

TOMTOM/TELE ATLAS

Satellite Navigation deal tests European Commission's new vertical merger guidance



After an extensive Phase II investigation the European Commission cleared the merger of TomTom and Tele Atlas on 14 May 2008. Perhaps to the surprise of some observers, final clearance of the deal did not involve any remedies being imposed on the parties. Paul Muysert, now a partner at CEG Europe, played a leading role in Tele Atlas' European economic support throughout the merger investigation. This note briefly sets out the background to the deal and the unilateral effects analysis undertaken. The economic analysis of whether the merged firm would have an incentive to foreclose competitors in the downstream satellite navigation market was critical to the Commission's final decision.

"Making better maps faster"

TomTom produces portable navigation devices ('PNDs' – commonly known as satellite navigation devices or 'SatNavs'), primarily for automotive use. Tele Atlas, the target firm, is one of two providers of navigable digital maps offering complete coverage of Europe and North America. Navigable digital maps are essential inputs for PNDs.

One of the primary catalysts for the deal was the development by TomTom of a software innovation branded as 'TomTom Map Share'. TomTom developed Map Share in order to solve one of the most common customer complaints it receives; complaints that maps are out of sync with reality. The reality is that road networks are continuously changing. TomTom identified the most common map problems and created a system that enabled drivers to instantly correct map errors directly on their portable navigation device. Equally importantly, TomTom created the software, interfaces and tools necessary to create a SatNav user community. The map improvements made by users can be shared amongst TomTom navigation devices and, of course, the data is available to TomTom itself. No other device manufacturer has achieved this.

The invention of Map Share, combined with some other technologies developed by TomTom, means that TomTom has the ability to collect and process map data feedback from a rapidly growing user base of millions of SatNav devices. TomTom's devices rely almost entirely on Tele Atlas maps, and much of the feedback generated is specific to the underlying map.

Tele Atlas' current map creation, enrichment and maintenance process is relatively lengthy and expensive. It takes at least several months before a new map version with corrected data can be released. The merger will make it possible to integrate TomTom's community feedback into the map creation process. As a result, the merged firm would be able to 'make better maps faster', to the ultimate benefit of the consumers of satellite navigation services.

The proposed deal is virtually a textbook example of a vertical merger between firms with complementary assets. However, the deal is set in the context of extremely fast moving technology markets - one of the two core markets in the investigation (the PND market) was only launched in 2004. The digital map market is a global market but, as with many

software and information markets, it is very concentrated. The Commission thus faced a vertical merger in a fast moving and relatively complex technology market where market outcomes even within the next few months are hard to predict. TomTom/Tele Atlas was a particularly challenging deal with which to test its newly released non-horizontal merger guidelines.

Digital maps test the new guidance on vertical mergers

In its press release clearing the deal, the Commission stated that its in-depth investigation assessed whether the vertical integration of Tele Atlas into TomTom would significantly impede competition within Europe, especially in the light of the duopoly market for navigable digital maps (consisting of Tele Atlas and NAVTEQ, Tele Atlas' major global map competitor) and TomTom's strong position on the market for PNDs - it is the market leader in Europe.

The Commission's Guidelines on non-horizontal mergers state that there are two main ways in which non-horizontal mergers may impede effective competition: non-coordinated effects and coordinated effects. In the case of vertical mergers, the Guidelines note that non-coordinated effects principally arise where non-horizontal mergers give rise to *foreclosure*. Foreclosure is broadly defined, and is used to describe any instance where access to supplies or markets by actual or potential rivals is hampered or eliminated as a result of the merger, resulting in a reduction in these companies' ability and/or incentive to compete. On the other hand, coordinated effects concerns arise where the merger changes the nature of competition in such a way that coordinated behaviour is more likely post-merger.

A duopoly market, but not a coordinated effects case

The Commission concluded that coordinated effects would not arise from the merger. Currently, only two firms supply digital maps covering most key geographic areas (including Europe). However digital maps are sold in a market where rivals have no transparency over each other's wholesale prices and the bulk of the downstream market consists of a relatively limited number of customers, each of which is potentially highly valuable. Combined with low marginal costs (digital maps are an electronic information product), the incentive to compete for and win each customer is intense.

There is no real way to coordinate in such a market, short of geographic market sharing or customer segmentation, and there was no evidence of this type of behaviour. On the other hand, there was ample evidence of competition in the market. The map makers compete head to head everywhere in Europe, innovation is rapid and prices have been falling steadily over time and continue to fall even as demand for digital maps is exploding.ⁱ Critically, the proposed merger would not change these underlying factors. Indeed, if the parties succeed in their objective of creating better maps faster, this would if anything increase differentiation and increase the intensity of competition.

