Analysis of the geography of competition between telecommunication infrastructures

Geospatial World Forum

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Overview

• Introduction

• Market review analysis

• Developments

• Some history and future
Introduction

- OPTA: Independent Post and Telecommunications Authority
- International counterparts: FCC (USA), Ofcom (UK)

- Assessment of the level of competition in telecommunications markets
- Assess geographical differences
- If /where required regulate markets, on basis of European and national law.
Regional differences: networks
Network coverage vs business activity
Regional differences: networks

Number of operators through copper per postal area

Catchment area’s of cable operators
Regional differences: pricing and market shares
Developments

• 2008/10: incumbent used GIS analysis in their appeal against OPTA’s decision
• 2011: alternative operators used GIS analysis in lobby with OPTA
• European Commission (implicitly) expects more detailed research

• More detailed data required (lines instead of polygons)
• Data requested from operators
Dominance: calculation of network coverage

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<th>OPTA</th>
<th>Stratix / Speer IT</th>
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<tbody>
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<tr>
<td>KPN</td>
<td>80-85%</td>
<td>57%</td>
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<tr>
<td>Eurofiber</td>
<td>40-45%</td>
<td></td>
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<tr>
<td>Tele2</td>
<td>30-35%</td>
<td>15-20%</td>
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<td>British Telecom</td>
<td>30-35%</td>
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<tr>
<td>All (excl. KPN)</td>
<td>70-75%</td>
<td>53%</td>
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% of all business locations (> 5 empl.) within 250m from fiber network
GIS used by operators:

![Bar chart showing the distribution of business locations by coverage status: 56.093 without coverage, 30.793 covered by OLOs, 39.422 covered by KPN, and 76.974 covered by both.]

Where I came from:

• 2001: Merger case in concrete sector, catchment area’s roughly presented as circles.

• With pretence of accuracy by calculating competitive pressure from overlap of catchment area’s:

\[ \pi R^2 - \sum_{i=1}^{n} \alpha_i \sqrt{R^2 - \frac{\alpha_i^2}{4}} - \arcsin \left( \frac{\alpha_i}{2R} \right) \]
Going to?

- More GIS analyses used in work
- Based on more detailed information (from operators)
- Use of enriched data
- Dynamic analysis by using historical data
- Delivery times come down
- Investments in GIS – staff
- Merger: ESRI or Geodan
Questions?

• Thank you.

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