

***Case No COMP/M.1588 -  
TYCO / RAYCHEM***

Only the English text is available and authentic.

**REGULATION (EEC) No 4064/89  
MERGER PROCEDURE**

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Article 6(1)(b) NON-OPPOSITION

Date: 20/07/1999

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## COMMISSION OF THE EUROPEAN COMMUNITIES

Brussels, 20.07.1999

In the published version of this decision, some information has been omitted pursuant to Article 17(2) of Council Regulation (EEC) No 4064/89 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 Where possible the information omitted has been replaced by ranges of figures or a general description.

PUBLIC VERSION

MERGER PROCEDURE  
ARTICLE 6(1)(b) DECISION

**To the notifying party**

Dear Sirs,

**Subject: Case No IV/M. 1588 – Tyco/Raychem**

Notification of 22/06/1999 pursuant to Article 4 of Council Regulation No 4064/89

1. On 22/06/1999, the Commission received a notification of a proposed concentration pursuant to Article 4 of Council Regulation (EEC) No 4064/89<sup>1</sup> by which Tyco International Ltd. (“Tyco”) acquires within the meaning of Article 3(1)(b) of the Council Regulation control of Raychem Corporation (“Raychem”) by way of purchase of shares.
2. After examination of the notification, the Commission has concluded that the notified operation falls within the scope of Council Regulation No 4064/89 and does not raise serious doubts as to its compatibility with the common market and the functioning of the EEA agreement.

### **I. THE PARTIES**

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<sup>1</sup> OJ L 395, 30.12.1989 p. 1; corrigendum OJ L 257 of 21.9.1990, p. 13; Regulation as last amended by Regulation (EC) No 1310/97 (OJ L 180, 9. 7. 1997, p. 1, corrigendum OJ L 40, 13.2.1998, p. 17).

3. Tyco is a company registered in Bermuda which business activities are, inter alia, the production and sale of disposable medical supplies, fire detection and suppression systems, security systems and electronic components. Via Carroll Touch, which is part of a division of Tyco's subsidiary AMP Incorporated, Tyco is also a manufacturer of touch screens.
4. Raychem, a US company, is active in materials science, electronic components and process engineering. Via its subsidiary Elo TouchSystems Inc. ("Elo"), Raychem also produces touch screens.

## **II. THE OPERATION**

5. Tyco will acquire all of the voting shares of Raychem upon completion of the transaction.

## **III. CONCENTRATION**

6. The operation whereby Tyco acquires all Raychem's shares and thus sole control over Raychem is a concentration within the meaning of Art. 3 (1) (b) of the Council Regulation.

## **IV. COMMUNITY DIMENSION**

7. The undertakings concerned have a combined aggregate world-wide turnover of more than EUR 5000 million<sup>2</sup> (Tyco 17,227 Mio EUR, Raychem 1,633 Mio EUR). Each of Tyco and Raychem have a Community-wide turnover in excess of EUR 250 million (Tyco [...] Mio EUR, Raychem [...] Mio EUR), but they do not achieve more than two-thirds of their aggregate Community-wide turnover within one and the same Member State. The notified operation therefore has a Community dimension.

## **V. COMPETITIVE ASSESSMENT**

### Relevant product market

8. According to the information provided by the parties, the only area of overlap, which might give rise to an affected market (i.e. where a market share of more than 15% is achieved) in the EEA, are touch screens. The parties are however of the opinion that touch screens are part of the overall market for human-computer input interfaces, i. e. a market which includes mice, keyboards, trackballs, joysticks, touch pads and voice recognition input devices.
9. The market investigation has provided indications that touch screens have to be considered as a separate market from the other human-computer interfaces, since from a technical and functional point of view touch screens and other human-computer interfaces address different needs.

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<sup>2</sup> Turnover calculated in accordance with Article 5(1) of the Merger Regulation and the Commission Notice on the calculation of turnover (OJ C66, 2.3.1998, p. 25). To the extent that figures include turnover for the period before 1.1.1999, they are calculated on the basis of average ECU exchange rates and translated into EUR on a one-for-one basis.

