

***Case No COMP/M.5589 -  
SONY / SEIKO EPSON***

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: 22/09/2009

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COMMISSION OF THE EUROPEAN COMMUNITIES

Brussels, 22.09.2009

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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 Where possible the information omitted has been replaced by ranges of figures or a general description.

PUBLIC VERSION

MERGER PROCEDURE  
ARTICLE 6(1)(b) DECISION

**To the notifying party:**

Dear Sir/Madam,

**Subject: Case No COMP/M. 5589 - Sony / Seiko Epson  
Notification of 18 August 2009 pursuant to Article 4 of Council Regulation  
No 139/2004<sup>1</sup>**

1. On 18 August 2009, the Commission received a notification of a proposed concentration pursuant to Article 4 of Council Regulation (EC) No 139/2004 by which the undertaking Sony Corporation ("Sony", Japan) acquires within the meaning of Article 3(1)(b) of the Council Regulation control of a major portion<sup>2</sup> of the small- and medium-sized TFT-LCD (Thin-Film-Technology Liquid-Crystal-Display) business of Seiko Epson Corporation (the "Epson Business", Japan) by way of a purchase of assets.

**I. THE PARTIES**

2. Sony, headquartered in Tokyo, Japan, produces electronic consumer products and devices (e.g. audio, video, televisions, information and communications equipment, semiconductors, and components), games (e.g. game consoles and software), entertainment (e.g. motion pictures, television programming), financial services (e.g. life

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

<sup>2</sup> Epson will retain only the business relating to HTPS (High Temperature Polymorphous Silicon) TFT-LCD technology, while Sony will acquire the businesses related to a-Si and LTPS (Low Temperature Polymorphous Silicon).

insurance and banking), and a variety of other businesses. Sony's activities in the liquid crystal displays segment, including the production of large, medium and small LCD and the development of the next generation LCD, are conducted by various subsidiaries. In particular, Sony's activities in the design and manufacture of small- and medium-sized liquid crystal displays are conducted by its subsidiary Sony Mobile Display ("SMD").

3. Seiko Epson Corporation, also headquartered in Tokyo, Japan, manufactures imaging products (e.g. printers, scanners, or projectors), electronic devices (e.g. laptops, electronics components, or semiconductors), and precision products (e.g. watches and optical instruments).
4. The Epson Business is operated by the Epson subsidiary, Epson Imaging Devices Corporation ("EID"), headquartered in Tottori, Japan. The Epson Business is active in the development, production, marketing, and sale of small- and medium-sized TFT-LCDs.

## **II. THE OPERATION**

5. The transaction concerns Sony's proposed acquisition of most of Epson's small- and medium-sized TFT-LCD business. According to various implementing agreements signed on June 30, 2009, Sony will acquire assets currently associated with the Epson Business, including Epson's customer relationships, which will be transferred in the course of 2009, followed by real property and the relevant intellectual property in 2010 and the possible transfer of the land in 2011. According to the implementing agreements, Sony will acquire control over Epson Business in the course of 2009 completing the transaction on April 1, 2011.

## **III. COMMUNITY DIMENSION**

6. While the undertakings concerned have a combined aggregate world-wide turnover of more than EUR 5 000 million (Sony: EUR 58 192 million in 2008, the Epson Business: EUR [...] million in 2008), the Epson Business does not have a Community-wide turnover in excess of EUR 250 million (EUR [...] million in 2008). Therefore the concentration does not meet the thresholds for community dimension in Article 1(2) of the Merger Regulation.
7. However, each of Sony and the Epson Business achieved an aggregate turnover of more than EUR 25 million in the same three Member States<sup>3</sup> and in each of those three Member States the combined aggregate turnovers of Sony and the Epson Business exceeded EUR 100 million<sup>4</sup>, while none of the parties achieved more than two thirds of its aggregate Community-wide turnover within one and the same Member State.
8. The notified operation therefore has a Community dimension within the meaning of Article 1(3) of the EC Merger Regulation.

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<sup>3</sup> Finland, Hungary and Sweden

<sup>4</sup> Finland - Sony: EUR [...], the Epson Business: EUR [...]; Hungary – Sony: [...], the Epson Business: [...]; Sweden – Sony: [...], the Epson Business: [...]

