

***Case No COMP/M.5094 -  
NOKIA / TROLLTECH***

Only the English text is available and authentic.

**REGULATION (EC) No 139/2004  
MERGER PROCEDURE**

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Article 6(1)(b) NON-OPPOSITION  
Date: 04/06/2008

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COMMISSION OF THE EUROPEAN COMMUNITIES

Brussels, 04/06/2008

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PUBLIC VERSION

MERGER PROCEDURE  
ARTICLE 6(1)(b) DECISION

In the published version of this decision, some information has been omitted pursuant to Article 17(2) of Council Regulation (EC) No 139/2004 concerning non-disclosure of business secrets and other confidential information. The omissions are shown thus [...]. Where possible the information omitted has been replaced by ranges of figures or a general description.

**To the notifying party:**

Dear Sir/Madam,

**Subject: Case No COMP/M.5094 – Nokia/ Troltech  
Notification of 24/04/2008 pursuant to Article 4 and following a referral  
pursuant to Article 4(5) of Council Regulation No 139/2004<sup>1</sup>**

1. On 24 April 2008, the Commission received a notification of a proposed concentration pursuant to Article 4 and following a referral pursuant to Article 4(5) of Council Regulation (EC) No 139/2004 (the "EC Merger Regulation") by which the undertaking Nokia Corporation ("Nokia", Finland) acquires within the meaning of Article 3(1)(b) of the EC Merger Regulation control of the whole of the undertaking Trolltech ASA ("Trolltech", Norway) by way of a public bid announced on 28 January 2008.

**I. THE PARTIES**

2. Nokia, a Finnish company listed on the New York, Frankfurt, and Helsinki stock exchanges, is active worldwide in the development and supply of mobile handsets, mobile and fixed telecom networks and associated services, and, increasingly, Internet-based services.
3. Trolltech, a Norwegian company listed on the Oslo stock exchange, is active in the development and supply of software development infrastructure, tools, and platforms. Trolltech achieves €27 million of revenues worldwide and [...] million EEA-wide.

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<sup>1</sup> OJ L 24, 29.1.2004 p. 1.

## **II. THE OPERATION**

4. On 28 January 2008, Nokia, through its indirect wholly owned subsidiary Nokia Norge AS, announced a public tender offer for the entire issued share capital of Trolltech. Prior to launching the offer, between 25 and 27 January 2008, a number of Trolltech's shareholders representing 66.43% of Trolltech's issued share capital had irrevocably undertaken to accept Nokia's offer. As of 2 April 2008, shareholders controlling 98.9% of Trolltech's entire issued share capital and 92.2% of its share capital on a fully diluted basis had accepted the offer.

## **III. THE CONCENTRATION**

5. Accordingly, the Transaction qualifies as a concentration within the meaning of Article 3(1)(b) of the EC Merger Regulation.

## **IV. COMMUNITY DIMENSION**

6. The transaction does not have a Community dimension as defined in Article 1 of the EC Merger Regulation. However, on 6 March 2008 the notifying party informed the Commission in a reasoned submission that the concentration was capable of being reviewed under the national competition laws of at least three Member States (Germany, Greece, Italy, Latvia and Slovenia) and requested the Commission to examine it. No Member State indicated its disagreement with the request for referral within the period laid down by the EC Merger Regulation.
7. The case is therefore deemed to have a Community dimension pursuant to Article 4(5) of the EC Merger Regulation.

## **V. COMPETITIVE ASSESSMENT**

8. The proposed transaction concerns the market for software development tools, more specifically graphical user interface ("GUI") toolkits and software/application development frameworks. The tools concerned by the transaction can be used for desktop computers and Linux-operated communication devices (including, in particular, mobile handsets).
9. Nokia's and Trolltech's activities do not overlap, and the transaction therefore does not involve horizontally affected markets. From a vertical point of view, Trolltech's Qtopia product line can be used in the development of software for mobile handsets and is therefore vertically related to Nokia's business. Since Nokia's share of worldwide and EEA-wide sales of mobile handset exceeds 25%, the markets for software development tools where Trolltech is active, and the market for the sale of mobile handsets, where Nokia is active, are vertically affected.

### **A. The relevant market in relation to Trolltech's vertically affected activities: software development tools**

10. Trolltech has two principal product lines, Qt and Qtopia.
11. Qt is an application development framework for desktop computers that provides developers writing in C++ with a set of pre-fabricated components or blocks of code for standard functionality (so-called "class libraries") and related tools designed to facilitate the development of high-performance applications that incorporate rich

graphical user interfaces. Qt comes in three versions: Qt/Windows, Qt/Mac, and Qt/X11 (for Unix/Linux operating systems using the X11 window system).