10. For the purpose of the present case it is however not necessary to decide whether touch screens and all other human-computer input devices are part of the same market since even on the narrowest possible market, i. e. touch screens, the operation would not lead to the creation or strengthening of a dominant position.
11. Touch screens can be used in a wide variety of applications and locations the most important being: (a) point of sale : restaurant, hotel, post office, etc.; (b) point of information : tourist venues such as museums; (c) industrial applications : to monitor and control operations; (d) entertainment : amusement games or video terminals; (e) medical equipment : hospital, laboratory/testing centre and (f) financial applications : automatic teller machines for banks and financial institutions.
12. Touch screens are based on various technologies using different sensing mechanisms. This leads to certain technologies being preferred in certain applications based on the activation device and the environment in which the touch screen is to be used. However, according to the parties, each technology is substitutable – to a greater or lesser extent –with one or more of the other technologies in respect of the large majority of applications for which they are used. The main technologies are : resistive touch screen technology comprising 4-wire, 5-wire and 8-wire constructions (where the coversheet makes contact with a resistive coating on a plastic substrate. The voltage at the point of contact is the analogue representation of the position touched); acoustic wave technology (where surface waves travelling across the touch screen are absorbed during a touch); capacitive and projected capacitive technology (where a voltage is applied to the touch screen. The touch by a human finger draws current, the precise amount being the analogue representation of the position touched) and infrared technology (where a series of infrared transmitting photodiodes and receiving phototransistors are scanned in sequence. Any object blocking the infrared beam causes a touch to be registered.)
13. Raychem, via its subsidiary Elo, presently manufactures and sells touch screens based on 5-wire resistive and surface acoustic wave technologies. Tyco, via Carroll Touch, manufactures and sells touch screens based on infrared technology. There is therefore no overlapping technology and each of the technologies used by the parties competes with one or more other technologies.
14. For the purpose of the present case it is however not necessary to consider further segmenting the market for touch screens according to the technology that is used, since in all segments considered above, the operation would not lead to the creation or strengthening of a dominant position.
15. The parties sell touch screens to OEMs (Original Equipment Manufacturers) such as [...] and others (e. g. system integrators such as [...]) which integrate the touch screens on a touch screen-enabled monitor. The parties also integrate touch screens on monitors, but Carroll Touch does not sell these touch screen-enabled monitors into the EEA. It is the parties' opinion that touch screens and touch screen-enabled monitors constitute one market since the customer requiring a touch screen-enabled monitor will be able to choose among the suppliers of touch screen-enabled monitors (OEMs, system integrators, touch screen manufacturers) and the suppliers of touch screens. In the latter case the customer will have to integrate the touch screen on the monitor itself.

16. However, given the fact that not all suppliers of touch screen-enabled monitors are able to supply touch screens, it appears that touch screens and touch screen-enabled monitors are not part of the same product market.
17. For the purpose of the present case it is however not necessary to decide whether touch screens and touch screen-enabled monitors are part of the same market since in all alternative definitions considered above, the operation would not lead to the creation or strengthening of a dominant position.

#### Relevant geographic market

18. According to the parties the relevant geographic market for touch screens is at least the EEA and is probably world-wide for the following reasons : the products and prices are uniform world-wide, many customers' businesses have a world-wide or pan-European scope and transportation or other costs do not affect the level of imports, since all touch screens are imported into the EEA. The opinion of the parties has been largely confirmed by the market investigation.
19. For the purpose of the present case the definition of the relevant geographic market can be left open given that the operation does not lead to any problem of dominance in any of the alternative markets considered above.

#### Assessment

20. The data in this decision are based on the parties' estimates since there are no independent market reports or analyses on this sector. These data have been largely confirmed by the market investigation.
21. On the EEA market for touch screens the parties will have a combined market share of [15%-25%] (Elo [15%-25%] + Carroll Touch [<5%]). The parties' most important competitor is MicroTouch with a market share of [55%-65%]. The other suppliers are Gunze and Dynapro, each having a market share of less than 10%.
22. On the world-wide market for touch screens the parties' post transaction market share will be [15%-25%] (Elo [15%-25%] + Carroll Touch [<10%]). On this market MicroTouch would have [25%-35%].
23. On the EEA market for touch screen-enabled monitors the combined market share of the parties will remain unchanged (Elo [5%-15%]; Carroll Touch [<5%]). On a global basis the parties have [15%-25%] (Elo [15%-25%]; Carroll Touch [<5%]).
24. The parties have also submitted data, which include total sales of touch screens and touch screen-enabled monitors by touch screen manufacturers, but do not include sales of touch screen-enabled monitors by OEMs and system integrators. These data in fact overstate the touch screen manufacturers' position, since in offering touch screen-enabled monitors, they will be facing competition from the OEMs and system integrators. On this basis the parties' combined share of sales in the EEA would amount to [20%-30%] % (Elo [15%-25%] + Carroll Touch [<5%]), MicroTouch having a share of sales of 62%. On a global basis the parties' share would rise to [25%-35%] (Elo [25%-35%] + Carroll Touch [<5%]). Their main competitors would be MicroTouch [25%-35%], Gunze [5%-10%], DynaPro [5%-10%], Nissha [5%-10%] and Alps [<5%].

25. The parties also expect that new competitors for touch screens will be entering the market since certain touch input technologies are no longer proprietary (4-wire resistive and infrared technologies) and two further technologies (capacitive and 5-wire resistive) will become largely unprotected by intellectual property rights within the next 18 months.
26. On the basis of the above it can therefore be concluded that the operation will not lead to the creation or strengthening of a dominant position.

## **VI. CONCLUSION**

27. 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 (EEC) No 4064/89.

For the Commission,