II

(Acts whose publication is not obligatory)

COMMISSION

COMMISSION DECISION

of 16 March 2004

on State aid implemented by the Portuguese Republic for Infineon Technologies, Portugal, SA

(notified under document number C(2004) 326)

(Only the Portuguese text is authentic)

(Text with EEA relevance)

(2005/373/EC)

THE COMMISSION OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Community, and in particular the first subparagraph of Article 88(2) thereof,

Having regard to the Agreement on the European Economic Area, and in particular Article 62(1)(a) thereof,

Having called on interested parties to submit their comments pursuant to the provisions cited above [1],

Whereas:

I. PROCEDURE

(1) By letter of 23 December 2002, registered as received on 3 January 2003, Portugal notified under the Multisectoral Framework on regional aid for large investment projects [2] (hereinafter the Multisectoral Framework) its intention to grant investment aid to Infineon Technologies-Fabrico de Semicondutores, Portugal, SA (hereinafter Infineon Portugal). The proposed aid was registered under number N 1/03.

(2) The Commission acknowledged receipt by letter of 15 January 2003. By letter of 17 January 2003, it informed Portugal that the notification was considered incomplete and raised a series of questions. Following a reminder from the Commission, Portugal submitted additional information by letter of 6 May 2003, registered as received on the following day. By letter of 9 July 2003 (C(2003) 2004 fin), the Commission informed Portugal that it had decided to initiate the procedure laid down in Article 88(2) of the EC Treaty in respect of the aid. The Commission decision to initiate the procedure was published in the *Official Journal of the European Union* [3]. The Commission invited interested parties to submit their comments on the aid measure.

(3) By letters Nos 2531 of 6 August 2003 (registered as received on 13 August) and 2540 of 7 August 2003 (registered as received on 19 August), Portugal gave its reaction to the decision to initiate the procedure.

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[1] OJ C 235, 1.10.2003, p. 55.
[2] OJ C 107, 7.4.1998, p. 7.
[3] See footnote 1.

(4) The Commission received comments from four interested parties. These were forwarded to Portugal, which was given the opportunity to react. Its observations were received by letter No 825 of 15 December 2003 (registered as received on 23 December).

II. **DESCRIPTION**

1. **The beneficiary**

(5) Infineon Portugal is a wholly owned subsidiary of Infineon Technologies NV, which is itself controlled by Infineon Technologies AG (hereinafter Infineon). Infineon is the parent company of a large international group with four main divisions: wireline communications, secure mobile solutions, memories, and automotive and industrial. Infineon went public in March 2000 and is a spin-off from Siemens AG comprising its semiconductor activities.

(6) Infineon Portugal belongs to the memory products segment and designs, develops, manufactures and markets semiconductor memory products. It is a back-end unit active in the assembly, final testing and packaging of 64 MB, 128 MB and 265 MB DRAMs (Dynamic Random Access Memory). According to the Portuguese authorities, the Infineon plant located in Portugal is the only back-end unit in the DRAM production sector in Europe.

(7) Portugal has submitted the following data on turnover and employment for Infineon, broken down by the world, EEA and Portuguese markets.

Table 1

Turnover figures

(in million EUR)

	Worldwide		EEA		Portugal	
	Turnover	Workforce	Turnover	Workforce	Turnover	Workforce
1998	3 178	21 861	1 861	14 401		
1999	4 237	24 541	2 444	15 695		
2000	7 283	29 166	3 259	17 656	[…] (*)	
2001	5 671	33 813	3 005	21 821		
2002	5 207	30 423	2 395	20 306		

(*) Parts of this text have been edited to ensure that confidential information is not disclosed; those parts are enclosed in square brackets and marked with an asterisk.

2. **The project**

(8) The investment project is located in Vila do Conde (Grande Porto), an assisted area under Article 87(3)(a) of the EC Treaty in which the maximum permitted aid intensity for the support of new investments is 32 % net in the case of large enterprises.

(9) The project was started in June 2000 and completed in September 2003. The investment was aimed at increasing the company's competitiveness by extending production from 16 MB and 64 MB DRAMs to 256 MB and 512 MB DRAMs. In addition, the company introduced 'board on chip' technology, which increased the value of the final product. It launched a new product, Chip Sized Package, a smaller type of memory.

(10) Prior to completion of the investment project, Infineon Portugal produced some 2 million chips per week. After completion, its production capacity increased to 5 million chips per week. The capacity increase resulting from the project was therefore 150 %.

(11) According to the Portuguese authorities, Infineon has a 3,5 % share of the semiconductor market and a 12,8 % share of the DRAM market (data for 2002).

(12) Total eligible investment costs amount to EUR 141 036 103 (at 2000 prices). The project costs are given in the following table.

