Italia colocation prices are aligned with the 2021 OPEN FIBER FWA Reference Offer (approx. €8,000 per site), according to a volume discounting model established by AGCOM
- An example of terms for anchor tenants can be seen in the master agreement between Vodafone and Vantage Towers.
 - a discount of up to 15 percent is given in most countries to the anchor tenant Vodafone if other companies join.
 - It is possible for Vodafone to declare sites as "strategic" against a fee, granting the right to refuse other tenants. 3 percent of Vantage Towers' sites are currently designated as strategic by Vodafone.
 - The initial master agreement runs for 8+8+8+8 years.

Telco perspectives on access conditions

- MNOs (and in particular anchor tenants) mostly consider that commercial relationships with towercos are positive and market conditions dynamic
- According to survey results, MNOs consider that in most cases, it is possible to access mobile infrastructure from other infrastructure companies or to self-build; but respondents note that alternative options to towercos are not always available esp. in areas of low economic viability or where planning constraints limit self-build; and
- Some telecom operators cite concerns around:
 - Limited availability on towerco infrastructure (e.g. due to EMF limits, but also pre-emption rights exercised by anchor tenants)
 - Quality of service
 - Deployment delays (impacting coverage commitments)
 - The potential for conflict of interest and discrimination (around prioritisation of deployment, terms and conditions including price) in cases where there are telco shareholders

Implications for competition and investment

- Towercos do not drive 5G coverage / densification decisions – MNOs in driving seat
- Tower consolidation / sharing / JVs reduces cost but limits infrastructure competition and incentive to compete on coverage
- Towerco business model can support competition in downstream mobile networks and services but depends on access terms
- Towercos may have the **power to increase wholesale prices where there are limited alternatives** (due to limitations on economic viability, limitations on space / EMF restrictions / high entry barriers e.g. due to permit restrictions and timescales).
- Telco ownership of towerco infrastructure companies adds risk of discrimination

Experience of addressing competition concerns ex post

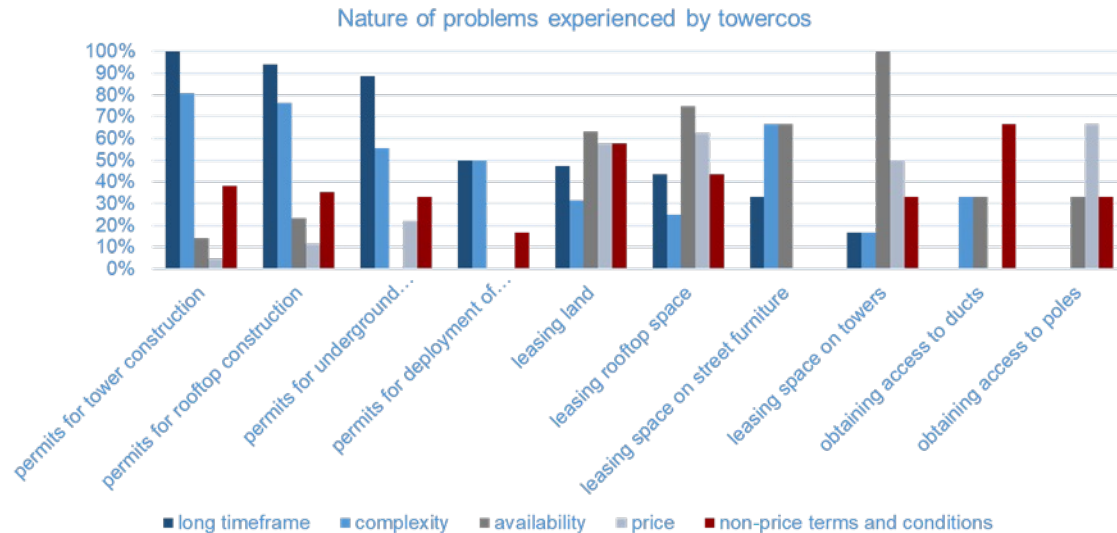
- As they are not subject to SMP regulation, competition law commitments / remedies have been the main tool to address competition concerns relating to towercos
- Two clusters of competition law decisions can be distinguished, based on the existence or not of overlaps. Where no overlaps, even when the acquisition leads to a Towerco owning more than 50% of the masts (Cellnex/Polkomtel Infrastruktura), transactions were cleared unconditionally.
 - Among other: the American Tower/Telxius Towers merger (ES), Cellnex/Arqiva (UK), KKR/Altice-SFR tower business, Cellnex/Iliad 7, Bouygues Telecom/Phoenix Tower International, Cellnex/Hivory, CDPQ/American Tower/ATC Europe (FR), GIP/KKR/Vodafone/Vantage Towers (DE)
- In case of pre-existing overlaps, conditions were imposed
 - Structural conditions: Cellnex/CK Hutchison UK towers: sale of over 1,000 passive infrastructure sites to a purchaser approved by the NCA, to allow the emergence of an alternative competitor in the supply of passive infrastructure
 - Behavioural conditions: Vodafone Italia/TIM/INWIT: make space available on 4,000 towers in municipalities >35,000 inhabitants + ,p early termination. Cellnex/CK Hutchison Networks Italia: make space available on macro and microsites municipalities with <35,000 inhabitants + monitoring trustee