12. Qtopia gathers several applications or frameworks for applications. Qtopia Core is an application development framework marketed for single-application embedded devices (such as set-top boxes, portable electronics, automotive systems, and industrial and medical equipment) powered by the Linux operating system. Qtopia Platform is built on top of Qtopia Core and is an application platform for Linux-operated embedded devices designed to offer a rich multi-application user experience. In addition to the basic Qtopia Core tools, it offers support for advanced multi-application devices, such as a user interface designed to manage applications (*e.g.*, launching applications, switching between applications, or installing and uninstalling applications). Qtopia Phone Edition is built on Qtopia Platform and delivers an application platform specifically designed for Linux-based communication devices (*e.g.* handsets, fixed-line telephones, videophones, etc.). In addition to Qtopia Platform functionality, it includes core communication device features and applications such as a compact windowing system and connectivity (synchronization with email), call management, calendar, contacts, tasks, messaging, media players, and games.
13. Whereas industry reports, including IDC, Gartner and EDC, traditionally distinguish different segments within the overall market for software development tools, Qt and Qtopia (which Trolltech variously describes as graphical user interface toolkits, software/application development frameworks, and/or application platforms) have features that cut across several industry categories and do not perfectly fit into any one category for which industry data is publicly available.
14. For the purpose of this case, a narrow definition of the relevant product market would comprise only software development tools designed to develop software for mobile handsets, and, the narrowest possible relevant product market appears to be the market for software development tools designed to develop software for Linux-operated mobile handsets (including Trolltech's products Qtopia Core, Qtopia Platform, Qtopia Phone Edition and comparable products). Furthermore, it should also be noted that Trolltech's Qtopia product line is mainly known in the market for its specific graphical user interface development capabilities.
15. In previous decisions<sup>2</sup>, the Commission has acknowledged that the relevant geographic market for software development tools is at least EEA-wide.
16. In any case, however, it is not necessary for the purpose of this decision to delineate the exact scope of the relevant product or geographic market as the transaction does not raise competition concerns under any alternative market definition.

**B. The relevant market in relation to Nokia's vertically affected activities: mobile handsets**

17. The notifying party argues that, on the demand side, end-user preferences, operator requirements, and pricing are relevant factors for distinguishing between handsets. However, given the range and complexity of the handset portfolio on offer from each

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<sup>2</sup> Case n° COMP/M.4747 – IBM/Telelogic.

manufacturer and in the industry in general, in the notifying party's view, all handsets compete to meet a fast-changing and varied consumer demand. Accordingly, the notifying party claims that there is a complex and shifting chain of substitution among handsets that encompasses basic phones, feature phones, and converged devices.

18. As regards the supply side, the notifying party contends that there are no significant constraints as all handsets are made with the same components, mobile network operators (MNOs) have their own branded handsets and sell them in competition with original equipment manufacturers (OEMs), resulting in a clear standardization of the offerings of many players active in the market.
19. While these views of the notifying party are not in contradiction with the findings of the Commission in case n° COMP/M.3911 - BenQ/Siemens, in that case the question whether the mobile handsets market should be further subdivided into separate markets for the various communication standards was ultimately left open.
20. Nokia considers the market for the manufacture and supply of mobile handsets to be worldwide in scope, which is in line with the Commission's decision in case n° COMP/M.3911 BenQ/Siemens. Manufacturers distribute essentially the same products to all of their customers regardless of their geographic location; there are no appreciable price differences between the products globally at the customer level (although due to operator subsidies in some regions, there may be differences in price to the final end-consumer); transport costs do not limit cross-border trade. Products are manufactured globally, in particular in Asia, to be shipped to customers throughout the world.
21. In any case, it is not necessary for the purpose of this decision to delineate the exact scope of the relevant product or geographic market as the transaction does not raise competition concerns under any alternative market definition.

### **C. Non-horizontal effects**

22. Depending on the markets considered, and based on IDC or Gartner data, the parties would enjoy the following markets shares<sup>3</sup>:

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<sup>3</sup> The market shares for software development tools are based on public data available from IDC and Gartner. There is no reliable market data for alternative market definitions, including a possible product market for software development tools designed to develop applications for mobile handsets or an even narrower market for software development tools designed to develop application for Linux-operated mobile handsets.