Table 2

(in EUR)

	Total costs			Eligible costs		
	2000	2001	2002	2000	2001	2002
[…] (*)						
Total	141 472 781			141 036 103		

(*) Parts of this text have been edited to ensure that confidential information is not disclosed; those parts are enclosed in square brackets and marked with an asterisk.

(13) According to the Portuguese authorities, the project has led to the creation of 252 direct jobs and 30 indirect jobs in the region. In their opinion, it also safeguarded 596 jobs, corresponding to all existing jobs at Infineon Portugal.

3. **Aid measures**

(14) According to the Portuguese authorities, the beneficiary applied for State aid in April 1999. The aid consists of a loan granted under scheme N 667/99 ([4]) and a tax incentive granted under scheme N 97/99 ([5]).

(15) The loan totals EUR 56 414 441 and is interest free. In 2005 an amount of EUR 42 310 831 will be converted into a non-repayable grant. The remaining part of the loan, i.e. EUR 14 103 610, will be reimbursed in eight equal half-yearly instalments (between 2005 and 2008). The loan was approved by the Portuguese authorities on 21 November 2001 and no payments have as yet been disbursed.

(16) In addition, Infineon Portugal will benefit from a tax incentive of up to EUR 20 450 235. The incentive will take the form of an income tax exemption for profits deriving from the notified investment. It is to be used by Infineon according to the following schedule: EUR 795 000 in 2004, EUR 1 327 000 in 2005, EUR 15 331 235 in 2006, EUR 1 462 000 in 2007 and EUR 1 535 000 in 2008. The Portuguese authorities have stressed that the total amount of the tax incentive will in no event be exceeded. The incentive was approved by the Portuguese authorities on 12 June 2000.

(17) The following table summarises the aid intensity of the measures described.

([4]) Approved by the Commission on 26 July 2000 (Commission letter SG(2000) D/106085 of 8 August 2000).
([5]) Approved by the Commission on 8 September 1999 (Commission letter SG(1999) D/07974 of 6 October 1999).

Table 3

(in EUR)

Incentive	Nominal incentive	Incentive gge	Incentive nge
Reimbursable loan	14 103 610 ([1])	5 074 471	3 673 917
Non-repayable grant	42 310 831	32 068 350	23 217 486
Tax incentive	20 450 235	14 612 896	14 612 896
Total	76 864 676	51 755 717	41 504 299

([1]) This amount corresponds to the reimbursable portion of the loan, i.e. EUR 56 414 441 (total amount) – EUR 42 310 831 (grant).

(18) The following data were used to calculate the net grant equivalent (nge) and the gross grant equivalent (gge) of the aid measures:

(a) The reference rate used to discount the amount of aid back to the date when the investment started (June 2000) and to calculate the interest savings on the reimbursable loan was 5,70 %, the rate applicable in Portugal in 2000.

(b) The gross grant equivalent was calculated by deducting the amount of aid from the nominal financial flows in relation to 2000.

(c) The net grant equivalent was calculated on the basis of the conversion rate set in Portugal's regional aid map [(nge = gge × (1-27,6 %)], as requested by the Portuguese authorities.

The net aid intensity of the aid (amount of aid in nge/total eligible costs) is therefore 29,4 % (EUR 41 504 299/EUR 141 036 103).

4. **Grounds for initiating the formal investigation procedure**

(19) On 9 July 2003 the Commission informed Portugal that it had decided to initiate the formal investigation procedure laid down in Article 88(2) of the EC Treaty in respect of the proposed State aid. It expressed doubts about:

(a) the company's eligibility for regional investment aid, in particular as regards the financial strength of Infineon Portugal;

(b) whether the application for financial support made by the beneficiary to the Portuguese authorities preceded the implementation of the project and whether the aid had already been disbursed;

(c) the calculations provided by Portugal on the nge and the aid intensity;

(d) the application of several reduction factors to the maximum aid intensity allowable under the Multisectoral Framework, namely the competition factor (T) and the capital-labour factor (I). In particular, the Commission did not have reliable information to ascertain definitively the characteristics of the market and could not rule out the possibility that the sector in question was in absolute or relative decline. It also doubted whether all existing jobs at the Portuguese plant would be safeguarded as a result of the investment project.

III. **COMMENTS FROM INTERESTED PARTIES**

(20) The Commission received comments from four interested parties: a research institute engaged in the development of back-end production processes, the Portuguese-German Chamber of Commerce, a Portuguese institute for the development of new technologies and a law firm that was acting for a competitor of Infineon. These comments were forwarded to Portugal by letter of 10 November 2003 and the Portuguese authorities presented their observations by letter of 15 December 2003.

