EUROPEAN
COMMISSION

Brussels, 3.9.2014
C(2014)6250 final

COMMISSION DECISION

of 3.9.2014

relating to proceedings under Article 101 of the Treaty on the Functioning of the European Union and Article 53 of the EEA Agreement
Case AT.39574 – Smart Card Chips

(Only the Dutch, English, French and German text is authentic)

TABLE OF CONTENTS

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THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to the Agreement on the European Economic Area,

Having regard to Regulation (EC) No 1/2003 of 16 December 2002 on the implementation of the rules on competition laid down in Articles 81 and 82 of the Treaty,[1] and in particular Article 7 and Article 23(2) thereof,

Having regard to the Commission decisions of 28 March 2011 and 18 April 2013 to initiate proceedings in this case,

Having given the undertakings concerned the opportunity to make known their views on the objections raised by the Commission pursuant to Article 27(1) of Regulation (EC) No 1/2003 and Article 12 of Commission Regulation (EC) No 773/2004 of 7 April 2004 relating to the conduct of proceedings by the Commission pursuant to Articles 81 and 82 of the Treaty,[2]

After consulting the Advisory Committee on Restrictive Practices and Dominant Positions,

Having regard to the final report of the hearing officer in this case,

Whereas:

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1 OJ L 1, 4.1.2003, p. 1.With effect from 1 December 2009, Articles 81 and 82 of the EC Treaty have become Articles 101 and 102, respectively, of the Treaty on the Functioning of the European Union ("TFEU"). The two sets of provisions are, in substance, identical. For the purposes of this Decision, references to Articles 101 and 102 of the TFEU should be understood as references to Articles 81 and 82, respectively, of the EC Treaty where appropriate. The TFEU also introduced certain changes in terminology, such as the replacement of "Community" by "Union" and "common market" by "internal market".

2 OJ L 123, 27.4.2004, p. 18.

1. INTRODUCTION

(1) This case concerns anti-competitive conduct relating to the sale of smart card chips in the European Economic Area (EEA) in the period between 24 September 2003 and 8 September 2005, involving four of the main EEA suppliers of smart card chips: Infineon, Philips, Renesas and Samsung. The anti-competitive conduct consisted of contacts between those four suppliers in which they coordinated market behaviour. The contacts related to pricing generally and prices charged to specific customers, production capacity and capacity utilisation, future market conduct, contract negotiations vis-à-vis common customers and the exchange of competitively sensitive information.

2. THE INDUSTRY SUBJECT TO THE PROCEEDINGS

2.1. The product

(2) This case concerns smart card chips also known as smart card or chip card integrated circuits ("ICs")[3] which comprises all types of secure microcontrollers,[4] that is to say all types of microcontrollers that comprise some form of security protection.

(3) Smart card chips are used in different smart card applications such as mobile telephone SIM cards, bank cards, pay TV cards, identity cards, biometric passports and transport cards. Smart card chips comprise two principal elements: a central processing unit (CPU) and some form of memory. There are two main memory configurations used for smart card chips. The first comprises a combination of ROM (read-only memory), RAM (Random Access Memory) and EEPROM (Electrically Erasable Programmable Read-Only Memory). In this configuration, the ROM is generally used to store the smart card chip's operating system, while the EEPROM is used to store applications, such as the user interface application stored on a mobile telephone SIM card, and other information, such as a list of telephone numbers stored by the subscriber on a mobile phone SIM card. The second memory configuration used in smart card chips comprises a combination of RAM and Flash memory. RAM allows stored data to be accessed in any order (namely at random) whereas Flash memory constitutes electronically erasable and reprogrammable storage.[5]

(4) Chips purchased by smartcard manufacturers from the smart card chip manufacturers are standard chips chosen from a supplier's catalogue of products and then adapted to

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3 ICs or Integrated Circuits are also known as microchips.

4 A distinction can be made between different types of microchips: microcontrollers and memory chips. A microcontroller, commonly abbreviated as a MCU, is essentially a microchip that can perform certain computing functions. As such, microcontrollers are sometimes referred to as a computer system on a chip. To allow it to perform its computing functions, the microcontroller incorporates a central processing unit, a CPU, as well as memory on which data can be stored. By contrast, a memory chip is simply designed to store data and cannot perform any computing functions; [...].

5 Smart card chip specifications can vary, among other things, according to the capacity and speed of the chip's central processing unit, the size of its memory, whether or not the chip has a crypto processor (that is a microprocessor that encrypts information communicated from the chip and decrypts information sent to the chip), and whether it employs a contact or a contactless technology; [...]

the card producer's specifications. With regard to the first configuration, the operating system is developed by the smartcard manufacturer and loaded in the ROM memory of the chip through a programme engraved directly on the chip at the manufacturing stage of the last layer of the chip. For this reason those standard chips are delivered according the specifications of the customer.[6]

(5) Technical features of smart card chips that are important to smart card producers are the CPU core, memory size (ROM, EEPROM, Flash, RAM), the crypto processor and certification schemes, the contactless interface and development tools.[7] Decisive commercial features reported by customers are pricing competitiveness; the manufacturing continuance period; the warranty on the product;[8] factors such as the availability of a "product family concept" within the manufacturer roadmap to allow for easy migration to, for example, different memory sizes; overall chip sizes; manufacturing technology and the expected yield / process maturity; the availability of precise product documentation; availability of a good development tool chain; chip module packaging availability (either directly from the manufacturer or in collaboration with packaging houses).[9]

(6) The smart card business can be split into two segments according to its main applications: namely SIM[10] applications (mainly for mobile phones); and FSID[11], also called non-SIM applications (banking, security and ID).

(7) This Decision covers both SIM and non-SIM applications and makes no distinction concerning the type of memory of the smart card chip (flash or RAM) (see Section 5.2.3).

2.2. The market players

2.2.1. Undertakings subject to the present proceedings

2.2.1.1. Infineon

(8) Infineon Technologies AG is the ultimate parent company of the Infineon group ('Infineon') and was founded as a subsidiary of Siemens AG on 1 April 1999 when all Siemens AG's semiconductor operations were transferred to Infineon Technologies AG. The spin-off was a prerequisite for an initial public offering (IPO) which took place on the Frankfurt and New York stock exchanges on 13 March 2000. In the period from 2000-2006 the Siemens group successively sold down its shares in Infineon Technologies AG.[12]

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10 Stands for subscriber identity module.
11 Stands for financial services and identity verification.
12 In 2003 the share of Siemens in Infineon Technologies AG was 12% via Siemens Nederland BV. In 2004 the Siemens group had no share in Infineon. In 2005 Siemens AG acquired a 18.2% share (ID 745, p. 12).

(9) Infineon offers semiconductor and system solutions for five target markets namely automotive, industrial electronics, chip card and security applications, mobile phone platforms and broadband access. The undertaking has a global presence and is headquartered in Neubiberg/Munich, Germany. For the 2013 fiscal year (ending September 2013), the company reported a worldwide turnover of EUR 3 843 million.[13]

(10) Infineon provides security components for passports, identity cards and contactless payment cards and is the leading supplier of chips for credit cards, access cards and trusted computing solutions worldwide.

2.2.1.2. Philips

(11) Koninklijke Philips N.V., whose registered name was Koninklijke Philips Electronics N.V. until 15 May 2013 ('KPENV'), is the top holding company of the Philips group ('Philips'). The company is listed on Euronext Amsterdam and the New York Stock Exchange. The statutory seat of the company is located in Eindhoven, the Netherlands.[14] From 1 January 2000 until 2006, Philips France S.A.S. was a wholly-owned subsidiary, either directly or indirectly, of KPENV. In 2000, the Philips semiconductor activities (including smart card chips) were incorporated in a subsidiary of Philips France S.A.S., which was on 23 December 2002 transformed into a separate legal entity […] which was 100% owned by Philips France S.A.S. That company was ultimately owned by KPENV.[15]

(12) Philips is currently active in the following business areas: Domestic Appliances and Personal Care, Lighting, Medical Systems and Consumer Electronics. Philips was active on the market for smart card chips until the divestment of its whole semiconductor business in 2006. Until that date the top holding company of the Philips semiconductor business was […] a company based in the Netherlands that was owned by KPENV. Next, in a number of Member States, including France, Germany and Austria, separate legal entities existed that were dedicated to semiconductor activities and the management thereof. Those companies were owned, directly or indirectly, by the national Philips holding companies, which in turn were owned by KPENV. For the purpose of the divestment in 2006, all of Philips' semiconductor activities (including smart card chips) were transferred to […] which was wholly owned by KPENV. In August 2006 Philips signed an agreement with three private equity investment firms for the divestment of the entire Philips Semiconductors product division ("PD Semiconductors"), which included all of Philips' smart card chip activities. The transaction was implemented on 29 September 2006, and the entire Philips PD Semiconductors business, including smart card chips, was transferred to […]. The divestment in 2006 concerned essentially all tangible and intangible assets and employees belonging to Philips' PD Semiconductors. […].[16]

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(13) In 2013 the total worldwide turnover of the Philips Group was EUR 23 329 million.[17] Following the divestiture of Philips' PD Semiconductors in September 2006, including all activities relating to smart card chips, no Philips entities have been involved in the production of smart card chips since the financial year 2007.[18]

2.2.1.3. Renesas

(14) Renesas Electronics Corporation is the parent company of the Renesas group and is active in the development, design, manufacture, sales and servicing of system LSI's,[19] including microcomputers, logic and analogue devices, discrete devices and memory products, including SRAM.[20] Renesas Electronics Corporation was established through the merger of Renesas Technology Corp. and NEC Electronics Corporation on 1 April 2010. Renesas Electronics Corporation is headquartered in Tokyo, Japan. Any reference in this Decision to 'Renesas' refers to Renesas Electronics Corporation together with its subsidiaries, parent companies and/or any of their respective legal successors.

(15) Renesas Technology Corp. was established on 1 April 2003 as a joint venture to which Hitachi, Ltd. ('Hitachi Ltd' or 'Hitachi') and Mitsubishi Electric Corporation ('Melco') contributed certain of their conductor businesses, including Hitachi's smart card chip business. Prior to 1 April 2003, Hitachi's wholly-owned subsidiary Hitachi Europe Ltd operated the smart card business in Europe.[21]

(16) Upon the creation of Renesas Technology Corp., the assets that constituted Hitachi's smart card business in Europe, Japan and the United States were transferred to Renesas and Hitachi ceased all activities in this business. Melco for its part had already ceased its activities in smart card chips prior to April 2003 and hence did not contribute any smart card business to Renesas Technology Corp.[22] Between the establishment of Renesas Technology Corp. on 1 April 2003 and the date when it ceased to exist after the merger with NEC Electronics Corporation on 1 April 2010, Hitachi held a 55 percent shareholding in Renesas Technology Corp while Melco held the other 45 percent.[23]

(17) Renesas Technology Corp. was present in Europe via its wholly-owned subsidiaries, Renesas Technology Europe Limited and Renesas Technology Europe GmbH. Renesas Technology Europe GmbH was wholly-owned by Renesas Technology Europe Limited.

(18) In April 2010, and in the context of the merger with NEC Electronics Corporation, Renesas Technology Europe Limited was renamed Renesas Electronics Europe Limited. Renesas Technology Europe GmbH was merged into Renesas Electronics

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19 Large Scale Integration: the placement of thousands of electronic components on a single integrated circuit.
20 Static Random Access Memory.
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Europe GmbH and has ceased to exist. Renesas Electronics Europe GmbH remains a wholly-owned subsidiary of Renesas Electronics Europe Limited.[24]

(19) The shareholding of Renesas has evolved significantly in recent years. As from 1 April 2010, the major shareholders of Renesas Electronics Corporation were NEC Corporation (33.97%), Hitachi (30.62%), and Melco (25.05%); and as from 17 February 2011[25], Hitachi (30.62%), Melco (25.05%) and Japan Trustee Services Bank, Ltd (JTSB), which held 18.75 %. On 1 May 2012[26], the major shareholders of Renesas were Japan Trustee Services Bank, Ltd (JTSB) with 32.44%, followed by Hitachi (30.62%) and Melco (25.05%). From 30 September 2013[27], the share of those companies was significantly reduced through a third party allotment which rendered Innovation Network Corporation of Japan (INCJ) a 69.16% owner of Renesas, followed by Japan Trustee Services Bank (JTSB) with 8.12%, Hitachi (7.66%) and Melco (6.27%). Therefore, as from 30 September 2013, Hitachi and Melco are no longer major shareholders of Renesas.[28]

(20) For the last fiscal year (ending March 2014), Renesas Electronics Corporation reported a worldwide turnover of EUR 6 199 million.[29]

2.2.1.4. Hitachi

(21) Hitachi, Ltd. ('Hitachi') is active in the fields of information and telecommunication systems, electronic devices, power and industrial systems, logistics and digital media and consumer products. Hitachi Ltd is headquartered in Tokyo and has activities in over 40 countries worldwide, including through Hitachi group subsidiaries such as Hitachi Europe Ltd. The latter is a wholly-owned subsidiary of Hitachi Ltd. It is headquartered in the United Kingdom. Hitachi Europe Ltd has operations in 13 countries across Europe, the Middle East and Africa. The main business areas of Hitachi Europe Ltd are rail systems, power and industrial systems, information systems, digital media and consumer products, display products and industrial components and equipment.

(22) The smart card chips business of Hitachi was divested into a joint venture, Renesas Technology Corp., on 1 April 2003. Prior to 1 April 2003, Hitachi's wholly-owned subsidiary Hitachi Europe Ltd operated the smart card business in Europe. From the establishment of Renesas Technology Corp. on 1 April 2003, and until 1 April 2010, Hitachi held 55 per cent and Melco held 45 percent of the shares in Renesas Technology Corp. Hitachi's shareholding in Renesas has gradually declined in recent years and since 30 September 2013 Hitachi is no longer a major shareholder of Renesas (see recital (19)).

(23) The worldwide turnover of Hitachi Ltd was EUR 71 563.76 million in the financial year that ended on 31 March 2014.[30]

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2.2.1.5. Mitsubishi Electric Corporation

(24) Mitsubishi Electric Corporation ('Melco' or 'Mitsubishi') is a multinational concern which develops, manufactures, sells and distributes a broad range of electrical and electronic equipment in fields as diverse as home appliances and space electronics. Melco and its subsidiaries' principal lines of business are: energy and electric systems, industrial automation systems, information and communication systems, electronic devices, home appliances and others. The company is headquartered in Tokyo, Japan.

(25) On 1 April 2003 Melco established, together with Hitachi Ltd, a joint venture company, Renesas Technology Corp. Melco was not active in the smart card chip business at the time of the establishment of the joint venture. Between the establishment of Renesas Technology Corp. on 1 April 2003, and 1 April 2010, Hitachi held 55 per cent and Melco held 45 percent of the shares in Renesas Technology Corp.[31] The shareholding of Melco in Renesas has gradually declined in recent years and, since 30 September 2013, Melco is no longer a major shareholder of Renesas (see recital (19)).

(26) The consolidated net sales of the company in the financial year that ended on 31 March 2014 was EUR 30 172 million.[32]

2.2.1.6. Samsung

(27) Samsung is active in the semiconductor, telecommunications, digital media and digital convergence technologies sectors. It consists of five main business units: Digital Media Business (manufacturer of digital TVs, colour monitors, DVD recorders, notebook PCs, printers and portable entertainment devices); LCD Business; Semiconductor Business (focus on the production of DRAMs, SRAMs, flash memory and System LSI, including a variety of core semiconductor components for mobile and digital consumer applications); Telecommunication Network Business (mobile phones and telecommunication systems); and Digital Appliance Business (home appliances such as refrigerators, air conditioners and microwaves). Samsung Electronics Co., Ltd. is headquartered in Seoul, South Korea.

(28) Samsung Electronics Co., Ltd. and a number of its wholly-owned subsidiaries, including […] Samsung Semiconductor Europe GmbH (SSEG), […] and […], have been involved in the production and/or sales of smart card chips […].[33]

(29) [Samsung subsidiary] ceased to exist as a legal entity […]. Samsung Semiconductor Europe GmbH has taken over the assets of [Samsung subsidiary], and operates the latter's business via its branch office Samsung Semiconductor Europe GmbH, […].[34]

(30) The total worldwide turnover for Samsung Electronics Co., Ltd. and its subsidiaries in 2013 amounted to EUR 157 294 million.[35]

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2.2.2. Other market players

(31) There are other manufacturers of smart card chips operating in the EEA, namely Atmel Corporation, NXP and ST Microelectronics but they are not party to the present proceedings. […]

(32) […][36]

(33) […][37]

2.3. Description of the market

2.3.1. The supply

(34) In the period 1999 to 2007 significant changes have taken place in the worldwide market for smart card chips, which is clearly illustrated by the market share figures for the main undertakings active on the smart card chips market:

Table 1: Worldwide smart card chip market shares by value (Gartner Dataquest)[38]

Market size/Undertaking/Year	1999	2000	2001	2002	2003	2004	2005	2006	2007
Market size[39] (million USD)	648	1067	984.3	838	1136	1706.3	1443	1832	2292
Atmel	4%	7%	8%	11%	12%	14%	14%	13%	11%
Siemens/Infineon	41%	32%	37%	38%	39%	37%	32%	30%	24%
Hitachi/Renesas	12%	19%	15%	15%	13%	14%	15%	14%	15%
Philips/[…]	4%	9%	14%	13%	12%	12%	11%	13%	12%
Samsung	NA	NA	NA	5%	7%	8%	9%	15%	18%
STMicroelectronics	34%	30%	23%	14%	15%	13%	14%	9%	9%

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37 […]
38 ID 784: Gartner Group Dataquest Alert: Chip Card and Semiconductor Vendor Market Shares 1999, 31 March 2000; Worldwide Chip Card Market Share, 2000: Card Vendors and Semiconductor Vendors, 23 April 2001; Worldwide Chip Card Market Share, 2001: Card Vendors and Semiconductor Vendors, 18 April 2002; Worldwide Chip Card and Semiconductor Vendor Market Share, 2002, 24 April 2003; Market Share: Chip Card and Semiconductor Vendors, Worldwide, 2003, 28 April 2004; Market Focus: Chip Card and Semiconductor Vendors, Worldwide, 2004, 13 May 2005; Market Share: Chip Cards and Chip Card Semiconductors, Worldwide, 2005, 14 September 2006; Gartner Dataquest Estimates April 2008.
39 Smart Card Microcontroller Revenue.

Table 2: Worldwide smart card chip market shares by volume (Gartner Dataquest)[40]

Year	1999	2000	2001	2002	2003	2004	2005	2006	2007
Market size[41] (million of units)	488	763	786	842	1210	1691	2040	3169	3667
Atmel	8%	7%	6%	7%	11%	15%	15%	17%	14%
Siemens/Infineon	40%	28%	36%	34%	32%	35%	28%	27%	25%
Hitachi/Renesas	13%	17%	15%	17%	17%	14%	13%	10%	10%
Philips/[…]	3%	8%	13%	13%	13%	12%	11%	6%	5%
Samsung	NA	NA	NA	7%	9%	7%	12%	26%	27%
STMicroelectronics	35%	37%	28%	19%	15%	12%	12%	5%	6%

(35) At the time of the infringement, six large suppliers were producing smart card chips: Samsung, Infineon, Renesas, Atmel, Philips […] and STMicroelectronics. Similarly to the developments on the worldwide stage as illustrated by the above market share data, significant changes in the market structure also took place in Europe in the period 1999 to 2006. The sales of smart card chips in Europe are particularly important as sales in Europe account for some 70% of worldwide sales of smart card chips.[42] In 1999 and 2000 the main players on the European markets were Siemens/Infineon, STMicroelectronics and Philips […]. At that time Samsung had not entered the product market and Atmel and Hitachi (now Renesas) were not yet significant players in the EEA. In 2001-2004 the market saw the entry of Samsung and Atmel and in 2004-2005 Philips […] took its first steps to withdraw from the lower-end applications market to focus its attention on higher-end products.[43]

2.3.2. The demand

(36) On the demand side, the market is very concentrated with only four main customers active on the market: Gemalto (with its manufacturing business based in France[44]; created by the merger of Axalto (a spin-off of Schlumberger)[45] and Gemplus in June

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40 ID 784: Gartner Group Dataquest Alert: Chip Card and Semiconductor Vendor Market Shares 1999, 31 March 2000; Worldwide Chip Card Market Share, 2000: Card Vendors and Semiconductor Vendors, 23 April 2001; Worldwide Chip Card Market Share, 2001: Card Vendors and Semiconductor Vendors, 18 April 2002; Worldwide Chip Card and Semiconductor Vendor Market Share, 2002, 24 April 2003; Market Share: Chip Card and Semiconductor Vendors, Worldwide, 2003, 28 April 2004; Market Focus: Chip Card and Semiconductor Vendors, Worldwide, 2004, 13 May 2005; Market Share: Chip Cards and Chip Card Semiconductors, Worldwide, 2005, 14 September 2006; Gartner Dataquest Estimates April 2008.

41 Smart Card Microcontroller Shipments.

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45 On 22 September 2003 Schlumberger Smart Cards and Terminals, a division of Schlumberger, changed its name to Axalto. On 18 May 2004 the IPO of Axalto was concluded with the listing of the company on the Premier Marché of Euronext Paris; [...].

2006); Giesecke & Devrient ("G&D"; based in Germany), Oberthur Card Systems ("OCS"; based in France) and Sagem Orga (based in France). Each of those customers is active in both SIM and FSID applications. […] the demand for smart card chips is concentrated among those main customers, with no 'spot market' for smart card chips.[46]

(37) The worldwide market shares of the main customers for smart card chips for the supply of cards containing them are estimated as follows:

Table 3: Worldwide smart card market shares by volume (Gartner Dataquest)[47]

Year	1999	2000	2001	2002	2003	2004	2005	2006	2007
Market size[48] (million of units)	432	628	685	727	989	1566	2061	2668	3272
Gemplus	27%	29%	24%	25%	23%	20%	21%	NA	NA
Schlumberger/Axalto	18%	24%	29%	27%	26%	23%	21%	NA	NA
Gemalto	NA	NA	NA	NA	NA	NA	NA	42%	37%
Oberthur Card Systems	18%	14%	13%	14%	13%	9%	9%	10%	12%
Giesecke & Devrient	17%	12%	11%	9%	10%	13%	12%	15%	18%
Bull	9%	NA	NA	NA	NA	NA	NA	NA	NA
Orga/Sagem Orga	4%	8%	5%	5%	5%	5%	9%	7%	9%
Incard/ST Incard	NA	3%	5%	5%	4%	3%	3%	2%	2%

(38) The business cycle for smart card chips is either annual or quarterly. […] from 1999 until approximately 2003 and with the exception of Schlumberger (later Axalto), it was not common for customers to have annual contract negotiations with suppliers. Rather, contracts were usually negotiated on a project-by-project basis. Gradually, over this initial period, and especially from 2003 onwards, customers moved towards a more structured procurement process, which would involve annual or quarterly

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47 ID 784: Gartner Group Dataquest Alert: Chip Card and Semiconductor Vendor Market Shares 1999, 31 March 2000; Worldwide Chip Card Market Share, 2000: Card Vendors and Semiconductor Vendors, 23 April 2001; Worldwide Chip Card Market Share, 2001: Card Vendors and Semiconductor Vendors, 18 April 2002; Worldwide Chip Card and Semiconductor Vendor Market Share, 2002, 24 April 2003; Market Share: Chip Card and Semiconductor Vendors, Worldwide, 2003, 28 April 2004; Market Focus: Chip Card and Semiconductor Vendors, Worldwide, 2004, 13 May 2005; Market Share: Chip Cards and Chip Card Semiconductors, Worldwide, 2005, 14 September 2006; Gartner Dataquest Estimates April 2008.

48 Smart Card Shipments.

price negotiations and a limitation of the number of smart card chip suppliers with which a customer would deal.[49]

(39) […], the timeframe for the negotiation of annual contracts with the main customers is the same for all suppliers involved in the smart card chip business. In September/October of any given year, customers (smart card manufacturers) issue a target price and volumes to all suppliers. Typically, the price is quite low and the volume would exceed actual requirements. The target numbers of the European customers are then evaluated by the chip suppliers and within 2 or 3 weeks a decision on how to quote is made. With that response, the annual negotiations commence, closing at the end of December (or even later into January if difficulties arise). Quarterly negotiations, or negotiations based on specific demand requirements, are subsequently conducted.[50]

(40) […] in the period from 1999 onwards Philips negotiated and concluded annual framework agreements with its customers during the fourth quarter of the year. However, those agreements were not binding to the extent that they would neither commit the customer to purchase any products nor commit them to purchase any products that they ordered at the indicative prices included in the framework agreement. Individual negotiations of binding commitments regarding the purchase of products and the price for such sales would, rather, take place when the customer actually placed the order, that is throughout the year. The effect of the above contractual pattern was, however, the setting of a de facto maximum price by the annual framework agreement.[51] In its reply to the Statement of Objections ('SO'), Philips downplays the importance of this business cycle and considers that negotiations were concluded continuously throughout the year.[52]

(41) […] at the beginning of a customer relationship, long-term basic supply agreements containing the general terms and conditions of supply are concluded which serve as a framework contract and run for an indefinite period of time. Volume purchase agreements are concluded on a yearly basis. Such agreements include price lists defining the prices per product in relation to the volume purchased during the defined period. While the negotiations on prices and sales volumes take place in general from September to December of each year negotiations on products and projects also happen during the course of the year due to the fast changes on the market.[53]

2.3.3. The geographic scope of the smart card chip business

(42) During the relevant period for the purposes of this Decision, from a geographic point of view, worldwide sales of smart card chips mainly took place in Europe (approximately 70%), with a particular focus on France where numerous suppliers and customers had (and still have) their headquarters. Around 15-20% of sales were

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made to China and the remainder to Korea, Singapore and Taiwan. There were no direct sales to the US.[54]

2.4. Trade between Member States/Contracting Parties to the EEA Agreement

(43) The smart card chip market is characterised by a substantial volume of trade between Member States. There is also a considerable volume of trade between the Union and EFTA countries belonging to the EEA. As described in section 2.3, on the supply side, the major players had their headquarters, sales offices or production facilities in Europe. On the customer side, the most important actors were also seated in the Union, especially in France and in Germany, but with operations across the EEA.[55]

3. PROCEDURE

3.1. The Commission's investigation

(44) On 22 April 2008, Renesas Technology Corp. and all its subsidiaries directly or indirectly controlled by it applied for immunity from fines in accordance with point 14 of the Leniency Notice [56] in relation with an alleged cartel in the smart card chip industry. On 23 September 2008, the Commission granted conditional immunity from fines to Renesas pursuant to point 18 of the Leniency Notice.

(45) On 21-23 October 2008, the Commission carried out inspections under Article 20(4) of Regulation (EC) No 1/2003 at the premises of […], [Samsung] […], [Renesas] […], [Infineon] […], […] and […].

(46) On 27 October 2008, at 6.55 am, […] applied for a reduction of fines in accordance with point 27 of the Leniency Notice. The application was followed by subsequent submissions. […]

(47) On 27 October 2008, at 9.24 am, Samsung Electronics Co., Ltd. and all relevant subsidiaries directly or indirectly controlled by it applied for immunity from fines in accordance with point 8(b) of the Leniency Notice and in the alternative, for a reduction of fines in accordance with point 27 of the Leniency Notice. The application was followed by subsequent submissions.

(48) During the course of the investigation the Commission sent letters under point 12 of the Leniency Notice and/or requests for information under Article 18 of Regulation (EC) No 1/2003 to the addressees of this Decision (also referred to as "parties" or individually "party") and other market participants on the following dates: [...].[57]

(49) On 28 March 2011, the Commission initiated proceedings pursuant to Article 11(6) of Regulation (EC) No 1/2003 against Renesas, Philips and Samsung. On 31 March 2011 the Commission informed […] that it did not intend to address an SO to or

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56 Notice on Immunity from fines and reduction of fines in cartel cases (OJ C 298, 8.12.2006, p. 17).

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impose a fine on […] and that therefore there was no ground to grant it a reduction of the fine under the Leniency Notice either. […]

(50) As provided for in point 29 of the Leniency Notice, the Commission reached the preliminary conclusion that the evidence submitted by Samsung constituted significant added value within the meaning of points 24 and 25 of the Leniency Notice and that the undertaking had so far met the conditions of points 12 and 27 of the Leniency Notice. Therefore, the Commission informed Samsung by letter of 28 March 2011 of its preliminary intention to apply a reduction of a fine within a specified band, as provided for in point 26 of the Leniency Notice.

(51) In April 2011, the Commission started settlement discussions with Renesas, Philips and Samsung, which were discontinued in October 2012. Together with the adoption of the SO, the Commission initiated proceedings against Infineon, Hitachi and Melco.

(52) The Commission adopted an SO against Renesas, Hitachi, Melco, Samsung, Philips and Infineon on 18 April 2013. In their replies to the SO, Philips and Infineon submitted detailed explanations questioning the authenticity of certain documents provided by Samsung after the settlement procedure.

(53) Extracts of Philips' and Infineon's replies to the SO concerning the allegations regarding the authenticity of the documents were sent to Samsung, which provided written comments about these allegations and new documents [...].[58]

(54) On 9 October 2013, the Commission issued a letter of facts by which it informed the parties of Samsung's reply regarding the contesting of the authenticity of the documents as well as of the new documents provided by Samsung supporting the existing objections of the SO and of the way the Commission intended to use those new documents.[59] Infineon and Philips made comments on this letter of facts [...].[60]

(55) The Oral Hearing took place on 20 November 2013.

(56) Following the Oral Hearing, at the request of the Commission or spontaneously, a number of parties made subsequent submissions [...].[61]

(57) On 25 July 2014,[62] the Commission issued a second letter of facts by which it informed the parties about the translations of some Korean documents it intended to use in case of discussion on the quality of the various translations and two documents [...] supporting the authenticity of the evidence it provided after the settlement discussions. Samsung, Infineon and Philips submitted comments on that letter of facts [...].[63]

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3.2. The main evidence relied on

(58) The principal documentary evidence relied upon consists of the documents submitted by Renesas (the immunity applicant), […] (leniency applicant) and Samsung (leniency applicant), corporate statements made by those parties, documents copied by the Commission during the course of the inspections and replies to the Commission's requests for information.

4. DESCRIPTION OF THE EVENTS

4.1. Basic principles of organisation of the cartel

4.1.1. Background to the competitor contacts

(59) There are several aspects of the smart card chip market which are important for the framework in which specific anti-competitive contacts occurred:

(a) the constant fall in prices for smart card chips;

(b) the downstream pressure on pricing and margins from the largest customers;

(c) imbalances in the demand-supply ratio due to the increase in demand and the constant and rapid technological development;

(d) the structure of the contract negotiations with the customers.

(60) First, as regards the fall in prices, it must be noted that the market for smart card chips, in particular the SIM chip business, experienced a constant deterioration of profitability from 1999. The developments in the SIM chip market were of great importance for the whole smart card chip business as it accounted for around 80% of the demand for smart card chips in the period between 1999 and 2007. In this period SIM chips became a commodity product with their average selling price (ASP) falling from EUR 1.1 in 1999 to EUR 0.25 in 2006.[64]

(61) In the period between 1999 and 2001 the smart card chip industry faced limitations in allocating capacity making it unable to meet customers' demand for SIM card chips. [...] the situation changed radically with the entry into the EEA market, as significant players, of Samsung[65] and Atmel.[66] A drastic worsening of the market for suppliers occurred as from 2001/2002 and was caused by a severe fall in demand (especially for SIM card chips), by greater supply capacity and by the aggressive pricing of Samsung and Atmel. [...] the effect of this change in the conditions of supply and demand was to permanently change the SIM market from a relatively

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65 Samsung explains that it decided to enter the smart card chip market in 1998, commencing smart card chip product sample shipments in 1999 and making its first sales in 2000/2001. Sales took off with the first significant sales figures in 2003/2004; [...]; According to figures provided by Gartner Dataquest (see tables in recital (34)) Samsung's market share for smart card chips on the world-wide level was 5% (by value) and 7% (by volume) in 2002; [...]

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high price market to one characterised by 20% annual price falls. While the European manufacturers could, [...], absorb 10% annual price falls by increasing the amount of chips on wafers[67] and as a consequence maintain their margins, the 20% annual price falls were unsustainable and led to large losses for the suppliers.[68]

(62) [...], due to the particularly sharp fall in prices from 2003/2004 to 2006, the smart card chip suppliers engaged in competitor contacts, and exchanges of ″[...]", in an attempt to better understand the extent of and the reasons for this price fall.[69] [...] the contacts with competitors were aimed at slowing down the price fall and avoiding misunderstandings as to specific events that otherwise could have influenced the price negatively. [...] customers often "abused" the fact that the suppliers held a 10-15% volume buffer as stock, that is when customers put their orders on hold, one of the suppliers would eventually yield to customer pressure and offer a lower price. Customers would then force other suppliers to lower prices as well, threatening to take away market share if they did not comply. [...] this explains why pricing overall dropped around 30% on a yearly basis on average and why competitors had an interest in colluding.[70]

(63) [...], the aggressive pricing policy of [...] can also partly explain the decline in the price level[71] and the interest of competitors in colluding. [...] practice of buying market share, that is to say offering lower prices, at low margins, in order to secure volumes, particularly in relation to chips for SIM cards.[72] [...] concurs with this and claims that especially in 2004 its competitors feared that [...] would drive prices down unnecessarily through its aggressive pricing policy, in particular at the main customers Axalto and Gemplus. Aware of [...]'s intentions, the competitors indicated to [...] that it should not be too aggressive or, alternatively, that they would not be as aggressive as [...]. According to [...], its competitors were therefore willing to provide it with information about their own price intentions to create the incentive for [...] not to drop prices too much.[73]

(64) According to [...], Philips engaged in contacts with its competitors with the objective of exchanging market intelligence. However, it considers that those contacts cannot be considered as part of a single "matrix". [...] contends that each contact can only be explained individually as each reflects an individual business relationship between a specific pair of employees of two competing smart card chip producers. [...] Philips' contacts with Samsung can partly be explained by Samsung's willingness to foster

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67 A wafer is a thin slice of semiconductor material, such as a silicon crystal, used in the fabrication of integrated circuits and other micro devices. The wafer serves as the substrate for microelectronic devices built in and over the wafer. IC makers increase productivity by continuously reducing chip size and increasing wafer size to increase the number of chips per wafer. Moreover with larger wafers, less marginal space remains on the edges as a percentage of total space and can significantly increase the yield per wafer.

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relationships with its competitors as part of its effort to penetrate the European smart card chip market.[74]

(65) Second, as regards the pressure on prices and margins by competitors, the downstream smart card market was characterised by a competitive struggle between the two main players Axalto and Gemplus in the period from 2003-2004 until their merger in 2006 which put an end to their price war. [...] this competition led to extreme pressure on the upstream suppliers of smart card chips in terms of pricing and margins. On occasion, the customers would request the suppliers to renegotiate prices midway into the contract period.[75] The significance of the price competition between Axalto and Gemplus is further illustrated by the fact that the outcome of the price negotiations and the price agreed with these two customers would also determine the pricing for the remainder of the market. In other words, the price agreed with Axalto and Gemplus would act as a benchmark price. [...][76] being the largest customers, Axalto and Gemplus would generally get a better deal than other customers. However, their frequent requests for lower pricing in combination with large buying power and price protection clauses caused a continuous decrease in the overall market price. Whenever one supplier lowered its price, its competing suppliers would have to follow suit, and lower their price to maintain market share. In addition, if Axalto or Gemplus were not the main customer of the competing supplier, the latter would, according to [...], also be obliged to lower prices for its more important customer(s). The lower price quote would then be used again by the customers to push other suppliers for lower prices, thus creating a circle of price decline. In practice, as explained[77] by [...], once an annual price had been settled with Axalto and was applicable as of the first quarter, this would often lead to situations where the customers Sagem Orga and G&D, who purchased smart card chips on the basis of quarterly pricing, would approach [...] in negotiations for the second quarter for a price adjustment to bring their pricing more closely in line with that enjoyed by Axalto. There was thus generally a lag of around one quarter between a price being settled with Axalto in annual negotiations and this or a similar price being applied to other customers operating on the basis of quarterly pricing. [...][78] following the merger between Axalto and Gemplus in 2006, the downward pressure on the suppliers eased as the merger led to a stabilisation in the price of smart cards, which was also reflected in a stabilisation of the price for smart card chips.

(66) Third, as regards the imbalance in the demand-supply ratio, the market saw an unprecedented (close to 60%) increase in market demand from 2003 to 2004 (see recital (37)) at a time when the major suppliers were migrating to the 0.18 μm technology (which caused a 15-20% capacity increase). These parallel events caused some disturbances on the market inducing suppliers to seek information on the actual demand-supply balance and opportunities to maintain or even increase prices.