## IV. THE RELEVANT MARKETS

### A. *The Relevant Product Markets*

9. In a previous case<sup>5</sup> the Commission found that the market for the development and manufacturing of displays might have to be segmented according to the (i) screen size, (ii) technology used or (iii) the end-use applications (such as mobile phones, cameras, personal digital assistants).

#### *Relevant product markets – screen sizes*

10. The Commission in its previous decisions<sup>6</sup> considered segmenting the display markets according to the size of the panel, notably on the grounds that (i) displays of the same size can to some extent be used in several different applications indifferently, and (ii) LCD<sup>7</sup> competes with different technologies depending on the displays sizes: with Organic Light Emitting Displays ("OLED"<sup>8</sup>) technology in the small- and medium-sized display category, and with Cathode Ray Tubes ("CRT") or plasma screens for larger displays. The Commission found it however difficult to establish a precise size threshold and noted that this could range from 7 to 15 inches.
11. In line with the previous finding of the Commission, the notifying parties suggest that displays, including those using TFT-LCDs<sup>9</sup> technology, may be distinguished according to their size, and they propose a similar distinction between (i) small- and medium-sized displays (used, for example, in electronics products that require smaller displays, such as mobile phones, digital cameras, camcorders, navigation systems, etc.); and (ii) larger displays (used, for example, in computer or television screens). As noted, the transaction concerns only small- and medium-sized displays.
12. The notifying parties suggest considering displays up to 10 inches of size to be small- and medium-size displays. This threshold is reported to be the industry consensus and basis for third party market research.

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<sup>5</sup> Case M.5414 – Samsung SDI / Samsung Electronics / SMD

<sup>6</sup> Case M.3459 – Seiko Epson/Sanyo/Santo Epson Imaging Devices Joint Venture and Case M.5414 – Samsung SDI/Samsung Electronics/SMD

<sup>7</sup> LCD is a type of display technology in which the electrical and optical properties of a liquid crystal substance in neutral states of liquid and solid are applied into displays. Liquid crystals of organic molecules initially have a regular structure like a crystal but the molecule alignment changes when an electrical current is passed through. LCD, unlike OLED, is a passive display that does not produce its own light but acts as a light modulator which needs an independent backlight.

<sup>8</sup> OLED is a flat display technology, produced by placing a series of organic thin films between two conductors. When electrical current is applied, a bright light is emitted. Because OLEDs produce/emit light they do not require a backlight. This potentially means that OLEDs could be made very thin and very power efficient compared to LCD (which requires a white backlight). As mentioned above, there are two types of OLEDs: active-matrix OLEDs (AM-OLEDs) and passive-matrix OLEDs (PM-OLEDs). Compared to AM-OLED, PM-OLED displays require a relatively larger amount of electric power, affecting its lifespan, which is shorter than AM-OLED. In this respect a PM-OLED may be considered as a "lower-range" type of display compared to the new-generation of AM-OLED displays.

<sup>9</sup> TFT-LCDs are a type of display utilizing liquid crystal units, combined with thin film transistor technology to improve image quality.

13. The market investigation generally confirmed the possibility to define a small- and medium-size displays market. Moreover, although no clear size threshold emerged from the investigation, the 10 inches submitted by the parties appeared appropriate to several respondents and lies within the range of all the various sizes suggested by the respondents (ranging from 9 to 15 inches).