(21) Three of the parties were in favour of the aid. They stressed the importance of maintaining back-end DRAM operations in Europe, namely for the downstream industries using DRAMs. They also mentioned the benefits to the Portuguese economy of having high value-added industries. They referred to the positive cooperation between Infineon Portugal and Portuguese universities, notably in the field of research. In their view, it is important for the EU to promote this type of investment, which attracts highly innovative SMEs, and to prevent such firms from relocating to Asian countries where generous State subsidies are available.

(22) The law firm acting for a competitor of Infineon was opposed to the aid. It argued that the Infineon group was in difficulty and was not, therefore, eligible for regional aid. It also contended that the DRAM market was faced with structural overcapacity and that, if the Commission were to approve the aid, its amount would have to be reduced significantly in order to avoid any undue distortion of competition. Lastly, it was argued that, if the Commission decided to reduce the amount of the proposed aid, Portugal should be required to submit a new notification because 10 months had elapsed and market conditions had changed since notification of the measure.

IV. **COMMENTS FROM PORTUGAL**

(23) In its comments on the initiation of the formal investigation procedure, Portugal provided evidence to the effect that the aid application had been submitted before work started on the project (letter of April 1999 from the beneficiary to the Portuguese Government requesting financial assistance for the investment). They also provided clear evidence that the aid had not yet been disbursed (declarations by Infineon Portugal's auditors, by the Portuguese Investment Agency and by the Finance Ministry).

(24) The Portuguese authorities also provided balance sheets and profit and loss accounts for Infineon Portugal for the period between 1998 and 2002.

(25) Portugal submitted corrected figures for the total costs and eligible costs of the investment. There were minor differences in some items and subtotals as compared with the figures previously provided but the aggregate amounts are unchanged. Portugal also stated that the investment amounts envisaged are all expressed at 2000 prices, so that no discounting should be carried out in calculating the nge and aid intensity of the measures.

(26) Following a request from the Commission, Portugal submitted detailed calculations of the nge and intensity of the aid measures. They indicated a net aid intensity of 29,4 %.

(27) As regards the market data requested by the Commission and necessary for calculating the competition factor, Portugal expressed the view that the criterion to be used was the average capacity utilisation rate (according to point 3.3 of the Multisectoral Framework) rather than apparent consumption. On this basis, the Portuguese authorities presented data showing that there was no structural overcapacity in the microchip market for the period 1998-2002.

(28) In the event of the Commission deciding to use apparent consumption data, Portugal claimed that the correct indicator was bit consumption and not transaction value. It argued that the Commission has already used this indicator in previous decisions under the Multisectoral Framework. It also pointed out that the Commission must take into account the market disturbance caused by the subsidies granted to the Korean DRAM manufacturer Hynix. The Commission itself acknowledged that these subsidies led to a 'dramatic decline' in DRAM prices in the Community in the period from 1998 to 2001 and imposed a countervailing duty of 34,8 % on Korean DRAMs. For these reasons, Portugal considers that the assessment of market development in value terms does not give a correct picture of the market.

(29) The Portuguese authorities also provided information on Infineon's share of the DRAM market (12,8 % in 2002) and gave an estimated share of 17,1 % for 2003. They concluded that its market share after completion of the investment project did not exceed 40 %.

(30) Concerning the Commission's request that Portugal justifies the number of jobs safeguarded by the investment, it was claimed that, given its previous scale of production and type of products, the Portuguese plant would not have managed to remain competitive without the investment and would have been forced out of the market (an estimate of the cost of closing down the plant was provided). Moreover, the increase of 150 % in total output as a result of the investment required extensive retraining to adapt the existing workforce to the new production processes. It was also claimed that back-end plants were clearly mobile because of low transport costs and increasing outsourcing of this type of operation. The example was given of a company in the DRAM sector which had to shut down its activity in Portugal after failing to invest in sustainable competitiveness.

(31) Portugal concluded that the Commission should take into account the 596 jobs that would be safeguarded, corresponding to all existing jobs before the investment took place. On top of this figure, 252 new production jobs created as a result of the investment should be taken into account. The total of 848 jobs corresponds to EUR 166 316 of new capital per job, implying a capital-labour factor of 1.

V. **ASSESSMENT**

A. **State aid within the meaning of Article 87(1) of the EC Treaty**

(32) Article 87(1) of the EC Treaty lays down that, save as otherwise provided, aid which distorts or threatens to distort competition by favouring certain undertakings or the production of certain goods is, in so far as it affects trade between Member States, incompatible with the common market.

(33) The financial measures to be taken by the State, namely a loan of EUR 56 414 441 and a tax incentive of EUR 20 450 235, have been notified by Portugal as aid measures. They involve State resources and will confer an advantage on the company, which otherwise would have had to bear the whole costs of the investment. Since competition and trade exist in this specific industry, financial advantages favouring a company relative to its competitors threaten to distort competition and affect trade between Member States. Consequently, the Commission considers that the measures must be regarded as State aid within the meaning of the abovementioned article.