(67) The transparency of general price levels on the market for smart card chips was high, with a very concentrated and competitive downstream market (with the five largest

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customers of smart card chips holding over 70% of the downstream smart card market worldwide, see Table 3 in recital (37)). This transparency is evident from statements (see recitals (65) and (322) and footnote 499) and from contemporaneous documents in the Commission file. For example, an internal [...] e-mail of 8 September 2005 states that an *"[...]"* of lower than expected prices offered to customers […] would have an impact on prices in Europe as well: *"[...]"*.[79] Numerous market reports[80] also contributed to the general transparency of the market in terms of overall volumes and market price levels.

(68) Fourth, as regards the contract negotiations with customers, it should be noted that, as explained in section 2.3.2, the procurement process became more structured and standardised between 1999 and 2006. The suppliers of smart card chips were thus negotiating their annual (quarterly) supply agreements (with the limited number of customers on the highly concentrated downstream smart card market)[81] in parallel to each other.

4.1.2. Principal features of the cartel

(69) The cartel functioned through a network of bilateral contacts between the addressees of this Decision. Through contacts on pricing, production capacity and capacity utilisation, future market conduct as well as on contract negotiations vis-à-vis common customers, they coordinated their pricing behaviour with regard to smart card chips.

(70) On prices, the discussions between the cartel participants varied from discussions of specific prices offered to major customers, minimum price levels and customers' target prices to the sharing of views on the price evolution for the coming semester and pricing intentions.

(71) As for capacity, the cartel allowed the participants to better understand the product line up of other suppliers, as well as their ability to supply card chips. For example, when it could be concluded that a competitor was facing capacity constraints, or even that it was in 'allocation',[82] not being able to meet all the demand, a supplier could increase prices to specific customers (or resist the pressure for decrease) because it knew that the competitor could not expand production at the price requested by the customer. Conversely, in the event that the other supplier had a lot of available capacity, prices could not be increased because the customer could ask the supplier in question to provide additional volumes. This explains, for example why it was important to know when and with what additional capacity yield a competitor would achieve transition to a finer technology (higher number of chips per silicon wafer).

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80 Industry reports were prepared by e.g. World Semiconductor Trade Statistics, Gartner or Frost&Sullivan (see [...]).

81 According to […], roughly 70-80% of the market is covered by 4-5 main customers (depending on the segment); [...].

82 Renesas explains (see [...]) that the term "allocation" is used in the industry to describe a situation where customer demand exceeds a particular supplier's supply and where a supplier therefore needs to allocate available product volumes between its customers. By contrast, Philips argues that the term "allocation" does not necessarily refer to any such undersupply. However, the evidence in the file overwhelmingly supports Renesas' interpretation of the word "allocation".

(72) [...] capacity information in combination with production process information also allowed suppliers to determine their competitor's cost structure, and estimate its minimum price, namely the price necessary to cover its costs. On the basis of this information, suppliers could determine their own price policy. [...] it was thus particularly interested in obtaining information on its competitors' volumes and production processes.[83]

(73) The parties also shared information on internal capacity allocation, capacity utilisation and actual inventory status. Discussions on the contract negotiations vis-à-vis common customers encompassed the sharing of information on the likelihood of acceptance of contractual clauses advantageous for the customer.

(74) The contacts between competitors took place either as face-to-face meetings (primarily in Europe)[84] or via telephone. From [...] submissions it emerges that the telephone contacts were particularly frequent (weekly telephone contacts) between the latter and Samsung in 2003 to 2004.[85]

4.1.3. Timing of cartel contacts

(75) As explained in Section 2.3.2, the timing of the business cycle explains the timing of many of the cartel contacts.

(76) [...] the negotiations for annual supply contracts in the autumn months of each year serve to explain the number of competitor contacts around that period. The frequency of competitor contacts was lower during the first few months of the year because prices had already been determined for the first quarter and indeed, for the main customers, prices were also projected for the second quarter at the time of the annual contract negotiations in the autumn. According to [...], May/June and September/October were more pertinent as customers would try to obtain discounts for the third and fourth quarters respectively. At those times the suppliers had greater incentives to talk to each other about the requests made by customers. [86]

(77) The CARTES trade fair,[87] organised annually in November, also served as an occasion for the cartel members to meet (see recitals (98)-(104), and (126)-(127) on parallel competitor contacts during the 2003 and 2004 CARTES trade fairs; […]. [...] CARTES was significant for the competitor contacts as it took place each autumn at the time the annual contract negotiations – which could last for several months – with the main customers (see recital (38)) had or were about to get started and it provided competitors with the opportunity to meet. [...] by the time of the CARTES trade fair, the customers had already provided suppliers with their target prices and the suppliers had often already submitted their first price proposal to the customers.

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87 The CARTES trade fair, an event organised in November of each year in Paris, is the largest trade fair held worldwide relating to the smart card industry and is the principal fair in the industry's calendar. It brings together smart card chip producers, smart card makers as well as a number of major downstream customers such as telecoms providers, banks and credit card companies. Given its importance, smart card chip producers often schedule the launch of new products around the CARTES fair.

As customers, for example Gemalto, would use those counter-quotes during the negotiations in November/December, it was, [...], important to check with the competitors what they had in fact offered to the common customer, that is to check the validity of the price information of competitors' price offers that the common customer would make use of in the contract negotiations. Meetings during the CARTES exhibitions were therefore crucial as they provided important input for the yearly negotiations with large customers.[88] [...] claims that the CARTES trade fair was a convenient venue for contacts between competing smart card chip suppliers because it brought all suppliers together in the same location over a number of days. With regard to the contacts with Samsung, [...] claims that the CARTES trade fair was an important element explaining the recurring nature of many of the contacts. [...] beyond the annual CARTES trade fair, there was no specific structure underlying the frequency of the contacts with Samsung, save the fact that the timing of those contacts was generally determined by the travel schedule of Samsung's representatives to Europe.[89] [...] argues that the timing of [...] contacts with competitors is not explained by the annual CARTES trade fair or by annual negotiations with customers but, rather, by factors specific to each contact. In relation to contacts with Samsung, [...] many of them took place in connection with the periodic visits of Samsung representatives to Europe. [90]

(78) While claiming that they were legitimate, [...] submits[91] that contacts with competitors mainly took place at trade shows, the most important of which was the CARTES show in Paris, at meetings of the industry organisation SITELESC, at licensing negotiations and in the context of contract manufacturing by [...]. Apart from such instances, competitor contacts/meetings were rare. [...] occasional meetings with Samsung did, however, take place [...], always at the initiative of Samsung, a new competitor on the market at that time, with the intention for Samsung to obtain as much information as possible on the market from its competitors. In addition to this, [...] also had regular contacts with [...] on technology cooperation.

(79) In their replies to the SO and during the Oral Hearing, [...] and [...] generally confirmed the facts, the objections and the legal assessment made by the Commission in the SO.[92]

4.2. The contacts between the parties

(80) [...] considers that in so far as the contacts before September 2003 did not relate to the exchange of pricing or other competitively sensitive information, they should not be included in this Decision. Nevertheless, in so far as contacts outside the infringement period are useful to corroborate the start and end date of the infringement at hand, or to help to understand the case and the complexity of the conduct concerned, they are part of the body of evidence and they may be referred to

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in the Decision.[93] This Decision establishes an infringement of Article 101 of the Treaty, from […] 24 September 2003, […].[94] […].

(81) The following table 4 gives an overview of the competitor contacts described in this Decision ("X" indicates the parties engaging in the contact; "O" indicates the parties whose intentions or other confidential information were discussed by the parties participating in the bilateral contact). […]

Table 4: Competitor contacts […]

DATE	HITACHI/ RENESAS	SAMSUNG	INFINEON	PHILIPS	Participants
[…]					
[…]	[…]	[…]			[…]
[…]	[…]	[…]			
[…]					
[…]	[…]	[…]			
[…]	[…]			[…]	
[…]	[…]			[…]	[…]
[…]	[…]	[…]			
[…]	[…]	[…]			
2003					
24.09.2003		X	X		
26.09.2003	O	X	O	X	
07.10.2003	X	X	O	O	
10.10.2003	X	X			
16.10.2003	X	O		X	
31.10.2003	X	X			
03.11.2003		X	X		[…]
06.11.2003	X		X		
17-20.11.2003		X		X	
	X	X			
	X			X	
	X		X		
		X	X		
2004					
25.01.2004	O	X	O	X	
26&28.01.2004	X	X	O	O	
08.03.2004	X	X			
18.03.2004	X		X		
19-20.04.2004	X	X			
27.05.2004	X	X			
1-8.06.2004		X	X		
24.06.2004	X	X			
30.06.2004	X	X			[…]
13.08.2004	X	X			
09.09.2004		X		X	
		X	X		
10.09.2004	X	X			
	X		X		
02.11.2004	X	X			
04.11.2004		X	X		
2005					
16.02.2005	X	X			[…]
23.03.2005	X	X			

93 Case T-83/08, *Denki Kagaku Kogyo Kabushiki Kaisha and Denka Chemicals GmbH v European Commission*, 2 February 2012, not yet published, see paragraphs 188 and 193.

94 […]

31.03.2005 (01.04.2005)	X		X		
03.06.2005	X	X			
08.09.2005	X	X			

(82) The individuals involved in the competitor contacts held key positions for the smart card chip business in the various companies (see tables 5 – 8).

4.2.1. […]

(83) […] [95]

(84) […] [96] [97] [98]

(85) [...] [99] [100]

(86) […] [101] [102] [103] [104]

(87) [...] [105] [106] [107]

(88) [...] [108] [109] [110]

(89) […]

4.2.2. Contacts in 2003

(90) On 24 September 2003 [...] Samsung met [...] Infineon in Munich to discuss market prognosis, technology issues and pricing for SIM applications. From [...]'s notes[111] of the meeting, it appears that Infineon estimated a much greater demand level for the current year than Samsung, and estimated that the market size in 2004 would be 560 million pieces. The notes also explained the situation regarding its product migration to the 0.13µ technology, which would result in a 20% capacity increase although only 10% of it would materialise in 2004. [...]'s notes state with respect to Infineon that "*even if SIM experiences backwards growth, if there is increase in demand in Banking or ID Cards, a supply shortage is expected.*" The notes also present Infineon's capacity: "*Infineon currently has three (3) factories, including the Taiwan UMC, in operation. The use the same line as the DRAMS, and so depending on the*

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100 […]
101 […]
102 […]
103 […]
104 […]
105 […]. Mpc and later Mp stand for million pieces.
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price change of the DRAMs, there may be supply problems next year. Factories are running at 90% of its full capacity and recently, UMC has notified that there will not be supplemental capacity in 2004.(The price still remains the same). Infineon projects that the capacity that can be added through Shrink is about 20% but taking into account the initial transference number… the surplus capacity that can be expected in 2004 is under 10%". In relation to the pricing of 16K, 64K and 68K SIM card chips [...]'s notes state that "[*i]n terms of the SIM Card market, price of products excluding the 16K product are continuously declining. Other areas such as Banking, ID are stable but pursuant to the expansion of products in 2004, pressure for falling prices is expected. SIM 64K products are at $1.1 for large customers and the price is 5-10% higher for 68K products. 64K products will go under $1 in 1Q in 2004. […] Toward the latter quarters of 2004, it is projected that prices will fall to around 0.8 Euros*." With regard to Schlumberger, a customer, it was noted that "*Infineon is negotiating prices by quarters of the year" and that "[l]ast week, [Infineon] adjusted prices for the fourth quarter*". Infineon confirms[112] that the meeting took place, but claims that the pricing of chips generally or to individual customers in particular was never a topic of discussion. Infineon states that the discussions were limited to general issues such as the overall situation of Infineon and of the industry in general, that the report was exaggerated and that the information could be obtained from other sources. Nevertheless, the documents provided by Infineon in order to support its claims do not corroborate this statement.

(91) On 26 September 2003 a meeting took place in Paris between Samsung and Philips during which [...] Samsung and [...] Philips had a discussion concerning issues that had also been discussed between Samsung and Infineon two days before (see recital (90)). According to an internal e-mail[113] from [...] reporting on the meeting to […], [...] said that during his trip to Europe he had already met Infineon and Renesas to discuss market figures and trends. During the meeting the parties first exchanged views on the size of the SIM market, the market shares of the main competitors and the expected market demand in the next year. Second, they discussed the migration to new technology: according to the aforesaid internal e-mail of [...] that while it gets 30% more chips from the new CMOS[114] 18 wafers, Infineon claimed (see recital (90)) to get only 20% more. Finally, they disclosed their pricing positions on 64K chips for SIM applications. [...] that it had to fight internally[115] for wafers and therefore had to *"generate at least $2,500/wafer (selling price)"*. Therefore, as [...] explained, the USD 0.80 price requested by a major customer, Schlumberger[116] for the year 2004 for 64K capacity chips was not acceptable, generating a revenue of only USD 1800-1900 per wafer. Then he said that Samsung's current price for Schlumberger was USD 1.10-1.15. [...]'s internal report[117] on that meeting also confirms that the parties' discussion related to the same issues discussed previously between Infineon and Samsung, that is expected market size, technology transition and 64K chip pricing. According to [...]'s internal report, Philips reported its

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114 Complementary metal–oxide–semiconductor (CMOS) is a technology for constructing integrated circuits.

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estimation of the demand size for 2003 and 2004 (480 and 550 million pieces, respectively). Philips presented the status of its migration to the 0.18µ technology and, similarly to what Infineon told Samsung earlier, it explained the "*large number of products […] transitioning to 0.18u products"*. In addition, Philips explained to Samsung that *"The focus product for 2004 is expected to be 0.18u but it is almost certain that there will be a shortage of 0.18 products. If demand for 64K products increase next year, most companies will need to use 0.18u as the substitute. There will then be a world-wide shortage of 0.18u products […] Philips has already started in the 4th quarter the allocation of 0.18u products according to Wafer Revenue. Should the Wafer revenue fall below $2000, supply will be difficult*". Philips then stated that its current price vis-à-vis Schlumberger for 64K chips was USD 1.15 and that Schlumberger had made a request to Philips for a price of USD 0.80/chip for 2004. Philips had indicated to Samsung that its "*position was not to go under $1.00[per chip] (which is consistent with its position vis a vis Gemplus and Philips' sales to SLB is relatively small, so sales not happening is not significant)".* Furthermore it explained that its *"wafer revenue for 64K is approximately $2500 and it is not possible to receive products at $0.80*". The report finishes by stating that "*Philips' focus business for Smart Cards in 2004 will be 0.18u products and a shortage is certain*". Philips contests the reliability of that evidence as it comes from a single source and contains "factual inaccuracies". Nevertheless, [...] was a direct and privileged witness who participated in most of the meetings and as such, his statements may be regarded as particularly probative.[118]

(92) An e-mail of 7 October 2003 from [...] Renesas, replying[119] to an e-mail of [...] Renesas […][120] concerning contract status with Axalto[121] refers to his contact held the day before with his *"friend"* ([...])[122] at Samsung. According to the e-mail, Samsung told Renesas that it had not yet concluded its negotiations with Axalto on the 2004 supply contract and that it would quote a price only for the coming quarter and then renegotiate quarter by quarter. [...] presented Samsung's current quoting price for 64K chips unsawn (that is basic silicon wafer which has not yet been diced into individual chips) as being EUR 1.10 to EUR 1.20 *("[...]'s] current 64K pricing is 1.1E to 1.2E unsawn"*) and that he had "*spoken to Infineon and Philips who agree for 64K that 0.95E 1H/04, 0.9E 2H/04 [was] market pricing but problem is Atmel who are buying share at 0.80E however their capability to supply significant share is questionable*", that is to say that for 64K chips the market pricing in the first half of 2004 was to be around EUR 0.95 and down to only EUR 0.90 in the second half of 2004.[123] [...] Samsung had further indicated the position of Atmel as problematic as it was *"buying share at 0.8E"*, that is [...] had passed on, as [...] it, the growing concern of suppliers that Atmel was *"buying"* market share by offering low pricing. [...] submits that during that contact [...] had most likely also shared his own view of the 2004 pricing with Samsung.[124] As a response to [...]'s report, [...] concluded in his e-

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118 Case C-239/11 P - *Siemens v. Commission*, not yet reported, at paragraph 169.

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mail[125] that a EUR 1.30 price for Renesas' older 64K device (the AE46CG) was too high and that it would need to speed up the launch of its new device in the 64K category (the AE4602), concluding further that EUR 0.90 would be the market price for 64K chips for the *"qualified suppliers"*, that is "*Samsung, Infineon*", whereas EUR 0.80 would *"[make] sense"* for the *"new entrants"*, that is "*Atmel, Renesas*".[126]

(93) On 10 October 2003 [...] Renesas sent an internal e-mail[127] reporting on his direct discussions on that date with [...] Samsung concerning the two parties' price intentions towards Mesa, a customer of both companies. [...] that at the time the two companies were the principal, if not the only, suppliers of Mesa.[128] The discussions related to the price offered for 32K SIM applications (AE4501 chips or equivalent) for the first quarter of the contract year 2004 which Samsung was reported as having offered for the price of EUR 0.75. [...] reports as follows: "*I have spoken directly to Samsung and can confirm they already offer optimised 32K device at 0.75E COT therefore we either 'hold on' to this customer with special pricing in Q1 and a firm commitment for new devices in Q2 or risk losing them completely*."[129] According to the internal report, Mesa had indicated to Renesas that Samsung was offering the 32K chips for EUR 0.75 and due to Renesas' *"price policy and lazy introduction of new products"* it would be losing a share of Mesa's demand for SIM chips *("From a share of 90% in the past we are going to 20%"*).[130] [...] that in order not to lose the customer altogether [...] contacted [...] in order to confirm whether Samsung's quote, as alleged by Mesa, was indeed correct. Following the contact between Renesas and Samsung, Renesas adapted its original price offer to Mesa, thus securing an order from it.[131]

(94) On 16 October 2003 [...] Renesas had a lunch meeting at the Quai Ouest restaurant in Saint Cloud with [...] Philips to discuss the market size for smart card chips in 2003, the competitors' business strategies, prices and capacity.[132] According to [...]'s hand-written notes[133] of that meeting, the parties discussed, first, Samsung's supply capacity for 0.18µ chips and Samsung's position on minimum prices that needed to be generated for 0.18µ wafers, an issue that had been presented by Samsung to Philips some weeks previously (see recital (91)) *("Samsung: 0.18 ICC in compet with DRAM/FLASH. $2500 rev. per wafer MIN"*). Next, [...] explained to [...] that Philips' 0.18µ production capacity was *"full"* and that its 0.35µ production capacity was *"reasonably high" ("PHILIPS. 0.18u full (own capacity) […] 0.35u reasonably high"*). With respect to 64K capacity chips, [...] had reported, according to [...]'s notes, that Philips' sales price would be EUR 1.00 or above in 2004 ("*PHILIPS. […] 64K ≥ 1€ in any case for 2004*"). Finally, [...] had reported that Philips was supplying large volumes of 16K chips and was moving away from 4K chips for EMV banking

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133 [...]'s hand-written notes are dated 17 October 2003, but [...] indicates that the meeting in fact took place on 16 October 2003 at the Quai Ouest restaurant as confirmed also by the Renesas expense record of this lunch, see [...].

applications ("*PHILIPS. […] Supply a lot of 16K (to [Gemplus]?) / Give up big biz for small die (4K EMV?)*").[134] [...] that the information that [...] Philips had given regarding Samsung had most likely been sourced from Samsung itself as information on internal revenue targets per wafer would not be publicly available. [...] during the discussions on capacity and prices, [...] had presented Renesas' capacity situation and anticipated price for 64K capacity chips for 2004 in similar language to [...].[135] [...][136] […] a meeting between [...] and [...] took place on that date and […] general market intelligence on the estimated size of the SIM demand for 2004 was discussed during the meeting.[137] [...][138] [...] Philips met at least twice with [...] Renesas during this period and discussed how Samsung were meeting all the industry players and seeking market intelligence from them. According to [...], it was commonly known in the industry that such meetings were being organised by Samsung. Philips argues[139] that [...]'s handwritten notes are not reliable because they are one-sided and were written on the day after the meeting. However the author, [...], was the person directly involved in the contacts with Philips. Moreover, the fact that information is reported second hand has no influence on its probative value whereas the fact that documents are drawn up immediately after the meetings must be regarded as having great significance.[140]

(95) On 31 October 2003, a telephone contact took place between [...] Renesas and [...] Samsung. An internal e-mail[141] sent the same day by [...] reports on this contact to, among others, [...], […] and [...]. [...] reports that he discussed the "*Q4, Q1 market demand especially SIM*" with [...]. [...] that at the time, it considered that the market was moving towards allocation in view of the rapidly growing demand for smart card chips, and therefore [...] was surprised to hear that Samsung was not experiencing the same growth in sales. For Samsung, Q4 demand had instead, as emerges from the e-mail, "*reduced compared to Q3 as bad forecasting had resulted in no extra factory capacity*". [...] also indicated that he would "*follow up again with [...] Samsung] (and others) at Cartes so we can maximize our gain in 03S*".[142] In reply to [...]'s report, [...] confirmed in an e-mail[143] that he had *"met with [...] a few weeks ago*" and during that meeting [...] had expressed his anxiety about the internal Samsung allocation of production capacity between smart card chips and LCD drivers.[144] Upon reading [...]'s report of his contact with Samsung, […] and [...] Renesas responded in their e-mails[145] of 31 October 2003 that Renesas should consider increasing its prices for devices in which it was in competition with Samsung ("*Do we leader of price about AE350, AE340 and 3161?", "we should think about keeping price as much as high*").[146] [...] indicated in response that Renesas would have to "*judge pricing policy*

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136 Providing a copy of [...]'s calendar entry confirming the meeting at the Quai Ouest restaurant [...].
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140 T-343/06, *Shell Petroleum and Others v Commission*, not yet published, paragraph 207.
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carefully as others like Infineon [could] still supply" and assuming the information received from Samsung was true, Renesas "*should capitalise upon it to maintain a strong share of the 'volume zone' and 64K business*".[147] Upon [...]'s suggestion to "*check about Infineon capacity situation, too*", [...] replied that he hoped to "*meet Infineon […] for dinner on Thursday*" (see recital (97), below) and that he would try to "*confirm competition status at Cartes later [that] month*".[148]

(96) On 3 November 2003 [...] Samsung internally reported to [...] in an e-mail[149] on a phone call received on the same day from [...] Infineon. Infineon called to ask for Samsung's opinion on a price increase of a competitor. [...] told him that "*I told him that they can manage with just not lowering the price"*. He also asked [...] to "*discuss next year's price with [...]*", so he drew [...]'s attention to a future call from Infineon. [...] also expressed his expectation that there would be "*a discussion*" with Infineon at a meeting planned for 17 November in Munich. Then he explained that "*I understand that Infineon's price is slightly higher than ours now. Last time (early October) they said that they would lower the price by 10-15%. I think they are going to stick to that price.* Finally, he warned his colleague in Europe as follows: "*Be careful not to leave any documents or records when you contact competitors but only make oral communications to avoid any problems with the Antitrust Laws*". That e-mail shows that Samsung and Infineon discussed and exchanged future price information. Infineon contests the authenticity of the document and therefore the occurrence and the content of the contact. This issue will be discussed in Section 5.2.2.

(97) As already indicated by [...] Renesas to his colleague [...] (see recital (95)), and as shown by some e-mails[150] on the organisation of and reporting on it, a meeting with Infineon did take place on 6 November 2003 in a Tokyo restaurant between [...] Renesas and [...] Infineon's Tokyo office. The day after, [...] confirmed to a colleague that during that meeting Infineon said that it was experiencing "*an upturn in Q4 and flat Q1*", that is to say it was experiencing, just like Renesas, strong demand in Q4 of 2003 and while [...] had concerns relating to the real demand level in the first quarter of 2004, he had no information whatsoever that would have supported those concerns.[151]

(98) On 18-20 November 2003 at the CARTES 2003 trade show in Paris the competing smart card chip suppliers met bilaterally to discuss the market for the year 2004.[152] In an internal Renesas e-mail[153] of 26 November 2003, [...] reported that at the 2003 CARTES trade show he had met with "*most competitors and customers including […] Infineon, Samsung, Atmel, Philips and ST*". [...] confirms[154] that [...] met with [...] on 18 November 2003 whereas [...] confirms[155] that [...] Samsung met with [...] Infineon, [...] Atmel, [...] Philips and [...] Renesas before and during the CARTES

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trade fair on 17-20 November 2003. [...] has also submitted the internal reports[156] of [...] on those meetings.

(99) In the report[157] that [...] Renesas attached to his e-mail[158] summarising the "*key information that [...] Renesas] and other members of the [Renesas Technology Europe] team gathered*" from customers and competitors at the 2003 CARTES trade show, it is stated that *"[m]ost silicon makers [that is smart card chip manufacturers] agree they wish to avoid further significant price erosion in all applications including finance and mobile communication during 2004; common policy on pricing looks like 'wait and see' what the Q2 'real' demand is*".[159] With respect to the capacity situation, it is stated as follows: *"[F]ear of silicon shortage at finer geometries; 2004 chip price will be determined by capacity limitation*".[160] [...] that this conclusion was drawn from [...] and other Renesas representatives' (including [...]) discussions during the CARTES trade fair with the company's competitors.[161]

(100) According to an internal business trip report[162] of [...], a meeting took place on 17 November 2003 between [...] Samsung and […] Infineon[163] to discuss the market outlook for 2004 and other issues. Infineon denies that the meeting took place. Nevertheless, the existence of the meeting is confirmed by an e-mail chain between Samsung and Infineon in order to schedule the meeting and an internal e-mail of Samsung concerning the reservation of the airplane and a rental car for the 17 November 2003.[164] Infineon forecasted a "*bright market*" with competition getting severe only in the second half of the year. It saw that the main "*battle-field*" would be the 64K chip market concerning which it was already struggling and complaining due to price drops. It considered that around 70% of the estimated 600 million units to be sold in the market would consist of 32K and 64K chips. Infineon also disclosed that it was still producing with the 0.22µ technology and was in development phase with the 0.13µ size. Infineon informed the Samsung participants about the development of the 0.13µ process and its intention to "*release it for the press in Cartes*". With this, Infineon confirmed again what was told in September (see recital (90)) concerning expected capacity shortage. Infineon also contests the authenticity of the documents provided by Samsung. This issue will be discussed in Section 5.2.2.

(101) With regard to the meeting between [...][165] Renesas and [...] Samsung, [...] internally reported[166] that [...] had *"[n]o intention for further price reduction on short term, wait and see for Q2 and further*". [...] further submits[167] that it explained to [...] that it was running at almost full capacity. According to [...]' internal report, [...] had also reported on the process technology transfer to 0.18 µm, indicating that "*the transfer*

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on 0.18u will drive 15% capacity increase".[168] [...] has confirmed[169] that a meeting took place and recalls that the two competitors had discussed the reason for a sudden price decrease on the market with [...] explaining that the low prices were not a sign of Samsung's aggressive pricing policy, but were the consequence of Samsung selling its older products at a reduced price. The internal report[170] of [...] Samsung sets out the price related discussions of the parties. [...] explained that for 2004 it "[...]". [...] also noted that *"Renesas requests the price strategy of Samsung, so I will correspond properly".* The report also shows similarity with the discussions held the day before between Samsung and Infineon (see recital (100)), as [...] that it also expected "*pretty good*" demand in 2004 but worried about it after the second quarter. [...] also said that its supply schedule is *"*[...]*",* meaning that it started to experience capacity constraints. It also explained that due to some problems it could only start the production of 0.18µ products in its German factory in 2004. [...] further confirmed that its view was that Samsung was leading the 0.18µ market.

(102) With regard to the meeting between Renesas ([...]) and Infineon during the CARTES 2003, the issue of capacity was discussed. According to [...]' notes [...] had disclosed its plans for migrating its process technology and that it was running close to full capacity in the fourth quarter of 2003 and the first quarter of 2004 ("*Close to capacity in Q4/Q1 (90% range)*"). [...] indicated that, similarly to its discussions with [...], [...] disclosed to [...] that it was itself running at nearly full capacity.[171] Infineon claims that the Commission does not have any evidence showing that this meeting actually took place. Nevertheless, this is contradicted by an internal e-mail of Renesas, dated 26 November 2003[172], which states that [...] "*held meetings with most competitors including […] Infineon*". In the document attached to the e-mail, there is a summary of the information concerning each competitor. As mentioned above (see recital (95)), this information was important for [...] to see how freely it could decide on pricing, and this discussion was planned in advance, namely in late October.

(103) With regard to the meeting between Renesas ([...]) and Philips ([...]), the two parties discussed the price for EMV[173] (banking applications) and 64K chips.[174] According to [...]' contemporaneous notes, [...] was reported as saying that its target was profitability and it was therefore "*ready to give up some business; will refuse to continue price battle on EMV (no fun below 0.4€) and 64K SIM IC*".[175] The Commission notes that this is neither the kind of language nor the kind of information which is usually disclosed publicly or to customers. Indeed some of the evidence in the file attributes this information to clear "quotes" from [...]. [...] that this information provided it with indications that [...] was facing problems in the banking applications business and not only in SIM applications business which it was expected to disengage from.[176] It also emerges that [...] had indicated that it was

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173 EMV stands for "Europay Mastercard Visa" and is a smart card chip specification for banking applications.
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running at full capacity and had migrated to the 0.18µ process technology ("*Production is on 0.18u, running now on full capacity*") and Renesas would have disclosed to Philips that it too was running at near or full capacity.[177] Philips contests the occurrence of the contact, alleging that the only evidence is to be found in [...]. Nevertheless, besides [...] oral statements, there are also notes from [...] attached to an internal email of 27 November 2003 that corroborate the occurrence of the contact.[178]

(104) On 19 November 2003, […][179] [...] Samsung, his meeting with [...] Philips was cancelled and the two parties only had a phone call. Philips informed "*that they raise price in 200[4] Q1*". It also confirmed that "*the supply of 0.18u CMOS is most difficult and will be worse after Q2*". [...] also had information that Atmel was struggling with yield and quality problems and was therefore facing capacity issues and was therefore expected to raise prices. [...][180] that on 17 November 2003 a meeting took place between [...] Samsung and [...] Philips, submitting a calendar entry[181] mentioning [...] for 18 November. [...] the topic of discussion was the exchange of market intelligence on the size of SIM chip demand for 2004. However from the meeting request sent by [...] to [...] on 10 November 2003 by e-mail,[182] it emerges that the proposed agenda would include "*2004 market forecasting and price trend/Capacity issue/0.18u process migration*", that is to say not only exchanges on SIM chip demand but also the parties' respective capacity situation, pricing for 2004 as well as the impact on the market of the migration to the new process technology 0.18 µm, that is the issues which were discussed according to [...]'s internal report. Philips contests the occurrence of the phone call alleging that the call is not supported by [...] and that [...] Philips does not remember such a phone call. Nevertheless, it emerges from [...]'s report that "since the schedule has been changed, we [...] talked on the phone shortly".[183] Philips contests the authenticity of the internal Samsung report. This issue will be discussed in Section 5.2.2.

4.2.3. Contacts in 2004

(105) On 15 January 2004, [...] Renesas raised internally in an e-mail[184] the need for Renesas to find out what Samsung's "*business policy, target customers, technology and product availability, price projection, production capacity*" was, in order to successfully penetrate the […] SIM market. In response to [...]'s e-mail on this issue, [...] wrote to [...] Renesas that he would visit his "*good contacts […] in Samsung Korea*", including [...], to exchange "*appropriate market information*". In a subsequent reply e-mail[185] [...] expressed that "*the meeting with Samsung's […] is quite useful for us.*"

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(106) On 25 and 26 January 2004, [...] Samsung contacted both [...] Philips and [...] Renesas by two almost identical e-mails.[186] As emerges from the e-mails dated 25 January 2004 and 26 January 2004 respectively, [...] requested both Philips' and Renesas' views on the companies' inventory situation ("*I would like to ask some question below to monitor global inventory of SIM card*"). [...][187] that at the time [...] Samsung was preparing a SIM inventory analysis and for this purpose he wished to know, in particular whether Renesas was experiencing any stock or inventory issues. [...] explained in his e-mails to both [...] Philips and [...] Renesas that he wanted to "*share with you what is going on this market carefully*" and told that he would engage respectively in "*similar discussion with Renesas [a]nd Infineon*" and "*similar [d]iscussion with Philips [a]nd Infineon*".

(107) [...] explains[188] that [...] Philips did not provide [...] Samsung with the requested information but in a reply e-mail[189] of 9 February 2004 asked whether [...] would be available for a meeting during the 3GSM conference on 24 February 2004. Due to his absence at that event, [...] declined the meeting and suggested instead a meeting during his visit to Europe in *"March or April"*. Philips argues[190] that [...]'s renunciation shows that this contact did not actually take place. However the reply of Renesas to the same email (see recital (108)) shows that the contents of Samsung's request was very clear about the subject the latter wanted to discuss with its competitors and is sufficient to establish that what had been the subject of discussions until then was still ongoing at the time of the request (and of the reply).

(108) In response to Samsung's request of 26 January 2004, [...] replied on behalf of Renesas in an e-mail[191] to [...] on 28 January 2004 that Renesas had concluded that *"no excessive inventory"* existed and provided [...] with Renesas' internal SIM inventory analysis for 2003 and 2004. [...] proposed the updating of this analysis based on the *"latest findings"* of [...]'s investigations. [...] further suggested a meeting with [...] in Seoul on 8 March 2004.

(109) The meeting proposed by Renesas concerning [...]'s query in January 2004 (see recital (108)) took place in Seoul on 8 March 2004 between [...] and […] of Samsung and [...] Renesas.[192] As mentioned above, at least as from late 2003 a possible capacity shortage and the effects of migration to the 0.18µ technology were at the forefront of competitors' discussions. As [...],[193] [...] was particularly interested to know Samsung's capacity situation as Renesas heard at that time from customers that the competing smart card chip suppliers Philips, Infineon and Samsung had announced that they were in allocation from the second quarter of 2004 onwards. In fact such news had already prompted [...] Renesas to give internal instructions on 5 March 2004 to all sales teams *"not to accept any price reduction requests"* from customers.[194] During the meeting of 8 March 2004 of Renesas and Samsung, the two

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parties discussed pricing and capacity for 2004. According to [...]'s internal e-mail[195] which reported the meeting, [...] said that "*2004 will be a good year with stable demand however as more devices are migrated to [0.18 process technology] by all suppliers capacity will increase and price battle may restart by Q4*". [...] had further indicated that at present there was "*no need to offer low ball pricing to MNC's*", that is to say multinational customers like Axalto, Gemplus and G&D, but that Samsung might be more aggressive with pricing at Gemplus, where it was trying to gain a presence.[196] [...] also received confirmation of Samsung's insufficient capacity and allocation situation by way of [...]'s statement that Samsung was *"booked out in Q2"* and could not take additional orders and that it had been *"prioritising"* their supplies to Axalto and G&D. [...] had also added that he was "*confident [Samsung] have sufficient 0.18u capacity to realise demand from Q3*", that is Samsung would have sufficient capacity to exit allocation and meet demand as of the third quarter of the year.[197]

(110) On 18 March 2004 a meeting between Renesas and Infineon took place at Infineon's premises in Munich.[198] The participants at that meeting were […] Infineon and [...] Renesas. Infineon admits that the meeting took place but contends that it was not anti-competitive as it was in the framework of the licencing negotiations with Renesas. Nevertheless, an e-mail from Renesas[199] clearly shows a first part discussion on licencing issues and a second one as a "side discussion" about capacity and price. Indeed, [...][200] that although the meeting itself focused on various aspects of a planned technology cooperation, a short side discussion between [...] and [...] took place after the meeting covering the same topics that were discussed between Renesas and Samsung on 8 March 2004, that is capacity situation and pricing intentions. As the internal e-mail[201] of [...] Renesas in which he reported on the side discussions puts it*:*

"- Infineon booked out Q2 and may have capacity issues in Q3
- Infineon considering price increase particularly for 16k product
- Infineon see AE5 as a success and No2 to SLE88 in the 32 bit race
[…]
-Infineon hears rumours doubting Philips long term future in smart card"

(111) [...] submits[202] that [...] also confirmed to Infineon that Renesas was in allocation[203] and that it was planning to maintain prices. Infineon confirms[204] that a side meeting took place on that date between [...] Infineon and [...] Renesas denying that it related to prices. [...] submits[205] that based on that discussion, [...] Renesas pointed out in an internal Renesas e-mail of 31 March 2004 concerning price negotiations with the

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customer Mesa, that he was *"sure Infineon are currently increasing their 32K pricing therefore no need for us to make unnecessary price reduction"*.[206] [...][207] that [...] wished to convey the message to his colleagues that there was no need to overreact to customer requests and reduce prices unnecessarily.