Options to address competition concerns ex ante

- Limited options for ex ante regulation of access to towerco facilities. But same facilities could be regulated if controlled by an MNO

| Ex ante provision | Applicable to: | Relevant to towercos |
|--|--|---|
| SMP regulation (regulated wholesale access conditions) or commitments | Undertakings found to have SMP in a market that meets the 3 criteria test | Potentially, but only if 3 criteria test can be met for tower infrastructure (likely possible only in discrete geographic areas). No examples |
| Sharing of passive infrastructure incl towers and roaming (Art 61(4) EECC) | ECN providers via spectrum licences | No (as towercos do not own spectrum), but could be applied to MNOs |
| State Aid conditions | Recipients of State Aid | Yes (see e.g. IT) |
| Access to physical infrastructure under Art 3 BCRD | Network operators (undertakings providing or authorised to provide public communications networks) | No (unless operate a network), but would apply to MNOs |

Deployment challenges for towercos



- **Lack of availability of rooftop space** and price of rooftop space and land are key challenges for towercos. Towercos also expect challenges regarding street furniture, but it is not yet widely used
- **Stringent EMF limits** are cited as key limiting potential use of sites
- Another problem cited is **lack of information or inaccurate information about property owners**
- **Long timeframes and complexity in obtaining permits** for ground tower and rooftop construction are reported (delays of 1 year +) due to
 - Different laws and procedures at regional or local level; and/or
 - High number of administrations from different areas (e.g. dealing with environmental protection, historical monuments, national security, critical infrastructures)
 - Lack of digitisation / paper-based systems
- Towercos report that the **price of accessing poles** as a major barrier to deployment

Options to address concerns related to deployment

- Access to enabling infrastructure such as poles, support for co-ordinated deployment and concerns around permit granting and RoW should in theory be addressed by provisions in the BCRD (Articles 3-7) and EECC (Article 43, 44); but
- **Towercos are not automatically subject to BCRD rights (or obligations) or EECC provisions on RoW** because they are typically passive only (and thus not ECN operators)
- Some countries e.g. IT, PT have transposed these BCRD and EECC provisions so that towercos benefit (and these provisions have been used e.g. by INWIT in IT), but **application of BCRD rights to towercos is limited in many countries**
- In addition, access to rooftops (a key concern of towercos) is not expressly addressed in the BCRD or EECC Art 57 (which deals with access to public infrastructure suitable for the deployment of small area wireless access points)
- The **proposed GIA seeks to address these concerns** by enlarging access opportunities to public infrastructure (incl. rooftops) and extending deployment rights to towercos

Conclusions and recommendations

Problem

Towercos face challenges in deployment but are not automatically covered by provisions facilitating RoW / permit granting and pole access in the BCRD & EECC. Access to public rooftops may also not be provided for

Regulatory treatment of the same tower assets differs depending on owner (towerco vs telco)

Disputes may arise over access conditions to tower infrastructure, and may be challenging to resolve in particular where there are sunk costs / limited alternatives available.

Consolidation of tower infrastructure can limit infrastructure competition / investment incentives



Extend the scope of BCRD to cover associated facilities and rooftop access for mobile deployment (as proposed in GIA) and enable passive towercos to benefit from RoW provisions under EECC.

Extend the scope of BCRD to cover associated facilities (as proposed in GIA). No reason to limit application depending on towerco ownership or business model / can be addressed through interpretation of “fair and reasonable” conditions

NRAs / NCAs should limit consolidation of infrastructure in areas where alternative infrastructures are feasible

Solution



WIK-Consult GmbH
Postfach 2000
53588 Bad Honnef
Deutschland
Tel.: +49 2224-9225-0
Fax: +49 2224-9225-68
E-Mail: info@wik-consult.com
www.wik-consult.com