B. **Eligibility of the firm**

(34) Data provided by Portugal show that Infineon Portugal incurred losses totalling EUR 1,4 million in 1998 and generated profits totalling EUR 21,2 million in 1999 and EUR 27,3 million in 2000. In 2001 and 2002 profits fell to EUR 15,7 million and EUR 4,4 million respectively. These data show that Infineon Portugal is financially sound despite diminishing profits in recent years.

(35) As mentioned above, Infineon Portugal is part of a larger group, the Infineon group. In the year when the investment project started (2000), the group generated profits of EUR 1 126 million and had total assets of EUR 8 853 million. At the end of the 2000 financial year equity amounted to EUR 5 806 million. In 2001, 2002 and 2003 the group made losses of EUR 591 million, EUR 1 021 million and EUR 435 million respectively. Equity at the end of 2001, 2002 and 2003 stood at EUR 6 900 million, EUR 6 158 million and EUR 5 666 respectively. The net cash position of Infineon in 2000 was EUR 875 million, falling to EUR 568 million in 2001 and to EUR 177 million in 2002. In 2003 this figure rose to EUR 328 million. In the two last quarters, i.e. 1 June 2003 to 30 September 2003 and 1 October 2003 to 31 December 2003, the company registered profits of EUR 49 million and EUR 34 million respectively.

(36) These figures show that, at the time of the investment, Infineon was a profitable company with a sound cash position and adequate equity. In 2001 and 2002 the company made losses but maintained an adequate level of equity. In the first half of 2003 Infineon made further losses but returned to profitability in the second half of the year.

(37) On the basis of the financial data above, the Commission considers that the proposed aid is not aimed at rescuing or restructuring a firm in difficulty and has, therefore, assessed it as regional investment aid.

C. **Notification requirement**

(38) The project cost of EUR 141,5 million exceeds the EUR 50 million threshold laid down in point 2.1(i) of the Multisectoral Framework. The cumulative aid intensity is 29,4 % of the eligible investment costs, which is over 50 % of the applicable regional aid ceiling of 32 %. In addition, aid per job created or safeguarded exceeds EUR 40 000. The project is, therefore, subject to the notification requirement laid down in point 2 of the Multisectoral Framework and has to be assessed accordingly.

(39) As regards the procedural aspects of the case, Portugal approved the tax incentive for Infineon Portugal in June 2000 and the loan in November 2001. However, the Portuguese authorities provided evidence that neither the loan nor the tax incentive had yet been disbursed. The Commission therefore regarded the aid as notified aid.

(40) As regards the incentive effect of the aid, Portugal submitted a letter from Siemens to the Portuguese authorities dated 9 April 1999, which explained in detail the planned investment and requested financial assistance for its implementation. This letter was sent by Siemens and not by Infineon Portugal since the spin-off of Infineon from Siemens had not yet produced any practical effects in Portugal. Since work on the project started after the aid application was submitted, the Commission considers that there was an incentive effect.

D. **The product concerned**

(41) According to Portugal, the investment concerns the production of DRAMs (Dynamic Random Access Memory). DRAMs fall under NACE code 32.10, which comprises the manufacture of electronic valves and tubes and other electronic components. They are semiconductors that store binary data. Semiconductors belong to the family of electronic components. DRAMs are the most common type of semiconductor memory and are used above all in PCs and low-cost products.

(42) DRAMs can be differentiated according to memory size (e.g. the quantity of data that can be stored on the chips). This size depends on the generation of chips. The product is subject to rapid technological change, with a new generation arriving on the market every three or four years. DRAMs can also be differentiated according to intended application (FPM-DRAM, EDO-DRAM, SDRAM or RDRAM) or to type of final product into which they are installed.

(43) Other types of memory chip exist such as SRAMs, EPROMs and flash memory. In general, they perform functions different from DRAMs and cannot be regarded as substitutes for them.

(44) DRAMs are basic products with standardised specifications. On the demand side, the same type of DRAM is therefore available to customers from various suppliers around the world. New generations of DRAMs compete with earlier ones. Customer preference for a particular type depends on cost effectiveness and the function of the DRAM in the end product.

(45) On the supply side, DRAM manufacturers can switch production between DRAMs of different capacity using the same manufacturing facility as the technologies employed are similar. However, switching between different generations of DRAMs at a given facility is, in general, not easy.

(46) In the light of the above considerations, the market for DRAMs is regarded as the relevant product market ([6]). No separate NACE classification exists for this market.