*Relevant product markets – technologies*

14. In a previous decision<sup>10</sup>, the Commission noted that the market might have to be further segmented according to the technology used to produce the displays. TFT-LCDs use one of two technologies, amorphous silicon ("a-Si") technology and poly-silicone ("p-Si") technology. There are two main p-Si technologies, Low Temperature Polymorphous Silicon ("LTPS") technology and High Temperature Polymorphous Silicone ("HTPS") technology. Sony's small- and medium-sized TFT-LCDs are based mainly on LTPS technology, while the Epson Business uses both LTPS technology and a-Si technology. In addition, as noted by the Commission, TFT-LCDs displays also compete to some extent with OLED technologies, which are divided into passive matrix (PM-OLED) and active matrix (AM-OLED) technologies, as well as to a lesser extent with Twisted Nematic LCD technologies (either TN-LCDs or Super TN / STN LCDs). The Commission ultimately left the exact market definition open.
15. In the notifying parties' view there is no reason to consider sub-categories of TFT-LCDs or technologies other than TFT-LCDs as separate markets, neither from the demand side nor from the supply side perspective, given that buyers of displays generally do not specify their request according to the technology and most manufacturers are able to supply all of them.
16. While a few of the respondents considered it possible to further segment TFT-LCDs along the technology used, the majority of the respondents to the market investigation were of the view that the market should at least include TFT-LCDs as a whole and possibly OLED as well. .

*Relevant product markets – end-use applications*

17. Small- and medium-size displays are used in a wide range of applications, among which personal digital assistant displays, personal navigation devices displays, automotive monitor displays, digital still cameras displays, digital video cameras displays, portable media player displays, MP3 displays and mobile phones displays.
18. The notifying parties submit that end-use applications for TFT-LCDs could not constitute separate relevant product markets, because TFT-LCDs are largely standardised and could be used, following minor customisation, in any of the end-use applications.
19. Most respondents to the market investigation supported this view, confirming that most displays are for general purpose and very limited customization could render them suitable for several end-use applications. Even in cases where a display is initially developed for a given end-use application, it is possible to use it for another.

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<sup>10</sup> Case M.3459 Seiko Epson / Sanyo / Santo Epson Imaging Devices Joint Venture

20. Some respondents to the market investigation considered however the possibility of defining markets per end-use application. They notably submitted that although small- and medium-size displays are indeed mostly commoditized, certain applications (such as cameras) require more customization, to an extent which was considered sufficient to define separate markets. In addition, some customers have also reported that they differentiate suppliers according to the end-use application, as some are particularly strong on specific applications.

*Conclusion on the relevant product market*

21. There is significant evidence supporting the delineation of a small- and medium-size displays market, encompassing LCD and OLED displays. However, (i) the precise size threshold seems more difficult to establish and (ii) alternative narrower market definitions subdivided either by technology or by application cannot be excluded.
22. For the purpose of the assessment of the present transaction, the exact definition of the relevant product market for small- and medium-size displays can be left open, given that the proposed transaction does not raise any competition concerns under any alternative market definition.

***B. The Relevant Geographic Market***

23. In its previous decisions<sup>11</sup>, the Commission concluded that the relevant geographic market for small- and medium-sized LCDs was worldwide, based on low transportation costs, worldwide homogenous prices and global trading of LCDs. The notifying parties agree with the Commission's previous findings.
24. The respondents to the market investigation almost unanimously<sup>12</sup> supported this view.
25. In view of these elements, it can be concluded that the relevant geographic market for the small- and medium-size displays is worldwide.

**V. COMPETITIVE ASSESSMENT**

***1. Horizontal assessment***

26. On a world-wide overall market for the development and manufacturing of small- and medium-sized displays the transaction will not give rise to an affected market. According to the information submitted by the parties and based on third party reports<sup>13</sup>, the parties' combined market share in 2008 was [10-20]% (Sony: [0-5]%; Epson: [5-10]%). The market investigation also confirmed the high degree of competition in the market, where a number of strong competitors are active, including Sharp ([10-20]%),

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<sup>11</sup> Case M. 5414 Samsung SDI / Samsung Electronics / SMD and Case M.3459 – Seiko Epson / Sanyo / Santo Epson Imaging Devices Joint Venture

<sup>12</sup> Only one respondent suggested a narrower geographic market definition, however without substantiating this view.

<sup>13</sup> Display Search figures

AUO ([10-20]%), TPO ([10-20]%), Hitachi ([5-10]%), TMD ([5-10]%) and several smaller ones.