Unilateral effects – analysing the incentive to foreclose

Foreclosure stories come in two basic forms – input foreclosure (raising rivals costs) and customer foreclosure (denying access to a sufficient volume of business to undermine the viability of rivals). In this case, there was no question of customer foreclosure being an issue. Of course, the deal would restrict NAVTEQ from winning TomTom's business in the future, but TomTom was in any case a long standing customer of Tele Atlas' maps. Further,

NAVTEQ is a formidable global map competitor. It is much more profitable than Tele Atlas and it is the market leader in North America. Moreover, the overall market is growing exponentially with the prospect of a substantial expansion in wireless 'location based services' which demand digital maps. As a result, customer foreclosure was not a concern. The Commission's focus was instead on input foreclosure.

The Commission conducted its analysis of input foreclosure in line with its new guidelines on the assessment of non-horizontal mergers. The guidelines focus the foreclosure analysis on two key questions: whether the merged entity has the *ability* and the *incentive* to increase rivals' costs. In this case, the potential for foreclosure concerned the terms of access to Tele Atlas' navigable digital maps used by TomTom's competitors, and ultimately on the possible impact on final consumers.

The first and perhaps rather obvious point is that there was no possibility that the merged firm could prevent rivals accessing digital maps. NAVTEQ, an independent map competitor, would remain in the market post-merger. NAVTEQ has every incentive to sell digital maps to any firm that either could not or did not wish to deal with the merged firm. The critical issue was the rather more subtle one of the potential impact on map prices.ⁱⁱ

Doing the 'vertical arithmetic'

Determining whether or not a firm has an incentive to foreclose through increasing prices is ultimately an empirical issue. In the case of vertical mergers, the calculations required are sometimes referred to as the '*vertical arithmetic*'. The vertical arithmetic balances the benefits to increasing the price of the input against the costs of a price increase. The benefits consist of: (i) higher margins in the upstream product (maps); and (ii)

potentially higher prices or a higher market share in the downstream product market (devices) if competitors are forced to increase their prices. The potential cost is the lost sales in the upstream market (i.e. the digital map market). In terms of the competition analysis, the question of interest is how changes in the price of the input affect the downstream market and, in particular, how the merger alters the incentives of the input supplier once it has to take into account the impact of its prices on its (merged) downstream business unit.

The parties' economists provided the Commission with models assessing this question. The models examined both total foreclosure (i.e. outright denial of access) and partial foreclosure (i.e. an increase in the price of the input).

Both models showed that it was highly unlikely that consumer harm could in fact result from the deal. This finding was despite the fact that PND sales are much more profitable than map sales, suggesting that many map sales could be lost in pursuit of additional PND sales. The models' results were driven by a number of facts specific to the case:

- Digital maps are a key input to PNDs - but they account for a limited share of the cost of a PND. All else equal, it takes a large increase in map prices to significantly influence the downstream competitors' PND prices.
- Downstream cross-price elasticities are limited. As a result, TomTom would only pick up a limited share of any diverted sales. In short, when the numbers were crunched, under any realistic scenario it turned out that map prices are an ineffective lever for diverting sales between device makers in the downstream market.
- A number of downstream firms have long term contracts, which would protect them, at least to an extent, from price increases. The most

important of these is Garmin, the other major global navigation solutions provider. During the investigation, Garmin publicly announced the conclusion of a long term supply agreement with NAVTEQ that ran to 2015, with an option to extend to 2019. Taken together the contracts implied that a significant share of the market would be relatively unaffected by any foreclosure strategy, thereby seriously undermining any incentive to adopt such a strategy.

- The merging entity would have a counterbalancing incentive to lower price post merger (i.e. by enabling a single map mark-up to be determined by the integrated firm compared with two mark-ups being independently set before the merger).
- Switching barriers in maps are relatively low, and Tele Atlas could be expected to lose significant sales if it increased price or decreased quality.

The net effect of these factors is that only part of the market could potentially be foreclosed at all, and to the extent that some downstream prices were increased, TomTom would only capture a relatively small number of device sales to compensate for the possibility of a large volume of lost Tele Atlas map sales. Indeed the modelling showed that under any plausible scenario device sales would not compensate for the expected lost map sales. The modelling provided a clear demonstration that the merged firm would have no incentive to foreclose rival PND suppliers post merger.

Conclusion

The modelling of foreclosure incentives showed that the merger of TomTom and Tele Atlas was unlikely to result in any consumer harm, even before taking into account the 'better maps' efficiencies which form the core business rationale for the deal. Taking these efficiencies into

account, the Commission could be highly confident that the deal would bring significant benefits to European consumers. The Commission's final decision was therefore to clear the deal without requiring any remedies.

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- i Indeed even though Tele Atlas has been in existence since 1984 and, along with NAVTEQ, is one of only two global digital map suppliers, the company only reported its first accounting profit in 2007.
 - ii The risk of quality degradation was also considered. However downstream customers could always switch to NAVTEQ for a quality map, so the harm to downstream competitors is limited to the question of whether or not NAVTEQ would charge a higher price.

ABOUT THE AUTHOR

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He specialises in competition policy and regulation, with particular experience in network industries, including telecommunications, transport, and financial services.

Paul has extensive experience of competition law and regulation issues in a number of jurisdictions including Europe, Australasia, Singapore and South Africa. He has provided expert economic evidence to the UK High Court and Competition Appeal Tribunal.

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