(112) An internal e-mail exchange[208] of 13 April 2004 between [...] Samsung shows that [...] was called by someone from Philips who was *"complaining that our 64K product is too cheap"* and who explained that the customer Axalto was selling large volumes based on that product for EUR 1.1. [...] requested [...] to find out if the information was "true". In reply to this [...] wrote that it was unlikely that Axalto would confirm the news to him as this would be an admission that the customer fooled the suppliers' sales people during price negotiations. He instead asks [...] for the contact details of the Philips contact to discuss the issue with him in Paris the coming week and that he would *"tell him we increase the prices if it is true"*. Philips contests the authenticity of this document and therefore the occurrence of the contact. This issue is discussed in Section 5.2.2.

(113) On 19 April 2004 a conference call between [...] Samsung and [...] Renesas took place in which demand for certain products, capacity and pricing were the subject of discussion.[209] Evidence of this contact is found in a set of e-mails[210] between [...] and [...] in the run-up to the telephone contact as well as [...]'s internal Renesas e-mail[211] report of 19 April 2004 to colleagues involved in smart card chip sales in Europe (including [...]) as well as senior management in Japan ([…], [...] and [...]) about the content of the *"private conversation"* she had had with [...]. With regard to 16K chips, [...] reported that [...] had stated that *"16KEEP demand […] really booming, Q1 Samsung billing for this area was approximately 5 to 6 Mpcs/Mo[nth]"* and *"Still Q2/Q3 16KEEP demand looks high (more than Q1)"*. In terms of capacity the *"smart card demand/supply ratio is approximately 80% (mean they deliver 80% to total demand in Qty base"*. [...] was reported as saying that he was *"fighting"* for capacity internally with LCD microcontroller and other businesses within Samsung, and was expecting it to increase by the second half of 2004. With regard to pricing [...] had indicated to [...] that *"[h]e hasn't decided to increase price yet, but watches market carefully"*.[212] [...] also indicated that he was to visit Europe in June again. In an e-mail[213] sent on 20 April 2004 by [...] Renesas presenting an internal monthly report ("*March 2004 Monthly Report*"), circulated within Renesas, the same information on Samsung's capacity situation can be found. [...][214] that [...] was in direct contact with [...] around the date of 20 April 2004. In the monthly report reference is made to the fact that Samsung was "*saying they are still delivering 5 to 6Mp/month on 16K*" and this represented "*overall 80% achievement versus demand*". [...] this meant that Samsung was not in allocation in relation to the lower-end 16K products. [...][215] that

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while the information provided by Samsung showed that it was still focusing on 16K products, Renesas had shifted its focus more to 32K and 64K products. [...] that this information was reassuring regarding its pricing for 32K and 64K products to Axalto, for example, a customer for which Renesas and Samsung were in direct competition.

(115) Further evidence of price coordination between Samsung and Renesas is found in an internal Renesas e-mail[216] of 27 May 2004 in which [...] Renesas reports internally of his contact[217] with [...] Samsung on or around that date. Having agreed that the price fall on the market was partly driven by the aggressive attempt of Atmel and Samsung to gain market share, the parties discussed future price developments. It was suggested by Samsung that the aggressive phase of market acquisition was softening, and that "*Samsung has already taken a tougher stand in pricing/contract*" and *"[Samsung] have significantly increased the price for 16K, beyond the contractual volumes in 2004*" and refuses "*to sign new SDC[218] with 'max price matrix'*". At the time of the discussion, contract negotiations with Axalto for the year 2005 were about to begin[219] and [...] that Axalto was upset because of the 2005[220] prices envisaged by Samsung. Samsung presented the following views on pricing for 2005: "*16K price: above 2004 contract price, but below revised 16K price; 32K price: if possible same as 2004, likely a bit lower (we know he sells now 32K at USD 0.43); 64K/128K: reasonable price erosion as "normal" for high end devices, not yet in very large volumes They would like to keep 2005 biz stable in value vs 2004*". The information provided by Samsung was considered encouraging "*in the direction of limiting the price erosion in 2005*" by [...]. [...],[221] [...] also told [...] Samsung that Renesas would try to limit the decrease in price, and that it was also unhappy with the requirements of the SDC suggested by Axalto which it considered as going too far. As the conclusion to his e-mail report, [...] asked the recipients to dispose of the e-mail from their computers ("*After reading it, Pls ERASE completely this mail from your computer. Thanks for understanding.*").[222] In an internal weekly report[223] of 28 May 2004, [...] states further that Samsung was *"[e]xpecting now to increase revenues on Smart Card and willing to stop price erosion especially on 16K and 32K.*" and that "*Atmel will remain the only real 'unpredictable' threat.*" [...] has denied that any discussion of the smart card business trend took place at this meeting, and has instead explained that [...] met with [...] in connection with the potential hiring of the latter by Samsung.[224]

(116) Between […] 2004, […]. Competitor contacts took place on that occasion. An internal Infineon report in an e-mail[225] sent by [...] and [...] to [...] makes it clear that

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217 [...] believes it was a lunch meeting at a restaurant in Le Plessis-Robinson in the Paris area (see [...]). This is confirmed by an expense report submitted by Samsung which states that the meeting took place in the proximity of Le Plessis-Robinson, at Chatenay Malabry (see[...]).

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220 [...] though the text refers to 2003 prices, it is in fact a typographic error and the discussion in fact related to 2005 prices ([...]).

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the two Infineon employees had contacts with Samsung and Renesas. According to Infineon's internal e-mail, Samsung considered that "*the 16k prices have been kept or increased wherever possible. For 64k Samsung wants to keep the price flat next year: 'We have learned the lesson from the 16k'*" and that "*Samsung believes that they can bring the cost down with a skink of the 16k towards 0,18µm but it is not sure about the market development of the 16k market* ". [...] also explained as attested by the report that its "*Fab load is very high*" but that it "*also sees a stock building and expects the bubble to burst at the end of 2004*". Concerning technology development it disclosed that it "*will introduce 0.15um early samples in Q3*". This e-mail shows that Infineon received information from Samsung about the latter's capacity situation and future pricing policy.

(117) From an internal Renesas e-mail[226] of 24 June 2004 it emerges that [...] Renesas and [...] Samsung discussed capacity during a phone contact on 21 June 2004. According to [...]'s internal reporting, [...] had indicated that Samsung believed that "*allocation will continue through Q1 2005*" with Samsung *"rapidly trying to bring online new 0.18u capacity to address this demand"*. [...] that the confirmation [...] that it was in allocation and was struggling to meet demand gave it comfort in price negotiations with its customers.[227]

(118) As indicated to [...] Renesas in April (see recital (113)), [...] Samsung visited Europe in June.[228] On 30 June 2004 a dinner meeting took place at a restaurant in Paris between [...] Samsung and [...] Renesas.[229] [...][230] the parties discussed during the meeting the demand and supply situation on the market, the prospects for price increases as well as Samsung's business strategy. At the time the market was still in allocation providing suppliers of smart card chips the possibility to increase prices.[231] In this context Samsung had indicated that it was planning to increase price for quantity above contract, as emerges from the e-mail[232] of [...] 2 July 2004 ("*Samsung: target is 180Mu this year, still delivering large quantity of low end 16K (10Mp/m). Will also increase price for quantity above contract*"), that is to say quantities booked above the previously contracted volumes.[233] [...] the internal report[234] of [...] on the 30 June 2004 meeting. The report shows that the agenda related to SIM card forecast for the end of 2004 and for 2005, the migration status to 0.18 micron technology and the demand and supply status for SIM cards. [...] noted that a purpose of the meeting was to establish [...] as an important contact after he had replaced [...], [...]'s former counterpart. The report reads concerning capacity status that "*Renesas' capacity for the Smart Card is 8 inch, 14K and this is the same number that [...] Samsung] heard in Japan. There is no plan to increase in the second half, it allocates more for LCD Dirver IC. Currently, fulfilment percentage for customer's demand is 85% and it will be down to 75% in 4Q.*" [...] that despite

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229 [...] contemporaneous evidence of the setting up of the meeting is found in the form of a telephone record and restaurant bill, see [...]
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giving a large rebate to Axalto, it was disappointed as it remained difficult to get additional orders and business results did not become better. Having discussed business opportunities, the parties turned to the discussion of pricing. The report says: *"(Renesas') price currently being negotiated with Axalto in 2005 is following (This is the price requested by Axalto and it is 15-20% lower than the current price). 36K 0.40 Euro →$0.50 (Renesas is doing business in Euro and they are currently selling mostly 36K products). 64K 068 Euro→$0.85, 128K Cryoto 1.99 Euro→$2.49.*" The report also states that Renesas was still developing its SIM demand model and was open to cooperating with Samsung on it. The next meeting was planned for September in Korea.[235] [...][236] that during the meeting the parties discussed the prospects of price increases, with [...] saying that with regard to demand Samsung was contemplating a price increase, and asking what Renesas' opinion would be. Renesas responded that it was naturally not against an increase. [...] disclosed Samsung's intention to increase prices for quantities which were booked in addition to the quantities already contractually committed, and also that he said that it would be time for "*peace*", that is to cease Samsung's market buying strategy, to which [...] responded that it would be a good idea. [...] perceived [...] as giving a strong message to Renesas not to cut prices and [...] came away from the meeting with the impression that Samsung was not likely to cut its prices.[237]

(119) The recollection of [...] on the content of the dinner meeting discussion of 30 June 2004 is confirmed by several indicia in contemporaneous documents. An internal Renesas "*Mobile Security Monthly Report*"[238] of 16 July 2004 shows that Samsung had "*no further plan to 'buy' market share at any price*" and is "*considering increasing prices for extra quantity above contract*". An internal Renesas slide presentation entitled "MSBG Sales Meeting July 2004"[239] shows Samsung saying with regard to Axalto to "*follow Atmel for price increase policy", that is to "increase price for qty above contract*".[240] Finally in an internal Renesas e-mail[241] of 2 August 2004 written by [...] concerning contract negotiations for SIM chips with Gemplus, it is reported, based on the contacts with Atmel and Samsung, that "*all our competitors are reporting their intention to stabilize or increase their price*".

(120) On or around 13 August 2004 [...] Samsung called [...] Renesas concerning a request for tender for 20-30 million pieces of SIM chips issued by Gemplus at a target price of EUR 0.43. [...] called as Samsung lost the tender and he wanted to know whether Renesas had won it.[242] [...] that it understood from [...] that he was calling around his competitor contacts to find out who had won the Gemplus order. It had particular importance to Samsung as it seems that while [...] had come to a certain view regarding market pricing, it was subsequently undercut by the company that had won the Gemplus tender. [...] this showed that [...]'s plan to stabilise prices had not worked out in practice. [...] considered that the fact that other suppliers would be able

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to meet such a large order and the aggressive target pricing set by Gemplus strongly suggested that the market was no longer in allocation as apparently all the suppliers were battling for this order.[243] According to [...]' internal Renesas weekly report[244] "*Samsung have confirmed they have not decrease[d] the 36K price at Gemplus (20Mp lost business for Renesas) […] now suspecting Atmel to continue to drive price down, despite different message from their Management*".

(121) On 9-10 September 2004 [...] Samsung visited Europe and held bilateral meetings with representatives of Infineon, Philips and Renesas. [...][245] especially in 2004 competitors feared that Samsung would drive pricing down with its aggressive pricing policy based on its better cost structure. Several competitors indicated therefore during the meetings in September 2004 that Samsung should not be too aggressive, or that at least they would not be as aggressive as Samsung. This they often did by indicating their own price quotes to create the incentive not to drop prices too low.

(122) On 9 September 2004, between noon and 2pm, [...] Samsung met with [...] Infineon at Infineon's premises in Munich to discuss smart card chip sales for 2004, SIM market forecasts for 2005, capacity and production.[246] According to [...]'s notes[247] of this meeting, having discussed expected 2004 market size and product mix within that, the parties discussed the 16K product. Infineon claimed that it was reducing 16K sales and "*rejected to supply major customers with 16K for 4Q. Thus it is expected that the customers will demand Samsung to supply such rejected quantity of 16K*".[248] Then the parties exchanged forecasts on the 2004 SIM market size. Infineon was forecasting a "*severe price drop in 64K or more*". With regard to inventory, Infineon said that despite some detected overlapping in the customer orders placed, it did not see huge amount of inventory. It anticipated "*that there [would] be oversupply from 1Q of next year*", in which case it would cancel the order of customers for 16K products. According to [...]'s meeting notes, the two parties had agreed to continue their discussions at the 2004 CARTES trade fair and "*exchange SIM card demand forecast model*". Infineon confirms that a lunch meeting took place on this date, but insists that it was only related to Samsung's attempts to hire Infineon employees and the discussions only related to the overall market situation.[249]

(123) On 9 September 2004, between 6pm and 8pm, a meeting between [...] Samsung and [...] Philips took place at CDG Airport in Paris.[250] According to [...]'s notes,[251] [...] disclosed during this meeting the average sales price of Philips' 64K/128K chips ("*Philips made a big progress in SIM Card and for [Gemplus]. Their main product is 64K/128K and ASP is $1.2.*") and reported about the expected price direction at the common customer Gemplus: *"[t]hey know that Samsung has newly design in to*

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248 This translation, contested by Infineon, has been confirmed by the Commission's translation services [...]
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[Gemplus] and they expect severe price drop in 128K. In 2004, the major suppliers for [Gemplus] were Infineon/Philips/Atmel, but if Samsung join the market, the competition will become more severe. They have received $1.5 as the target price for 128K." [...][252] although there was no specific price agreement as to what [...] was supposed to quote in relation to the customer Gemplus, the meeting provided useful information indicating Philips' pricing direction, that is to say a mutual understanding that neither party should be too aggressive on pricing (see recital (121)).[253] It also emerges from [...]'s meeting notes that Philips had disclosed strategic information about its product line-up, especially in relation to the low-end products: "*with respect to low price products such as [32]K/16K, there has been no sale in 2Q and there is no plan to newly enter the market*". As for Philips' capacity situation, [...] had indicated that Philips did not have "*any inventory problem*", that is to say that Philips did not see inventories accumulating in the production line. [...] confirmed that the meeting took place and submitted[254] that at the meeting of 9 September 2004 and other meetings between [...] and [...], the latter gave [...] indications of the prices it was planning to charge over the coming quarters. At one of the meetings (without recalling the exact date) that took place in 2004 between [...] and [...] provided [...] with indications as to the prices that [...] expected to offer to the common customer Axalto. At that meeting, [...] had said that Philips had no plans to seek business aggressively at Axalto. Although Philips confirms that the meeting did take place, it contests its content claiming that [...] would have been the only source with respect to the exact information disclosed by [...]. The fact that [...]'s notes are the sole evidence of this contact does not diminish their probative value as they constitute direct and contemporaneous evidence[255], the author of the notes, [...], was a participant at the meeting with Philips and their content is very detailed. Moreover, the content is consistent with the pattern of discussions with competitors and the subjects usually discussed.

(124) On 10 September 2004 [...] Samsung had a meeting with [...] Renesas in the Mercure Hotel in Paris from 10-12 o'clock.[256] At that time the two competitors were engaging in price negotiations with the common customer Axalto for the 2005 supply contract and Axalto had set a very aggressive target price.[257] According to [...]'s internal report[258] on this meeting the parties first discussed their respective estimations for the 2004 and 2005 market size. Then, concerning the supply of Axalto, [...] reported that it had "*only received the target price so far and has not even sent the initial quotation*". It emerges from these notes that […] put in question the merit of entering a supply agreement with Axalto due to the low prices, which were reported as being as follows: *"[p]er product prices are 36K/72K/118K for $0.43/$0.70/$1.60*".[259] [...] also disclosed that it was mostly supplying chips to Axalto for banking applications and a small amount of SIM chips and that it had 60% market share at G&D for which it was the biggest supplier. Finally, as attested by the report of [...], Renesas and

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Samsung agreed to discuss "*SIM demand forecast model*" at their subsequent meeting at the 2004 CARTES trade fair. [...] According to the internal e-mail[260] in which [...] Renesas internally reported on this meeting, Samsung had informed Renesas that the company was planning to "*keep their share at Axalto in 2005*" and "*to accept Axalto's target prices*". [...] Atmel had to their knowledge already agreed to meet the price in order to increase share at Axalto, while Infineon had reduced its prices at Axalto in a more reasonable magnitude.[261] [...] the information on Infineon's pricing intention mentioned in the e-mail of [...] was most likely obtained from [...]. [...] [...]'s understanding was that [...] no longer trusted Atmel after their loss of the Gemplus tender mentioned in recital (120), and wanted to secure share at Axalto by accepting Axalto's aggressive target price.[262] [...] [...] may have expressed himself along the following lines: "*Two months ago, I said we wanted to stop the price battle, but not everyone played the game, so now I'm starting the battle again*". The confidentiality of the discussions is evidenced by the warning included in the internal Renesas report asking the recipients to "*please do not forward this message to anyone and treat this information very confidential in order to protect this good relationship*".[263]

(125) On 10 September 2004, in another report sent by e-mail,[264] with the subject "*Hot news*", [...] Renesas reported internally about "*recent discussions with Infineon, Atmel and Samsung*". [...] stated that migration to new technology increased the level of overall supply and is expected to meet or even exceed demand in 2005. This triggered the re-starting of the price battle, with Axalto moving down its target price. The e-mail suggests that [...] was in contact with three major competitors and received information on their pricing strategy, with Atmel and Samsung saying that they are ready to meet the target price, while "*Infineon's position is more wait and see*". This information on Infineon's position indicates that Renesas understood that Infineon would not necessarily and immediately meet Axalto's target price, in contrast to Atmel and Samsung. [...][265] that the information on Infineon's pricing information was collected by [...]. Atmel's and Samsung's intentions to accept the target prices are confirmed in an internal Renesas e-mail[266] report of 15 October 2004 in which it is stated that "*Atmel offered significant price reduction to Axalto for 2005 in order to increase their market share; Samsung confirmed they will be forced to follow same level of price as Axalto remains their N°1 volume Customers*".

(126) A meeting between Renesas and Samsung took place during the 2004 CARTES trade fair on 2 November 2004.[267] This meeting was attended by [...] Renesas and [...] Samsung and the discussions focused on pricing and capacity. With regard to the negotiations for the 2005 supply agreement with Axalto, it emerges from an internal

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267 Samsung's meeting notes indicates that the meeting took place on 2 November 2004 between noon and 1pm at Samsung's exhibition booth at the CARTES trade fair whereas [...] indicates that a dinner meeting took place on or around 4 November 2004 at the Zebra Square restaurant in Paris [...]

meeting report[268] prepared by [...] Samsung that chips of above 32K capacity are Renesas' main product and that Renesas only has limited sales in 16K chips. [...] also said that Renesas was "*very close to entering into a supply agreement with Axalto for 2005 and expects the price to drop 20% YoY from 2004*". Discussions also included pricing information regarding G&D and Renesas said that it expected Samsung's share to grow and Renesas' share to go down in 2005. It also stated that "*G&D is the most important customer for Renesas who sold around 70M USD (60M Euro) to G&D this year. The average sales price was as high as about 1 USD (0.85 USD considering COB)*". [...][269] the latter information was of particular interest to it as [...] was one of G&D's largest suppliers (as confirmed by the 70M USD figure) and [...] wanted to gain market share at G&D. [...] the target of 1 USD was in fact higher than all of [...]'s other customer price quotes. The information thus indicated that Samsung would be able to undercut Renesas' price and gain market share. Capacity was also discussed during this meeting, as emerges from Samsung's meeting notes, with Renesas indicating that it "*forecasts an excess capacity in 2005 and does not think such a rapid growth this year would come again. Renesas' target sales (business plan) for 2005 are 15% higher than this year in terms of quantity, and a few percent higher in terms of sales revenue*".[270] [...] has not provided any contemporaneous notes of this meeting indicating its content but explains in an oral submission that the meeting on or around 4 November 2004 concerned among other things [...] indication that it intended to double its volume of sales of smart card chips in 2005 and was willing to do so at any price.[271]

(127) On 4 November 2004, during the CARTES trade fair, a meeting between [...] Samsung and [...] Infineon took place in which the expected sales for 2004 and forecasted sales for 2005 were discussed as well as production capacity for SIM chips and the risk of price competition on lower-end markets by the American fabless[272] smart card chips supplier Emosyn.[273] According to [...]'s meeting notes of this meeting it is stated that "*Infineon's 8 inch Wafer capability is 14K for SIM card, and it is expected that Infineon would achieve 25% higher capacity by the mass production of SL66PE (0.22 Shrink) products starting in the 1st quarter. Infineon has no plan to build extra capacity. Infineon has plan to build "Fab + COB Capa" in Wuxi, China, but refused to disclose more detailed plan. Infineon explained that the COB capability is not an addition of facility, but just relocating already existing facilities from Regensburg factory. This explanation is, however, hard to believe. We asked for Infineon's opinion regarding our concern for Emosyn, and Infineon answered that while Infineon was also worried about price competition in low-end*

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272 A fabless smart card chips supplier is specialised in the design and sale of chips while outsourcing the fabrication ("fab") of the devices to a specialised manufacturer, namely a semiconductor foundry which typically is located in countries with lower cost of labor. This allows fabless suppliers to benefit from lower capital costs.

273 [...]'s notes refer to Emosyn as an "*American fables company which started its Smart Card business in 1999*" and was threatening to lower prices for low-end products such as 16K chips; [...]

markets, it expected that it would be very hard, for a while, for Emosyn to increase its market share".[274]

4.2.4. Contacts in 2005

(128) On 16 February 2005, [...] Samsung met, most likely during the 3GSM Congress in Cannes, a representative of Renesas.[275] [...] representatives provided him with overall and regional revenue figures for the year 2004.[276] [...][277] [...] contributed his estimate of the regional ASP values for Europe and […]. Relating to Axalto, [...] Samsung noted down during the meeting that Renesas' sales volume at the common customer Axalto was expected to decrease from 85 million pieces in 2004 to 50 million pieces in 2005 and that Renesas had received the price request of EUR 0.60 for 64K chips from Axalto ("*2005 Axalto 85Mpcs → 50 Mpcs (64K 0.60 E was requested)*"). [...] could not confirm whether this last information was sourced from [...] or from a customer.[278]

(129) The competitors' engagement in price coordination is further evidenced by internal Renesas e-mails[279] of 23 and 25 March 2005, an internal Renesas report of 31 March 2005 and [...] presenting the outcome of a number of interviews with [...] in relation to the competitor contacts. [...][280] at the time a very aggressive price request had been submitted by Axalto to at least Renesas and Samsung, concerning especially high end products (68K). In this context, [...] Samsung contacted Renesas on or around 23 March 2005. In his e-mail[281] of 23 March 2005, [...] reported with regard to 68K/72K chips that "*Samsung is deeply concerned that Atmel is driving 68K/72K down (below 0.63 US dollar) to buy market share on high end product and increase average ASP*". In the e-mail[282] of 25 March 2005 (and in an internal report[283] of 31 March 2005) [...] reported internally to his colleagues the outcome of his contacts that week with "*several key people at Customers, end Customers and Competition in order to get their view of […] price*", especially on 68K/72K chips. The note confirms that Samsung shared information on its pricing policy: "*Samsung confessed they have offered 0.63 US dollar to Axalto for 68K/72K for 2005 and will decrease price further if needed to keep their market share*". Furthermore, it is stated that Renesas knew from "*several sources*" (one of which was Samsung), that Atmel had "*offered very aggressive price on 68K/72K for Axalto (0.60 dollar?) […] Atmel is also a key supplier for Gemplus, so [Renesas] can assume they have made a similar deal with them, making this price level a kind of reference on the market*". [...] that with Atmel's price for 68K/72K chips now being "*a kind of reference on the market*", it made [...] consider it for its own AE4602[284] chips.[285] Finally, [...] reported in his e-

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284 [...] AE4602 devices belong to the 64K family of smart card chips, which include 68K and 72K devices.
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mail of 25 March 2005 that Infineon had also decided to reduce its price in order to "*compensate the lack of acceptance of its new pad in line technology*".

(130) The competitor contacts concerning the price negotiations with Axalto on the 64K/68K/72K chips continued in the following days. On 31 March 2005 [...] Renesas reported internally by e-mail[286] that there was more pressure on price than expected especially for 64K chips and that it was "*almost confirmed*" that Atmel and Samsung were offering on average USD 0.60/chip. [...] further indicated that this price posed a problem for [...] as its price was "*10 to 15% above Atmel/Samsung and probably Infineon*". [...] reported in a further e-mail[287] of 31 March 2005 that while for Renesas' 64K AE 4602 chips "*Axalto has confirmed that demand is still there but […] Atmel is taking a big share of it with aggressive price like 0.60$ followed now by Samsung*". [...] also mentioned that he would be in direct contact with Infineon on this issue ("*I will get more information from Infineon today and will include in my weekly report.*"). The following day, in his internal weekly report[288] dated 1 April 2005, [...] provided his colleagues with the outcome of his discussions[289] with Infineon of 31 March 2005 ("*direct feedback from Infineon regarding their view on market and their current performance*"). As far as the competitor's pricing at Axalto is concerned it is reported as follows:

"Infineon: […]

- *Reporting bad Q1 and forecasting a terrible Q2, mainly due to Axalto where their share has dramatically dropped against Atmel and Samsung for price and technical reason (pad in line technology)*
- *Reporting they cannot follow 72K Axalto requested price 0.63$ (average price between Atmel and Samsung)*
- *More confident with Gemplus and other Customers, although they expect more price pressure to come."*

(131) Further evidence of ongoing pricing discussions between competitors is found in the internal weekly report sent by an e-mail[290] of 3 June 2005 internally within Renesas by [...]. With regard to *"[c]onfidential discussion with Samsung Korea*", [...] wrote that also Samsung was suffering from the actual price decrease on the market and was reporting a loss of share at Axalto because of pricing. Samsung is reported as saying that "*it is unlikely that they will achieve the contract quantity*" and Samsung's estimation was that in 2005 "*prices will finally drop by 40 to 45%*". In the internal weekly report[291] of 17 June 2005, [...] once again reported that Samsung was "*very concerned by a sudden drop of Axalto 16K/32K demand forecast for Q3*" and

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289 [...] the above information on Infineon's pricing was likely sourced from a direct contact between [...] Renesas and [...] Infineon on or around 1 April 2005. [...] Infineon confirms that a meeting took place between [...] and [...] on 31 March 2005. It states that the discussion related to general issues such as the overall development of the market, but sales and prices to individual customers were not discussed. [...]

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repeated that from his "*confidential discussion with Samsung Korea*" it was likely that Samsung "*will not realise the 2004 contract volume with Axalto (although Axalto is saying only Renesas will not achieve the 2005 contract!)*". [...][292] that this information emanated from a contact (likely by telephone) between [...] Renesas and [...] Samsung on or around 3 June 2005. At that time, the market was in crisis due to six months of low demand. While the demand for SIM started to pick up in the summer of 2005, the system of electronic auctioning applied by telecom operators and SIM card makers created knock-on price pressure on SIM chip prices. [...] indicates that it had lost business at Axalto in 32K chips due to its uncompetitive price offer on its AE4503 device for the second half of 2005 and Axalto was putting pressure on [...] to start negotiating prices for 2006 immediately in order to take advantage of the difficult situation for smart card chip suppliers. [...] indicates that it was in this context that [...] contacted [...] to discuss the situation regarding Axalto. [...]'s confirmation that it had also lost business in Axalto was important, as Axalto had previously indicated to [...] that it would not meet forecasted volumes because [...] was not competitive on price. Axalto indicated that it would therefore give the quantities that Renesas was losing to other chip suppliers who were willing to decrease their price. The information that Samsung, who normally would be able to meet even aggressive price requests, was not reaching the forecasted demand was therefore an indication that Axalto in fact was not shifting quantities elsewhere but was reducing its demand for chips. [...] was partly relieved to learn this and would have confirmed to Samsung that Renesas was also not going to achieve its forecasted demand. According[293] to [...], [...] expressed the view that although [...] was willing to maintain prices, it would comply with customer requests for reduction and estimated a decrease in prices of at 40-45%. [...] replied that he did not believe that prices would drop that much, but instead would drop by around 20%, but that he also saw the risk of dramatic price erosion ahead.

(132) Evidence of price coordination between Samsung and Renesas with respect to European customers is found in internal Samsung and Renesas reports of a bilateral meeting taking place on 8 September 2005.[294] The agenda for this meeting between [...] Samsung and [...] Renesas lists as topics […] as well as *"[c]ontract negotiation status for 2006*".[295] From an internal Renesas e-mail[296] sent by [...] on 8 September 2005, it emerges that [...] Samsung told to [...] Renesas that Samsung had "*strong evidence of extremely aggressive price offered by Renesas on 32K COT product [...])*". Renesas was reproached by Samsung for this policy in particular because of its effects on pricing in Europe. This is because, as [...]'s internal report[297] says, the incident "*caused the price in this area to be even lower than for the big European customers*". [...]'s report further reveals that while [...] had assured [...] that Renesas' aggressive pricing had been "*an accident and would not happen again*" [...] expressed his unhappiness with this justification and stated that "*this has been happening over again*". As is clear from [...]'s internal e-mail of 8 September 2005, Renesas' representative concluded that *"[w]hat [...] Renesas] had thought was an*

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isolated incident is in fact becoming a big issue which can have a big impact on [Renesas'] activity in Europe as well". [...][298] that in fact this aggressive pricing was a mistake caused by an incorrect price list being sent inadvertently to customers […] and it did not reflect [...]' pricing policy more generally.

5. APPLICATION OF ARTICLE 101 OF THE TREATY AND ARTICLE 53 OF THE EEA AGREEMENT

5.1. Jurisdiction

(133) The Commission has jurisdiction to apply both Article 101 of the Treaty and, on the basis of Article 56 of the EEA Agreement, Article 53 of the EEA Agreement, since the cartel under investigation had an appreciable effect on trade between Member States and Contracting Parties to the EEA Agreement (see Sections 2.4 and 5.2.3).

(134) The participants in the anti-competitive conduct described in this Decision are worldwide suppliers of smart card chips which were headquartered or had sales or production facilities in the EEA. They were actively selling to customers headquartered in the EEA, including in France, Germany, The Netherlands, Italy and Spain. Those customers, in turn, sold their downstream products at least across the EEA.

(135) Although some contacts (see recitals (105) and (116)) apparently concerned […], the file shows that the behaviour of the suppliers […] had an incidence in Europe (see recitals (67) and (132)).

(136) The anti-competitive conduct described in this Decision applied to all Contracting Parties to the EEA Agreement, this is to say all the Member States[299] during the period of the infringement together with Norway, Liechtenstein and Iceland. After the accession of the Czech Republic, Estonia, Cyprus, Latvia, Lithuania, Hungary, Malta, Poland, Slovenia and Slovakia to the Union on 1 May 2004, Article 101(1) of the Treaty became applicable as regards sales made in those markets.

(137) Since the conduct affected competition in the internal market and trade between Member States, Article 101 of the Treaty is applicable. Since the cartel affected competition in Norway, Liechtenstein and Iceland and produced an effect upon trade between the Member States and Norway, Liechtenstein or Iceland or between Norway, Liechtenstein and/or Iceland, Article 53 of the EEA Agreement applies.

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299 Until 31 April 2004, the Member States were Belgium, Denmark, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, the United Kingdom, Austria, Sweden and Finland. On 1 May 2004, the Czech Republic, Estonia, Cyprus, Latvia, Lithuania, Hungary, Malta, Poland, Slovenia and Slovakia joined the Union.

5.2. Application of Article 101(1) of the Treaty and Article 53(1) of the EEA Agreement

5.2.1. Legal basis

(138) Article 101(1) of the Treaty prohibits as incompatible with the internal market all agreements between undertakings, decisions by associations of undertakings or concerted practices which may affect trade between Member States and which have as their object or effect the prevention, restriction or distortion of competition within the internal market, and in particular those which directly or indirectly fix purchase or selling prices or any other trading conditions, limit or control production and markets, or share markets or sources of supply.

(139) Article 53(1) of the EEA Agreement is modelled on Article 101(1) of the Treaty. However, the reference in Article 101(1) to trade "between Member States" is replaced by a reference to trade "between contracting parties" and the reference to competition "within the internal market" is replaced by a reference to competition "within the territory covered by the … [EEA] Agreement".

5.2.2. The reliability of the evidence provided by Samsung

5.2.2.1. Arguments of the parties

(140) Philips and Infineon contest the reliability of the evidence provided by Samsung. They both consider that the Commission should be cautious with documents provided under the leniency procedure as they can tend to play down the importance of the contribution of the leniency applicants to the infringement and maximise that of the other undertakings. They argue that the reports of [...] are highly doubtful as they have been exaggerated and do not reflect the content of the discussions. They claim that bending the truth to satisfy superiors is common in Korea and that [...] would have been under pressure from Samsung to reach a favourable outcome in this case. They also claim that, based on Samsung's admissions, it is not clear whether or not [...] pre-drafted some of his meeting reports before the meetings.[300] Infineon and Philips also contest the translation of some documents provided by Samsung, and Infineon considers that the translation of a document can only serve as documentary evidence if it is truthful and correct.

(141) In addition to this general contestation, Philips and Infineon consider that documents provided by Samsung after the settlement discussions should be disregarded. As explained in recital (51), in April 2011, the Commission launched a settlement procedure with Philips, Renesas and Samsung, which was however discontinued. After the termination of the settlement discussions, Samsung provided the Commission with an additional oral statement and two submissions of [...] containing new documentary evidence. Those documents date back to the period 2003-2005.

(142) Three of the additional documents provided by Samsung after the termination of the settlement discussions were mentioned in the SO in order to establish the infringement:

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– one concerning a contact with Infineon (e-mail of 3 November 2003),[301]

– one concerning contacts with Philips and Infineon (report of 16-21 November 2003),[302]

– one concerning a contact with Philips (e-mail of 13 April 2004).[303]

(143) Philips and Infineon contest the authenticity of those three documents. They consider that the alleged non-authenticity and the delay in the provision of some documents create a general suspicion with regard to the authenticity of all documents provided by Samsung after the settlement procedure (that is to say, documents provided in [...]).

(144) In order to assess the probative value of the documents provided by Samsung, it is necessary to recall the standards established by the relevant case-law, which is analysed in the following paragraphs (145) - (151).

5.2.2.2. Principles

(145) The finding of an infringement and the imposition of fines on an undertaking have serious consequences for that undertaking, both under administrative law (fines, possible finding of recidivism in future cases) and in civil law (increased exposure to private damages actions). Where there is doubt, the benefit of that doubt must be given to the undertakings accused of the infringement.[304] The principle of the presumption of innocence as reaffirmed in Article 48 of the Charter of Fundamental Rights of the European Union applies to procedures relating to infringements of the competition rules applicable to undertakings that may result in the imposition of fines or periodic penalty payments. The presumption of innocence implies that every person accused is presumed to be innocent until his guilt has been established according to law.[305]

(146) In order to establish the existence of the infringement the Commission must show precise and consistent evidence. However, it is not necessary for every item of evidence produced by the Commission to satisfy those criteria in relation to every aspect of the infringement. It is sufficient if the body of evidence relied on by the institution, viewed as a whole, meets that requirement. The Court of Justice also accepts that it is normal for activities related to anticompetitive practices and agreements to take place in a clandestine fashion, for meetings to be held in secret, and for the associated documentation to be reduced to a minimum. It follows that evidence explicitly showing unlawful contact between cartelists will normally be only fragmentary and sparse, so it is often necessary to reconstitute certain details by

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304 Case T-208/06 *Quinn Barlo v Commission* [2011] ECR II-7953, at paragraph 58.