<b>Market share in % of value</b>	<b>Trolltech 2006</b>	<b>Nokia 2007</b>
<i>Software development tools</i> World wide EMEA	[<1] [<1]	
<i>Application software development tools</i> Worldwide EMEA	[<1] [<1]	
<i>Software construction components (IDC)</i> Worldwide EMEA	[10-20] [10-20]	
<i>Object-oriented analysis and design tools (Gartner)</i> Worldwide EMEA	[10-20] [10-20]	
<i>Mobile handsets</i> Worldwide Western Europe Range at Member State level (minimum share in France, maximum in Finland)		[30-40] [40-50] [20-30] – [90-100]

23. Apart from the modest size of the target (€7 million of revenues worldwide and [...] million EEA-wide), there is no vertical concern relating to Qt products as Qt products are targeted at desktop application development and Nokia only represents a negligible share of demand for development frameworks for desktop applications. Furthermore, desktop application developers will continue to have a broad range of alternatives (companies like Microsoft or Sun being the most significant competitors). In addition, there is a multitude of other commercial and open source alternatives, including a large number of reliable open-source multi-platform frameworks (e.g. Motif, Adobe Air, Ajax, Visual Component Framework, the Fast Light Toolkit, Fox toolkit, and Agar).
24. Similarly, there is a limited vertical effect relating to Qtopia applications for mobile handsets as, for a number of reasons, Qtopia does not give Trolltech any market power.
25. Firstly, Qtopia products have a limited presence in the market place, as evidenced by its limited sales (in 2007 approximately €[...] million worldwide) and as indicated by the market share figures in the table above. Qtopia Core has been used by Motorola to develop its Linux-based mobile handsets, while Qtopia Phone Edition has been used by a number of small Chinese manufacturers (ZTE, Datang, Wistron, and [...]) and the small German manufacturer Road to develop Linux-based mobile handsets and by Philips to develop a Linux-based IP videophone handset.
26. According to Gartner, in 2007, Motorola shipped approximately [...] million Linux-based mobile handsets developed with Qtopia Core, which would represent [<1]% of 2007 worldwide mobile handsets shipments and [10-20]% of 2007 worldwide Linux-based mobile handset shipments (Panasonic and NEC, which developed their Linux-based mobile handsets with GTK+, would have shares of sales in this segment of, respectively, [40-50]% and [30-40]%). In the same year, according to Gartner,

Motorola sold approximately [...] Linux-based mobile handsets in Western Europe, accounting for [ $<0,1$ ]% of 2007 EEA shipments of mobile handsets (and the vast majority of the small sales of Linux-based mobile handsets in Western Europe). Moreover, Motorola has publicly announced that it will base further Linux-operated handset development on GTK+ rather than Qtopia Core.<sup>4</sup> Motorola accounted for more than [ $>60$ ]% of Trolltech's worldwide Qtopia Core revenues of approximately €[...] million.

27. Qtopia Phone Edition-based mobile handsets sold by the three Chinese manufacturers and Philips were at most [...] in 2007 (*i.e.*, [ $<0,01$ ]% of total 2007 mobile handsets shipments worldwide and approximately [ $<1$ ]% of total Linux-based mobile handset shipments worldwide).<sup>5</sup> Trolltech estimates that approximately [...] Philips P968 videophone handsets were sold in Europe, accounting for approximately [ $<0,01$ ]% of total 2007 European mobile handsets shipments (and approximately [0-10]% of total 2007 Linux-based mobile handsets shipments in Western Europe).
28. Secondly, as evidenced by the market investigation, other competitors will remain in the market after the transaction. While it is impossible to have exact data as to the sales of mobile handsets based on the different software tools that compete with Qtopia Phone Edition, the notifying party estimates that the shares of sales attributable to MIZI Research and Purple Labs would not significantly differ from that of Qtopia Phone Edition. In light of its successful cooperation with Samsung, the notifying party estimates that MIZI Research probably has the largest sales volume, but its sales nonetheless likely accounted for less than 0.01% of total 2007 mobile handsets shipments worldwide (less than 1% of total Linux-based mobile handsets shipments worldwide).
29. Several other alternative application platforms for Linux-based mobile handsets are available. The market investigation has confirmed that such competitors include Access Linux Platform, Azingo Mobile, GNOME Mobile Platform, and LiMo Platform (released by the LiMo Foundation, a global consortium of MNOs and handset manufacturers, including Motorola, NEC, NTT DoCoMo, Panasonic, Samsung, and Vodafone). Other suppliers also include Android platform from Google, Kaleido from Digital Airways, Cascade Range from TAT, WxWidgets.
30. Finally, mobile handset suppliers will have a broad choice of integrated or stand-alone software development tools for a wide variety of embedded handset operating systems (including Windows CE and Windows Mobile, Palm, Linux, as well as in-house developed operating systems, such as RIM). Only approximately 1% of the mobile handsets shipped worldwide in 2007 were Linux-operated.<sup>6</sup>

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<sup>4</sup> See <http://www.linuxdevices.com/news/NS2607065576.html>.