27. On a world-wide market for the development and manufacturing of small- and medium-sized LTPS TFT-LCD displays the parties' combined share in 2008 was about [10-20] % (Sony: [10-20]%; Epson: [0-5]%). On such a market, the combined entity would still face strong competitors such as Sharp, who will remain the market leader with a share of [30-40]%, TPO ([20-30]%), TMD ([10-20]%) and several smaller competitors.<sup>14</sup> Moreover the market investigation did not reveal any competitive concern.
28. On a world-wide market for the development and manufacturing of small- and medium-sized TFT-LCD displays by end-use application the transaction would give rise to affected markets on the markets for (i) digital video cameras and (ii) digital still cameras. In 2008 the notifying parties' combined market share on those markets was [40-50]% (Sony: [30-40]%; Epson: [5-10]%) and [20-30]% (Sony: [10-20]%; Epson: [5-10]%) respectively.
29. On both markets, the combined entity will still face several strong and effective competitors: in the market for digital video cameras AUO ([10-20]%), Optrex ([10-20]%) and Sharp ([20-30]%) are also active, while on the market for digital still cameras AUO ([10-20]%), TPO ([10-20]%), Hitachi [10-20]%, Sharp ([10-20]%) and several smaller competitors are present.<sup>15</sup> The market investigation confirmed that any attempt by Sony to raise prices would lead its customers, many of which are large and sophisticated buyers, to choose other suppliers. Indeed, most of the respondents indicated that switching supplier is easy and does not require extra time and costs.
30. Moreover, the notifying parties claim that there is a high degree of supply-side substitutability as most manufacturers produce displays for different end-use applications. Barriers to entry in one specific category would be low for manufacturers already active in other categories, given that technologies and sizes are similar and the degree of customization needed to fulfil the requirements of one specific end-use would require limited investments.
31. This view was generally confirmed by the market investigation: even those respondents which considered the possibility to define the market for small- and medium-sized TFT-LCD displays by end-use application, generally also acknowledged that it is possible switching production from displays dedicated to one application to displays dedicated to another, in particular to digital still and video cameras, in short time frames and at limited costs<sup>16</sup> and that any small- and medium-sized LCD display manufacturer could do so.

## ***2. Vertical assessment***

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<sup>14</sup> Market shares are calculated on the basis of volume figures. Value based market shares are slightly lower and therefore would not give rise to affected markets in any of the technologies concerned.

<sup>15</sup> Display Search figures for 2008, excluding captive use.

<sup>16</sup> Delay and cost was reported to vary according to available production facilities, but one to a couple of days and marginal investments were often mentioned during the market investigation.

32. As regards vertical relationships, Sony produces a range of products that incorporate small-and medium-sized TFT-LCDs, such as digital video cameras, digital still cameras or portable video games, and has market shares in excess of 25% in digital video cameras ([40-50]%) and portable video games ([30-40]%)<sup>17</sup>.
33. The notifying parties claim that Sony will not have the incentive or the ability to engage in customer foreclosure. In 2009 Sony forecasted captive supplies will represent only [...] % of its total LCD needs and although this ratio is foreseen to increase over time<sup>18</sup>, Sony will still pursue a multi-sourcing strategy led by security reasons. In addition, Sony will continue to focus on the production of higher-end displays and thus will continue to source lower-end displays from external suppliers. Moreover, the respondents to the market investigation pointed out that the presence of a large number of other purchasers of displays would compensate any attempt by Sony to implement a strategy of customer foreclosure.
34. Similarly, Sony would have neither the ability nor the incentive to implement any strategy of input foreclosure. The market investigation confirmed that Sony and Epson do not have any must-have products or technology to which they could deny access. Therefore, competitors of Sony on the downstream markets will not be foreclosed from accessing to an essential input as they can purchase displays from any of current competitors of Sony and Epson. The market investigation moreover indicated that given the significant role of economies of scale in the production of small- and medium-size displays, any input foreclosure strategy would be financially risky.

### ***3. Conclusion of the competitive assessment***

35. In the light of all the foregoing factors and in light of the fact that the none of the customers who participated to the market investigation expressed any concerns, the Commission finds that the proposed transaction does not raise any competition concerns.

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<sup>17</sup> Nikkei and Fuji Chimera Research Institute, worldwide figures for 2008.

<sup>18</sup> To [...] % by [...] reported by the notifying parties.

## **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)*

Neelie KROES

Member of the Commission