305 Cases C-199/92 P *Hüls v Commission* [1999] ECR I-4287, at paragraph 150; T-474/04, *Pergan Hilfsstoffe für industrielle Prozesse v Commission*, [2007] ECR II-4225, at paragraphs 75-77 with further references.

deduction.[306] The fragmentary and sporadic items of evidence which may be available to the Commission should, in any event, be capable of being supplemented by inferences which allow the relevant circumstances to be reconstituted. The existence of an anti-competitive practice or agreement may therefore be inferred from a number of coincidences and indicia which, taken together, can, in the absence of another plausible explanation, constitute evidence of an infringement of the competition rules.[307]

(147) The principle which prevails in Union law is that of the unfettered evaluation of evidence and the only relevant criterion for the purpose of assessing the evidence lawfully adduced relates to its credibility.[308]

(148) According to the generally applicable rules on evidence, the credibility and, therefore, the probative value of a document depends on its origin, the circumstances in which it was drawn up, the person to whom it is addressed and the soundness and reliable nature of its contents.[309] Statements from a direct and privileged witness of the facts which he disclosed have particular importance.[310]

(149) That a document's credibility is reduced does not mean that it is inadmissible in evidence. Even when a document with reduced credibility cannot in itself establish the existence of an infringement, it might still be regarded as supporting other evidence. In other words, such documents still form part of the body of evidence. They might, however, retain probative value only as one of a number of coherent indicia which corroborate certain of the essential assertions in other evidence.[311]

(150) In its *Siemens* judgement[312] the Court of Justice held that a statement by one undertaking accused of having participated in a cartel, the accuracy of which is contested by several other undertakings similarly accused, cannot be regarded as constituting adequate proof of an infringement committed by the latter unless it is supported by other evidence, though the degree of corroboration required may be less in view of the reliability of the statements at issue.[313] The question whether, or to what extent, evidence may corroborate other evidence is not governed by specific rules, in particular in relation to the type or source of evidence capable of

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306 Joined cases C-204/00 P, C-205/00 P, C-211/00 P, C-213/00 P, C-217/00 P and C-219/00 P *Aalborg Portland and others v. Commission* [2004] ECR I-123, at paragraphs 55-57; Case C-105/04 P, *FEG v. Commission* [2006] ECR I-8725, at paragraph 135; Joined cases C-403/04 P and C-405/04 P *Sumitomo Metal Industries v. Commission* [2007] ECR I-729, at paragraph 51; Case T-54/03 *Lafarge v. Commission* [2008] ECR II-120, at paragraph 452; Joined cases T-379/10 *Keramag Keramische Werke and Others v. Commission* and T- 381/10 *Sanitec Europe Oy v. European Commission*, not yet reported, at paragraphs 94-108.

307 Case C-239/11 P - *Siemens v. Commission*, not yet reported, at paragraph 133.

308 Case C-239/11 P – Siemens v. Commission, not yet reported at paragraph 128. See also Cases C-407/04 P *Dalmine v. Commission* [2007] ECR I-829, at paragraphs 62-63; C-411/04 P *Salzgitter Mannesmann v. Commission* [2007] ECR I-959, at paragraph 45.

309 Case T-439/07, *Coats Holdings Ltd v. Commission*, at paragraph 45.

310 Case C-239/11 P - *Siemens v. Commission*, not yet reported, at paragraph 169.

311 C-411/04 P *Salzgitter Mannesmann v. Commission* [2007] ECR I-959, at paragraphs 46-48.

312 Case C-239/11 P - *Siemens v. Commission,* not yet reported.

313 Case C-239/11 P - *Siemens v. Commission*, not yet reported, at paragraph 135; Joined cases T-379/10 *Keramag Keramische Werke and Others v. Commission* and T- 381/10 *Sanitec Europe Oy v. European Commission*, not yet reported, at paragraphs 94-108.

corroborating other evidence, but only by the criterion relating to the credibility of the evidence.[314] Moreover, it cannot be submitted that, in principle, statements made with a view to benefiting under the Leniency Notice, cannot be corroborated by other statements of that nature, but solely by other evidence contemporaneous with the facts at issue, namely evidence dating from the time of the infringement.[315]

(151) Although it is possible that the representative of an undertaking which has applied for leniency may submit as much incriminating evidence as possible, the fact remains that such a representative will also be aware of the potential negative consequences of submitting inaccurate information, which could, inter alia, lead to immunity being withheld. The risk of the inaccurate nature of those statements being detected and leading to those consequences is increased by the fact that such statements must be corroborated by other evidence.[316]

5.2.2.3. Application to this case

The general contestation of the documents provided by Samsung

(152) The Commission considers that the occurrence and the content of the contacts mentioned in Section 4 have been sufficiently proved by several statements originating from Renesas, Samsung and […], corroborated by different types of documents from the inspections carried out by the Commission and/or provided by the parties. Throughout the investigation, Samsung has admitted the infringement, despite all the legal and commercial risks such an admission may entail and there is no reason to believe that [...]'s reports have been exaggerated or were pre-drafted before the meetings.[317] Moreover, those reports are either corroborated by or consistent with other documents in the file.

(153) The fact that, for a limited number of documents in Korean language provided by Samsung, there may have been a few instances of incorrect translations does not deprive those documents of probative value. The original documents are evidence of the infringement, and translations merely facilitate the understanding of the content of the originals. Samsung has provided different types of translations for the same documents. Infineon and Philips contested some of the translations provided by Samsung. In so far as there are differences between translations, this Decision relies on the Commission's own translation.[318] However, even if the Commission were to

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314 Case C-239/11 P - *Siemens v. Commission*, not yet reported, at paragraph 190.

315 Case C-239/11 P - *Siemens v. Commission*, not yet reported, at paragraph 191.

316 Case C-239/11 P - *Siemens v. Commission*, not yet reported, at paragraph 138.

317 At the Oral Hearing, Samsung confirmed that the pre-preparation of the reports only concerned the headings containing the place, the date and the attendees. [...]

318 […] This concerns: [...] (meeting of 24 September 2003), [...] (meeting of 3 November 2003), [...] (meeting of 9 September 2004) and [...] (meetings of 2 and 4 November 2004). Concerning the meeting of 24 September 2003, there is a difference of translation for one word. Samsung talks about a 5% *increase*, whereas the Commission translates the word as 5% *decrease*. That part of the document is neither quoted in the SO nor in the Decision. Concerning the contact of 3 November 2003, the Samsung translation reads "*Today, I've got a call from [...] Infineon. One of their competitors increased their price and he asked my opinion. So I told him it will be fine to continue without reducing the price. I told him as well to contact you for the price of next year, so you may expect a call from him. Maybe, there will be a compromise during the meeting on the 17th in Munich. I know that Infineon's price is now a little bit higher than ours. In the beginning of October they told me that they would reduce the price by*

rely to the translations made by Infineon and Philips, the documents would demonstrate anti-competitive conduct.

The probative value of the documents provided by Samsung after the discontinuation of the settlement procedure

(154) Infineon and Philips – the non-Leniency parties – contest the authenticity and probative value of three documents provided to the Commission by Samsung after the discontinuation of the settlement talks. They contend that those three documents might have been created for the purposes of the Leniency procedure. After investigation, it appears that one of those documents has been altered. The alteration consists of the addition of an English translation in the original versions of the documents. The meaning of the document was not modified as the added words in English correspond to an accurate translation of the Korean words.[319]

(155) In the light of the principles recalled above in paragraphs (145) - (151), given that the test imposed by the European Courts is one of credibility and in view of the particularities of this case, it appears reasonable and proportionate to proceed in two steps. The first question that arises in this case is that of the credibility of Samsung as a self-incriminating witness. Should the Commission consider that Samsung lacks credibility as a self-incriminating witness, it could not rely on any document submitted by Samsung in these proceedings. On the other hand, should the Commission consider that Samsung's account of the cartel is credible, the Commission may consider that the documents provided by Samsung can be presumed to be authentic. Nevertheless, in so far as the probative value of certain pieces of evidence provided by Samsung is contested, this would need to be assessed document by document in light of the specific objections raised by the parties.

(a) The credibility of Samsung as a witness in this case

(156) There are several factors which suggest that Samsung's account of the facts of the case is credible.

10-15% in 2004, but it seems they are maintaining the price. Atmel seems to be having a delivery problem, so please check this and get a sense of Axalto on pricing. And it is possible that Axalto's cancellation of the 128K Push out was sent in order to secure inventory, and Axalto seems to do this consciously. When we have contact with our competitors, we can have problems with antitrust law, so please don't leave anything on paper, and do it orally". The Commission's own translation however reads "*[...] Infineon called today. He said that one of their competitors has raised its price and asked how I feel about the matter. I told him that they can manage with just not lowering the price. I asked him to discuss next year's price with you, so he will call you. Maybe there will be a discussion about the Munich meeting on 17th. I understand that Infineon's price is slightly higher than ours now. Last time (early October) they said that they would lower the price by 10-15%. I think they are going to stick to that price. I hear that Atmel has a problem with delivery. Please could you look into this? Also, try to get an idea of the pricing situation at Axalto. I think the cancellation of a 128K push from Axalto was probably to secure their inventory, so it looks like Axalto has already got wind of it. Be careful to not leave any documents or records when you contact competitors but only make oral communications to avoid any problems with the Antitrust Laws*."

[319] Philips has not contested the accuracy of the translation in the reply to the SO nor during the Oral Hearing [...].

(157) During the Oral Hearing on 20 November 2013, the immunity applicant Renesas confirmed that the facts presented in the SO, which are largely based on Samsung's statements and documents provided by it, are in its view correct. Thus, at least one other party to the proceedings has confirmed the facts described by Samsung. Further, the evidence submitted by Renesas generally shows a similar pattern of contacts to that contained in the evidence submitted by Samsung.

(158) Second, Samsung made its leniency application on 27 October 2008, and submitted numerous statements and copies of documents up until April 2011 when the Commission's case was presented to Samsung, Renesas and Philips. Prior to April 2011 Samsung was unaware of the evidence on the Commission's file which the Commission had obtained from Renesas, […], Philips, Infineon and other market players. The evidence submitted by Samsung is in line with the evidence obtained from other undertakings cooperating under the leniency programme (Renesas and […]). Unlike Philips and Infineon, who have not applied for leniency and who have contested the infringement throughout the investigation, Samsung has admitted to the infringement since 27 October 2008, notwithstanding the legal and commercial risks that such an admission may entail.

(159) Third, even though Philips is not a leniency applicant and contests the facts of the infringement pertaining to it, […]. […] documentary evidence of the meeting with Samsung which took place on 26 September 2003[320] (see recital (91)) which also referred to the Samsung-Infineon meeting that took place two days earlier. […]. […] evidence in relation to the meetings with Samsung which took place in November 2003 (see recital (98)). In addition, at the same time, a meeting with Renesas took place that covered similar topics and issues (recitals (103) and (104)). The e-mail contact on 25 and 26 January 2004 is based on contemporaneous evidence […][321] and on an almost identical e-mail from Renesas (recital (106)). Even regarding the last meeting on 9 September 2004, [...] confirmed the existence and content (discussions on future sales) of this meeting [...] (recital (123)). Finally, the evidence shows also meetings of Philips with Renesas (see recitals (94) and (103)).

(160) Fourth, certain meetings between Samsung and Infineon are confirmed by Samsung and Infineon (as regards the meeting on 24 September 2003 and the meeting on 9 September 2004, see recitals (90) and (122)) and by a document found by the Commission at the premises of Infineon, during the inspection of 21-23 October 2008 (meeting in early June 2004, recital (116)). While Infineon's staff were able to recall years later that these meetings took place, Infineon claimed not to be in possession of documentary evidence of these meetings. Finally, independently of the documents provided by Samsung, the evidence from Renesas shows a series of meetings between Infineon and Renesas which contradicts Infineon's submission that the content of the meetings between Infineon and its competitors did not raise competition concerns (recitals (97), (102), (110), (125) and (130)).

(161) Overall, the evidence originating from Renesas, […], Philips, Infineon and Samsung prior to the settlement proceedings (this is to say at a time when none of the parties knew which other party was cooperating with the Commission and what evidence the

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Commission had on its file) shows a coherent and consistent pattern of anticompetitive contacts that are to a large extent corroborated by several sources, but that also sometimes cross-corroborate each other (temporal proximity, similar topics). Given that certain of Samsung's competitors have described a cartel in similar terms to that reported by Samsung to the Commission, and in light of the matters set out above in recitals (145) - (151) , the Commission considers that Samsung has submitted a credible account of the infringement in this case.

(b) The credibility of the contested documents in this case

(162) Once it is accepted that Samsung is credible as a self-incriminating witness in this case, as explained in recital (155), the Commission may consider that the evidence submitted is credible unless there is a serious and valid contestation of a specific document. Accordingly, unsupported, unmotivated and unjustified contestations of individual documents are not admissible. Otherwise, it would be sufficient for a non-cooperating party to criticise evidence provided by a contemporaneous witness of the events in an attempt to force the Commission to drop this evidence. Therefore unless it is established that certain documents are contestable for specific reasons, it must be concluded that documents provided by Samsung after the settlement discussions (i.e. [...]) may be considered credible as well.

(163) Given that Philips and Infineon contend that three documents submitted by Samsung[322] are not authentic, the credibility of those three contested documents needs to be assessed in more detail.

The internal e-mail of Samsung of 3 November 2003 on a phone call received from Infineon[323]

(164) This document was provided by Samsung on [...] 2012, was quoted in the SO and is relied upon in this Decision as evidence of the infringement. The document is an internal Samsung e-mail concerning a telephone contact with Infineon (see recital (96)).

(165) In its reply to the SO, Infineon challenges the two different translations in English of the document in Korean provided by Samsung[324] and contests the authenticity of this document for reasons of appearance, claiming in particular that the e-mail does not show any addressee in its heading and that the timing of the e-mail is unlikely. Moreover Infineon contests the content of the e-mail claiming that [...] had not known [...] at that time, but that he was only introduced to him in 2004, that the statement on Infineon's allegedly intended price reductions in 2004 by 10-15% is very vague and that the e-mail seems to allege a contact in October 2003 which is not documented anywhere else. Finally, Infineon considers that the particular warning statement in this e-mail sounds as if it were taken from an "*antitrust textbook*" and is also striking in the sense that [...] supposedly advises [...] not to document contacts to competitors in writing while he is doing exactly the opposite in this e-mail and has done so all along before and after this document.

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324 Samsung provided two different translations, the first one as a working document and, as requested by the case team, the second one as a certified one.

(166) Further to a request by the Commission to respond to the allegations of the other parties, Samsung has made submissions in relation to the appearance of the document, provided new paper versions of the documents printed in Korea and Belgium[325] and submitted new additional evidence that is consistent with the occurrence of the phone call[326]. Samsung has also provided the original electronic version of the document[327] which has enabled the Commission to check the internal properties of the e-mail. From this check it emerges that when an email message is routed outside of its local MS Exchange domain, the Exchange email server which receives the email applies the Internet Header, while this one is not applied by sending or transmitting an email server. In other words, computer systems can be configured in such a way that certain email strings do not appear upon printing when they are sent and received within the same organisation but they would appear when the email is sent and received between two different organisations.

(167) In its reply to the Letter of Facts of 25 July 2014, Infineon provided a forensic report on the electronic version of the document, which concludes that the "*Email cannot be considered authentic without reasonable doubt*".[328] This report consists mainly of general information and comments on the theory of e-mail systems and the theoretical points where their components could be attacked or manipulated. There is no indication in the report that any deeper analysis of the e-mail message file of 3 November 2003 was performed at all. Having examined Infineon's forensic report, the Commission however observes that it could detect traces of manipulation in the two e-mail files that were attached by Infineon to its report as examples of how easy it is to produce undetectable email manipulations. In contrast, the Commission could not detect any similar traces of modification attempts in Samsung's e-mail of 3 November 2003. The forensic report submitted by Infineon did not prove that Samsung's internal email of 3 November 2003 was not authentic.

(168) According to the Commission's forensic assessment, the electronic version of the document analysed contains all header and metadata information consistent with the printed versions which show the complete e-mail header including the "To:" and "Cc:" fields. There are multiple possibilities which could explain the fact that the first printed paper copy[329] could have been prepared without these header parts. Moreover, in the investigative file the Commission has found other emails originating from Samsung[330] and […][331] before the settlement procedure in which no names appear in the string of the addressees. This suggests that there are alternative explanations for the absence of names in this string.

(169) Concerning the timing of the contact, the e-mail was sent at 11:27 AM by [...].[332] Infineon claims that assuming that this time reflects the Korean time, the e-mail would have been sent out at 3:27 AM European time. According to the document, [...] had called the same day ("today"), which therefore means sometime before 3:27

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AM European time, meaning in turn that he would have called in the middle of the night European time, which is not plausible. Further to a request from the Commission to respond to the allegations of the other parties, on 6 September 2013 Samsung provided the Commission with new versions of the documents printed in Korea and Belgium that show the addressees and that corroborate their argument that the time at which the e-mail appears to have been sent can change depending on the location where the document is printed and the printing settings established by the informatics policy of a company. Moreover, as requested by the Commission, on 10 January 2014, Samsung provided the original electronic version of this document. Samsung explains that the original document was an .msg message, which was opened, printed and scanned in Europe (CET time) before being submitted to the Commission. The time stamp on the email corresponds to the CET time zone in which the document was opened, printed and scanned. When opened in Korea, the original email indicates that the email was actually sent at 7.27 PM. On this basis, it would be possible that [...] called [...] the same day. The Commission considers that the different documents and explanations provided by Samsung corroborate that the time of the e-mail can change depending on the location of the printing of the document and the printing settings established by the informatics policy of a company. The timing difference on the email can therefore be explained by the format of the document which was used for the submission.

(170) As to the content, even if a few words of the translations provided by Samsung are not fully correct, the contact is still clearly anti-competitive.[333] Hence, the inaccurate translation does not suggest that this phone call did not occur.

(171) Infineon claims that [...] could not have participated in this type of exchange because of his position at the company and because he did not know [...] well and did not know [...], who was introduced to him in 2004. However, these arguments are contradicted by the evidence of the file which suggests that [...] had other contacts with [...] and/or [...] in the same period.[334]

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333 According to Commission's translation of the document one should read "*[...] Infineon called today. He said that one of their competitors has raised its price and asked how I feel about the matter. I told him that they can manage with just not lowering the price. I asked him to discuss next year's price with you, so he will call you. Maybe there will be a discussion about the Munich meeting on 17th. I understand that Infineon's price is slightly higher than ours now. Last time (early October) they said that they would lower the price by 10-15%. I think they are going to stick to that price. I hear that Atmel has a problem with delivery. Please could you look into this? Also, try to get an idea of the pricing situation at Axalto. I think the cancellation of a 128K push from Axalto was probably to secure their inventory, so it looks like Axalto has already got wind of it. Be careful to not leave any documents or records when you contact competitors but only make oral communications to avoid any problems with the Antitrust Laws*" instead of "*Today, I've got a call from [...] Infineon. One of their competitors increased their price and he asked my opinion. So I told him it will be fine to continue without reducing the price. I told him as well to contact you for the price of next year, so you may expect a call from him. Maybe, there will be a compromise during the meeting on the 17th in Munich. I know that Infineon's price is now a little bit higher than ours. In the beginning of October they told me that they would reduce the price by 10-15% in 2004, but it seems they are maintaining the price. Atmel seems to be having a delivery problem, so please check this and get a sense of Axalto on pricing. And it is possible that Axalto's cancellation of the 128K Push out was sent in order to secure inventory, and Axalto seems to do this consciously. When we have contact with our competitors, we can have problems with antitrust law, so please don't leave anything on paper, and do it orally*".

334 [...] and [...] had contacts on 24 September 2003 [...], 3 November 2003 [...] and 17 November 2003 [...]. [...] and [...] were both present at the meeting of 17 November 2003 [...].

(172) Even aggregated or general information about prices was sensitive. Indeed, Samsung explains that not all pricing discussions with competitors required an exchange of details. Discussions on general pricing trends or market conditions with Infineon and other competitors provided useful insight to Samsung, and its competitors, on how they were seeking to limit the impact that the challenging market developments entailed for them.[335] Moreover, contrary to what Infineon states, the file does contain evidence of a contact between Samsung and Infineon in October 2003, as in an internal e-mail of Renesas of 7 October 2003 about a contact with Samsung (see recital (92)), [...] wrote that [...] had told him that he had "*spoken to Infineon and Philips who agree for 64K that 0.95E 1H/04, 0.9E 2H/04 [was] market pricing"*. Moreover, the fact that there is only one document in which [...] warns his colleague against leaving written traces of anti-competitive contacts is not sufficient, on its own, to consider that the document is not credible. Indeed, the credibility and, therefore, the probative value of a document depends on its origin, the circumstances in which it was drawn up, the person to whom it addressed and the soundness and reliable nature of its contents.[336]

(173) Finally, another document provided by Samsung in September 2013 is consistent with this contact (the phone call of 3 November 2003). This document, which is not contested by the parties, is an e-mail of 7 November 2003 from [...] Samsung to several people of Infineon and Samsung, in which [...] wrote "*I want to make sure for 17th Nov meeting as below. I have talked to [...] for this meeting this week*". Samsung explains that this statement refers to the phone call of 3 November 2003.[337] The Commission finally observes that 3 and 7 November 2003 were in the same week.

(174) In conclusion, there is no reason to believe that the document is not a normal email or that it has been altered. The Commission rejects the claims relating to the authenticity of the document and finds that the document in question is consistent with other evidence. For these reasons, the Commission considers that this document is credible and, as contemporaneous evidence, has high probative value.

The Samsung Business Trip Report of 16-21 November 2003[338]

(175) This report was submitted by Samsung on [...] 2012, was relied upon in the SO and is relied upon in this Decision as evidence of the infringement. It reports bilateral meetings between Samsung and Renesas, Atmel, Infineon (page 1) and a phone call between Samsung and Philips (page 3) in the context of the CARTES trade show in the period from 16 to 21 November 2003 held in Paris (see recital (104)).

(176) Philips and Infineon contest the authenticity of the report on the basis that:

- it is written in English whereas the other reports of [...] are written in Korean;
- the appearance of the report is not the same as for the other reports;
- the report is not attached to any e-mail and there is no proof that it was circulated;

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336 Case T-439/07, *Coats Holdings Ltd v. Commission*, at paragraph 45.

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– it is surprising that this report fits with the e-mail of 3 November 2003 (whose credibility is assessed above, see recitals (164) to (174)), since in the e-mail of 3 November 2003, [...] already informed [...] about a possible meeting with Infineon in Munich on 17 November 2003;
– the facts are contradicted by other evidence (timing, invoice of credit card, etc.).

(177) Samsung states that an electronic version of this report is not available.[339] Hence, the Commission has not been able to analyse the internal properties of the report.

(178) However, the Commission rejects the arguments raised by Philips and Infineon.

(179) First, the fact that the report was written in English is not a reason to consider that the report is not authentic. First of all, the file contains at least one other report, obtained by the Commission during the inspections at Samsung, which was also drafted in English.[340] On 11 April 2014 Samsung provided an affidavit from [...] in which he indicated that he is the author of the two documents in English. He also added that whenever he obtained information relevant for his team, he prepared notes drafted either in Korean or English depending on the person from his team to whom he was addressing his report.[341]

(180) In their replies to the Letter of facts of 25 July 2014, both Infineon and Philips argued that under Korean law this affidavit has no value and cannot be considered as a proof of the authenticity of the contested document.[342] This is not convincing. The Commission considers that [...] has voluntarily confirmed to be the author of the report, which is self-incriminating evidence for Samsung, with potential negative consequences for the witness and the undertaking, and come from a direct witness having participated in most of the meetings. This has a different probative value than the declaration by an employee of Infineon who certifies that he does not remember to have met [...] on a certain date.[343] Also the fact that Infineon and Philips have not submitted a leniency application and therefore have no interest in admitting the existence of an unlawful cartel must be taken into account.[344]

(181) Second, Philips' arguments regarding the differences between this meeting report and the numerous other meeting reports submitted by Samsung cannot be upheld. In the first place, Philips draws attention to the fact that, unlike the other meeting reports, the location is not mentioned in this report's title. In the affidavit submitted on [...] 2014, [...] indicated that he was not required to use any particular format when drafting the reports.[345] The Commission observes that the file contains another meeting report which does not even contain a title.[346] Also on presentational aspects, Philips claims that the time is noted as "14.30 AM", which seems incorrect since it should be stated as "PM". Contrary to Philips statement, the only times noted down

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344 Case T-359/09 *Toshiba Corp. v. Commission*, not yet published, paragraph 151.
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346 [...] This report is not used in this Decision at it is out of the period scope of the infringement.

are "14:00 AM – 15:30 AM". Besides, typing errors are present in other reports as well. For example, the time is written as "014:00"[347] without any specification of AM/PM, whereas in the same document but on the next page it is written as "14:00". In certain reports the time of the meeting is not even indicated.[348] Finally, there is extensive evidence demonstrating that the manner of noting date and time is not always exactly the same throughout all the reports. Some reports use the following structure in the heading of the specific meeting: Participants/ Date and Time/ Location/ Agenda[349], while others follow a different structure, namely: Agenda/ Participants/ Date and Time/ Location.[350] Certain meetings only have an agenda established[351] or do not include the location.[352]

(182) Hence, arguments about a different appearance of the report are not conclusive as there is no homogeneity in the appearance of the said reports, and therefore these arguments can be rejected. The Commission also observes that the appearance of the other documents mentioned in recitals (179) - (181) was not contested by the parties.

(183) Third, the fact that a document is not attached to any e-mail and that there is no proof that this report was circulated is not a valid argument to question its credibility. What matters is the content of the anti-competitive contact in the report, not whether that content was circulated further within Samsung, beyond [...].

(184) Fourth, the argument that the report lacks credibility as its content is similar to another document provided by Samsung after the end of the settlement discussions concerning Infineon (contact of 3 November 2003) can be rejected, as this can be explained by the fact that the contact effectively did occur.

(185) Finally, Infineon claims that a credit card receipt provided by Samsung[353] shows that on 17 November 2003 [...] was in Frankfurt and not in Munich. However the Commission notes that Samsung provided new additional evidence (e-mails, travel tickets, reservations)[354] in its reply of 6 September 2013 corroborating that Samsung's delegation travelled from Frankfurt to Munich, where they met with Infineon and then took a flight to Paris, all on 17 November 2003. These documents indicate that the Munich meeting did take place.

(186) As there is no reason to believe that this report was altered or created for the purposes of the present proceedings, it may be considered as contemporaneous evidence. In these circumstances, the Commission concludes that this document has a high probative value. Moreover, several documents in the file either corroborate or are consistent with the occurrence of the contacts described in the report and their anticompetitive content.

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(187) First, the fact that the smart card chips suppliers met bilaterally during the CARTES 2003 trade fair to discuss the market for the year 2004 is confirmed by Renesas and […], which also participated in the trade show.[355]

(188) In the report[356] that [...] Renesas attached to his e-mail summarising the "*key information that [...] Renesas] and other members of the [Renesas Technology Europe] team gathered*" from customers and competitors at the 2003 CARTES trade show, it is stated that *"[m]ost silicon makers agree they wish to avoid further significant price erosion in all applications including finance and mobile communication during 2004; common policy on pricing looks like "wait and see" what the Q2 'real' demand is*"[357] (see recitals (98) and (99) above).

(189) Recitals (102) and (103) also confirm the occurrence and the anticompetitive content of the bilateral meetings Renesas-Infineon and Renesas-Philips. The meeting between Renesas and Infineon is evidenced by Renesas [...] and one contemporaneous document.[358] The meeting between Renesas and Philips is also supported by […] and documents submitted by Renesas and […]. During this meeting, the two parties exchanged views on capacity and discussed the price for EMV (banking applications) and 64K chips. According to Renesas' notes, Philips was reported as saying that its target was profitability and it was therefore "*ready to give up some business; will refuse to continue price battle on EMV (no fun below 0.4€) and 64K SIM IC*".[359]

(190) In sum, the body of evidence provided not only by Samsung but also by Renesas and […] corroborates the fact that during CARTES 2003, there were bilateral anticompetitive contacts among the smart card chips suppliers. In this sense, Samsung's reports are fully coherent with the context described by the other parties.

(191) Second, the anticompetitive meeting between Renesas and Samsung during the CARTES 2003 is not only referred to in the contested report provided by Samsung but is also confirmed by Renesas and Samsung [...] and documents provided before the settlement procedure, i.e. before the parties knew about the documents provided by the other parties.

(192) With regard to the meeting between [...][360] of Renesas and [...] Samsung, Renesas internally reported[361] that Samsung had *"[n]o intention for further price reduction on short term, wait and see for Q2 and further*". Renesas further submits[362] that it explained Samsung that it was running at almost full capacity. According to Renesas' internal report, Samsung had also reported on the process technology transfer to 0.18

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360 [...] submits that at the meeting with Samsung other Renesas employees apart from [...] were also present and/or that other Renesas employees had separate contacts with Samsung at the 2003 CARTES trade show, [...].
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μm, indicating that "*the transfer on 0.18u will drive 15% capacity increase*".[363] This meeting was confirmed by Samsung before the settlement procedure.[364]

(193) Third, as stated in recitals (187)-(190), the contact between Samsung and Philips is corroborated by other documents in the file provided by […] before the settlement procedure. […][365] […] on 17-18 November 2003 a meeting took place between [...] Samsung and [...] Philips, submitting a calendar entry[366] mentioning [...] for 18 November. […] a meeting request for the 18 November 2003 sent by [...] to [...] on 10 November 2003 by e-mail,[367] from which it emerges that the proposed agenda would include "*2004 market forecasting and price trend/Capacity issue/0.18u process migration*", that is to say not only exchanges on SIM chip demand but also the parties' respective capacity situation, pricing for 2004 as well as the impact on the market of the migration to the new process technology 0.18 μm, that is the issues which were discussed according to [...] internal report. [...] the schedule was changed and they had a phone conversation on 19 November 2003.

(194) Finally, the contact between Samsung and Infineon is corroborated by other documents provided by Samsung (see recital (185)). In conclusion, all the arguments raised by Philips and Infineon which contest the document have to be rejected, and the report in question is also corroborated by or consistent with other evidence provided both by the same source and by different sources. The Commission considers therefore that the evidence contained in this report is credible and has a high probative value as contemporaneous evidence.

The internal e-mail of Samsung of 13 April 2004[368]

(195) This e-mail concerns a phone call with Philips[369] (see recital (112)). It was submitted by Samsung on [...] 2012 and was used in the SO in order to establish the existence of the infringement.

(196) In its reply to the SO, Philips states that the e-mail seems to be manipulated and gives detailed reasons that relate to the appearance/presentation of the document. Philips also claims that the alleged facts are not correct. In addition, in its reply to the letter of facts of 9 October 2013, Philips provided a Forensic IT ('FIT') report providing technical arguments against the authenticity of the document.

(197) At the request of the Commission, Samsung has provided the original e-mail in paper and electronic versions.[370] The result of the comparison of the two versions is that they are different insofar as the first paper version provided to the Commission has been altered. Indeed, this document is written in Korean but includes the English expression "(price of competitor)" next to the subject of the second e-mail in the e-mail string in question. It is not contested that this expression is the mere translation

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365 [...]) indicates 17 November 2003; [...] indicates 18 November 2003.
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of the subject of the e-mail, and secondly that the meaning is not altered. The subsequently provided original e-mail version does not contain the said English expression.

(198) The fact that this e-mail has been altered does not mean that it should be automatically disregarded, especially given the original documents presented by Samsung and in the light of the nature of the alteration, which does not affect the meaning of the information. As explained before, the test imposed by the European Courts is one of credibility. Hence, provided that the occurrence and the content of the phone call are *credible*, the Commission can rely on the document to demonstrate the existence of the contact.

(199) Both Philips and Samsung have submitted FIT reports on the authenticity of the e-mail. The FIT report provided by Philips concludes that "*based on the Internet header information contained in the Email, I* [the FIT expert] *cannot conclude that the e-mail is authentic*".[371] As regards the absence of heading in the e-mail the FIT report provided by Samsung that it is because the message was routed within the same Exchange e-mail server. According to the FIT report submitted by Samsung the .msg file (an e-mail format) was found within a backup .PST file (e-mail archive) that existed on the user's computer.[372] For the Commission, this is an indication that the message in question can be presumed to be the "original" one. Moreover, contrary to what it is stated in the Philips' report, from an IT point of view the e-mail is perfectly normal[373] and there are insufficient grounds to conclude that there has been any manipulation. Finally, the issues raised concerning the date, hour and form of the mail can be explained by the different locations of the sender, the recipient and the printer of the e-mails (Europe/Korea).

(200) Concerning the reliability of the content, Philips considers that the contact makes no sense as Axalto was not a SIM customer of Philips. But, as explained by Samsung[374], the information exchanged about the price was relevant for Philips as it was the SIM supplier of a main competitor of Axalto, Gemplus, which probably had been aware that Axalto got better prices. The Commission considers that the interpretation by Samsung is plausible and that it is consistent with the context and the significance of the positions of both Axalto and Gemplus at a time when the outcome of the price negotiations and the price agreed with these two customers would also determine the pricing for the remainder of the market. This is also fully coherent with a statement from […].[375]

(201) Philips also alleges that this document is the first and only piece of evidence showing Philips actively seeking contact with Samsung and a direct exchange of information

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373 Indeed, header fields do not always appear and may depend on the email infrastructure used by the company at the time this email was created; the fact that actual e-mail addresses are not present might be perfectly legitimate and normal; an email without information about the servers used in the transmission can be perfectly legitimate and is not necessarily a ground for indication that the email has been altered.

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on price. Nevertheless, this is contradicted by other documents in the file.[376] For example, on 26 September 2003, a meeting took place between [...] and [...] at the Paris Airport Sheraton Hotel. Amongst other matters, they discussed price trends and Philips asked Samsung not to lower the price; however Samsung responded that it would be difficult to do so.[377] This is further corroborated by an e-mail sent by [...] to other Philips employees, dated 29 September 2003 [Monday], which explicitly states that *"On Friday night, I met with* [...] *Samsung".*[378] In addition, Philips contacted Samsung once again on 9 February 2004 when [...] asked [...] by e-mail whether it would be possible to plan a meeting during 3GSM.[379] In any event, the circumstances of the anticompetitive contact are irrelevant as long as its occurrence and anticompetitive nature are demonstrated.

(202) In conclusion, there is no reason to believe that this document has been created or otherwise altered for the purposes of the leniency procedure. Besides, Samsung has admitted that the document was in the possession of its team carrying out the internal review of documents in or around October 2010. Moreover, the document, which is self-incriminating evidence for Samsung, with potential negative consequences for the witness and the undertaking, comes from a direct witness having participated in most of the meetings.

(203) This document is coherent with the body of evidence of the infringement as a whole and with a document […] indicating that Samsung and Philips met on 22 April 2004.[380] In particular the e-mail of 13 April announces a meeting that would take place the following week, and the 22 April was indeed the following week. However, the documents and statements concerning the meeting between Samsung and Philips on 22 April 2004 are contradictory insofar as which representative of Samsung actually met with [...].[381]

(204) The Commission has repeatedly interrogated Samsung on the circumstances of such alteration and Samsung has provided several replies. In its replies of [...] 2013, Samsung stated that "*in the course of the document review made during the settlement process, rough translations were inserted within the original documents to allow external counsel to check the relevance of some of the documents*".[382] On [...] 2014, in reply to a further clarification request of the Commission, Samsung explained that the translation was added in or around October 2010 by a junior staff member of Samsung's (internal) legal team. According to Samsung, this addition was

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381 Regarding the meeting which took place on 22 April 2004 between Samsung and Philips, there are several pieces of evidence confirming this. However, there are differences in relation to the employee of Samsung that attended the aforementioned meeting. On one hand, [...] has submitted a table containing a list of meetings/contacts with competitors [...], where it is clearly stated that on 22 April 2004 "[...] and [...] met in Paris". And in [...] it is confirmed that the meeting was between [...] and [...]. But on the other hand, the e-mail of 13 April 2004 from [...] to [...] seems to show that it will be [...] who will meet Philips next week in Paris […]. Finally, [...] does not exclude that [...] met with [...], maybe accompanied by [...], a different person from [...] but who also appears in other documents […].

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done in the framework of its internal investigation concerning the present case to allow external counsels to check the relevance of documents in the Korean language.[383] However, on [...] 2014,[384] the person alleged to be the author of the said translation into the document did not confirm having done it. In conclusion, there is no clear explanation of the circumstances of the alteration of the document.

(205) Because the document has been altered with no clear explanation on the circumstances of the alteration, the Commission considers that it cannot rely on this document in the present proceedings in order to establish the infringement. Indeed, where there is doubt, undertakings must have the benefit of that doubt.

5.2.3. The product and geographic scope of the infringement

Arguments of the parties

(206) Philips and Infineon consider that SIM and non-SIM applications are two different markets and that this Decision should only concern SIM applications. They contest the substitutability between smart card chips for different applications which would preclude the Commission from considering cross-market exchanges of information as being relevant.

(207) Firstly, Philips and Infineon consider that chips display different product characteristics depending on the application end-use, whether it is SIM or non-SIM. Philips and Infineon argue that chips destined to be used for SIM cards focus on memory size and processing speed, whereas chips destined to be used for non-SIM cards tend to focus on security and exclude flash memory, requiring crypto co-processers to ensure processing performance. They therefore require costly certifications and are generally customer-specific. In this sense, a customer's reply to a Commission's RFI confirmed that "*SCC used for native operating systems in the Banking and Telecom area typically had no overlap as the underlying chip hardware was too specific for the corresponding use case. SIM card chips were typically used only for the SIM card market without any re-use possibility due to the specific nature (e.g. memory size) of these applications*".[385] As a consequence, it would be commercially impossible to substitute the two chips.