<sup>5</sup> According to the independent research company Gfk Group, Philips sold [...] P968 IP videophones, ZTE sold [...] e3 and e700 handsets, Datang sold [...] TDS-CDMA handsets, [...] sold 107 [...] handsets, while there are no references for Wistron and Road.

<sup>6</sup> Strategy Analytics estimates that, in 2007, [...] million handsets were sold worldwide. Gartner estimates that, in the same year, approximately [...] million Linux-based handsets were sold worldwide (almost exclusively in Asia, with only negligible quantities sold in Europe).

31. Therefore it can be concluded, and this has been supported by both competitors and the majority of customers which responded to the Commission's market investigation, that, if Nokia decided to no longer sell Trolltech software tools to rival handset manufacturers or to raise the prices of Trolltech's products (which would have to be of a wide magnitude to have an effect<sup>7</sup>), there would continue to be credible alternatives for such rival handset manufacturers as Trolltech does not enjoy any market power in relation to software development tools used to develop new software applications, in particular graphical user interfaces, for Linux-operated mobile handsets or devices.
32. From the market investigation it appears that changing platforms could be difficult because the greater the investment in using the platform, the more difficult it is to switch. However, this is not specific to Linux or mobile handsets. Market participants which have invested more in custom development will find it more difficult to switch, as applications typically must be (in large part) rewritten when moving from one platform to another. Depending on the situation, however, these switching costs may be smaller than the savings in licensing costs, especially on widely-deployed platforms.
33. In addition, it is also doubtful whether Nokia would have the ability to engage in a restrictive policy with regard to the sale of Trolltech's products, at least insofar as rival handset manufacturers currently using Trolltech's products are concerned. Indeed, the agreements between Trolltech and these customers provide these customers with perpetual, non-exclusive licenses to use Qtopia Core and Qtopia Phone Edition, irrespective of the duration of these agreements.<sup>8</sup> These licenses include (i) a "modification license", allowing modification of source code and source object, (ii) a "developer license", allowing the customer to use and make copies of the licensed technology for the purpose of designing, developing and testing its software products, and (iii) a "distribution license", allowing the customer to install the licensed technology on the handsets and to sell such handsets. The first two licenses are paid for in the form of a fixed sum. If the licensee wishes to have additional developers, it will generally need to pay a pre-agreed additional sum for each developer, which cannot be revised without the customer's agreement. Under the distribution agreement, the customer must pay running royalties based on the number of shipped handsets incorporating the technology; the level of the running royalties, however, cannot be revised without the customer's agreement. As regards maintenance service and product upgrade agreements, the customer is generally entitled to purchase support and upgrades on an annual basis at pre-agreed rates, which in most cases cannot be revised without its agreement.
34. A restrictive policy by Nokia following the transaction would therefore have only a limited impact on the industry, with current customers continuing to exploit Trolltech's technology under the terms of their existing licenses, with customers continuing to have a number of alternative credible partners and with competitors benefiting from any such restrictive policy on the part of Nokia given that such a

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<sup>7</sup> One market player indicates that it would have to be a 10 times increase to have an effect.

<sup>8</sup> The agreements have different durations. Independently from the duration, however, the licenses are perpetual and can terminate only in the event of a serious breach of contract by the customer.



policy would give them additional opportunities to propose their own set of alternative solutions.

35. In this respect, it should finally also be noted that Nokia has publicly announced that it will continue to sell Trolltech's products to third parties<sup>9</sup>. Its incentive relies on the fact that Trolltech generates a large part of its revenues from clients that do not compete with Nokia in the supply of handsets; as to competing manufacturers, they would have no difficulty in finding alternative technologies to build (Linux-operated) handsets, which would mean losing revenue in the field of Nokia without gaining advantage in competition for the supply of handsets.

## **VI. CONCLUSION**

36. For the above reasons, the Commission has decided not to oppose the notified operation and to declare it compatible with the common market and with the EEA Agreement. This decision is adopted in application of Article 6(1)(b) of Council Regulation (EC) No 139/2004.

For the Commission  
(Signed by)  
Neelie KROES  
Member of the Commission

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<sup>9</sup> See <http://www.nokia.com/A4136001?newsid=1185531>.