(47) Concerning the relevant geographic market, it can be noted that DRAMs are traded worldwide on the basis of the same classifications and marketing concepts. Transport costs are low and there are no structural barriers to market entry. Consequently, the world is regarded as the relevant geographic market.

E. **Assessment under the Multisectoral Framework**

(48) The Commission would first note that the aid complies with point 4.2 of the Guidelines on national regional aid ([7]) as the beneficiary's contribution to the financing of the investment exceeds 25 % and does not contain any aid.

([6]) This definition of relevant product market was also applied by the Commission in Case JV.44 Hitachi/Nec at points 14-20 (Decision of 3 May 2000).
([7]) OJ C 74, 10.3.1998, p. 9.

(49) In order to determine the maximum allowable aid intensity for a proposal to grant aid, the Commission must, under the Multisectoral Framework, identify the maximum aid intensity (regional aid ceiling) which a company could obtain in the assisted area concerned within the context of the authorised regional aid system valid at the moment of notification.

(50) Vila do Conde is situated in Grande Porto, a region lacking a strong regional economic structure where the maximum aid ceiling is 32 % nge for large enterprises ([8]).

(51) The Commission must then assess a series of adjustment factors that have to be applied to the figure of 32 % in order to calculate the maximum allowable aid intensity for the project in question, namely the competition factor (T), the capital labour factor (I) and the regional impact factor (M).

Competition factor (T)

(52) The Commission notes that the project will create new capacities in the European market and will thus affect this market.

(53) The authorisation of aid to companies operating in sectors which are in structural overcapacity poses particular risks for the distortion of competition. Any capacity expansion which is not compensated by capacity reductions elsewhere will exacerbate the problem of structural overcapacity. Pursuant to point 7.7 of the Multisectoral Framework, structural overcapacity is deemed to exist when, on average over the last five years, the capacity utilisation rate of the relevant sector or subsector is more than two percentage points below that of manufacturing as a whole. Serious structural overcapacity is deemed to exist when the difference with respect to the average for manufacturing is more than five percentage points.

(54) Pursuant to points 3.3 and 3.4 of the Multisectoral Framework, when sufficient data on capacity utilisation are available, the Commission has to limit the determination of the competition factor to the existence or otherwise of structural/serious overcapacity in the sector or subsector concerned. The (sub)sector should be established at the lowest segmentation of the NACE classification.

(55) The lowest NACE code corresponding to the manufacture of DRAMs is 32.10, which comprises all kinds of electronic components. DRAMs represent only a small share of this NACE code, and so the capacity situation at the aggregated level of NACE code 32.10 does not adequately reflect the situation on the market for DRAMs. The Commission therefore considers that analysis of the capacity situation is not applicable in assessing the competition factor.

(56) Pursuant to point 3.4 of the Multisectoral Framework, in the absence of sufficient data on capacity utilisation, the Commission will consider whether the investment takes place in a declining market. A market is deemed to be declining if, over the last five years, the average annual growth rate of apparent consumption of the product in question is more than 10 % below the annual average of the EEA manufacturing industry as a whole, unless there is a strong upward trend in the relative growth rate of demand for the product. The market is deemed to be absolutely declining if the average annual growth rate of apparent consumption over the last five years is negative.

([8]) Commission letter SG(2000) D/100638 of 19 January 2000.

(57) As pointed out above, the market for DRAMs is regarded as the relevant product market since substitutability with other memory chips is very limited. As DRAMs are traded worldwide, the world market is regarded as the relevant geographic market.

(58) The Commission would recall that, according to Portugal, Infineon has a 3,5 % share of the semiconductor market and a 12,8 % share of the DRAM market (data for 2002). Portugal estimated that Infineon had a market share of 17,1 % in 2003. Thus, the beneficiary's share of the world market for DRAMs did not exceed 40 %, even after the investment took place.

(59) Portugal submitted data on the growth rate of apparent consumption for DRAMs over the last five years, as required by the Multisectoral Framework. It agreed to take into account the data used by the Commission in its decision C 86/01 — Germany, Infineon Technologies SC 300 GmbH & Co. KG for the period 1995-2000. However, since new data are available for 2001 and 2002, they must be used in the present case.

(60) Portugal argued that, in order to analyse apparent consumption, the Commission should consider a five year period, e.g. 1998-2002, and not a six year period. The Multisectoral Framework refers to the average annual growth rate during the last five years. The Commission's practice is, therefore, to analyse apparent consumption for a six year period so as to calculate five growth rates ([9]). The Commission considers that, according to point 3.3 of the Multisectoral Framework, the reference period for the present case is 1997-2002.

(61) The relevant apparent consumption data for DRAMs over the period 1997-2002 are given in the table below ([10]).