(208) Secondly, Philips and Infineon claim that the market structures for both products differ. They are accordingly marked by strong segmentation depending on the application use. They allege that customers focus on producing certain applications and therefore demand specific chips, being highly concentrated on SIM or alternatively non-SIM business. Furthermore, customers also focus on certain specific suppliers, as there is an alleged incentive to limit the numbers of suppliers in order to avoid multiplication of fixed costs relating to developments of software having to be integrated within the chip. As a consequence, both Philips and Infineon argue that information about one customer is irrelevant to a supplier involved with another customer; and that information-gaining for other customers indicates rather

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strong rivalry than coordination, as customer sharing would have been a natural focal point for coordination.

(209) Thirdly, Philips and Infineon argue that prices for SIM and non-SIM chips are substantially different and that chip prices for different applications move independently over time, whether it is for an average price level comparison by application, or for prices within particular memory classes. As a consequence, Philips draws the conclusion that margins differ substantially and persistently across applications. This also would speak against substitutability, since if different applications were within the same product, suppliers would increase supplies of high margin applications and decrease supplies of low margin applications. Also, the smart card chip suppliers did not focus on the same products during the infringement period. Indeed, Samsung was focussed on the SIM applications whereas Philips and Infineon were more focussed on the non-SIM applications. Philips claims that information about SIM applications was not relevant for its commercial decisions since it was exiting the SIM business.

(210) Finally, both Infineon and Philips argue that the Commission decision in case M.3998 concerning a merger between Axalto and Gemplus in 2006 weighs in their favour, as the Commission had then explained that "*it seems unlikely that the relevant market may extend beyond each of the main categories such as SIM and payment cards. First, as seen above, selling prices differ significantly in their levels. Second, technical standards depend on the area of application*."

(211) Philips and Infineon infer from the above that there were no relevant cross-market information exchanges since the potential anticompetitive effects of information exchanges among competitors within such a segmented market was limited. This is especially relevant for Philips, which makes the further claim that it was exiting the SIM business as of 2004. Along the same lines, there would be only one piece of evidence that related to information exchange on the non-SIM market, and, according to the parties, evidence should be read independently from one segment to another.

(212) In the course of these proceedings, Samsung has alleged that evidence in the Commission files indicates that smart card chips suppliers did not coordinate their commercial behaviour in relation to flash products; and that the meetings it attended pertaining to flash products could not concern the exchange of sensitive information. To this effect it argues that demand for flash solutions was limited before 2007.[386] Consequently, according to Samsung, the Commission should not consider flash products in its Decision. In the same vein, Philips and Infineon suggest that further categories related to the technology used or the utilisation of the product could be created within the SIM and non-SIM applications.

(213) Concerning the geographic scope of the infringement, Samsung states that the communications between smart card chips suppliers only related to the supply and the pricing of smart card chips in a limited number of EEA countries, that product sales only concerned limited EEA countries and that the object of the exchanges of

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competitively sensitive information concerned specific and limited EEA customers. Therefore, Samsung claims that the geographical scope should be more limited than the whole of the EEA.[387]

Assessment in this case

(214) Concerning the allegations that the non-SIM applications are not covered by this infringement, the Commission observes that it is not obliged to engage in any market definition when conducting cartel investigations. It is well established by the case-law[388] that a definition of the relevant product market on the basis of economic criteria is not necessary in cartel cases because it is the members of the cartel who define the product which is the subject of their discussions. In any case, mere allegations do not have the same probative value and therefore cannot prevail over documentary evidence of actual anticompetitive conduct on specific products.[389] As decided by the case-law, it is not the Commission which arbitrarily chose the relevant product, but the members of the cartel who deliberately concentrated their anticompetitive conduct on certain products.[390]

(215) Firstly, concerning a previous definition of the market by the Commission in case M.3998, the distinctions made by the Commission in that merger case refer to differences within smart *cards,* which is a different product than the smart card *chips* concerned by this case. The only difference mentioned in that merger case regarding chips referred to their cost, namely that SIM chips are on average more high-end than payment cards, due to the pace of innovation. However, the Commission did not draw a conclusion on this particular fact.

(216) Secondly, the Commission file contains contemporaneous documentary evidence that non-SIM applications were the subject of anticompetitive discussions among competitors. Contemporaneous documentary evidence of anticompetitive discussions concerning non-SIM chips can be found at least in the contacts between Samsung and Infineon on 24 September 2003 (see recital (90)), between Renesas and Philips on 16 October 2003 (see recital (94)), between Renesas and Philips on 17-20 November 2003 (see recital (103)) and between Samsung and Renesas on 10 September 2004 (see recital (124)). Moreover, there are several occurrences related to both SIM and non-SIM segments. Indeed, during the meeting of 24 September 2003 (see recital (90)), [...] Samsung and [...] Infineon discussed prices in both SIM and non SIM applications; during the 17-20 November 2003 CARTES meeting, Philips and Renesas also discussed prices for EMV and 64K chips (see recital (103)).

(217) Contrary to what Philips and Infineon allege, during the Oral Hearing, Renesas, which focussed on both SIM and non-SIM applications, confirmed that the infringement concerned both SIM and non-SIM applications. According to it,

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388 See Case T−91/11, *InnoLux v Commission*, not yet published, paragraph 131; Joined Cases T-71/03, T-74/03, T-87/03 and T-93/03 *Tokai Carbon and others v. Commission* [2005] ECR II-10, at paragraph 90; Case T-38/02 *Groupe Danone v. Commission*, [2005] ECR II-4407, at paragraph 99.

389 See also Case T-61/99, Adriatica di Navigazione v Commission, [2003] II-05349, at paragraph 27.

390 Joined Cases T-71/03, T-74/03, T-87/03 and T-93/03 *Tokai Carbon and others v. Commission* [2005] ECR II-10, at paragraph 90.

information about non-SIM applications was relevant to SIM application suppliers and vice-versa: *"[...]"*.[391] This shows that specific elements like the technology migration (to the 0.18µ engraving) concerned all applications, both SIM and non-SIM (see recital (215)).

(218) Thirdly, Philips' claim that information about the SIM segment was not relevant for its commercial decisions since it was exiting the SIM business is not pertinent. In fact, Philips only exited the SIM segment in September 2006[392] , i.e. after the end of the infringement period, which is when it sold the business […]. Prior to that [...] had contacted Philips and Renesas about "the global inventory of SIM cards" on 25 and 26 January 2004 respectively. [...] Philips sought to meet with [...] Samsung during the 3GSM conference, which shows Philips' interest in the SIM segment during the infringement period (see recital (106)).

(219) Finally, Infineon and Philips' arguments concerning the difference on prices are contradicted by Renesas which considers that pricing of SIM and non-SIM applications was correlated.[393]

(220) In any case, there was a link not only between the SIM and the non-SIM applications but also between the conducts concerning these two market segments.

(221) On the demand side, it can be seen from the whole body of evidence that all customers were involved, to varying degrees, in both SIM and non-SIM activities (Safran, Gemalto, G&D, etc.).[394] Smart card producers representing a significant share of the market have confirmed that there were instances when chips were used for a different field of use than the one initially intended. The principle is then "*what can the more, can the less*".[395] Hence, if in principle SIM card chips were typically used only for the SIM card applications, certain banking chips could be re-used for other FSID applications such as transport or loyalty cards (i.e. non SIM). Gemalto reports that even a 32K SIM chip has been used in a loyalty card.[396] According to the customer Oberthur, high range secure certified Javacard chips could clearly be used for both EMV[397]/banking and other FSID applications.[398] […][399] the same smart card chip may be used for various applications – be it banking, personal identification or even SIM. Therefore, it is not possible to sustain an absolute customer segmentation from the demand side.

(222) On the supply side, it should be noted that, even if suppliers did not focus on the same products during the infringement period, main operators, including Philips, Infineon and Renesas, were active in both the SIM and the non-SIM segment. The mere fact that Samsung did not focus on the non-SIM segment does not mean that there was market independence between the SIM and non-SIM segment. From the

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397 Stands for Europay, MasterCard and Visa.
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evidence in the file[400] it can be concluded that this was part of a strategy that Samsung pursued, concentrating on SIM chips production because it believed it was more cost-effective and offered more potential. Samsung's commercial strategy may not lead to conclude that this product forms an independent market. To the contrary, evidence suggests that information exchanged on one segment involved competitors' activities on the other. For example, at the meeting held in Munich on 24 September 2003 between [...] Samsung and [...] Infineon, [...]'s notes state with respect to Infineon that *"even if SIM experiences backwards growth, if there is increase in demand in Banking or ID Cards, a supply shortage is expected"* (see recital(90)).

(223) The physical infrastructure needed to produce chips for SIM and non-SIM applications did not crucially differ, as suppliers provided chips for a range of common customer specifications. This is confirmed by Philips, when stating that "*SCC are manufactured with the same machines with which a number of other chips are manufactured*".[401] Therefore, whatever the customers' specifications and the technical differences between SIM and non-SIM chips, they could be indifferently produced by the suppliers. Indeed, it stems from the documents submitted by customers that, although general trends could be seen for specifications concerning each application, suppliers proposed a range of standard products, on top of which customers across the market required certain specifications from a range of possibilities common in the industry, concerning SIM or non-SIM products.[402]In most cases the general market segment information was transparent, because specific technical requirements for particular markets or customers were communicated to the respective chip manufacturer.[403] However, according to the customer Giesecke & Devrient, it was not necessary for the chip suppliers to know the exact customer specific application for their products.

(224) Evidence also shows that information given about the non-SIM market complements adequately the parties' knowledge of the smart card chips market and entails complementarity of the parties' conduct.

(225) In particular, it stems from the file that non-SIM information complemented suppliers' knowledge of the smart card chips market and had an impact on competitors' assessment of their own conduct on its specific SIM segment. Indeed, [...] that whatever the information, "*it was useful for competitors to understand how their competitors would act/react on the market*".[404] As a matter of fact, during the above mentioned meeting of 17-20 November 2003 (see recital (103)), Philips and Renesas discussed the price for EMV and 64K chips. This exchanged occurred between Philips, which was a key player in the non-SIM activity, and Renesas which focussed on the SIM applications. However, the information provided by Philips is recognised by Renesas to be "*secret, sensitive business data as it related to Philips'*

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403 [...] Also Gemalto explains that the chip suppliers do not have to know about every customer application developed by the smart card manufacturers but they must know about the common applications found in the given field of use where their components are used in order to develop suitable roadmaps of "standard products" encompassing all the necessary features [...].
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pricing and was not otherwise available, specific in that it referred to a specific supplier and a specific price, and related to Philips' future price intentions".[405] While Renesas was not a key player in the banking business, the company nevertheless followed the evolution of the EMV market very closely: in a report regarding CARTES 2003 that was widely circulated within Renesas, it is stated that "*SIM demand will continue to grow in 2004[…] EMV for banking more and more questionable*".[406] This comment shows that cross-product information was relevant to every supplier, whether they were SIM or non-SIM, as it participated in elaborating their strategy with regards to their planned production lines and innovations. Philips' self-acknowledged difficulties in the EMV market were widely disseminated within Renesas: "*Information from different sources that Philips no longer actively competes in the SIM and EMV market*".[407] This is especially true since Renesas is understood to have planned production concerning non-SIM chips for the future, as one of the mid long term objectives of Renesas was to be "*a strong contender on EMV and ID applications*".[408]

(226) In conclusion, there are sufficient elements to establish not only that the exchanges concerned both SIM and non-SIM applications but also that information about one segment was relevant for the other segment. Therefore, the Commission considers that the infringement covered both SIM and non-SIM applications, as defined by the subject of the anticompetitive discussions in this case.

(227) The Commission considers that a sub-categorisation within SIM and non-SIM applications must be excluded. Indeed, the smart card chip suppliers were interested in having a global vision of the market and price tendencies of the products they were selling to their customers. In particular, as far as flash products are concerned, the Commission does not share the point of view of Samsung. There is no need for the present case if the flash memory is in the same market as RAM memory. The fact that flash solutions might not have been as developed as traditional smart card chips at the time of the infringement is not sufficient to contradict the fact, based on contemporaneous evidence, that they were subject of discussion between competitors. Contrary to what Samsung states, evidence from the file shows that information related to flash products proved to be relevant well before 2007. For instance, in an e-mail preparing the meeting of 8 March 2004, [...] Renesas had asked [...] Samsung to "*discuss future demand for high density memory, eg. Flash*".[409] In the summary of the comments made by Samsung during the meeting of 8 March 2004 with Renesas (see recital (109)), it is indicated that "*FLASH technology WILL be the future of smart card IC*".[410]

(228) Other documents contain evidence of exchanges of information relating to flash products.[411] One of them, concerning a lunch meeting on 16 October 2003

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411 Contacts of Samsung with Infineon of 9 September 2004 and 5 September 2005, contacts of Samsung with Renesas of 19 November 2003 and 8 March 2004, and meeting of Renesas with Philips of 16 October 2003.

demonstrates particularly clearly the sensitive content of the information exchanged on flash products.[412] Indeed, during this meeting, [...] Renesas and [...] Philips discussed Samsung's supply capacity for 0.18µ chips and Samsung's position on minimum prices that needed to be generated for 0.18µ wafers ("*Samsung: 0.18 ICC in compet with DRAM/FLASH. $2500 rev. per wafer MIN*") (see recital (94)). During its meeting with Samsung on 9 September 2004 (see recital(122)), Infineon disclosed its strategy to use flash memory instead of 256K SIM chip in 2004,[413] which shows that flash and non-flash memories were used at least in SIM chips and also in products that are substitutable. In that sense, as the memory is one of the components of a smart card chip, information about memory was relevant for smart card chip suppliers.

(229) Considering that the memory is only a component of a smart card chip and that information about flash products was also relevant for suppliers of smart card chips that did not produce flash products, the Commission considers that there is no reason to exclude flash products from the scope of the infringement. The fact that flash memories at the time were less developed will in any event be reflected in the value of sales taken into account for the calculation of the fines.

(230) Concerning the geographic scope of the infringement, it is correct that suppliers and customers are very concentrated in limited EEA countries (namely, France, Germany and the Netherlands) (see recital (36)). Nevertheless, the anti-competitive activities in this case were liable to affect the parties' behaviour not only with regard to sales to the largest customers, but also throughout the EEA. Indeed, contrary to what Samsung claims, the smart card chips suppliers also had customers in other countries of the EEA. In particular, during the infringement period, Samsung sold smart card chips in almost all countries of the EEA.[414] Moreover, the smart card chip suppliers had subsidiaries involved in the smart card chip sector in several countries in the EEA. For example, Philips' entities that sold smart card chips were located in the Netherlands, Germany, France, Italy, Austria and Sweden[415] and Renesas Technology Corp or Renesas Technology Europe were active in the following countries: Denmark, Finland, France, Germany, Italy, Spain, Sweden and the United Kingdom.[416] Finally, the Commission recalls that several anti-competitive contacts concerned non-customer-specific market information[417] which is confirmed by [...] explaining that *"[...]"*[418] or that *"[...]"*.[419] Therefore, the Commission considers that the geographical scope of the market includes the whole of the EEA area, and not merely some isolated or limited EEA countries. Accordingly, this Decision concerns the smart card chip business within the whole of the EEA.

412 Recital (94).
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417 See recitals ((94)-(97), (100)-(104), (106)-(108), (113), (116) and (127)).
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5.2.4. The nature of the infringement

5.2.4.1. Agreements and concerted practices

Principles

(231) Article 101(1) of the Treaty and Article 53(1) of the EEA Agreement prohibit agreements and concerted practices between undertakings and decisions of associations of undertakings.[420]

(232) An agreement can be said to exist when the parties adhere to a common plan which limits or is likely to limit their individual commercial conduct by determining the lines of their mutual action or abstention from action in the market. The agreement may be express or implicit in the behaviour of the parties.[421]

(233) Although Article 101(1) of the Treaty and Article 53 of the EEA Agreement draw a distinction between the concepts of "concerted practices" and "agreements between undertakings", the object is to bring within the prohibition of these Articles a form of co-ordination between undertakings by which, without having reached the stage where an agreement properly so-called has been concluded, they knowingly substitute practical co-operation between them for the risks of competition.[422]

(234) The criteria of co-ordination and co-operation laid down by the case-law of the Union Courts, far from requiring the elaboration of an actual plan, must be understood in the light of the concept inherent in the provisions of the Treaty relating to competition, according to which each economic operator must determine independently the commercial policy which he intends to adopt on the market. This requirement of independence does not deprive undertakings of the right to adapt themselves intelligently to the existing or anticipated conduct of their competitors. However, it strictly precludes any direct or indirect contact between such operators the object or effect of which is either to influence the conduct on the market of an actual or potential competitor or to disclose to such a competitor the course of conduct which they themselves have decided to adopt or contemplate adopting on the market.[423]

(235) Thus, conduct may fall under Article 101(1) of the Treaty as a concerted practice even where the parties have not explicitly subscribed to a common plan defining their action in the market but knowingly adopt or adhere to collusive devices which facilitate the co-ordination of their commercial behaviour. The existence of a

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420 The case-law of the Court of Justice and the General Court in relation to the interpretation of Article 101 of the Treaty applies equally to Article 53 of the EEA Agreement. See recitals 4 and 15 as well as Article 6 of the EEA Agreement, Article 3(2) of the EEA Surveillance and Court Agreement, and as Case E-1/94 *Ravintoloitsijain Liiton Kustannus Oy Restamark* [January 1994-June 1995] EFTA Court Reports 15, at paragraphs 32-35. References in this text to Article 101 of the Treaty therefore also apply to Article 53 of the EEA Agreement.

421 Case T-9/99, *HFB Holding and others v. Commission* [2002] ECR II-1487, at paragraphs 199-200; Case C-105/04 P *Nederlandse Federatieve Vereniging voor de Groothandel op Elektrotechnisch Gebied v. Commission*, [2006] ECR I-8725, paragraphs 80, 94-100, 110-113, 135-142, 162.

422 Case 48/69 *Imperial Chemical Industries v. Commission* [1972] ECR 619, at paragraph 64.

423 Joined Cases 40/73 to 48/73, 50/73, 54/73 to 56/73, 111/73, 113/73 and 114/73 *Suiker Unie and others v. Commission* [1975] ECR 1663, at paragraphs 173-174.

concerted practice can also be demonstrated by evidence that contacts took place between a number of undertakings and that they in fact pursued the aim of reducing in advance any uncertainty as to the conduct expected from them on the market. [424]

(236) Although the concept of a concerted practice requires not only a concertation but also conduct on the market resulting from the concertation and having a causal connection with it, it may be presumed, subject to proof to the contrary, that undertakings taking part in such concertation and remaining active in the market will take account of the information exchanged with competitors in determining their own conduct on the market, all the more so when the concertation occurs on a regular basis and over a long period. Such a concerted practice is covered by Article 101(1) of the Treaty even in the absence of anti-competitive effects on the market.

(237) A concerted practice pursues an anti-competitive object for the purposes of Article 101(1) of the Treaty where, according to its content and objectives and having regard to its legal and economic context, it is capable in an individual case of resulting in the prevention, restriction or distortion of competition within the internal market. It is not necessary for there to be actual prevention, restriction or distortion of competition or a direct link between the concerted practice and consumer prices. An exchange of information between competitors is tainted with an anti-competitive object if the exchange is capable of reducing uncertainties concerning the intended conduct of the participating undertakings.[425]

(238) In addition, an undertaking, by its participation in a meeting with an anti-competitive purpose, not only pursued the aim of reducing in advance uncertainty about the future conduct of its competitors but could not fail to take into account, directly or indirectly, the information obtained in the course of those meetings in order to determine the policy which it intended to pursue on the market. According to the General Court, this conclusion is also valid in cases where the participation of one or more undertakings in meetings with an anti-competitive purpose was limited to the mere receipt of information concerning the future conduct of their market competitors. [426]

(239) As concerns "complex infringements" of long duration, the Commission is not required to characterise the conduct exclusively as "agreements" or "concerted practice". Both concepts are fluid and may overlap. The anti-competitive behaviour may be varied from time to time, or its mechanisms adapted or strengthened to take account of new developments. Indeed, it may indeed not even be possible to make such a distinction, given that an infringement may present simultaneously the

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424 See Joined Cases 40/73 to 48/73, 50/73, 54/73 to 56/73, 111/73, 113/73 and 114/73 *Suiker Unie and others v. Commission* [1975] ECR 1663, at paragraphs 175 and 179 and Case T-132/07, *Fuji Electric Co. Ltd. v. Commission*, not yet reported, at paragraph 88.

425 Case C-8/08 *T-Mobile Netherlands BV and others v. Raad van bestuur van de Nederlandse Mededingings-autoriteit* [2009] ECR I-4529, at paragraph 43.

426 Joined cases T-202/98, T-204/98 and T-207/98 *Tate & Lyle and others v. Commission* ECR [2001] II-2035, at paragraph 58. Joined Cases T-25/95, T-26/95, T-30/95, T-31/95, T-32/95, T-34/95, T-35/95, T-36/95, T-37/95, T-38/95, T-39/95, T-42/95, T-43/95, T-44/95, T-45/95, T-46/95, T-48/95, T-50/95, T-51/95, T-52/95, T-53/95, T-54/95, T-55/95, T-56/95, T-57/95, T-58/95, T-59/95, T-60/95, T-61/95, T-62/95, T-63/95, T-64/95, T-65/95, T-68/95, T-69/95, T-70/95, T-71/95, T-87/95, T-88/95, T-103/95 and T-104/95 *Cimenteries CBR and others v. Commission* ECR [2000] II-491, at paragraphs 1849-1852.

characteristics of both forms of prohibited conduct, while when considered in isolation some of its manifestations could accurately be described as one rather than the other. It would be artificial analytically to sub-divide into several forms of infringement what is clearly a continuing common enterprise having one and the same overall objective. A cartel may therefore be an agreement and a concerted practice at the same time. [427]

Application to this case

(240) The facts described in Section 4 demonstrate that the addressees of this Decision were involved in collusive activities concerning the sale of smart card chips in the EEA through a network of bilateral face-to-face meetings and other contacts by phone and e-mail. These collusive activities included in particular the coordination of pricing behaviour with regard to prices charged to customers through contacts on pricing, production capacity and capacity utilisation, future market conduct as well as on contract negotiations vis-à-vis common customers and the exchange of competitively sensitive information.

(241) Therefore, while some of the illegitimate contacts on pricing and capacity occurred in connection with or in between otherwise legitimate discussions concerning for example technology cooperation (see, for instance, recital (110)), the conduct described in this Decision constitutes a concerted practice within the meaning of Article 101(1) of the Treaty.

(242) The network of bilateral contacts described in Section 4 took place regularly over a period of time from September 2003 until September 2005, although the nature and intensity of communications may have varied over the period. The repeated bilateral contacts described in this Decision always led to exchanges of sensitive information or competitive intentions and mutual understandings that constitute at least concerted practices within the meaning of Article 101 of the Treaty.

(243) The documentary evidence in the Commission's file shows that the contacts:

(a) related to the cartel participants' intended pricing quotations, ranges, directions or planned acceptance of requests by customers (see for illustration recitals (92), (93), (95), (97), (100), (102), (104), (112), (113), (118), (120), (121), (127), (130), (131));

(b) gave the opportunity to share and verify information on pricing discussions held with customers (see recitals (91), (92), (118), (120), (122), (126),(129)); or

(c) were used to share other competitively sensitive information such as the actual and planned changes in production and supply capacity (see recitals (96), (101), (103), (104), (105), (127)), allocation status (see recitals (110), (112)-

[427] See again Case T-7/89 *Hercules v. Commission* [1991] ECR II-1711, at paragraph 264. See also Joined Cases T-305/94, T-306/94, T-307/94, T-313/94 to T-316/94, T-318/94, T-325/94, T-328/94, T-329/94 and T-335/94 *Limburgse Vinyl Maatschappij N.V. and others v. Commission* [1999] ECR II-931, at paragraph 696.

(113), (115), (119), (120)), inventory status (see recitals (108),(109), (125)), the timing of the introduction of new production technologies and its expected effect on capacity (see recitals (91), (92), (101), (127)).

(244) The competitors were in touch mainly through bilateral contacts. Nevertheless these bilateral contacts were linked to each other by their subject-matter and timing, through open references to each other and by the transmission of the information gathered. It is also clear that participants consciously used market fairs and other industry gatherings for the purposes of bilateral competitor contacts (see concerning the CARTES trade fairs recital (77)). Moreover, [...] acknowledges[428] that it was common knowledge among the competitors that bilateral contacts and exchanges of competitively sensitive information were taking place at least between Samsung and the competing smart card chip suppliers (see recitals (297) and (306)).

(245) Within the context of the collusion, indications such as price ranges or average sales prices were capable of reducing price uncertainty on the market, enabling the parties to make decisions based on more specific or reliable data, for instance in comparison with information received from customers (see recitals (91), (114), (115), (121)). The activities described above constituted a form of co-ordination and cooperation according to which the parties knowingly substituted practical co-operation between them for the risks of competition. The conduct in question took the form of concerted practices whereby the competing undertakings refrained from determining independently the commercial policy which they intended to adopt on the market but instead engaged in the coordination of pricing behaviour through contacts on pricing and production capacity.

(246) The documentary evidence shows that the contacts went well beyond a mere exchange of general market information during sporadic competitor contacts, but instead constituted arrangements whereby the participants coordinated their pricing behaviour or at least disclosed to one another factors relevant for their future pricing behaviour through regular contacts between competitors throughout the smart card chip business cycle. This cycle refers to the annual contract negotiations and quarterly price negotiations with customers as well as negotiations in connection to specific market conditions, for example when the market was experiencing supply shortages ("allocation")(see for instance recitals (38)-(41), (65), (68), (73), (81), (75), […], (90), (91), (115), (119), (124), (126), (130), (285) and (287) and the examples listed in recital (243).

(247) Although the concept of a concerted practice requires not only concertation but also conduct on the market resulting from the concertation and having a causal connection with it, it may be presumed, subject to proof to the contrary, that undertakings taking part in such a concertation and remaining active on the market will take account of the information exchanged with competitors in determining their own conduct on the market. That conclusion also applies where the participation of one or more undertakings in meetings with an anti-competitive purpose is limited to the mere receipt of information concerning the future conduct of their market competitors. To the contrary, in this case, there is evidence that the cartel participants

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relied on each other's intentions as to their strategy in contract negotiations with customers and took into account the information obtained through mutual exchange in determining their own conduct on the market (see recitals (92), (93), (95), (102), (109), (114), (120), (123), (126)).[429] In addition, the parties continued to supply smart card chips throughout the infringement period to customers. The mutual information sharing also enabled the cartel participants to counter different strategies employed by customers to stimulate price competition (see for illustration recitals (98) and (131)). This is therefore a concerted practice whose object was to prevent, restrict or distort competition within the common market.

Arguments of the parties

(248) [...] confirmed that the contacts described in Section 4 can be qualified as agreements or concerted practices.

(249) Philips and Infineon contest the reliability of the occurrence and the content of some contacts. They argue that the reports [...] used by the Commission as evidence in order to demonstrate the anticompetitive content of the meetings, are not reliable as they do not reflect the reality of the information exchanged. However, they do not produce any evidence supporting their claims besides this general statement. Moreover, according to Philips, for some of the contacts, either the information exchanged is inaccurate or unrealistic as it concerned customers or products that did not interest it.

(250) Philips and Infineon consider that the contacts described in Section 4 cannot be qualified as agreements or concerted practices. They consider that the nature of the exchanges was not capable of reducing uncertainties on the market.

(251) Philips argues that a cartel requires the existence of an oligopolistic market, high entry barriers, stagnating and homogeneous products, an anticompetitive goal, and the exchange of information which will reduce uncertainty. It explains that the smart card chip market is not of the stagnating kind that may typically induce collusive behaviour. Instead, it describes the industry as highly dynamic and competitive, with low entry barriers. Philips also invokes the strong fluctuation of demand and technology innovations to this effect. The successful entry of Atmel and Samsung, and the recent severe changes in traditional market players, serve this argument. Philips and Infineon also state that the Commission failed to address the fundamental differences between the parties in terms of business focus and strategy, which were, at the time of the alleged infringement period, far apart, therefore giving them little incentive to collude. Philips considers that Samsung was an ambitious maverick trying to rapidly outperform and outsell its competitors, while Philips' was very different since it had plans to exit the SIM market, and that as a result the Commission's position does not reflect the true situation.

(252) Philips claims that the exchanges in which it was involved were not capable of reducing uncertainties as it did not have sufficient market coverage. Indeed there were only two contacts between Renesas and Philips and no anticompetitive-contact between Philips and Infineon. Moreover, the information exchanged by Philips was

[429] See also recitals (71), (72), (77), (94), (105), (112), (116), (121), (129).

publicly available or related to data in the past. According to Philips, information exchanged about target prices was irrelevant as they were provided by the customers to all suppliers and therefore generally known. In the same vein, information on revenue per wafer was not valuable or relevant. Indeed, due to the specific chip architecture of each supplier, wafer revenues are very difficult to compare and are not strategically relevant as they do not allow the competitors' costs structures to be determined, nor its minimum price to be estimated. There was no exchange of information concerning actual prices. According to Philips, capacity information was also irrelevant as smart card chip applications were shared with other applications, the information could be obtained from other sources and there has not been supply shortage since 2001.

(253) Infineon considers that most of the exchanges were on capacity issues and discussions on prices only played a minor role. Concerning the discussions on capacity, this information was not sensitive as data on capacity and capacity utilization does not determine the business decisions of semiconductor companies. The exchange of information about capacity utilization would not have reduced the uncertainty to a degree which could potentially result in the reduction of competition in the market. This is due to the fact that manufacturers like Infineon applied a concept of flexible manufacturing capacity in order to allow for re-allocation of manufacturing capacity based on short term demand changes. Concerning the pricing exchanges, Infineon considers that they were about general market developments, on an aggregate level and that there was no sharing of information about specific customers. For Infineon, a communication of average prices without specific contractual and product context does not have such an impact in the specific context of the smart card chip industry. Pricing data at an aggregate level is, due to the complexity of the different products, not strategically relevant. In addition, since the prices for each large customer are the result of Infineon's individual negotiations, they vary very much depending on the respective customer and the volume. Such generic information does therefore not comprise sufficiently detailed information which could influence the parties' market behaviour.

Assessment

(254) First of all, concerning the reliability of the reports [...], according to the generally applicable rules on evidence, the reliability and, therefore, the probative value of a document depends on its origin, the circumstances in which it was drawn up, the person to whom it is addressed and the reputed and reliable nature of its content. In particular, great importance must be attached to the fact that a document has been drawn up in close connection with the events, or by a direct witness to these events. As [...] participated in all the meetings for which he drafted a report, and there is no evidence that the content of the meetings was not true, there is no reason to consider that these reports do not reflect the reality of the exchanges described in recitals (90), (91), (100), (104), (122) and (123). The former applies in particular to information about prices concerning the contacts described in recitals (91), (94), (98), (104) and (122). Certain of these documents are independently corroborated by Renesas or even […] (see recitals (112), (159) and (187)-(193).

(255) According to the case-law,[430] information exchanges between competitors of individualised data regarding intended future prices or quantities are considered a restriction of competition by object, which means that no effect is required in order to establish the infringement of Article 101(1) TFEU. Such information exchanges not only infringe Article 101(1) of the Treaty, but, in addition, are very unlikely to fulfil the conditions of Article 101(3) of the Treaty. According to the established case-law,[431] in deciding whether a concerted practice is prohibited there is no need to take account of its actual effects once it is apparent that its object is to prevent, restrict or distort competition within the common market. The distinction between 'infringements by object' and 'infringements by effect' arises from the fact that certain forms of collusion between undertakings can be regarded, by their very nature, as being injurious to the proper functioning of normal competition. In order for a concerted practice to be regarded as having an anti-competitive object, it is sufficient that it has the potential to have a negative impact on competition. In other words, the concerted practice must simply be capable in an individual case, having regard to the specific legal and economic context, of resulting in the prevention, restriction or distortion of competition within the common market.[432]

(256) Several contacts described in Section 4 concern exchanges on future prices (see recitals (90)-(94), (96), (99), (101), (103), (104), (109)-(113), (115)-(116), (118), (120), (122), (123)-(125), (129) and (132)).

(257) For example, during the year 2003, for the meeting between Renesas and Samsung reported in the internal e-mail of Renesas of 7 October 2003 (see recital (92)), it is indicated that Samsung had "*spoken to Infineon and Philips who agree for 64K that 0.95E 1H/04, 0.9E 2H/04 [was] market pricing*"; according to [...]'s notes on the meeting of 16 October 2003 between Renesas and Philips (see recital (94)), Philips' sales price would be EUR 1.00 or above in 2004 ("*PHILIPS. […] 64K ≥ 1€ in any case for* "); in the Samsung's internal e-mail of 3 November 2003 (see recital (96)), [...] says that "*I know that Infineon's price is now a little bit higher than ours. In the beginning of October they told me that they would reduce the price by 10-15% in 2004, but it seems they are maintaining the price";* concerning the contact of Renesas and Samsung on 17-20 November 2003 (see recital (101)), Renesas internally reported that Samsung had *"[n]o intention for further price reduction on short term, wait and see for Q2 and further*" and [...] noted that *"Renesas requests the price strategy of Samsung, so I will correspond properly";* concerning the meeting between Renesas and Philips on 17-20 November (see recital (103)), Philips was reported as saying that its target was profitability and it was therefore "*ready to give up some business; will refuse to continue price battle on EMV (no fun below 0.4€)*

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430 Case T-587/08, *Fresh Del Monte v Commission*, paragraphs 344-345. See also points 72-74 of the Communication from the Commission - Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements (OJ 2011, C 11/1, 14.1.2011).

431 See Case C-8/08, *T-Mobile Netherlands and Others*, [2009] ECR I-4529, paragraphs 29-31.

432 T-588/08, *Dole Food Company, Inc., v Commission*, not yet reported, paragraphs 69-70.

and 64K SIM IC"; during the phone call on 19 November 2003 between Samsung and Philips, Philips informed Samsung "*that they raise price in 200[4] Q1*".[433]

(258) Exchanges on prices continued in 2004. For example during the meeting of 8 March 2004 between Samsung and Renesas (see recital (109)), [...] indicated that at present there was "*no need to offer low ball pricing to MNC's*"; during the meeting between Renesas and Samsung on 27 May 2004 (see recital (115)), Samsung presented the following views on pricing for 2005: "*16K price: above 2004 contract price, but below revised 16K price; 32K price: if possible same as 2004, likely a bit lower (we know he sells now 32K at USD 0.43); 64K/128K: reasonable price erosion as "normal" for high end devices, not yet in very large volumes They would like to keep 2005 biz stable in value vs 2004*"; during the contact of 30 June 2004 (see recital (118)), Renesas and Samsung also exchanged about future pricing for a customer: *"(Renesas') price currently being negotiated with Axalto in 2005 is following (This is the price requested by Axalto and it is 15-20% lower than the current price). 36K 0.40 Euro →$0.50 (Renesas is doing business in Euro and they are currently selling mostly 36K products). 64K 068 Euro→$0.85, 128K Cryoto 1.99 Euro→$2.49*"; concerning the meeting of 9 September 2004 between Samsung and Philips (see recital (123)), according to [...]'s notes, "*Philips made a big progress in SIM Card and for [Gemplus]. Their main product is 64K/128K and ASP is $1.2.*" and *"They* have *received $1.5 as the target price for 128K*"; during the meeting of 10 September 2004 (see recital (124)), Samsung informed Renesas that the company was planning to "*keep their share at Axalto in 2005*" and "*to accept Axalto's target prices*" and Renesas submits that [...] may have expressed himself along the following lines: "*Two months ago, I said we wanted to stop the price battle, but not everyone played the game, so now I'm starting the battle again*"; on 10 September 2004 (see recital (125)), in a report sent by e-mail,[434] with the subject "*Hot news*", [...] Renesas reported internally about "*recent discussions with Infineon, Atmel and Samsung*". [...] stated that migration to new technology increased the level of overall supply and was expected to meet or even exceed demand in 2005. This triggered the re-starting of the price battle, with Axalto reducing its target price. The e-mail suggests that [...] was in contact with three major competitors and received information on their pricing strategy, with Atmel and Samsung saying that they were ready to meet the target price, while "*Infineon's position is more wait and see*";

(259) The discussions on prices lasted […] until 2005. Concerning the meeting of 23 March 2005 between Samsung and Renesas (see recital (129)), a Renesas' internal note confirms that Samsung shared information on its pricing policy: "*Samsung confessed they have offered 0.63 US dollar to Axalto for 68K/72K for 2005 and will decrease price further if needed to keep their market share*"; concerning the meeting on 8 September 2005 between Samsung and Renesas (see recital (132)), [...] report reveals that while [...] had assured [...] that Renesas' aggressive pricing had been "*an accident and would not happen again*" [...] expressed his unhappiness with this justification and stated that "*this has been happening over again*".

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433 Although the report indicates 2003, as the conversation concerns future prices and the contact took place in November 2003, the context of the document let suppose that the information concerns the year 2004 [...].

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(260) Contrary to what Infineon and Philips argue, discussions on prices played an important role. These exchanges are by their very nature a restriction by object as they concern future prices. Therefore, there is no need for the Commission to show an effect in the market.

(261) Moreover, even aggregated or general information about prices was sensitive. Indeed, [...] not all pricing discussions with competitors required an exchange of details. Discussions on general pricing trends or market conditions with Infineon and other competitors provided useful insight to […], and its competitors, on how they were seeking to limit the impact that the challenging market developments caused for them.[435] For example, regarding the contact of 3 November 2003 described in recital (96), [...] the reasons why the exchanged information was not vague but rather was useful to it: "*First, it was entirely superfluous to include a product specification. In November 2003, there were essentially 4 products on the market, 16K, 32K, 64K and 128K (viz. low end, mid end, high end and extra high end). At the time, Gemplus was not a […] customer. […] was progressively vacating 16K at Axalto. Demand for 128K was rare, so it made no sense to discuss this. The products that mattered were 32K (the by far biggest volume) and 64K. Both had similar price movement, with the 64K typically moving a little slower than the 32K (due to the relatively higher price / lower volume) – but the trend was similar. […] In the absence of product specifications, the discussion focused on general direction of prices […]. Price direction mattered at that time. […] prices had been in steep decline in October 2003. During the earlier contact in October, […] had still opined that it expected this trend to continue into 2004, hence it would "reduce the price by 10-15% in 2004". One month later, during the contact underlying the report at issue, […] asks […] opinion about a change in course, as it had picked up a price increase rumor. [...] recalled certain symptoms that he interpreted as [...] wanting to "tip" him that Infineon saw a shortage season coming and hence was changing course. Indeed, to further show the reasonableness of such course of action, an additional (external) factor was discussed between [...] and [...], i.e., the cancellation of the 128K push out by customer Axalto. Such a move by a major customer identifies that the customer is also expecting a shortage season coming up, and that they are starting to build up stock (hence cancelling the push out of product) in order to ensure supplies. A shortage would imply price stabilization".*[436] The same reasoning applies to the contact described in recital (90).

(262) For some of the contacts, Philips contests the anti-competitive nature of the exchanges on prices. Concerning the meeting of 26 September 2003 between Samsung and Philips (see recital (91)), Philips considers that the information was inaccurate and was not sensitive as Schlumberger was not a SIM customer of Philips at that time. But according to the generally applicable rules on evidence, the reliability and, therefore, the probative value of a document depends on its origin, the circumstances in which it was drawn up, the person to whom it is addressed and the reputed and reliable nature of its content. In particular, great importance must be attached to the fact that a document has been drawn up in close connection with the events, or by a direct witness to these events. Both [...][437] and [...][438] internal emails

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are reliable sources, as they come from direct participants in the meeting. Even if Schlumberger was not a SIM customer of Philips in 2003, it was one of the principle customers of smart card chips in the market and bought other smart card chip products to Philips in 2003 and 2004[439], which is the reason why the information was sensitive to Philips. In particular, as explained in recital (65), Axalto and Gemplus were the two main customers and prices contracted with them would serve as a reference for the market.

(263) Philips also contests the anticompetitive nature of the meeting of 16 October 2003 with Renesas (see recital (94)) claiming that the notes of [...] are not clear, pricing information exchanged is incorrect and not strategically useful as Philips was exiting the SIM market. But the notes from [...], a direct participant in the meeting are without any ambiguity and make reference to future prices: ("*PHILIPS. […] 64K ≥ 1€ in any case for 2004*"). Finally, the fact that Philips was in the process of exiting the SIM market is irrelevant as Philips' real exit was only in September 2006.[440]

(264) Concerning the meeting of 9 September 2004 between Philips and Samsung (see recital (123)), contrary to what Philips suggest, the information was not vague but instead was sensitive as it concerned future prices to specific customers. The fact that Axalto was not a SIM customer of Philips at that moment is not relevant since it was one of the principle customers of smart card chips in the market and bought other smart card chip products to Philips in 2004[441], which is the reason why the information was sensitive to Philips.

(265) When not directly related to future pricing (see recital (256)), the information exchanged was related to pre- pricing factors in the sense of the *Dole*[442] case-law, i.e. factors relevant to the setting of quotation prices in the near future or for the reactions of the parties to price quotes requested by customers instead of deciding prices independently. Those communications took place before the parties set their quotation prices and related to future quotation prices. The Commission considers that these bilateral pre-pricing communications decreased uncertainty surrounding the future decisions of the undertakings concerned on quotation prices. In other words, each supplier aimed at further reducing the remaining uncertainty existing in the market in order to decide with better accuracy when and how to increase prices or to resist the price decrease requests made by the customers, with the result that competition between undertakings was restricted. For example, knowing accurate pre-pricing information like inventory, production capacity, etc. would allow the parties to decide whether to resist or not a price reduction request by the customers. If the competitor did not have the production capacity to satisfy the customer's request then the party in question would resist the price reduction request. If the competitor had that capacity, then resisting the request could mean losing the business to the competitor. The argument regarding the lack of exchange of sensitive commercial information should therefore be rejected.

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442 T-588/08, *Dole Food Company, Inc., v Commission*, not yet reported, paragraph 74.

(266) In this sense, [...] have confirmed the sensitiveness of the information exchanged (see recitals (71)-(72) and (267)-(269)).

(267) Concerning information about capacity, according to [...], knowing that a competitor was in allocation was a strong indicator that it was not likely to decrease prices.[443]

(268) As regards the claims that the information exchanged was not strategically useful because the supplier would not be concerned by the customer or the product, they should also be rejected. In the first place, […] have admitted that they have used the information to determine their conduct on the market.[444] According to established case-law[445]a situation where only one undertaking discloses strategic information to its competitor(s) who accept(s) it can also constitute a concerted practice. Then, for several other reasons such as that the information was used in the following year after the discussions took place, the customer was in a commercial relationship regarding other products or that the supplier did not succeed in following the price requested by the customer, it can be established that the information exchanged was sensitive for the parties. For example, concerning the meeting of 26 September 2003 between Philips and Samsung (see recital (91)), although Schlumberger was not a Philips' SIM customer in 2003, it was a customer of Philips for the 16K chip for the banking application in 2003[446] and for the 64K chip for the banking application in 2004. Moreover, Philips was supplying 64K chip in 2003.[447] Also, as already explained, the price to Axalto and Gemplus were considered the reference for the market (see recital (65)). The same reasoning applies for the contacts described in recitals (94), (98), (112), (122) and (130).

(269) Moreover, there are no indications that the parties participating in the arrangements did not take account of the information exchanged with competitors when determining their conduct on the market.[448] Quite the contrary, […] have independently admitted the use of the knowledge acquired through the contact with competitors in order to determine their behaviour on the market (see recitals (71), (72), (77), […], (92), (93), (94), (105), (109), (112)-(114), (116), (117), (121), (126), (129), (131) and (132)) and in particular their conduct in relation to the customers' quotes for prices (or for a price reduction). This is similar to the circumstances of the *Dole* case-law[449] as in that case discussions on pre-pricing elements were considered sufficient to allow the parties to draw conclusions on the future evolution of prices and market conditions.

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445 Joined cases T-202/98, T-204/98 and T-207/98 *Tate & Lyle and others v. Commission* ECR [2001] II-2035, at paragraph 58. Joined Cases T-25/95, T-26/95, T-30/95, T-31/95, T-32/95, T-34/95, T-35/95, T-36/95, T-37/95, T-38/95, T-39/95, T-42/95, T-43/95, T-44/95, T-45/95, T-46/95, T-48/95, T-50/95, T-51/95, T-52/95, T-53/95, T-54/95, T-55/95, T-56/95, T-57/95, T-58/95, T-59/95, T-60/95, T-61/95, T-62/95, T-63/95, T-64/95, T-65/95, T-68/95, T-69/95, T-70/95, T-71/95, T-87/95, T-88/95, T-103/95 and T-104/95 *Cimenteries CBR and others v. Commission* ECR [2000] II-491, at paragraphs 1849-1852. See also point 62 of the Horizontal Guidelines

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448 See Case C-49/92 P *Commission v. Anic Partecipazioni SpA* [1999] ECR I-4125, at paragraph 121.

449 T-588/08, *Dole Food Company, Inc., v Commission*, not yet reported, paragraph 584.

(270) The argument that the information exchanged was not sensitive due to its apparent publicity is not sustainable either. According to the case-law[450], even if the data exchanged between competitors is what is often referred to as being "in the public domain", it is not genuinely public if the costs involved in collecting the data deter other companies and customers from doing so. Hence, the possibility to gather the information in the market, for example to collect it from customers, does not necessarily mean that such information constitutes market data readily accessible to competitors.

(271) In several cases, the information was only made public after the occurrence of the contact (see contacts described in recitals (93), (103), (114). For example, at the meeting on 17 November 2003 between Infineon and Samsung, Infineon informed Samsung about the development of the 0.13µ process and its intention to "*release it for the press in Cartes*".[451] This information became only publicly available as of 21 November 2003 (4 days after the contact) when the report of an independent financial analyst, HVB Equity Research[452], mentioned it. For some other contacts, the information exchanged is much more detailed than the public available information (it applies to contacts described in recitals (99), (105), (114) and (125) . For instance, during the phone call held on 3 November 2003 by Infineon and Samsung, Infineon disclosed its intended price reductions by 10-15 %.[453] This detailed and precise information is in contrast to what was publicly available at the time, namely market research reports indicating generally that there was a price decline in the industry.[454] Finally, for some other contacts, the parties do not submit any evidence for the public availability of the exchanged information besides a general comment (this applies to contacts described in recitals (93), (94), (101), (107), (119) and (125). For example, regarding the information exchanged at the meeting in Munich on 24 September 2003 between Infineon and Samsung (see recital (90)),[455] Infineon only claims but does not adduce any evidence that Samsung may have gained the information from "*other public sources*".[456] Regarding Philips, this is also the case in relation to the meeting of 26 September 2003 (see recital (91)) which took place in Paris between Samsung and Philips,[457] Philips claims that the capacity information exchanged during this meeting was publicly known,[458] but once again, no evidence of the public availability of this information has been submitted. In addition, as shown in recital (109), even when a company (in this case Renesas) had heard rumours from the market, it felt the need to verify its accuracy with the competitor (in this case Samsung), that is, from the source.

(272) The Commission notes that the parties focused on different products. Indeed, Renesas and Samsung were more focused on SIM products whereas Philips and Infineon were more focused on non-SIM applications. However, the individual

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450 See Joined Cases T-202/98 and others, *Tate & Lyle* v *Commission*, [2001] II-02035, paragraph 60. See also point 92 and following of the Horizontal Guidelines.

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incentive to enter into a cartel is irrelevant for the establishment of an infringement. What is important is to establish the links between the products affected and the usefulness of the exchanged information for the cartelists' business activity (see recitals (214)-(229) concerning the product scope). In this respect, it should be recalled that at the time there was severe downward pressure on prices by the main customers, which ended in 2006 with the merger of the said customers. Also, the fact that Philips was in the process of exiting the SIM market (a process that would be implemented after the end of the present infringement) is irrelevant as Philips' real exit was only after the alleged infringement.[459] There is no evidence that Philips lost interest in being profitable in the SIM market prior to exiting the market, nor is there any reason why Philips would not have been interested in gaining as much as profit as possible until its full exit from the SIM business (see recitals (94), (98), (104) and (112)). Philips has not given any grounds for why it lost interest in being profitable besides the vague statement of a plan to exit this market segment.

(273) Finally, there is evidence showing that the parties knew about the illegality of their contacts as some of them took measures to conceal their collusive behaviour. For example, in the e-mail within Samsung of 3 November 2003, [...] explains to [...] that when they have a contact with competitors they may have problems with anti-trust laws so [...] should not leave any written traces.[460] At least one internal Renesas report on contacts with competitors was also supposed to be deleted (see recital (115)).

(274) The Commission therefore considers that the parties did not rebut the presumption of a causal relationship between the concertation and the subsequent conduct on the market.

(275) On the basis of the above considerations, the Commission considers that the infringement in this case presents all the characteristics of a concerted practice within the meaning of Article 101 of the Treaty.

5.2.4.2. Single and continuous infringement(s)

Principles

(276) According to settled case-law, the agreements and concerted practices referred to in Article 101(1) of the Treaty necessarily result from collaboration by several undertakings, who are all co-perpetrators of the infringement but whose participation can take different forms according, in particular, to the characteristics of the market concerned and the position of each undertaking on that market, the aims pursued and the means of implementation chosen or envisaged.[461] It follows that an infringement of Article 101 of the Treaty may result not only from an isolated act but also from a series of acts or from continuous conduct. That interpretation cannot be challenged on the ground that one or several elements of that series of acts or continuous conduct could also constitute in themselves and taken in isolation an infringement of Article 101 of the Treaty. When the different actions form part of an overall plan,

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461 Case Case C-49/92 P *Commission v. Anic Partecipazioni* [1999] ECR I-4125, at paragraph 79.

because their identical object distorts competition within the internal market, the Commission is entitled to impute responsibility for those actions on the basis of participation in the infringement considered as a whole.[462]

(277) It would be artificial to split up such continuous conduct, characterised by a single purpose, by treating it as consisting of several separate infringements, when what was involved was a single infringement which progressively would manifest itself in both agreements and concerted practices.[463]

(278) The concept of a single infringement covers a situation in which a number of undertakings have participated in an infringement consisting in continuous conduct in pursuit of a single economic aim designed to distort competition or, yet again, in individual infringements linked to one another by the same object (all the elements sharing the same purpose) and the same subjects (the same undertakings, which are aware that they are participating in the common object).[464]

(279) Although Article 101 of the Treaty does not refer explicitly to the concept of single and continuous infringement, it has consistently been held that an undertaking may be held responsible for an overall cartel even though it is shown that it participated directly only in one or some of the constituent elements of that cartel, if it is shown that it knew, or must have known, that the collusion in which it participated was part of an overall plan and that the overall plan included all the constituent elements of the cartel.[465]

(280) The fact that the undertaking concerned did not participate directly in all the constituent elements of the overall cartel cannot relieve it of responsibility for the infringement of Article 101(1) of the Treaty. Such a circumstance may nevertheless be taken into account when assessing the seriousness of the infringement which it is found to have committed. Such a conclusion is not at odds with the principle that responsibility for such infringements is personal in nature, nor does it neglect individual analysis of the evidence adduced, in disregard of the applicable rules of evidence, or infringe the rights of defence of the undertakings involved.[466]

(281) In order to establish that an undertaking participated in such a single agreement, the Commission must show that the undertaking intended to contribute by its own conduct to the common objectives pursued by all the participants and that it was

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462 Joined cases C-204/00 P, C-205/00 P, C-211/00 P, C-213/00 P, C-217/00 P and C-219/00 P *Aalborg Portland and others v. Commission* [2004] ECR I-123, at paragraph 258. See also Case C-49/92 P *Commission v. Anic Partecipazioni SpA* [1999] ECR I-4125, at paragraphs 78-81, 83-85 and 203.

463 Case T-6/89 *Enichem Anic v. Commission* [1991] ECR II-1623, at paragraph 204, upheld by the Court of Justice in Case C-49/92 P *Commission v. Anic Partecipazioni* [1999] ECR I-4125, at paragraph 82.

464 Case T-446/05 *Amann & Söhne GmbH & Co. KG a.o. v. Commission* [2010] ECR II-1255, at paragraph 89.

465 Cases T-295/94 *Buchmann v. Commission* [1998] ECR II-813, at paragraph 121; T-304/94 *Europa Carton v. Commission* [1998] ECR II-869, at paragraph 76; T-310/94 *Gruber + Weber v. Commission* [1998] ECR II-1043, at paragraph 140; T-311/94 *Kartonfabriek de Eendracht v. Commission* [1998] ECR II-1129, at paragraph 237; T-334/94 *Sarrió v. Commission* [1998] ECR II-1439, at paragraph 169; T-348/94 *Enso Española v. Commission* [1998] ECR II-1875, at paragraph 223; Case T-9/99, *HFB Holding and others v. Commission* [2002] ECR II-1487, at paragraph 231.

466 Joined Cases T-101/05 and T-111/05 *BASF and UCB v. Commission* [2007] ECR II-4949, at paragraph 160.

aware of the actual conduct planned or put into effect by other undertakings in pursuit of those same objectives, or that it could reasonably have foreseen it, and that it was prepared to take the risk.[467] If the undertaking was not aware of the other parties' anti-competitive conduct put in effect in pursuit of the same objective, and it could not reasonably have foreseen that conduct and therefore was not prepared to take the risk, the undertaking may not be attributed liability for the others' conduct but is not relieved of its liability for the part of the infringement in which it participated.[468]

(282) The principle of legal certainty requires that, if there is no evidence directly establishing the duration of an infringement or of the participation of an undertaking therein, the Commission should adduce at least evidence of facts sufficiently proximate in time for it to be reasonable to accept that the infringement continued without interruption between two specific dates.[469]

Application in this case

(283) For the period from […] September 2003 until […] September 2005 the evidence shows an infringement in the form of a network of collusive bilateral contacts by Infineon, Samsung, Philips and Renesas on the market for smart card chips. As described in Section 5.2.4, these bilateral meetings can be qualified as concerted practices.

(284) The facts described in this Decision constitute one single and continuous infringement as there are objective grounds to assume the single anti-competitive aim of the participants in the collusive contacts and their common pattern of behaviour. The Commission will assess the awareness of the parties of the single and continuous infringement in order to establish their liability for the infringement. Each of these aspects will be examined in detail.

Single anti-competitive aim

(285) The anti-competitive conduct in this case took place in the context of important developments on the market for smart card chips in the EEA which explains the logic behind the competing smart card chip manufacturers engaging in collusive contacts. As explained in sections 2.3.1 and 4.1, at the time of the first collusive contacts in 2003, the smart card chip sector was experiencing the aggressive entry into the market by Atmel and Samsung who were pushing down prices, especially for the high volume SIM chips. [...] that in 2003-2004 its sales took off with its first significant sales figures. By 2006, it had become the main supplier of chips for SIM

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467 Joined cases C-204/00 P, C-205/00 P, C-211/00 P, C-213/00 P, C-217/00 P and C-219/00 P *Aalborg Portland and others v. Commission* [2004] ECR I-123, at paragraph 83; Case C-49/92 P *Commission v. Anic Partecipazioni SpA* [1999] ECR I-4125, at paragraph 87; Case T-208/06 *Quinn Barlo Ltd a.o. v. Commission*, not yet reported, at paragraph 128.

468 See to that effect: Case C-441/11 P *Commission v. Verhuizingen Coppens NV*, not yet reported, at paragraphs 44-50.

469 Case T-279/02 *Degussa AG v. Commission* [2006] ECR II-897, at paragraph 153; Case T-43/92 *Dunlop Slazenger v. Commission* [1994] ECR II-441, at paragraph 79; Case T-62/98 *Volkswagen v. Commission* [2000] ECR II-2707, at paragraph 188.

applications.[470] While Samsung successfully gained market share in SIM chips in the period 2003-2006, especially the lower-end SIM chips, the more established players, and in particular Philips and Infineon, retained their strength in the higher-end products, especially FSID applications.[471] During that same period 2003-2006, the downstream market for smart cards was experiencing a very tough price battle between the two largest smart card customers Axalto and Gemplus, a price battle which ended only with the merger of the two companies in 2006. At that time the price agreed with these two customers would constitute a benchmark price for the remainder of the market (see recital (65)). As explained by [...], the competition between Axalto and Gemplus led to extreme pressure on upstream suppliers in terms of pricing and margins. The effects of this price battle were so severe that there were concerns in the industry that the fierce price competition between them would result in upstream smart card chip suppliers being driven out of business due to the severe deterioration in margins.[472]

(286) The exchanges among the parties concerned the same products, namely smart card chip products in the same geographic area, the EEA. Evidence in the file shows that the products concerned were linked (See section 5.2.3 about the product and geographic scope of the infringement).

(287) Against the background of the aggressive market entry of Samsung and Atmel and that of the extreme price pressure from the two main customers Axalto and Gemplus, competing smart card suppliers chose to collude and to coordinate their market behaviour. This collusion was based partly on the opportunity provided in 2003-2004 by an unprecedented expansion of the markets of different products using smart card chips, which was not immediately covered by the suppliers' capacity increase through more developed technology. The parties pursued a single objective which was to limit the impact that the challenging market developments described above in recital (285) entailed for them.

(288) The extent of each undertaking's involvement in the common plan underpinning the collusion was determined by their specific market position, including whether an undertaking was an established or new entrant on the market, whether it was focusing on lower-end or higher-end chips, on SIM or FSID applications, and depending on its customer base.[473] The competitors' collusion aimed to manage the continued price drops and squeezed margins, and was also motivated by a fear that Samsung would push down prices aggressively to expand its SIM business with major customers.[474] In order to prevent such a price development, suppliers were willing to collude and to exchange information to slow down the price decrease inherent to the smart card chip market (see recital (62)).[475]

(289) On the basis of these considerations, the collusive practices described in this Decision followed a single economic aim, namely to distort the normal movement of

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prices for smart card chips in the EEA and world-wide. This common aim of these contacts to limit competition on prices covered in particular discussions to increase prices, maintain prices or slow down the fall of prices for smart card chips and other factors that determined the price setting of the parties (see recital (243)). These bilateral communications between different pairs of participants had the same economic aim. The collusion lasted for several years in the period […] from late 2003 to late 2005, which shows that the parties considered it beneficial from their own perspective to pursue these contacts with competing suppliers of smart card chips.

(290) Philips and Infineon consider that the Commission has failed to demonstrate the single anticompetitive aim of the parties. According to Philips, the overall plan to manage price drops and squeezed margins resulting from the appearance of Samsung and Atmel is not persuasive as it is solely based on statements […]. Moreover, the economic context and the specific market positions and strategies of each undertaking make a common aim implausible, if not impossible. In this sense, Samsung and Philips' strategies were diametrically opposed. According to Infineon, such a single aim should have been reflected in the way how and with whom information was exchanged, which it is not the case. First of all, the parties did not exchange similar information, but discussed a whole range of different subject-matters, which speaks against a single aim or an overall plan. Secondly, the type of information and the frequency of meetings with Infineon differed significantly from the communications between Samsung and Renesas. According to Infineon, it never entered into discussions with its competitors on customer negotiations or the results of tender offers. Finally, not all the cartel participants benefitted from the information exchanged which speaks against the Commission's conclusion that the parties aimed to manage the continued price drops and squeezed margins.

(291) These arguments can all be rejected. The fact that the smart card chip industry underwent a drastic change with the arrival of Samsung and Atmel and their aggressive price policies is not only based on statements by Samsung, but on the overall evidence. This has been commonly affirmed by Renesas, […] and even Philips.[476] […] while the European manufacturers could absorb 10% annual price falls by increasing the amount of chips on wafers and as a consequence could maintain their margins, the 20% annual price falls were unsustainable and led to large losses for the suppliers.[477]

(292) Concerning the alleged wide variety of information exchanged the General Court has admitted that discussions on "price setting factors" can be an infringement of Art 101 TFEU by object.[478] The Commission acknowledges that the members of the cartel each had a different composition of smart card chip products (see recitals (206)-(229) on the product scope). Therefore, each party's involvement in the cartel depended on their specific market position, whether it was established or a new entrant, whether it focused on high or low end products and on the application for which the products were used. As a result, it is logical that the parties did not always exchange exactly the same information and did not benefit from it in the same way. But the fact that

476 See recitals (61)-(64) and [...].

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478 T-588/08 *Dole Food Company, Inc., v. Commission*, at paragraphs 583-585.

the parties did not focus on identical products does not prevent them for having the same anti-competitive aim, namely to slow down the price falls in the smart card chip industry. This can be illustrated by the fact that on some occasions, the parties had similar discussions through several contacts. For example, recitals (90) and (91) concerning contacts between the parties in September 2003 show that Samsung had the same exchanges with Infineon, Philips and Renesas. This is even more explicit concerning the contact between Renesas and Samsung of 6 October 2003 during which [...] presented Samsung's current quoting price for 64K chips unsawn as being EUR 1.10 to EUR 1.20 *("[...]'s] current 64K pricing is 1.1E to 1.2E unsawn"*) and stated that he had "*spoken to Infineon and Philips who agree for 64K that 0.95E 1H/04, 0.9E 2H/04 [was] market pricing"* (recital(92)). In the same vein, during the bilateral meetings held in the period of CARTES 2003, parties mostly discussed about 64 K and the technology transfer (see recitals (98)-(104)). On 10 September 2004, Renesas reported that it had had discussions about prices with Infineon, Atmel and Samsung (recital (125)). Finally, on several occasions, the content discussed in bilateral contacts on one competitor was passed on to the others (see recitals (91), (92) and (94)).

(293) Infineon contributed to the same single objective as Renesas, Samsung and Philips which is demonstrated by the fact that Infineon was perceived by the other participants as a contributor to this objective. Indeed, even in a period where direct contacts with Infineon may not have taken place, Renesas and Philips could reasonably consider Infineon as a participant of the same infringement because Samsung regularly reported on its parallel contacts with Infineon held with the same agenda.[479] They were clearly of the opinion that Infineon was participating in the cartel (see for example recital (91) where Philips is told by Samsung that the latter had already discussed the same issues with Infineon and Renesas; recital (92) where Samsung told Renesas that it has spoken with Infineon and Philips; recital (95) where Renesas said it would follow up with Samsung and others; recital (106) where Samsung wrote separately to Philips and Renesas that it would respectively engage in "*similar discussion with Renesas [a]nd Infineon*" and "*similar [d]iscussion with Philips [a]nd Infineon*"). Renesas and Philips could therefore be reasonably convinced that Infineon was part of the collusion, and followed objectives which were the same as their own. Moreover, the issues discussed with Infineon were the same as those discussed among the other three participants (see for illustration the discussions on 64K pricing, supply shortage and technology transfer during the autumn of 2003 in recitals (90)-(94)). Finally, even if the file does not contain evidence of anticompetitive contacts between Infineon and Philips, it contains

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479 [...] shows Philips and Renesas discussing data previously gathered from Samsung, with clear reference to the source, [...]: In an internal e-mail report dated 29 September 2003 of his meeting with [...] Samsung on 26 September 2003 [...] Philips tells that "*on Friday night, I met with* [...] *Samsung. […] He was on a European trip and had met both Infineon and Renesas to exchange notes as well.*"; [...]: In an e-mail of 25 January 2004 from [...] Samsung to [...] Philips it is noted that [...] Samsung wanted to "*share with* [...] Philips] *what is going on* [in the SIM] *market carefully.* [...] Samsung] *will do similar discussion with Renesas [a]nd Infineon.*"; [...]. See also [...]: e-mail of 26 January 2004 from [...] Samsung to [...] Renesas stating: "[...] Samsung] *want to share with* [...] Renesas] *what is going on this market carefully*. [...] Samsung] *will do similar discussions with Philips* [a]*nd Infineon*"; [...]: internal Renesas e-mail of 7 October 2003 in which [...] Renesas reports that [...] Samsung told him that "[...] Samsung] *has spoken to Infineon and Philips*" about pricing for Axalto and that they had agreed for 64K chips that "*0.95E 1H/04, 0.9E 2H/04* [was] *market pricing*".

evidence of anticompetitive contacts between Renesas and Infineon (see recitals (97), (98), (110), (125) and (130)). Therefore the direct involvement of Infineon cannot be limited to a mere (separate) informant of Samsung, which in turn passed on the position of Infineon on various issues to the other participants.

Common pattern of behaviour

(294) Several factors such as the common characteristics of the contents of the contacts, the identity of people participating in the contacts, the timing of the contacts or the proximity in time confirm that the collusive contacts were linked and complementary[480] in nature, since each of them was intended to deal with one or more consequences of the normal pattern of competition and, by interacting, contributed to the realisation of the set of anti-competitive effects intended by those responsible, within the framework of a global plan having a single objective.[481]

(295) First, the parties engaged in discussions with competitors that repeatedly related to their intended pricing quotations, ranges, directions or planned acceptance of requests by customers, and that gave the opportunity to share and verify information on pricing discussions held with customers, and that were used to share other competitively sensitive information such as their actual and planned changes in production and supply capacity, allocation status, inventory status, the timing of the introduction of new production technologies and its expected effect on capacity (see recitals (243)-(244)). Infineon and Philips consider that there is an imbalance in the amount of contacts with competitors and stress that, contrary to Samsung and Renesas, they only had very few, irregular and/or vague meetings. But the fact that an undertaking has not taken part in all aspects of an anti-competitive scheme or that it played only a minor role in the aspects in which it did participate is not material to the establishment of the existence of an infringement on its part. Such a factor must be taken into consideration only when it comes to determining the fine.[482]

(296) Second, a limited number of key individuals from each undertaking participated in the various bilateral cartel contacts with the competitors. [...]. Infineon considers that contrary to Samsung and Renesas, as far as Infineon is concerned, the participants at the alleged meetings or contacts with competitors were not always the same. But the evidence shows that three key people from Infineon were involved in the cartel. [...].

(297) Third, the timing of the contacts also confirms that the participants were pursuing a single objective and were not only engaging in sporadic anticompetitive contacts. As described in recital (39), the timeframe for the negotiation for annual contracts with the main customers was the same for all suppliers involved in the smart card chip business. The answers given to the first customer quotation and the beginning of the annual negotiations took place during the last quarter of the year, sometimes running until early the next year. The anticompetitive contacts clustered around these negotiations (see recital (81)). This is contested by Philips and Infineon which

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480 Case T-587/08 *Del Monte v. Commission*, not yet reported, at paragraph 593.

481 Case T-54/03 *Lafarge v. Commission* [2008] ECR II-120, at paragraph 482; Joined Cases T-101/05 and T-111/05 *BASF and UCB v. Commission* [2007] ECR II-4949, at paragraph 179.

482 Case C-204/00 *Aalborg Portland and Others v. Commission*, at paragraphs 86 and 292; Case T-587/08 *Del Monte v. Commission*, at paragraph 648.

consider that the negotiations with the customers took place throughout the year and that they were not concentrated in a certain period of the year. In any case, the proximity in time of certain contacts, confirms the statement that when representatives of Samsung visited Europe, they had meetings/discussions with the various other participants (see for illustration the discussions during autumn 2003 and autumn 2004 in recitals (90)-(91) and (122)-(124), respectively and during the 2003 and 2004 CARTES meetings in recitals (98)-(103) and (125) and (127), respectively. Finally, even Infineon was perceived by Renesas as negotiating prices per quarter (see recital (90)).

(298) In conclusion, because of the business negotiation cycle and the timing of the business trips of [...], most of the contacts were concentrated in the same periods of time.

Awareness

(299) When assessing the liability for a single and continuous infringement, several situations can be identified according to the degree of participation and the extent of the awareness of each undertaking.

(300) When an undertaking has participated in all the forms of anti-competitive conduct it is obviously aware of its entirety. When it has participated directly only in some of the forms of anti-competitive conduct but has been aware of all the other unlawful conduct planned or put into effect by the other participants in the cartel in pursuit of the same objectives, or could reasonably have foreseen that conduct and was prepared to take the risk of being considered to have participated in the anti-competitive conduct, the Commission is entitled to attribute liability to it in relation to that conduct as a whole and, therefore, in relation to the infringement as a whole.

(301) If an undertaking has directly taken part in one or more of the forms of anti-competitive conduct comprising a single and continuous infringement, but it has not been shown that undertaking intended, through its own conduct, to contribute to all the common objectives pursued by the other participants in the cartel and that it was aware of all the other offending conduct planned or put into effect by those other participants in pursuit of the same objectives, or that it could reasonably have foreseen all that conduct and was prepared to take the risk, the Commission is entitled to attribute to that undertaking liability only for the conduct in which it had participated directly and for the conduct planned or put into effect by the other participants, in pursuit of the same objectives as those pursued by the undertaking itself, where it has been shown that the undertaking was aware of that conduct or was able reasonably to foresee it and prepared to take the risk.[483] This can be reflected in the parameters of the fine calculation, for example, value of sales, gravity, duration, depending on the specific elements of which the undertaking was not aware, or when appropriate though a mitigating circumstance, in order to distinguish the different roles of undertakings in the single and continuous infringement.

(302) In order to prove the awareness of an infringement, there is no need to demonstrate that the parties were aware of all details concerning bilateral communications

[483] Case C-441/11 P *Commission v. Verhuizingen Coppens NV*, not yet reported, at paragraph 44.

between the other parties. According to case-law, even facilitating the attainment of the cartel is enough to share responsibility for the overall cartel.[484] The case-law requires that a cartel participant was or must have been aware of the general scope and the essential characteristics of the cartel as a whole.[485]

(303) When it is established that an undertaking participated in one of the forms of anti-competitive conduct comprising a single and continuous infringement, but it cannot be proven that that undertaking was aware of the other anti-competitive conduct adopted by the other participants in the cartel in pursuit of the same objectives or that it could reasonably have foreseen that conduct and was prepared to take the risk, the only inference which must be drawn from this is that the undertaking may not be attributed liability for that other conduct and, in consequence, may not be attributed liability for the single and continuous infringement as a whole.[486]

(304) As documented in Section 4.2.2 Samsung engaged directly in collusive contacts with at least Renesas, Infineon and Philips. However, Samsung passed on information obtained from one competitor to another. For example, concerning the meeting of 26 September 2003 between Samsung and Philips, according to an internal e-mail[487] of [...] reporting on the meeting, [...] said that during his trip to Europe he had already met Infineon and Renesas to discuss market figures and trends (see recital (91)). And during the meeting between Renesas and Samsung on 10 September 2004, Samsung reported that Atmel had to their knowledge already agreed to meet the price in order to increase share at Axalto, while Infineon had reduced its prices at Axalto to a lesser extent[488] (see recital (124)). This shows that Samsung linked together its bilateral contacts aiming at a collusion that went beyond the bilateral level. It was common knowledge in the market that contacts would take place when a representative from Samsung travelled to Europe (see recitals (306) and (307).

(305) Renesas engaged directly in collusive contacts with at least Samsung, Philips and Infineon. In addition, Renesas was or at least must have been aware of anti-competitive discussions between the other cartel members because there are instances in which it was informed by another company of the discussions this company had with a third company (see recitals (92), (94), (103), (106), (120),(125)).

(306) Indeed, [...] acknowledges[489] that it was common knowledge among the competitors that bilateral contacts and exchanges of competitively sensitive information were taking place at least between Samsung and the competing smart card chip suppliers. [...] dates this knowledge to around June 2004 but submits evidence on it from October 2003 and January 2004 (see recitals (94), (106)). [...] Samsung's contacts with competitors could be characterised as an open secret in the industry and [...] that as part of the business practice representatives would regularly tour both customers

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484 See to this effect Case T-36/05 *Coats Holdings Ltd v. Commission* [2007] ECR II-110 (summary publication), at paragraph 119-122.

485 Joined Cases T-259/02 to T-264/02 and T-271/02 *Raiffeisen Zentralbank Österreich and others v. Commission* [2006] ECR II-5169, at paragraph 193.

486 Case C-441/11 P *Commission v. Verhuizingen Coppens NV*, not yet reported, at paragraph 47.

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and competitors in order to survey the market. It is less clear […][490] that it would have been common knowledge among the competitors that bilateral contacts, other than those with Samsung, were taking place. Nevertheless, the file shows that both Philips and Infineon had contacts of an anticompetitive nature with Renesas.

(307) Philips had anticompetitive contacts with at least Samsung and Renesas. [...][491] [...] it became a fact commonly known in the industry that Samsung was engaging in bilateral contacts with various competing smart card chip suppliers and that it was itself open about its bilateral meetings with its various competitors. Philips claims that it had no awareness of the contacts of other parties, on the basis that (i) it had no anti-competitive contacts with Infineon and (ii) although it does not contest the [...] statement and admits that it "had only very limited awareness of any contacts between the other parties", Philips considers that it was not aware of the content of those contacts. Finally, Philips considers that the information exchanged related to general gossip in the market and that it was not aware of the exact scope of the pre-pricing communications.

(308) As established in Section 5.2.4.1 (agreements and concerted practices), evidence on the file shows that the information exchanged by the cartel members was not general gossip but related to sensitive information capable of reducing uncertainties. In order to establish the existence of a single and continuous infringement and the liability of the parties for it, there is no need to demonstrate that the parties were aware of all details concerning bilateral communications between the other parties but only about the general scope of the cartel. However, it can be shown that Philips was aware of or at least should have been aware of discussions of an anti-competitive nature between the other cartel members, including Infineon (see recitals (91), (94), (106)). In particular, the email of 25 January 2004 (see recital (106)) shows that Philips was aware that Samsung was engaging in similar discussions with Renesas and Infineon. There is no need to demonstrate that Philips was aware of all the aspects of the infringement (see recital (300)). Philips' argument contending that it was not aware of the exchanges on the non-SIM applications does not alter the Commission's analysis since SIM and non-SIM applications are linked and exchanges about smart card chip products pursued the same objective, namely to resist price erosion. In any event, there is evidence showing that Philips' contacts covered the non-SIM segment (see recitals (94) and (103)). Therefore Philips was aware or could have reasonably foreseen that the collusion also covered the non-SIM segment.