Table 4

(in EUR million)

1997	1998	1999	2000	2001	2002	Average annual growth
17 594	12 514	19 431	31 285	12 453	16 179	– 1,66 %

(62) According to these figures, for the years 1997 to 2002, the average annual growth rate of apparent consumption in the market for DRAMs was – 1,66 %. In the previous period, i.e. between 1996 and 2001, the rate was also negative (– 9,13 %). However, if the period from 1998 to 2002 is considered (as requested by the Portuguese authorities), the rate is positive (6,63 %).

(63) The market for DRAMs is highly cyclical and characterised by strong fluctuations. Average annual growth rates in value terms differ significantly depending on the period under consideration. These fluctuations are due mainly to the fact that prices are extremely volatile. The reason for this is that the DRAM production process is characterised by relatively high sunk costs and low marginal costs. Consequently, prices can fluctuate over a very wide range since it is profitable for a company to produce DRAMs as long as marginal costs are covered. Only looking at the development of apparent consumption in value terms does not, therefore, give an adequate picture of the market for DRAMs.

([9]) See Commission Decision of 8 May 2001 (Wacker Chemie) and Commission Decision of 3 July 2001 (Kronoply).
([10]) Data provided by an independent research institute, VLSI Research Inc.

(64) The Commission also recognises that, in this specific case, the data on consumption in terms of transaction value do not provide a full and entirely representative picture of the situation on the market. As pointed out by the Portuguese authorities, the transaction values for apparent consumption were seriously affected by the disruption caused by the presence on the market of subsidised imports from the Korean manufacturer Hynix. One investigation that resulted in the imposition of a countervailing duty on DRAM imports from Hynix concluded among other things that these subsidised imports led to a dramatic decline in DRAM prices in the Community in the period from 1998 to 2001, and especially in 2001, when Hynix's import prices fell by 76 % ([11]). Once it had been concluded that the subsidised imports materially harmed the industry in the Community, a countervailing duty of 34,8 %, reflecting the level of subsidies granted to Hynix, was imposed on DRAM imports from that manufacturer.

(65) The movements in the average selling prices of DRAMs on the world market during the reference period are given in the following table ([12]).

Table 5

(in USD)

	1997	1998	1999	2000	2001	2002
	6,08	4,19	6,37	7,85	2,75	3,65
Movement		– 31,1 %	52,1 %	23,3 %	– 65,0 %	32,5 %

The table shows that DRAM prices on the world market fell by 65 % in 2001 and recovered only partially in 2002. Accordingly, the Commission takes the view that the transaction values of apparent consumption in 2001 and, to a lesser extent, in 2002 were adversely affected by the abnormally low prices resulting from the subsidised sales by Hynix.

(66) For the reasons given above, the Commission examined other information that was available in order to obtain a more reliable and full analysis of the market. The development of the world market in DRAMs can also be looked out in volume terms. The two most relevant and widely used volume statistics are unit shipments and megabytes. The movements on the world DRAM market during the reference period, as revealed by the statistics, are given in the following tables ([12]).

Table 6

Unit shipments

(values in millions of units)

1997	1998	1999	2000	2001	2002	Average annual growth
3 236	3 668	3 636	4 020	4 227	4 247	5,59 %

Table 7

Megabytes

(values in millions of megabytes)

1997	1998	1999	2000	2001	2002	Average annual growth
5 289	10 814	19 367	31 919	52 583	73 277	69,17 %

([11]) Commission Regulation (EC) No 708/2003 (OJ L 102, 24.4.2003, p. 7) imposing a provisional countervailing duty; Council Regulation (EC) No 1480/2003 (OJ L 212, 22.8.2003, p. 1) imposing a definitive countervailing duty.
([12]) *Source*: Gartner Dataquest (November 2003).

The above values reveal a consistently positive trend on the DRAM market during the reference period. It is important to point out that the market growth rate between 2000 and 2001 (5,1 % in terms of units and 64,7 % in terms of megabytes) is comparable to the average annual growth rate observed throughout the period. This fact is a strong indication that the transaction value of the particularly low level of apparent consumption recorded in 2001 is due primarily to the abnormal decline in prices that year. As recognised by the Commission and the Council in the two regulations mentioned above (see footnote 11), this price decline was due essentially to subsidised imports from Korea.

(67) When analysed together, the three indicators mentioned above (transaction value, volume in units and volume in megabytes) seem to indicate that, during the reference period, the DRAM market grew at a sustained rate, except in 2001, which was characterised by the exceptional market disruption resulting from an abnormal decline in prices.

(68) The Commission also requested information on the prospects for the DRAM market. According to the latest forecasts of the World Semiconductor Trade Statistics (see table below), the average annual growth rate of the global market for semiconductors between 2003 and 2005 will be 15,4 %. The outlook for the memory segment (including SRAMs, DRAMs and non-volatile memory products) is also positive. The average annual growth rate of the global market for memory products between 2003 and 2005 is expected to be 21,6 %.

Table 8

(in USD million)

	2003	2004	2005
Semiconductors	160 711	191 861	216 051
% growth	14,2 %	19,4 %	12,6 %
Memory	31 712	40 912	48 522
% growth	17,3 %	29,0 %	18,6 %

(69) Information from an independent source (Gartner Dataquest) also confirms that the prospects for the DRAM market are very positive.

Table 9

(in USD million, millions of units and millions of megabytes respectively)

	2003	2004	2005
Transaction value	18 095	26 647	36 000
% growth	16,9 %	47,3 %	35,1 %
Unit shipments	4 810	5 584	5 855
% growth	13,3 %	16,1 %	4,9 %
Megabytes	112 426	170 036	262 690
% growth	53,4 %	51,2 %	54,5 %

(70) A restrictive analysis of the information in terms of transaction values given above indicated that the DRAM market was in absolute decline during the relevant period. However, a market analysis in volume terms (unit shipments and megabytes) came to the conclusion that, in fact, the market grew at a faster rate than manufacturing industry in the EEA as a whole. Clearly, the subsidised DRAM imports from Korea had a negative effect on world prices and hence on the value of the market in 2001 and, to a lesser extent, in 2002. Given this exceptional market development, the Commission considers that, in this specific case, the statistics in volume terms probably give a truer picture of market developments during the reference period. However, the data in terms of megabytes may be significantly influenced by technological advances in the industry (increase in DRAM volume in bits). Consequently, the Commission takes the view that, in the present case, market developments are better reflected by the data in terms of unit shipments and concludes that 5,59 % is a cautious and reasonable estimation of the average growth rate of the DRAM market during the reference period.

(71) As mentioned above, in accordance with the Multisectoral Framework, a market is considered to be in decline if, during the reference period, the average annual growth rate of apparent consumption of the product in question is more than 10 % lower than the annual average for EEA manufacturing industry as a whole. During the period 1997-2002 the EEA manufacturing industry grew at an average rate of 4,84 %. Since the average annual growth rate for the DRAM market during the reference period was higher, the Commission takes the view that the market was not in decline and the competition factor is set at 1.

(72) Lastly, the Commission notes that Infineon is currently under investigation for allegedly having participated in a cartel in the DRAM sector […]. It is also aware that Infineon is involved in a dispute concerning an alleged infringement of patent rights in the United States of America. The investigation in particular may have a major impact on the market analysis presented above. However, no definitive conclusions have as yet been reached in either case and it is not possible at this stage to take account of their potential impact on the market. The Commission would remind the Portuguese authorities that, if the information on the basis of which the conclusions were reached proved to be incorrect as provided for in Article 9 of the Procedural Regulation ([13]) or if, as a result of the proceedings referred to above, it was subsequently concluded that the effect of the alleged infringements of the competition rules was not negligible, the Commission fully reserves the right to reassess the market situation on the basis of a new analysis and, if necessary, to repeal this decision.

Capital-labour factor (I)

(73) For highly capital-intensive projects, the Multisectoral Framework lays down a capital-labour factor which is designed to adjust the maximum intensity with a view to favouring those projects which contribute effectively to the reduction of unemployment by creating a relatively larger number of new jobs. This criterion also takes into account the possible distorting effect of the aid on the price of the final product.

(74) According to Portugal, the project led to the creation of 264 direct jobs distributed as follows.

Table 10

Sector	Direct jobs
Assembly	131
Testing	116
IT	11
Quality control	6
Total	264

([13]) Council Regulation (EC) No 659/1999 of 22 March 1999 laying down detailed rules for the application of Article 88 of the EC Treaty (OJ L 83, 27.3.1999, p. 1).

(75) However, Portugal explained that 12 jobs disappeared at the same time. It thus considered that the net direct job creation directly linked to the project was 252.

(76) The Commission considers that the 252 direct jobs created as a result of the investment can be taken into account as this is a reasonable figure for a capacity increase of 150 %.

(77) Portugal moreover stated that all the existing jobs at Infineon Portugal (596 jobs) were safeguarded thanks to the investment. According to Portugal, the Infineon group has located its back-end operations in Portugal and Malaysia. If the investment project had not been carried out in Portugal, it would have transferred all its back-end operations to Malaysia, which would have implied that all the jobs in Portugal would have been lost. This fact is supported by the following evidence:

(a) Portugal produced evidence that the estimated cost of transferring the Portuguese operations to Malaysia was quite low, taking into account the costs of transporting equipment, the compensation paid to workers, the repayment of State subsidies and the gain from the sale of land and buildings.