(309) In conclusion, Renesas, Samsung and Philips were aware or could have reasonably foreseen that at least Samsung entertained a network of bilateral contacts with the other parties through which they discussed pricing and capacity from […] 2003.

(310) Infineon engaged directly in collusive contacts with at least Samsung and Renesas. However, as already mentioned, there is no evidence of anti-competitive contacts between Infineon and Philips. It is clear from the file that Infineon contributed to the same single objective as Renesas, Samsung and Philips, that it was regarded and recognised by those parties as a participant to the discussions and that according to […] Renesas, Samsung was open about its bilateral meetings with its various

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competitors.[492] However, contrary to the other participants, there is no evidence that Infineon knew that the information divulged by Samsung also came from the other participants or was discussed with them. For example, it was not possible to ascertain that Infineon received an email similar to those sent by Samsung on 25 and 26 January 2004 to Philips and Renesas (see recital (106). Therefore there is no evidence in the file showing that Infineon was aware of the anti-competitive contacts between the other participants in the cartel.

(311) The situation in this case is very similar to the one in the *Del Monte* case in which the applicant before the General Court argued that, in the absence of its awareness of the contacts between the two other parties of the cartel, the Commission could not qualify the infringement as a single and continuous infringement as the liability of only one part of the infringement is incompatible with the description of a single and continuous infringement.[493] This argument was rejected by the General Court in *Del Monte.*[494] The Court made a distinction between the conduct in question, which is an objective element of the characterisation of the single and continuous infringement, and the subjective element, necessary to assess the liability of an undertaking. In assessing the existence of the objective factor of the single and continuous infringement, the Commission has to demonstrate the overall plan and common pattern of behaviour of the participants to the infringement. But the fact that there is a single and continuous infringement does not necessarily mean that an undertaking participating in one or more aspects can be held liable for the infringement as a whole.[495] As regards the evidence of subjective intent on the part of each of the undertakings involved, it is for the Commission to establish that the undertaking concerned intended to contribute by its own conduct to the common objectives pursued by all the participants and that it was aware of the actual conduct planned or put into effect by other undertakings in pursuit of the same objectives or that it could reasonably have foreseen it and that it was prepared to take the risk.[496] Moreover, it must further be observed that the fact that an undertaking has not taken part – like Infineon in the present case – in all aspects of an anti-competitive scheme or that it played only a minor role in the aspects in which it did participate is not material to the establishment of the existence of an infringement on its part. Such a factor must be taken into consideration only when the gravity of the infringement is assessed and if and when it comes to determining the fine.[497]

(312) In the present case, although Infineon engaged directly in collusive contacts with at least Samsung and Renesas and it is clear from the file that Infineon contributed to the same single objective as Renesas, Samsung and Philips, and therefore was objectively participating in the single and continuous infringement, it cannot be demonstrated that it had the subjective perception of participating in the whole

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492 See Recitals (306) and (307).

493 Case T-587/08 *Del Monte v. Commission*, not yet reported, at paragraph 586.

494 Case T-587/08 *Del Monte v. Commission*, not yet reported, at paragraphs 586-651.

495 Case T-587/08 *Del Monte v. Commission*, not yet reported, at paragraph 638.

496 Case T-587/08 *Del Monte v. Commission*, not yet reported, at paragraph 639; Case C-49/92 P *Commission v. Anic Partecipazioni SpA* [1999] ECR I-4125, at paragraph 87; Joined cases C-204/00 P, C-205/00 P, C-211/00 P, C-213/00 P, C-217/00 P and C-219/00 P *Aalborg Portland and others v. Commission* [2004] ECR I-123, at paragraph 291.

497 Case T-587/08 *Del Monte v. Commission*, not yet reported, at paragraph 648.

infringement because there is no evidence that it was aware or could have reasonably foreseen the bilateral contacts between the other participants in the cartel.

(313) For these reasons, the Commission considers that Infineon is responsible for the single and continuous infringement only in so far as it participated in collusive arrangements with Samsung and Renesas.

(314) Since the Commission does not have sufficient evidence to conclude that Infineon was aware of or could have reasonably foreseen the bilateral contacts between the other participants in the cartel, it is not held responsible for them.

Conclusion

(315) On this basis, and with regard to the common design of contacts and the common objective of the cartel, the Commission considers that the complex of collusive contacts between the parties constitutes one single and continuous infringement for which each of the parties is held liable to the extent of its awareness of the overall scope of the cartel. The fact that one of the participants in the cartel was not aware of the whole infringement does not change the conclusion and this aspect will be assessed in the calculation of the fines.

5.2.4.3. Restriction of competition

Principles

(316) Article 101(1) of the Treaty and Article 53(1) of the EEA Agreement expressly include agreements and concerted practices which restrict competition, and in particular those which:[498]

(a) directly or indirectly fix selling prices or any other trading conditions;

(b) limit or control production, markets or technical development;

(c) share markets or sources of supply.

Application to this case

(317) The anti-competitive behaviour in this case had the object of restricting competition in the European Union and the EEA.

(318) The cartel has to be considered as a whole and in the light of the overall circumstances. The principal aspect of the complex of agreements and concerted practices in this case, which can be characterised as a restriction of competition, is the coordination of pricing behaviour with regard to prices charged to customers through contacts on pricing, production capacity and capacity utilisation, future market conduct as well as on contract negotiations vis-à-vis common customers and the exchange of competitively sensitive information.

[498] The list is not exhaustive.

(319) The contacts concerned by this Decision can be qualified as concerted practices within the meaning of Article 101 of the Treaty.

(320) In particular, the parties engaged in discussions with competitors that:

(a) related to their intended pricing quotations, ranges, directions or planned acceptance of requests by customers (see for illustration recital (243)(a));

(b) gave the opportunity to share and verify information on pricing discussions held with customers (see recital (243)(b)); and

(c) shared other commercially sensitive information such as their actual and planned changes in production and supply capacity, allocation status, inventory status, the timing of the introduction of new production technologies and its expected effect on capacity (see recital(243)(c)).

(321) These agreements and/or concerted practices have as their object the restriction of competition within the meaning of Article 101(1) of the Treaty and Article 53(1) of the EEA Agreement and further enabled the undertakings to adapt their pricing strategy in the light of the information received from the competitors. The anticompetitive nature of meetings is expressly acknowledged by some of the parties involved (see recitals (62) and (63)).

(322) Through a regular information exchange, the cartel participants obtained confirmation of the level of the existing individual chip supplier prices, capacity, volumes sold, inventory and timing of technology migrations from their fellow cartel members. This information was strategically useful and was neither public nor, at least in principle, shared by customers.[499] Through the collection and sharing of this information the parties monitored developments in the smart card chip business. This information allowed them to either increase prices or to respond to the price decrease requests made by the customers, sometimes by refusing the requested reductions and sometimes by accepting them in order to secure sales contracts.

(323) Contacts between competitors as described in this Decision which substantially reduce uncertainties between participants as regards the pricing behaviour to be adopted by them must be regarded as pursuing an anti-competitive object.

(324) It is settled case-law that for the purpose of application of Article 101(1) of the Treaty and Article 53(1) of the EEA Agreement there is no need to take into account the actual effects of an agreement when it has as its object the prevention, restriction or distortion of competition within the internal market. Consequently, it is not necessary to show actual anti-competitive effects where the anti-competitive object of the conduct in question is proved.[500]

(325) The fact that a cartel of the type described above leads by its very nature to a significant distortion of competition, to the exclusive benefit of the producers participating in the cartel and to the detriment of the customers is also confirmed by

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500 Case T-62/98 *Volkswagen AG v. Commission* [2000] ECR II-2707, at paragraph 178.

the independent and mutually corroborating declarations of [...] and [...], according to which the purpose of the contacts was to allow the suppliers to optimise their pricing decisions towards their customers (see for example recitals (72), (93), (110), (121)). Whilst the competition-restricting object of the arrangements is sufficient to support the conclusion that Article 101(1) of the Treaty and Article 53(1) of the EEA Agreement apply, the evidence on the file, both contemporaneous and subsequently established, shows that sensitive information on pricing and capacity collected by the parties was indeed taken into account by them in their subsequent behaviour on the market (see for example recitals (71), (72), (77), […], (92), (93), (94) , (105), (109), (112), (112), (114), (116), (117), (121), (126), (129), (131), (132)). Thus, it is likely that those arrangements have had anticompetitive effects on the market.

5.2.5. Effect upon trade between Member States/Contracting Parties

(326) The anti-competitive conduct between the producers had an appreciable effect upon trade between Member States and between contracting parties of the EEA Agreement.

(327) Article 101(1) of the Treaty is aimed at agreements and concerted practices which might harm the attainment of a single market between the Member States, whether by partitioning national markets or by affecting the structure of competition within the internal market. Similarly, Article 53(1) of the EEA Agreement is directed at agreements and concerted practices that undermine the achievement of a homogeneous European Economic Area.

(328) The European Courts have consistently held that, "in order that an agreement between undertakings may affect trade between Member States, it must be possible to foresee with a sufficient degree of probability on the basis of a set of objective factors of law or fact that it may have an influence, direct or indirect, actual or potential, on the pattern of trade between Member States".[501] In any event, whilst Article 101 of the Treaty "does not require that agreements referred to in that provision have actually affected trade between Member States, it does require that it be established that the agreements are capable of having that effect".[502]

(329) The application of Articles 101 of the Treaty and Article 53 of the EEA Agreement to a cartel is not, however, limited to that part of the members' sales that actually involves the transfer of goods from one state to another. Nor is it necessary, in order for these provisions to apply, to show that the individual conduct of each participant,

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501 Case 56/65 *Société Technique Minière v. Maschinenbau Ulm* [1966] ECR 282, at paragraph 7; Case 42/84 *Remia and others v. Commission* [1985] ECR 2545, at paragraph 22 and Joined Cases T-25/95, T-26/95, T-30/95, T-31/95, T-32/95, T-34/95, T-35/95, T-36/95, T-37/95, T-38/95, T-39/95, T-42/95, T-43/95, T-44/95, T-45/95, T-46/95, T-48/95, T-50/95, T-51/95, T-52/95, T-53/95, T-54/95, T-55/95, T-56/95, T-57/95, T-58/95, T-59/95, T-60/95, T-61/95, T-62/95, T-63/95, T-64/95, T-65/95, T-68/95, T-69/95, T-70/95, T-71/95, T-87/95, T-88/95, T-103/95 and T-104/95 *Cimenteries CBR and others v. Commission* ECR [2000] II-491, at paragraph 1986; Case C-306/96 *Javico v. Yves Saint Laurent Parfums* [1998] ECR I-1983, at paragraph 16.

502 Case C-306/96 *Javico*, [1998] ECR I-1983, at paragraphs 16 and 17; see also Case T-374/94, *European Night Services,* [1998] ECR II-3141, at paragraph 136.

as opposed to the cartel as a whole, affected trade between Member States/Contracting Parties.[503]

(330) In this case, on the basis of the market share and turnover of the participants within the Union, it can be presumed under point 53 of the Guidelines on the effect on trade concept[504] that the anti-competitive conduct affected trade between Member States.

(331) Moreover, the market for smart card chips is characterised by a substantial volume of trade between Member States (see section 2.4). There is also a considerable volume of trade between the Union and EFTA countries belonging to the EEA.

(332) Paragraph 61 of the Notice on the effect on trade provides that agreements and practices covering or implemented in several Member States are in almost all cases by their very nature capable of affecting trade between Member States. In the present case, the cartel arrangements covered at least the territory of the EEA. Therefore the existence of the collusive arrangements that are described in section 4 must have resulted, or were likely to result, in the diversion of trade patterns from the course they would otherwise have followed.[505]

(333) After the accession of Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia on 1 May 2004, Article 101 of the Treaty became applicable to the infringement in so far as it covered those Member States.

5.3. Application of Article 101(3) of the Treaty and Article 53(3) of the EEA Agreement

(334) The provisions of Article 101(1) of the Treaty may be declared inapplicable under Article 101(3) in the case of an agreement or concerted practice which contributes to improving the production or distribution of goods or to promoting technical or economic progress, provided that it allows consumers a fair share of the resulting benefit, does not impose restrictions that are not indispensable to the attainment of those objectives and does not afford the undertakings concerned the possibility of eliminating competition in respect of a substantial part of the products in question.

(335) On the basis of the facts before the Commission, there are no indications that suggest that the conditions of Article 101(3) of the Treaty could be fulfilled in this case.

6. DURATION OF THE INFRINGEMENT

(336) With regard to the start and end dates of the infringement, it is not possible to ascertain the exact date when the participants started or stopped their collusive contacts and the cartel started or ceased to produce its effects.

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503 See Case T-13/89 *Imperial Chemical Industries v. Commission* [1992] ECR II-1021, at paragraph 304.

504 Commission Notice - Guidelines on the effect on trade concept contained in Articles 81 and 82 of the Treaty, OJ C 101, 27.04.2004, p. 81-96.

505 See Joined Cases 209 to 215 and 218/78 *Van Landewyck and others v. Commission* [1980] ECR 3125, at paragraph 170.

(337) According to the case-law, contacts that occurred outside the infringement period are also elements which form part of the body of evidence and can be relied on by the Commission to prove the anti-competitive nature of the activities taking place between the start date and the end date of the infringement.[506] […].

(338) For the purpose of this Decision the start and end dates of the participation of the undertakings in the cartel are established in recitals (339) to (345).

Infineon

(339) For Infineon the infringement lasted from […] 24 September 2003 (the date of the first infringing meeting involving Infineon, namely the meeting between Infineon and Samsung, see recital (90)), until 31 March 2005 (meeting between Infineon and Renesas, see recital (130)).

Philips

(340) For Philips the infringement lasted from […] 26 September 2003 (the date of the first infringing meeting involving Philips, namely the meeting between Philips and Samsung, see recital (91)) until 9 September 2004 (meeting between Philips and Samsung, see recital (123)).

(341) The fact that after 25 January 2004 there is a period during which Philips participated in fewer meetings than other parties in the cartel does not support a conclusion that Philips had stopped its participation in the infringement.

(342) It should be noted that this period referred to on recital (341) takes place in spring and summer, which was a period in which contacts between competitors were less frequent. If one looks at the contacts involving Infineon in the same period from January to August 2004, there are two direct contacts with competitors (see recitals (110) and (116)) plus two contacts in which it was made clear to other parties that similar discussions would take place with Infineon (see recitals (106) and (108)). This is due to the normal pattern of discussions between competitors in view of the negotiations with the clients, which mainly took place in the autumn. This pattern was indeed described by most of the parties, see recitals (38) to (41).[507]

(343) Moreover, the file does not contain any indication of distancing on the part of Philips and there is evidence showing that Philips participated in the cartel […] until 9 September 2004. In particular, the evidence of the contact of 9 September 2004 shows that a common strategy towards a customer was elaborated and pricing information and pre-pricing components (inventory) were discussed. Nothing in the

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506 See Case T-83/08 *Denki Kagaku Kogyo Kabushiki Kaisha and others v. Commission*, not yet reported, at paragraphs 188 and 193.

507 A confirmation of this pattern can also be found in the table listing the contacts, see recital (79), which shows a concentration of contacts during this period. In 2003 there are no contacts between January and August (which is consistent with Renesas' account that the market situation changed in 2003, see recital (38)), but there are thirteen contacts between September and November. In 2004, even if there are ten contacts in the first eight months of the year (of which four during the May/June period which […] describes as a period in which customers were asking for rebates), there are six contacts between September and November.

evidence suggests that Philips was surprised to be approached by Samsung in this way, or that it was reluctant to engage in the discussion. It can be inferred that this is because this contact was in line with the conduct of the parties from the beginning of the arrangements. The Commission therefore concludes that Philips participated in the infringement without interruption from 26 September 2003 until 9 September 2004.

Renesas

(344) For Renesas the infringement lasted from […] 7 October 2003 (the date of the first infringing meeting involving Renesas, namely the meeting between Renesas and Samsung, see recital (92)) until 8 September 2005 (meeting between Renesas and Samsung, see recital (132)).

Samsung

(345) For Samsung the infringement lasted from […] 24 September 2003 (the date of the first infringing meeting involving Samsung, namely the meeting between Samsung and Infineon, see recital (90)) until 8 September 2005 (meeting between Samsung and Renesas, see recital (132)).

7. ADDRESSEES

7.1. Principles

(346) Union competition law refers to activities of "undertakings". The concept of an undertaking covers any entity engaged in an economic activity, regardless of its legal status and the way in which it is financed. The concept of an undertaking must be understood as designating an economic unit even if in law that economic unit consists of several persons, natural or legal.[508] The concept of undertaking is not identical with the notion of corporate legal personality in national commercial or fiscal law.

(347) When such an economic entity infringes Article 101 of the Treaty, it falls, according to the principle of personal responsibility, to that entity to answer for that infringement. The infringement must be imputed unequivocally to a legal person on whom fines may be imposed.[509] The same principles hold true, mutatis mutandis, for the purposes of the application of Article 53 of the EEA Agreement.

(348) The conduct of a subsidiary may be imputed to the parent company in particular where, although having a separate legal personality, that subsidiary does not decide independently upon its own conduct on the market, but carries out, in all material respects, the instructions given to it by the parent company, having regard in particular to the economic, organisational and legal links between those two legal entities. In such a situation, the parent company and its subsidiary form a single

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[508] Case C-97/08 P *Akzo Nobel and others v. Commission* [2009] ECR I-8237, at paragraphs 54 and 55 and the case-law referred to in those paragraphs.

[509] Case C-97/08 P *Akzo Nobel and others v. Commission* [2009] ECR I-8237, at paragraphs 56 and 57 and the case-law referred to in those paragraphs.

economic unit and therefore form a single undertaking for the purposes of Union competition law. In such circumstances, a decision finding an infringement and imposing fines can be addressed to the parent company, without it being necessary to establish the personal involvement of the parent company in the infringement.[510]

(349) In the specific case where a parent company has a (direct or indirect) 100% shareholding or near 100% shareholding in a subsidiary which has infringed Article 101 of the Treaty there is a rebuttable presumption that the parent company does in fact exercise a decisive influence over the conduct of its subsidiary.[511]

(350) In those circumstances, it is sufficient for the Commission to prove that the subsidiary is 100% or near 100% owned by the parent company in order to presume that the parent company exercises a decisive influence over the commercial policy of the subsidiary. The parent company can be held jointly and severally liable for the payment of the fine imposed on its subsidiary, unless the parent company, which has the burden of rebutting that presumption, adduces sufficient evidence to show that its subsidiary acts independently on the market.[512]

(351) When an undertaking that has committed an infringement of Article 101 of the Treaty subsequently disposes of the assets which contributed to the infringement and withdraws from the market in question, it continues to be answerable for the infringement if it has not ceased to exist in law[513] (or economically).[514] If the undertaking which has acquired the assets carries on the violation of Article 101 of the Treaty, liability for the infringement should be apportioned between the seller and the acquirer of the infringing assets, each undertaking being responsible for the period of the infringement in which it participated through these assets in the cartel. However, if the legal person initially answerable for the infringement ceases to exist and loses its legal personality, being purely and simply absorbed by another legal entity, that latter entity must be held answerable for the whole period of the infringement and thus liable for the activity of the entity that was absorbed.[515] The

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510 Case C-97/08 P *Akzo Nobel and others v. Commission* [2009] ECR I-8237, at paragraphs 58 and 59 and the case-law referred to in those paragraphs.

511 Case C-97/08 P *Akzo Nobel and others v. Commission* [2009] ECR I-8237, at paragraph 60 and the case-law referred to in that paragraph. See also Case T-174/05 *Elf Aquitaine SA v. Commission* [2009] ECR II-183 (summary publication), at paragraphs 125 and 155-156 and the case-law referred to in those paragraphs and Case T-168/05 *Arkema SA v. Commission* [2009] ECR II-180 (summary publication), at paragraphs 69-70 and the case-law referred to therein, as well as paragraph 100.

512 Case C-97/08 P *Akzo Nobel and others v. Commission* [2009] ECR I-8237, at paragraph 61 and the case-law referred to in that paragraph, Case T-174/05, *Elf Aquitaine SA v. Commission* [2009] ECR II-183 (summary publication), at paragraph 156 and Case T-168/05 *Arkema SA v. Commission* [2009] ECR II-180 (summary publication), at paragraph 70.

513 Case T-161/05 *Hoechst v. Commission* [2009] ECR II-3555, at paragraphs 50-52, Case T-6/89 *Enichem Anic v. Commission* [1991] ECR II-1623; and Case C-49/92 P *Commission v. Anic Partecipazioni* [1999] ECR I-3125, at paragraphs 47-49.

514 Case C-280/06 *Autorità Garante della Concorrenza e del Mercato v. Ente tabacchi italiani – ETI SpA and others* [2007] ECR I-1089, at paragraph 40.

515 See Case C-279/98 P *Cascades v. Commission* [2000] ECR I-9693, at paragraphs 78 and 79: *"It falls, in principle, to the natural or legal person managing the undertaking in question when the infringement was committed to answer for that infringement, even if, when the Decision finding the infringement was adopted, another person had assumed responsibility for operating the undertaking ... Moreover, those companies were not purely and simply absorbed by the appellant but continued their activities as its*

disappearance of the person responsible for the operation of the undertaking when the infringement was committed does not allow it to evade liability.[516] Liability for a fine may thus pass to a successor where the corporate entity which committed the violation has ceased to exist in law.

(352) Different conclusions may, however, be reached in cases of internal restructuring of an undertaking where the initial operator no longer carries out an economic activity on the relevant market and in view of the structural links between the initial operator and the new operator of the undertaking. In such cases, liability for past behaviour of the initial operator may pass to the new operator, notwithstanding the fact that the initial operator remains in existence.[517]

7.2. Liability in this case

(353) 'In accordance with the facts described in this Decision the following legal entities should be held liable for the infringement committed by their respective undertakings.

7.2.1. Infineon[518]

(354) The evidence described in this Decision shows that Infineon Technologies AG should be held liable for the infringement committed by Infineon from 24 September 2003 until 31 March 2005 (see recitals (90) and (130)).

(355) Infineon participated in the infringement through the involvement of the key employees of Infineon Technologies AG listed in the following table:

Table 5: Participants Infineon

Name	Entity	Function	Period
[...]	Infineon Technologies AG	[…]	[…]
[...]	Infineon Technologies AG	[…]	[…]
[...]	Infineon Technologies AG	[…]	[…]
[...]	Infineon Technologies AG	[…]	[…]
[...][519]	Infineon Technologies AG	[…]	[…]
[...][520]	Infineon Technologies AG	[…]	[…]

subsidiaries. They must, therefore, answer themselves for their unlawful activity prior to their acquisition by the appellant, which cannot be held responsible for it".

516 Joined Cases T-305/94, T-306/94, T-307/94, T-313/94 to T-316/94, T-318/94, T-325/94, T-328/94, T-329/94 and T-335/94 *Limburgse Vinyl Maatschappij N.V. and others v. Commission* [1999] ECR II-931, at paragraph 953.

517 Case T-161/05 *Hoechst v. Commission* [2009] ECR II-3555, at paragraphs 50 - 52 and 63 and the case-law referred to in those paragraphs; Joint cases C-204/00 P, C-205/00 P, C-211/00 P, C-213/00 P, C-217/00 P and C-219/00 P *Aalborg Portland and others v. Commission* [2004] ECR I-123, at paragraphs 354-360; Case T-43/02 *Jungbunzlauer AG v. Commission* [2006] ECR II-3435, at paragraphs 132-133; Case C- 280/06 *Autorità Garante della Concorrenza e del Mercato v. Ente tabacchi italiani – ETI SpA and others* [2007] ECR I-1089, at paragraphs 41-43.

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(356) In view of the above, the Commission considers that Infineon Technologies AG, is be held liable for its involvement in the infringement between 24 September 2003 and 31 March 2005.

7.2.2. Philips[521]

(357) The evidence described in this Decision shows that Philips France S.A.S. and Koninklijke Philips N.V. may be held liable for the infringement committed by Philips […] from 26 September 2003 until 9 September 2004 (see recitals (91) and (123)).

(358) Philips participated in the infringement through the involvement of a key employee of Philips France S.A.S., [...]. Contacts on behalf of Philips which took place before the infringement described in this Statements of Objections also involved personnel from other legal entities, namely […][522] and [...],[523] employed by [Philips subsidiary].

Table 6: Participant Philips

Name	Entity	Function	Period
[...]	Philips France S.A.S.	[…]	[…]

(359) Until 2006 Philips France S.A.S. was a wholly-owned subsidiary, either directly or indirectly, of Koninklijke Philips N.V.[524]

(360) The Commission therefore presumes the exercise of decisive influence by Koninklijke Philips N.V. over the conduct on the market of Philips France S.A.S.

(361) In addition, there are further elements which confirm (and thus corroborate the above-mentioned presumption) that Koninklijke Philips N.V. exercised decisive influence over its subsidiaries. In particular, as explained by Philips,[525] the semiconductor business, including smart card activities, was organised in a matrix structure. The top holding of the Philips semiconductor business was […] a company based in the Netherlands, which was owned by Koninklijke Philips N.V. Then in a number of countries, including France, separate legal entities existed that were dedicated to the semiconductor business and the management thereof. These companies were owned, directly or indirectly, by the national Philips holding companies, which in turn were owned by Koninklijke Philips N.V. In such a structure, the reporting lines within the semiconductors business crossed legal entity lines. An example of this is […].[526] This example shows the lack of independence of the various legal entities active in the semiconductor (including smart card chips) business and confirms the Commission's presumption of the exercise of decisive influence by Koninklijke Philips N.V. over the conduct of its subsidiaries.

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(362) In view of the above the Commission concludes that Koninklijke Philips N.V. exercised decisive influence over Philips France S.A.S. during the infringement period. Therefore Philips France S.A.S. and Koninklijke Philips N.V. should be held jointly and severally liable for Philips France S.A.S. involvement in the infringement between 26 September 2003 and 9 September 2004.

7.2.3. Renesas[527]

(363) The evidence described in this Decision shows that Hitachi Ltd, Melco, Renesas Electronics Corp. and Renesas Electronics Europe Limited should be held liable for the infringement committed by Renesas from […] 7 October 2003 until 8 September 2005 (see recitals (92) and (132)).

(364) Renesas participated in the infringement through the following key employees of Renesas Electronics Corp. and Renesas Electronics Europe Limited (at the time named Renesas Technology Corp. and Renesas Technology Europe Limited):

Table 7: Participants Renesas

Name	Entity	Function	Period
[...]	Renesas Technology Europe Limited	[…]	[…]
		[…]	[…]
[...]	Renesas Technology Europe Limited	[…]	[…]
[...]	Renesas Technology Corp. Ltd.	[…]	[…]
[...]	Renesas Technology Europe Limited	[…]	[…]
[...]	Renesas Technology Corp	[…]	[…]
[...]	Renesas Technology Corp	[…]	[…]
[...]	Renesas Technology Europe Limited	[…]	[…]
[...]	Renesas Technology Europe Limited	[…]	[…]
[...]	Hitachi Europe Ltd./Renesas Technology Europe Limited	[…]	[…]
	Renesas Technology Europe Limited	[…]	[…]
[...]	Renesas Technology Corp.	[…]	[…]

(365) On that basis, both Renesas Technology Corp. and Renesas Technology Europe Limited were directly involved in the infringement. These companies became in April 2010 Renesas Electronics Corp. and Renesas Electronics Europe Limited.

(366) From 1 April 2003 until the end of the infringement, Renesas Technology Europe Limited was a wholly-owned subsidiary of Renesas Technology Corp. The Commission therefore presumes the exercise of decisive influence by Renesas Technology Corp. over the conduct on the market of Renesas Technology Europe Limited.

(367) There are further elements confirming that Renesas Technology Corp. exercised decisive influence over its subsidiary.

(368) The exercise of decisive influence by Renesas Technology Corp. over the conduct of Renesas Technology Europe Limited is shown by the close reporting links between employees of the subsidiary and the parent company, including individuals directly

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involved in the cartel contacts. Evidence of the lack of independence of the subsidiary and of the close reporting links can be found for example in an e-mail chain dated between 19-30 September 2003 in which [...] Renesas Technology Corp., set up a competitor meeting with Samsung and a customer meeting with G&D in which [...] Renesas Technology Europe Limited, was also expected to participate and contribute on the market status in Europe. It is indicated in the e-mail that [...] Renesas Technology Corp., had agreed with the arrangement that [...] would delay his move to Japan by a week in order for [...] to be able to take part in the meeting with G&D.[528] Another example of such close reporting links is found in an e-mail of 19 April 2004 in which [...] Renesas Technology Europe Limited, reported to colleagues in Europe but also to […] Renesas Technology Corp. about the contents of her competitor contact on capacity and pricing with [...] Samsung.[529]

(369) The staff movements between the subsidiary and the parent company also indicate the lack of independence of Renesas Technology Europe Limited with respect to its parent company, Renesas Technology Corp. [...] was seconded from Renesas Technology Europe Limited to Renesas Technology Corp. […].[530]

(370) The above examples in recitals (368) and (369) show both the lack of independence of Renesas Technology Europe Limited and confirm the Commission's presumption of the exercise of decisive influence by Renesas Technology Corp.

(371) Renesas Technology Corp. ceased to exist as a legal entity after the merger of Renesas Technology Corp. with NEC Electronics Corporation on 1 April 2010 that established Renesas Electronics Corporation. Therefore, Renesas Electronics Corporation should be held liable as the legal successor of Renesas Technology Corp.

(372) Renesas Technology Corp was established on 1 April 2003 as a joint venture of Hitachi Ltd and Mitsubishi Electric Corporation. Hitachi Ltd and Mitsubishi Electric Corporation entered into the joint venture agreement as equal partners.[531] From the date of establishment and until 1 April 2010, Hitachi Ltd held a 55% shareholding in Renesas Technology Corp., while Mitsubishi Electric Corporation (Melco held the remaining 45% of the shares.[532]

(373) There are objective factors demonstrating that Renesas Technology Corp did not enjoy an autonomous position but, rather, that Hitachi and Melco exercised decisive influence on the commercial conduct and policies of the joint venture.

(374) According to the joint venture agreement signed on 26 December 2002, Hitachi Ltd and Mitsubishi Electric Corporation (Melco) had joint control over Renesas Technology Corp. Despite the differences in the shareholding, both companies had the same power over the subsidiary and none of them could take strategic decisions without the consent of the other. In fact, both parent companies participate in prior

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consultation with and in the decision-making of Renesas Technology Corp. with respect to, e.g. amendments to its articles of incorporation, election and dismissal of directors and statutory auditors and the approval of financial statements and profit appropriation. Renesas Technology Corp. was, according to the joint venture agreement, also obliged to submit its business plan and monthly financial reports to both Hitachi Ltd and Mitsubishi Electric Corporation the contents and timing of which would be agreed between Hitachi Ltd and Mitsubishi Electric Corporation. Matters relating to business strategy decisions, including business plans and budgets, were, according to the joint venture agreement, to be determined by Renesas Technology Corp's Board of Directors.[533] There is no indication in the file that could suggest that these obligations have not been followed by Renesas Technology Corp.

(375) Hitachi and Melco make a difference between the first nominations of the directors of Renesas Technology Corp, appointed by its shareholders, and the subsequent nominations and appointments to the board of directors, in which the role of the parent companies was limited. For the first nominations, of the 10 members of the Board of Directors five were directly nominated by Hitachi Ltd and five directly nominated by Melco. According to Hitachi and Melco, in the subsequent nominations, the parent companies played a limited role, as directors were nominated by Renesas Technology Corp, the JV parents playing a "*peripherical role limited to voting in the shareholders' meeting on the candidates proposed by Renesas*".[534] Nevertheless, in both cases, the nominees had to be approved by both Hitachi and Melco.

(376) As far as both parent companies had joint control over Renesas Technology Corp, that the latter had to report to them for its business plan and financial issues, that the strategic decisions were taken by the Board of Directors of Renesas Technology Corp, itself composed by members approved by both Hitachi and Melco and that the parent companies were present on the smart card chips market only through their joint venture, the Commission considers that both Hitachi and Melco actually exercised, during the infringement, a decisive influence over Renesas Technology Corp and, hence, over the Renesas undertaking.

(377) Moreover, overlaps in management and movements of senior staff between the parent companies and the joint venture company also indicate the lack of independence of the latter.

(378) Concerning Hitachi, all individuals from Renesas involved in the infringement worked before the creation of the joint venture for Hitachi[535] […] [...][536]

(379) Melco has also indicated that [..] Melco held simultaneously the position […] at Renesas. [...] held the dual position […] at Melco and […] at Renesas, left his position at Melco to take over the responsibilities of […] Renesas and later […] that

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of […] of Renesas. [...] dual function […] at Melco and […] Renesas […] left his position at Renesas […] to become […] at Melco.[537]

(380) Therefore, on the basis of all these elements, the Commission considers that Hitachi and Melco exercised decisive influence during the infringement period over Renesas Technology Corp and, indirectly, over Renesas Technology Europe Limited, now Renesas Electronics Corp and Renesas Electronics Europe Limited.

(381) On this basis, Renesas Electronics Corporation and Renesas Electronics Europe Limited should be held jointly and severally liable for their direct involvement in the infringement between 7 October 2003 and 8 September 2005. In addition, Renesas Electronics Corporation (named during the infringement Renesas Technology Corp.) and Renesas Electronics Europe Limited (named during the infringement Renesas Technology Europe Limited) should be held jointly and severally liable for the involvement in the infringement of Renesas Electronics Europe Limited. Hitachi and Mitsubishi, Renesas Electronics Corporation and Renesas Electronics Europe Limited should be held jointly and severally liable for the involvement in the infringement of Renesas Electronics Corporation and of Renesas Electronics Europe Limited.

7.2.4. Samsung[538]

(382) The evidence described in this Decision shows that Samsung Electronics Co., Ltd. and Samsung Semiconductor Europe GmbH may be held liable for the infringement committed by Samsung […] from 24 September 2003 until 8 September 2005 (see recitals (90) and (132)).

(383) Samsung participated in the infringement through the involvement of the following key employees of Samsung Electronics Co., Ltd., Samsung Semiconductor Europe GmbH and [Samsung subsidiary]:

Table 8: Participants Samsung

Name	Entity	Function	Period
[...]	Samsung Semiconductor Europe GmbH	[…]	[…]
	Samsung Electronics Co., Ltd.	[…]	[…]
	Samsung Electronics Co., Ltd.	[…]	[…]
[...]	Samsung Semiconductor Europe GmbH	[…]	[…]
[...]	[Samsung subsidiary]	[…]	[…]
[...]	[Samsung subsidiary]	[…]	[…]
		[…]	[…]
[...]	Samsung Electronics Co., Ltd.	[…]	[…]
[...]	Samsung Electronics Co., Ltd.	[…]	[…]
[...]	Samsung Electronics Co., Ltd.	[…]	[…]
[...]	Samsung Electronics Co., Ltd.	[…]	[…]
[...]	Samsung Electronics Co., Ltd.	[…]	[…]
[...]	Samsung Semiconductor Europe GmbH	[…]	[…]

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[...]	Samsung Electronics Co., Ltd.	[…]	[…]
[...]	Samsung Electronics Co., Ltd.	[…]	[…]

(384) During the period of the infringement, Samsung Semiconductor Europe GmbH and [Samsung subsidiary] were wholly-owned subsidiaries, either directly or indirectly, of Samsung Electronics Co., Ltd.[539] [Samsung subsidiary] was, […],[540] a wholly-owned subsidiary of Samsung Semiconductor Europe GmbH that, in turn, was a wholly-owned subsidiary of Samsung Electronics Co., Ltd.[541] Since […[, Samsung Semiconductor Europe GmbH has been the legal successor of [Samsung subsidiary].

(385) In view of the above, the Commission presumes the exercise of decisive influence by Samsung Electronics Co., Ltd. over the conduct on the market of Samsung Semiconductor Europe GmbH and [Samsung subsidiary]. The Commission also presumes the exercise of decisive influence by Samsung Semiconductor Europe GmbH over the conduct on the market of [Samsung subsidiary].