(b) Operating costs in Malaysia are much lower than in Portugal. Most back-end operations are located in South East Asia, where the conditions for investment are more attractive thanks to such factors as lower wages (about 50 % of labour costs in Portugal), more flexible labour markets, availability of skilled personnel, lower training costs, lower cost of utilities (energy, water, gas), lower land and civil engineering costs, proximity to clients, availability of suppliers, more flexible policy on subsidies, preferential tax treatment and less stringent environmental requirements.

(c) One DRAM manufacturer (TI/Samsung) which employed 740 workers closed down its operations in Portugal before Infineon established a plant in the area. Infineon immediately took on 100 of those workers. In the present case, there is no alternative plant in the DRAM sector in Portugal which could take on Infineon's workers.

(d) Before the investment took place, most of Infineon's workers were directly or indirectly involved in the production process (an estimated 489 jobs including production lines, research, quality control, etc.). The production jobs were occupied mostly by low skilled workers who had received intensive specific training (geared to the equipment used) and some of whom (in particular those from TI/Samsung) are quite old. It is therefore reasonable to assume that their employability is rather limited.

(e) As a result of the investment, extensive retraining was needed for the production of higher capacity DRAMs as well as for the introduction of the new product (board on chip).

(f) The old products (16 MB and 64 MB chips) were discontinued after the investment took place. Only the new higher-capacity chips are currently being produced.

(78) The Commission concludes that there was, in fact, a significant probability that the Portuguese operations would have been shut down had the investment not taken place.

(79) Accordingly, the Commission considers that the new investment has safeguarded 596 existing jobs and created 252 new jobs, giving a total of 848 jobs. The capital labour factor for an eligible investment of EUR 141 036 103 that results in the creation and safeguarding of 848 jobs corresponds to a ratio of EUR 166 316 per job. The 'I' factor for adjustment of the maximum intensity is, therefore, set at 1.

Regional impact factor (M)

(80) The regional impact factor takes into account the beneficial effects of a new aided investment on the economy of the assisted region. The Commission considers that job creation can be used as an indicator of a project's contribution to the development of a region. A capital-intensive investment may create a significant number of indirect jobs in the assisted region concerned and any adjacent assisted regions. Job creation in this context refers to jobs created directly by the project together with jobs created by first-tier suppliers and customers in response to the aided investment.

(81) According to Portugal, the project has led to the creation of 30 indirect jobs in the region. These indirect jobs were created at local suppliers of instruments and services. Since the figure is modest in relation to the amount of the investment, the Commission presumes that the data are correct. Moreover, even if no indirect jobs were taken into account, this would have no influence on the determination of the regional impact factor. Therefore, the Commission sets the regional impact factor (M) at 1.

Maximum allowable aid

(82) In view of the foregoing, the maximum allowable aid intensity is calculated as follows: 32 % × 1 × 1 × 1 = 32 % net. The proposed aid of EUR 41 504 299, equivalent to an aid intensity of 29,4 % net, that Portugal intends to grant to Infineon Portugal for its investment at Vila do Conde is thus below the maximum allowable aid intensity, calculated on the basis of the Multisectoral Framework.

Ex post monitoring

(83) For each aided project approved by the Commission under the Multisectoral Framework, the Commission requires either that any aid contract between the relevant authority of the Member State and the aid recipient contains a reimbursement provision in the event of non-compliance with the contract or that the final significant payment of the aid (e.g. 25 %) will be made only when the aid beneficiary has satisfied the Member State that the execution of the project is in compliance with the Commission decision and on condition that the Commission, on the basis of information provided by the Member State concerning implementation of the project, has, within 60 working days, indicated its agreement or raised no objections to the final payment of the aid.

(84) The Commission notes that the investment has recently been completed and that no aid has yet been disbursed, pending its decision. According to Portugal, the investment has been carried out as planned. In particular, the number of jobs created and the total investment amount correspond to those mentioned above.

(85) Accordingly, the Commission considers that Portugal has complied with its obligations under point 6 of the Multisectoral Framework.

VI. **CONCLUSION**

(86) In the light of the above considerations, the Commission concludes that the aid amount proposed satisfies the conditions necessary for it to be regarded as being compatible with the common market,

HAS ADOPTED THIS DECISION:

Article 1

The State aid which Portugal plans to grant to Infineon Technologies, Portugal, SA satisfies the conditions necessary for it to be regarded as being compatible with the common market. Implementation of the aid of EUR 41 504 299 in net grant equivalent is, therefore, authorised on the basis of the facts currently available.

Article 2

This Decision is addressed to the Portuguese Republic.

Done at Brussels, 16 March 2004.

For the Commission
Mario MONTI
Member of the Commission