(386) In addition, there are further elements which confirm (and thus corroborate the above-mentioned presumption) that Samsung Electronics Co., Ltd. exercised decisive influence over its subsidiaries. Firstly, the staff movements between the subsidiaries and the parent company imply the lack of independence of Samsung Semiconductor Europe GmbH and [Samsung subsidiary] with respect to its parent company, Samsung Electronics Co., Ltd. [...][542] Secondly, the organisational chart of [Samsung subsidiary] and the reporting lines which are described therein, namely those between management of [Samsung subsidiary], and the management at Samsung Semiconductor Europe GmbH show the lack of independence of the employees of the [Samsung subsidiary].[543] Thirdly, an indication of the lack of independence is found in the job description of [Samsung subsidiary] [...].[544]

(387) The above examples show both the lack of independence of Samsung Semiconductor Europe GmbH and [Samsung subsidiary] and confirm the presumption of exercise of decisive influence by Samsung Electronics Co., Ltd. and Samsung Semiconductor Europe GmbH.

(388) In view of the above the Commission finds that Samsung Electronics Co., Ltd. and it subsidiary Samsung Semiconductor Europe GmbH should be held jointly and severally liable for their direct involvement in the infringement between 24 September 2003 and 8 September 2005. In addition Samsung Semiconductor Europe GmbH should be held liable on the basis of the decisive influence exercised over [Samsung subsidiary]. Samsung Electronics Co., Ltd. should also be held liable on the basis of the decisive influence exercised over Samsung Semiconductor Europe GmbH and of [Samsung subsidiary].

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7.2.5. Conclusion

(389) Based on the foregoing recitals (354) to (388), it has been established that the following companies are jointly and severally liable for the infringement of Article 101 of the Treaty and Article 53 of the EEA Agreement committed by their respective undertakings for the entire duration of the respective participation of these undertakings (see section 6):

(a) Infineon Technologies AG
(b) Koninklijke Philips N.V.
(c) Philips France S.A.S.
(d) Hitachi, Ltd.
(e) Mitsubishi Electric Corporation
(f) Renesas Electronics Corporation
(g) Renesas Electronics Europe Limited
(h) Samsung Electronics Co., Ltd.
(i) Samsung Semiconductor Europe GmbH

8. REMEDIES

8.1. Article 7 of Regulation (EC) No 1/2003:

(390) Where the Commission finds that there is an infringement of Article 101 of the Treaty and Article 53 of the EEA Agreement it may by decision require the undertakings concerned to bring such infringement to an end in accordance with Article 7(1) of Regulation (EC) No 1/2003.

(391) Given the secrecy in which the cartel arrangements were carried out, it is not possible to determine with absolute certainty that the infringement has ceased. It is therefore necessary to require the undertakings to which this Decision is addressed to bring the infringement to an end (if they have not already done so) and, in future, to refrain from any agreement, concerted practice or decision of an association which might have the same or a similar object or effect.

8.2. Article 23(2) of Regulation (EC) No 1/2003 – Fines

8.2.1. Principles

(392) Under Article 23(2) of Regulation (EC) No 1/2003,[545] the Commission may by decision impose upon undertakings fines where, either intentionally or negligently, they infringe Article 101 of the Treaty and/or Article 53 of the EEA Agreement.[546] For each undertaking participating in the infringement, the fine cannot exceed 10% of its total worldwide turnover in the preceding business year. Pursuant to Article

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[545] For the period before 1 May 2004, any reference to Article 23 of Regulation (EC) No 1/2003 must be understood as reference to the corresponding provisions of Article 15 of Regulation No 17, First Regulation implementing Articles 85 and 86 of the Treaty, OJ 13, 21.2.1962, p. 204.

[546] Under Article 5 of Regulation (EC) No 2894/94 concerning arrangements of implementing the Agreement on the European Economic Area, OJ L 305, 30.11.1994, p. 6, the Union rules giving effect to the principles set out in Articles 101 and 102 of the Treaty apply *mutatis mutandis*.

23(3) of Regulation (EC) No 1/2003 the Commission must, in fixing the amount of the fine, have regard to all relevant circumstances and particularly the gravity and duration of the infringement.

(393) The principles used by the Commission to set fines are laid down in its Guidelines on the method of setting fines imposed pursuant to Article 23(2)(a) of Regulation (EC) No 1/2003[547] ('the Guidelines on fines'). The Commission determines a basic amount for each party. The basic amount can then be increased or reduced for each company if either aggravating or mitigating circumstances are found. The Commission sets the fines at a level sufficient to ensure deterrence. The Commission assesses the role played by each undertaking party to the infringement on an individual basis. Finally, the Commission applies, as appropriate, the provisions of the 2006 Leniency Notice. The Commission may use rounded figures in its calculations.

(394) The basic amount results from the addition of a variable amount and an additional amount. Both components of the basic amount are calculated on the basis of an undertaking's value of sales of goods or services to which the infringement relates in a given year. The Commission normally uses as a proxy the sales made by an undertaking during the last full business year of their participation in the infringement.[548] If the last year is not sufficiently representative, the Commission may choose another proxy. Moreover, the Commission does not take into account for the calculation of any fines sales that were made to new Member States before their accession to the Union on 1 May 2004.

8.2.2. Intent

(395) The facts of this case show that the infringement has been committed intentionally (see Sections 4 and 5). In particular, the cartel contacts were driven by the parties' knowledge of the business environment characterised by a small number of large customers with high buyer power, yearly/quarterly contract negotiations and a steady downward trend of smart card chip prices, and they showed their willingness to influence this environment to their benefit. There are some references in the file to the fact that antitrust concerns were expressed and measures of concealment were taken (see recitals (96) and (115)).

(396) The infringement described in this Decision consists of price coordination with respect to smart card chips. With respect to this type of obvious infringement, parties cannot claim that they did not act deliberately.[549] In any event, the parties in this case acted at least negligently.

(397) The Commission therefore imposes fines on the undertakings to which this Decision is addressed.

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547 OJ C 210, 1.9.2006, p. 2. According to point 37 of the Guidelines on fines the particularities of a given case or the need to achieve deterrence in a particular case may justify departing from such methodology or from the limits specified in point 21.

548 Point 13 of the Guidelines on fines.

549 See, for example, Case T-11/05 *Wieland-Werke AG v. Commission*, [2010] ECR II-86 (summary publication), at paragraph 140; Case T-143/89 *Ferriere Nord v. Commission*, [1995] ECR II-917, at paragraph 42; Case C-219/95 P *Ferriere Nord v. Commission*, [1997] ECR I-4411, at paragraph 50.

8.2.3. Value of sales

(398) While the Commission would normally take the sales made by the undertakings during the last full business year of their participation in the infringement, in this case, in view of the short duration of the infringement of one party, which, in addition, covered parts of two calendar years, and in view of the considerable difference in the duration of the involvement of different parties, it is appropriate to deviate from that principle. Instead, a proxy for the annual value of sales (based on the actual value of sales made by the undertakings during the months of their respective participation in the infringement) is used as the basis for the calculation of the basic amount of the fines.

(399) The goods to which the infringement relates are smart card chips. For the reason explained in Sections 5.2.3 and 5.2.4.2, the Commission considers that the infringement covered both SIM and non-SIM applications and that the contacts between the cartel members constituted a single and continuous infringement. Since the contacts do not refer to specific types of smart card chips but to the general trend of prices, there is no reason to exclude some types of smart card chips from the value of sales to which the infringement directly or indirectly relates. Neither is there any reason to exclude the sales to certain customers, as the discussions concerning the leading customers were considered as discussions on a benchmark price (see recital (65)). Therefore, the value of sales for the purposes of the calculation of the basic amount of the fines is the value of sales of all smart card chips without the need to make any further distinction. For the reasons explained in Section 2.3.3, the relevant geographic area is the EEA.

(400) Infineon has at a very late stage of the proceedings made claims that the Commission should exclude from the value of sales the turnover during the infringement period that is made on the basis of specific long term contracts that were signed before the infringement period.[550] These sales are allegedly not affected by the cartel. Samsung and Philips made similar claims when they were requested to submit data for this claim raised by Infineon.[551]

(401) For determining the relevant value of sales, the Commission does not have to limit itself to the individual sales actually affected by the infringement, or for which it has documentary evidence, but can base itself on the sales in the relevant market as a proxy to appreciate the harm caused by the infringement.[552] There can always be individual transactions, for instance at the start and at the end of the infringement period, for which it is difficult to establish with certainty if these were affected by the cartel, and the use of a proxy seeks to neutralise this effect on both ends. In the smart card industry the general terms of a customer relationship are determined at the

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The argument only refers to long term contracts concluded before the infringement period, producing effects during the infringement period. It does not mention the possible existence of long term contracts concluded during the infringement period, producing effects after the infringement period. Infineon, although having provided very detailed explanation on the functioning of such contracts, did not provide a copy of a long term contract.

551 [...]

552 Case T-204/08 and T-212/08 *Team Relocations v Commission*, not yet published, paragraphs 62 – 64, upheld by the Court of Justice in Case C-444/11P , not yet published.

beginning of the contract, whereas volumes and prices are in principle concluded on a yearly basis.[553]

(402) For some sales during the infringement period, the price may have been fixed well in advance on the basis of a long term contract concluded before the infringement period, but this does not mean that the volumes to be supplied under these contracts were equally fixed. Information on the exact volumes supplied in the implementation of these long term contracts or the parties' capacity (which depended on the implementation of these long term contracts) had relevance for the cartel. The evidence shows that the parties exchanged on several occasions commercially sensitive information on volumes and capacity (see for example recitals (99), (100), (102), (109), (110), (118) and (131) above). For example Philips discussed during the contact of 26 September 2003 (see recital (91) above) with Samsung about its capacity on the SIM market: *"The focus product for 2004 is expected to be 0.18u…"* while in the contact of 16 October 2003 with Renesas (see paragraph (94) above), Philips explained that Philips' 0.18µ production capacity was *"full"* and that its 0.35µ production capacity was *"reasonably high"*. Since the discussions about Philips's production and capacity also include the volumes to be delivered under long term contracts concluded before the starting date of the infringement, these contracts were related to the infringement. Therefore, these sales must be qualified as directly or indirectly related to the cartel.

(403) In addition, the Commission notes the parties did not demonstrate that the prices set in those long term contracts concluded before the infringement period were fixed in advance. In this respect Infineon only claims that the terms of these sales had been 'largely' determined outside the alleged infringement period, but fails to prove that the prices indicated in the long-term contract were effectively not changed during the infringement period when the individual orders were made. From the descriptions of the functioning of such long term contracts it cannot be excluded that price modifications could still occur during the infringement period, triggered by a request from the customer or otherwise. It appears that these long term contracts created some rigidity as far as the maximum price is concerned, but left flexibility below this maximum[554] (see also paragraph (115) above). Indeed, Infineon admitted that these long term contracts, like any other type of purchase agreement, did not exclude the possibility of a subsequent price modification. [555] Moreover, Infineon has stated that it concluded long-term basic supply agreement at the beginning of a contractual relationship while it concluded on a yearly basis volume purchase agreements, which included price lists defining the prices per product in relation to the volume purchased during the defined period[556] (see paragraph (41) above). [...] for some products the unit price for the delivered goods slightly deviated from the agreed long term contract price.[557] […] the long term master agreements with certain customers contained a most favourite customer clause[558] which limited price negotiations (see paragraph above). However, such a clause shows that the price set by such contracts

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553 See recital (41).
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depended on the prices set for other customers and was influenced by the cartel. […] once a framework contract was in place, pricing could be renegotiated, albeit only in exceptional circumstances.[559] On the other hand, […] from 1999 onwards the annual framework agreements were not binding (see paragraph (40) above). Therefore information on the future prices, price intentions or price-setting factors regarding sales made in the implementation of these long term contracts had relevance for the cartel. These sales must be qualified as directly or indirectly related to the cartel.

(404) On the basis of the explanation in recitals (398) until (403), the Commission has decided to use the following proxy for the respective annual values of sales, that is calculated on the basis of the total amount of sales of the cartelised product for the individual period of participation of every participant:[560]

Table 9: Proxy for value of sales

Undertaking	**Months taken into account**	**Proxy for value of sales**
Infineon	October 2003 – March 2005	[...]
Philips	October 2003 – August 2004	
Renesas	October 2003 – August 2005	
Samsung	October 2003 – August 2005	

8.2.4. Basic amount of the fine

(405) The basic amount consists of an amount of up to 30% of a company's relevant sales, depending on the degree of gravity of the infringement and multiplied by the number of years[561] of the company's participation in the infringement, and an additional amount of between 15% and 25% of the value of a company's sales, irrespective of duration.[562]

(406) In order to determine the specific percentage of the basic amount of the fine, the Commission has regard to a number of factors, such as the nature of the infringement, the combined market share of all the undertakings concerned, the geographic scope of the infringement and whether the infringement has been implemented.[563]

(407) In addition, irrespective of the duration of the undertakings' participation in the infringement, the Commission includes in the basic amount a sum of between 15%

559 [...]. See also recitals (38) to (41).

560 This calculation on the basis of this proxy is more favourable to the parties than a calculation on the basis of the last full business year of participation to the infringement, as normally foreseen by point 13 the Guidelines on Fines.

561 If appropriate under the circumstances of the case, the Commission may count periods of less than a year as the corresponding fraction of a year (for instance, 3 months as a factor 0.25 instead of 0.5).

562 Points 19-26 of the Guidelines on fines.

563 Points 21-22 of the Guidelines on fines.

and 25% of the value of sales in order to deter undertakings from even entering into horizontal price-fixing and market-sharing agreements.[564]

8.2.4.1. Gravity

(408) The Commission bases its assessment on the facts described in this Decision. The Commission's assessment will in particular take into account that:

(a) Price coordination arrangements are by their very nature among the worst kind of violation of Articles 101 of the Treaty and 53 of the EEA Agreement;

(b) The cartel arrangements covered at least the whole of the EEA.

(409) […] argue that the gravity percentage should be well below or at most 15%.

(410) [...] that the cartel consisted of bilateral contacts, and was not a blunt fixing of prices or market sharing and therefore not what it defines as a "traditional cartel".[565] […] pretends that information gathering was part of its learning process in the attempt to penetrate the smart card chip market and claims that it has always had an aggressive pricing strategy. [...] that competitors merely sought to slow down the downwards trend of SCC prices on only a few occasions. Furthermore, the combined market share of the participants during the relevant period fluctuated between 71% in 2003 and 25% in 2005, with Samsung remaining the smallest player over time. […] believes that the market structure, market development and characteristics all play strongly against the contention of sustaining collusion. These factors include the fast changes in technology, the rapid evolution of market shares, the uncertainties about demand evolution, strong customer bargaining power and the impossibility of checking competitors' actual prices once agreed with a given customer.[566]

(411) […] considers that the infringement was not a hard core price fixing, there were a limited number of and bilateral exchanges, only a limited number of customers were discussed, there was no impact on prices or commercial conditions of customers established, there was limited market coverage and that […] was a marginal player in SIM and played a passive role and had a limited number of contacts.

(412) According to […], the Commission did not establish the impact on prices or commercial conditions for customers and the market coverage was limited.

(413) Horizontal price-fixing, market-sharing and output-limitation agreements are by their very nature among the most harmful restrictions of competition; the proportion of the value of sales taken into account for such infringements will generally be set at the higher end of the scale.[567] As explained in Section 5.2.4.2, the aim of the exchanges was namely to distort the normal movement of prices for smart card chips in the EEA. This common aim of these contacts to limit competition on prices covered in particular discussions to increase prices, maintain prices or slow down the fall of prices for smart card chips and other factors that determined the price setting of the

564 Point 25 of the Guidelines on fines.
565 [...]
566 [...]
567 Point 23 of the Guidelines on fines.

parties. Moreover, the cartel covered four of the six main smart card chip producers in the EEA, in a market with a very small number of customers. Whether the exchanges were bilateral or multilateral, the characteristics of the market and the possible limited participation of a member of a cartel are irrelevant in order to assess the gravity of the infringement. Finally, under the Guidelines on fines, the Commission is not required to take the impact of a cartel into account.[568]

(414) Given the specific circumstances of this case, taking into account the criteria discussed in recitals (408)-(413), the proportion of the value of sales to be taken into account for the calculation of the gravity should be 16 % for all addressees of this Decision.

(415) The Commission will take into consideration the respective duration of each undertaking's participation in the infringement, as described in section 6.

8.2.4.2. Duration

(416) Rather than rounding up periods as suggested in point 24 of the Guidelines on Fines, in this case the Commission takes into account the actual duration of participation in the infringement of the parties on a (rounded down) monthly and pro rata basis.

(417) The duration in this case is 11 months and 17 days for Philips, 18 months and 7 days for Infineon, 23 months and 2 days for Renesas, and 23 months and 15 days for Samsung. This leads to duration multipliers of 0.91 for Philips (this is to say for 11 months), of 1.5 for Infineon (this is to say for 18 months), and of 1.91 for Renesas and Samsung (this is to say for 23 months each).

8.2.4.3. The additional amount

(418) Irrespective of the duration of the undertakings' participation in the infringement, the Commission includes in the basic amount a sum of between 15% and 25% of the value of sales to deter undertakings from even entering into horizontal price-fixing, market-sharing and output-limitation agreements.[569]

(419) In this case an additional amount should be taken into account as it concerns the fixing of prices. In view of the criteria discussed in Section 5, an additional amount of 16 % of the value of sales should be taken into account for all undertakings concerned.

8.2.4.4. Calculation and conclusion on basic amounts

(420) Based on the criteria explained above, the basic amount of the fine should be calculated as follows:

Table 10: Basic amounts

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[568] See in this sense: Case T-406/09 *Donau Chemie v Commission,* not yet published, paragraphs 70-74. Impact is a factor that can be taken into account for increasing the gravity.

[569] Point 25 of the Guidelines on fines.

Undertaking	Basic amounts (EUR)
Infineon	[...]
Philips	
Renesas	
Samsung	

8.2.5. Adjustments to the basic amounts of the fine

8.2.5.1. Aggravating circumstances

(421) The Commission may consider aggravating circumstances that result in an increase of the basic amount. These circumstances are listed in a non-exhaustive way in point 28 of the Guidelines on fines.

(422) No aggravating circumstances have been found.

8.2.5.2. Mitigating circumstances

(423) The Commission may consider mitigating circumstances that result in a reduction of the basic amount. These circumstances are listed in a non-exhaustive way in point 29 of the Guidelines on fines.

(424) The Commission found that Infineon is responsible for the single and continuous infringement only in so far as it participated in collusive arrangements with Samsung and Renesas because there is no clear evidence in the file showing that Infineon was aware of the exchanges between the other parties (see recital (310)). For this reason,[570] Infineon is granted a 20% reduction of the basic amount of the fine.

(425) Infineon claims that it adopted a competitive behaviour during the cartel period and considers that the non-implementation of the agreements or concerted practices constitutes a mitigating circumstance. However, parties like Renesas and Samsung admitted that they used the knowledge acquired through the contacts with competitors in order to determine their own behaviour on the market (see recital (269). Moreover, there are no indications that Infineon did not take account of the information exchanged with competitors when determining its conduct on the market, or that Infineon opposed the cartel to the point of disrupting its smooth functioning. In any event, the use of sensitive information acquired through contacts with competitors can also be restrictive of competition where competition has not been completely eliminated as a result. Consequently, Infineon does not meet the requirements of the case-law for a mitigating circumstance.[571] Also to the extent that

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[570] See to this effect Case C-441/11 P *Commission v. Verhuizingen Coppens NV*, not yet reported, at paragraph 74; Case T-587/08 *Fresh Del Monte Produce v. Commission*, not yet reported, at paragraph 649.

[571] The Guidelines on fines do not consider mere non-implementation as a mitigating circumstance. See also Case T-26/02 *Daiichi Pharmaceutical Co. Ltd v Commission* [2006] ECR II-497, paragraph 113;

Infineon claims that it adopted a purely passive 'follow my leader approach', there is no evidence that its participation was significantly more sporadic than that of the other members of the cartel, or that there is an express declaration regarding such role of Infineon from a representative of another undertaking that has participated in the infringement.[572]

(426) Samsung considers that through providing [...], it has cooperated outside the scope of the Leniency Notice and beyond its legal obligation to do so and deserves a further mitigating factor concerning its fine. But according to point 12 of the Leniency Notice, a leniency applicant has the obligation to cooperate genuinely, fully, on a continuous basis and expeditiously from the time it submits its application throughout the Commission's administrative procedure. The fact that [...] would have allowed the Commission to open proceedings against Infineon is irrelevant insofar as Infineon was already mentioned […]. Therefore, [...] will be analysed in the framework of the assessment of Samsung's leniency application (see Section 8.2.9).

(427) Samsung also argues in favour of a mitigating circumstance because this was not a typical price fixing cartel. As already shown in Section 5.2.4.1, this is an infringement by object. The gravity of the infringement is already reflected in the gravity percentage. Therefore there is no need to grant a further reduction.

8.2.5.3. Other fines reductions

(428) Although there is no period during which the Commission has stopped or suspended the investigation of the case (see Chapter 3.1.), the total period of investigation has been more than six years, which can be considered as a long period. For this reason, all the parties to the proceedings should be granted a 10% reduction of the basic amount of the fine.

8.2.6. Conclusion on the adjusted basic amount

(429) Based on the basic amount and any aggravating or mitigating circumstances, the adjusted basic amounts of the fines should be as follows:

Table 11: Adjustments of the basic amounts

Undertaking	**Adjusted basic amounts (EUR)**
Infineon	[...]
Philips	
Renesas	
Samsung	

Case T-308/94, *Cascades SA v Commission* [1998] ECR II-925, paragraph 230; Case T-83/08 *Denka Chemicals v Commission*, paragraph 248.

572 See table 4 in recital (81). See also Case T-83/08 *Denka Chemicals v Commission*, paragraph 254.

8.2.7. Deterrence

(430) The Commission pays particular attention to the need to ensure that fines have a sufficiently deterrent effect. To that end, the Commission may increase the fines to be imposed on undertakings which have a particularly large turnover beyond the sales of goods or services to which the infringement relates.[573]

(431) Samsung, Hitachi and Mitsubishi have a worldwide total turnover that is considerably larger than that of the other addressees and which is particularly large compared to their respective sales of smart card chips. Therefore, it is appropriate to apply a factor of 1.4 to Samsung's fine, of 1.2 to Hitachi's fine and of 1.1 to Mitsubishi's fine.

Table 12: Deterrence

Undertaking	**Amount after multiplier (EUR)**
Infineon	[...]
Philips	
Renesas	
Samsung	
Hitachi	
Mistubishi	

8.2.8. Application of the 10% turnover limit

(432) Article 23(2) of Regulation (EC) No 1/2003 provides that the fine imposed on each undertaking must not exceed 10% of its total turnover relating to the business year preceding the date of the Commission decision. The adjusted basic amounts set out in Section 8.2.6 do not exceed 10% of the total turnover for any of the undertakings concerned.

8.2.9. Application of the Leniency Notice

8.2.9.1. Renesas

(433) On 22 April 2008, Renesas applied for immunity from fines in accordance with point 14 of the Leniency Notice in relation with an alleged cartel in the smart card chip industry.

(434) According to point 8(a) of the Leniency Notice, the Commission will grant immunity from any fine which would otherwise have been imposed on an undertaking

[573] Point 30 of the Guidelines on fines.

disclosing its participation in an alleged cartel affecting the Union if that undertaking is the first to submit information and evidence which in the Commission's view will enable it to carry out a targeted inspection in connection with the alleged cartel. On 23 September 2008, the Commission granted conditional immunity from fines to Renesas pursuant to point 18 of the Leniency Notice as it was the first undertaking to submit information and evidence which in the Commission's view would enable it to carry out a targeted inspection in connection with the alleged cartel. Between 21 and 23 October 2008, it carried out inspections under Article 20(4) of Regulation (EC) No 1/2003.

(435) To be granted immunity from fines at the end of the administrative proceedings, an undertaking also needs to fulfil the criteria set out in points 12 and 13 of the Leniency Notice. According to point 12 of the Leniency Notice, the undertaking is required to cooperate genuinely, on a continuous basis and expeditiously throughout the administrative procedure, must have ended its involvement in the alleged cartel immediately following its application and must not have destroyed, falsified or concealed evidence of the alleged cartel nor disclosed the fact or any of the content of its contemplated application, except to other competition authorities. According to point 13 of the Leniency Notice, the undertaking must not have taken steps to coerce other undertakings to join the cartel or to remain in it.

(436) There are no indications that Renesas did not fulfil its cooperation obligations under point 12 of the Leniency Notice or that it took steps to coerce other undertakings to join the cartel or to remain in it. Therefore, Hitachi, Ltd., Melco, Renesas Electronics Corporation and Renesas Electronics Europe Limited, which formed part of the same undertaking at the moment of the immunity application,[574] should be granted immunity from fines in this case.

8.2.9.2. Samsung

(437) On 27 October 2008, Samsung applied for immunity from fines in accordance with point 8(b) of the Leniency Notice and, in the alternative, for a reduction of fines in accordance with point 27 of the Leniency Notice. Before the initiation of the settlement discussions with the Commission, Samsung provided evidence and information [...].

(438) By decision of 28 March 2011, the Commission informed Samsung, in accordance with point 20 of the Leniency Notice, that immunity from fines was not available in this case; that it was the first undertaking to submit evidence which represents, within the meaning of points 24 and 25 of the Leniency Notice, significant added value with respect to the evidence previously in the Commission's possession; and that the Commission intended to grant a reduction within the band of 30% to 50% of any fine that would otherwise have been imposed in this case.

(439) This assessment was based on the fact that, in its submissions, Samsung provided new information about cartel contacts the existence of which were unknown to the Commission at the time of its submissions and confirmed other contacts and provided further information on the contents of the contacts of which the

[574] See Case C-238/12 P, FLSmidth & Co. A/S v. Commission, not yet reported, at paragraphs 81 to 89.

Commission already had knowledge at the time of Samsung's submissions. Given that the Commission had at the time of Samsung's submissions more limited evidence of bilateral cartel contacts, other than those in which Renesas was one of the parties, the submissions of Samsung, and especially those concerning the contacts between Samsung and Philips, substantially strengthened the Commission's ability to prove the facts in this case.

(440) According to point 30 of the Leniency Notice, the Commission will evaluate the final position of each undertaking which filed an application for a reduction of a fine at the end of the administrative procedure in any decision adopted. The Commission will determine in any such final decision:

(a) whether the evidence provided by an undertaking represented significant added value with respect to the evidence in the Commission's possession at that same time;

(b) whether the conditions set out in points 12 (a) to 12 (c) of the Leniency Notice have been met;

(c) the exact level of reduction an undertaking will benefit from within the bands specified in point 26 of the Leniency Notice.

(441) To be granted a reduction from fines at the end of the administrative proceedings, an undertaking needs to provide evidence which has a significant added value. As explained in recital (439) the Commission considers that Samsung has provided evidence with significant added value in this case. After the discontinuation of the settlement discussions, having revisited its files, Samsung provided [...]. Also, in response to the objections raised by Philips and Infineon in their replies to the Statement of Objections in relation to the authenticity of three documents Samsung provided […].

(442) Samsung's contribution has assisted the Commission's investigation in this case. […] provided by Samsung after [...] were received by the Commission as part of Samsung's Leniency application.

(443) According to point 12 of the Leniency Notice, the undertaking is required to cooperate genuinely, fully, on a continuous basis and expeditiously throughout the administrative procedure, must have ended its involvement in the alleged cartel immediately following its application and must not have destroyed, falsified or concealed evidence of the alleged cartel nor disclosed the fact or any of the content of its contemplated application, except to other competition authorities.

(444) The Commission considers that Samsung has met the requirements of point 12 of the Leniency Notice. The Commission concludes therefore that Samsung is entitled to a reduction of fines under the leniency programme.

(445) According to point 26 of the Leniency Notice, in order to determine the level of reduction within each of the bands, the Commission will take into account the time at which the evidence fulfilling the condition in point 24 of the Leniency Notice was submitted and the extent to which it represents added value.

(446) As indicated above in recitals (438), (439), (441) and (442), Samsung provided evidence with significant added value in the present proceedings.

(447) As for the time of submission of the information, the majority of the evidence provided by Samsung was submitted in the initial phases of the investigation and prior to the opening of proceedings in this case.

(448) However, Samsung submitted two batches of new evidence in [...], after the discontinuation of the settlement procedure; the authenticity of three of the documents contained therein was contested by Infineon and Philips. Thereafter, either when requested by the Commission or spontaneously, Samsung provided on [...] further explanations, paper and, in certain instances, electronic versions of the original documents in respect of which objections had been raised. However, the Commission notes that Samsung did submit an altered document and that given the doubts surrounding the exact circumstances in which translations were added to document [...], the Commission has concluded that it is unable to rely on this document to establish the infringement.

(449) For the specific document [...] - the document which was altered with the addition of the English translations - Samsung has provided several explanations for the delay, which are not wholly consistent. These explanations are summarised in recitals (204) and (205).

(450) Samsung has admitted it knew about the existence and was in possession of the internal email of 13 April 2004 almost two years before it submitted them to the Commission. For the other two contested documents, it is not clear when Samsung knew about the existence and was in possession of them, and Samsung was only able to explain their appearance on the basis that they revisited their files after the discontinuation of the settlement talks.

(451) The fact that a Leniency applicant provides additional evidence in a late stage of the proceedings cannot be considered by itself as a failure to cooperate. Indeed, if a Leniency applicant discovers new evidence even at a very late stage of the proceedings, it has to submit it to the Commission. However, there must be a valid reason for such late submission. In the present case, the announcement of possible future settlement discussions is not a valid reason for suspending searches of evidence. Neither the fact that the Commission had announced the initiative of a future opening of a settlement procedure nor the actual opening of such procedure could relieve Samsung from continuing its internal investigations and providing such documents as it identified. Therefore, the Commission does not consider that Samsung has provided adequate explanations as to why a document that was discovered in or around October 2010 was only submitted to the Commission almost 2 years later.

(452) In the context of the whole investigation and given the information submitted by other applicants, it is very likely that the submission of documents at the time of their discovery, i.e. at least in October 2010 would have strengthened the Commission's ability to investigate the case. Instead, their late submission resulted in further disputes and delays, and gave rise to the issuance of a letter of facts and additional investigative measures which had to be undertaken in a compressed timeframe in

view of the approaching time limit in relation to one of the addressees of this Decision.

(453) The Commission also notes that for a limited number of documents in the Korean language, Samsung provided several different translations for the same document that have been contested by one of the parties. The Commission had to prepare its own translations in order to verify the accuracy of a number of translations submitted by Samsung.

(454) However, the Commission cannot establish that Samsung's failure to provide the documents earlier in the proceedings was the result of any unwillingness to genuinely cooperate. It appears on the contrary that Samsung was negligent. Indeed, Samsung, as a leniency applicant, 'would risk losing the benefits of its cooperation as a consequence of voluntarily withholding information in respect of a certain cartel meeting, whereas it previously disclosed evidence and information on the full duration of the cartel. Equally, the failure to provide an uncontested translation does not amount to a failure to comply with the requirement of genuine cooperation.

(455) The assessment of Samsung's entitlement to a reduction of fines within the band of 30% to 50% is principally based on the conclusions that: (i) Samsung has provided evidence with significant added value in this case, (ii) most of the evidence was provided in the initial phase of the Commission investigation, (iii) the Commission had to discard one document containing an added translation, which was submitted to the Commission approximately two years after its discovery by Samsung and for which the explanations of the circumstances surrounding its appearance, alteration and submission are not clear or partially contradictory, (iv) the Commission had to verify a number of translations provided by Samsung although it had requested Samsung to certify the accuracy of the said translations, (v) the insufficiently explained late submission of the other documents and (vi) the additional investigative measures that the Commission had to put in place in a short timeframe in view of the approaching time limit concerning one of the addressees of this decision.

(456) In view of all these elements set out in recitals (437) to (455), the Commission concludes that Samsung still deserves to be granted a reduction in fines in accordance with the Leniency Notice. However, in the abovementioned circumstances, the reduction granted must fall at the bottom of the band of 50%-30%. Therefore, in the light of all the elements, Samsung Electronics Co., Ltd. and Samsung Semiconductor Europe GmbH should be granted a reduction of 30% of the fine that would otherwise have been imposed.

8.2.10. Final amounts

(457) The fines to be imposed pursuant to Article 23(2) of Regulation (EC) No 1/2003 should therefore be as follows:

(a) Infineon Technologies AG: EUR 82 874 000;

(b) Koninklijke Philips N.V. and Philips France S.A.S., jointly and severally: EUR 20 148 000;

(c) Hitachi, Ltd., Mitsubishi Electric Corporation, Renesas Electronics Corporation and Renesas Electronics Europe Limited, jointly and severally: EUR 0;

Hitachi, Ltd., solely (in the light of the deterrence multiplier applied): EUR 0;

Mitsubishi Electric Corporation, solely (in the light of the deterrence multiplier applied): EUR 0;

(d) Samsung Electronics Co., Ltd. and Samsung Semiconductor Europe GmbH, jointly and severally: EUR 35 116 000.

HAS ADOPTED THIS DECISION:

Article 1

The following undertakings infringed Article 101 of the Treaty and Article 53 of the EEA Agreement by participating, during the periods indicated, in a single and continuous infringement regarding smart card chips, covering the whole EEA, which consisted of the coordination of pricing behaviour with regard to prices charged to customers through contacts on pricing, production capacity and capacity utilisation, future market conduct as well as on contract negotiations vis-à-vis common customers and the exchange of competitively sensitive information:

(a) Infineon Technologies AG, from 24 September 2003 until 31 March 2005, for its coordination with Samsung and Renesas;

(b) Koninklijke Philips N.V. and Philips France S.A.S., from 26 September 2003 until 9 September 2004 ;

(c) Hitachi, Ltd., Mitsubishi Electric Corporation, Renesas Electronics Corporation and Renesas Electronics Europe Limited, from 7 October 2003 until 8 September 2005;

(d) Samsung Electronics Co., Ltd. and Samsung Semiconductor Europe GmbH, from 24 September 2003 until 8 September 2005.

Article 2

For the infringement referred to in Article 1, the following fines are imposed:

(a) Infineon Technologies AG: EUR 82 784 000;

(b) Koninklijke Philips N.V. and Philips France S.A.S., jointly and severally: EUR 20 148 000;

(c) Hitachi, Ltd., Mitsubishi Electric Corporation, Renesas Electronics Corporation and Renesas Electronics Europe Limited: EUR 0;

(d) Samsung Electronics Co., Ltd. and Samsung Semiconductor Europe GmbH, jointly and severally: EUR 35 116 000.

The fines shall be credited in Euro, within a period of three months from the date of notification of this Decision to the following account held in the name of the European Commission:

Account No:

BANQUE ET CAISSE D'EPARGNE DE L'ETAT
1-2, Place de Metz
L-1930 Luxembourg

IBAN: LU02 0019 3155 9887 1000
SWIFT: BCEELULL
Ref.: European Commission – BUFI/AT.39574

After the expiry of that period, interest shall automatically be payable at the interest rate applied by the European Central Bank to its main refinancing operations on the first day of the month in which this Decision is adopted, plus 3.5 percentage points.

Where an undertaking referred to in Article 1 lodges an appeal, that undertaking must cover the fine by the due date, either by providing an acceptable financial guarantee, or by making a provisional payment of the fine in accordance with Article 90 of Commission Delegated Regulation (EU) No 1268/2012.[575]

Article 3

The undertakings listed in Article 1 shall immediately bring to an end the infringement referred to in that Article insofar as they have not already done so.

They shall refrain from repeating any act or conduct described in Article 1, and from any act or conduct having the same or similar object or effect.

Article 4

This Decision is addressed to:

Hitachi, Ltd.; 6-6, Marunouchi 1-chome; Chiyoda-ku; Tokyo 100-8280; Japan

Infineon Technologies AG; Am Campeon 1-12; 85579 Neubiberg; Germany

Koninklijke Philips N.V.; Amstelplein 2; 1096 BC Amsterdam; The Netherlands

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575 OJ L362, 31.12.2012, p. 1.

Philips France S.A.S.; 33 Rue de Verdun; 92150 Suresnes; France

Mitsubishi Electric Corporation; 7-3, Marunouchi 2-chome; Chiyoda-ku; Tokyo 100-8310; Japan

Renesas Electronics Corporation; 1753 Shimonumabe; Nakahara-ku; Kawasaki; Kanagawa 211-8668; Japan

Renesas Electronics Europe Limited; Dukes Meadow; Millboard Road; Bourne End; Buckinghamshire; SL8 5FH; United Kingdom

Samsung Electronics Co., Ltd.; Samsung Electronics Bldg.; 11 Seocho-daero 74-gil; Seocho-gu; Seoul 137-965; South Korea

Samsung Semiconductor Europe GmbH; Kölner Str. 12; 65760 Eschborn; Germany

This Decision shall be enforceable pursuant to Article 299 of the Treaty and Article 110 of the EEA Agreement.

Done at Brussels,

For the Commission

Vice-President