



**EUROPEAN COMMISSION**  
EUROPEAN ANTI-FRAUD OFFICE (OLAF)  
**Protection of the EURO**

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## **THE PROTECTION OF EURO COINS IN 2008**

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## 1. INTRODUCTION

This report presents the activities of the European Technical & Scientific Centre (ETSC) and of the situation as regards coin counterfeiting in the year 2008. Section 2 of the report gives first an overview of the evolution of euro coin counterfeiting in 2008. Sections 3 and 4 then present the regular and specific activities that the ETSC has carried out in 2008 in order to reinforce the protection of euro coins.

## 2. SITUATION WITH REGARD TO COUNTERFEIT EURO COINS

A first distinction that has to be made on counterfeit euro coins is between those detected in circulation and those seized before circulation. The latter are usually seized by police before causing financial damage, whereas the former are generally detected in coin sorting centres, operated by National Central Banks or private sector CIT (cash-in-transit) companies.

### 2.1. Counterfeit coins seized in circulation

The total number of counterfeit euro coins removed from circulation in 2008 reached 195 900, a decrease of about 7% from 2007.

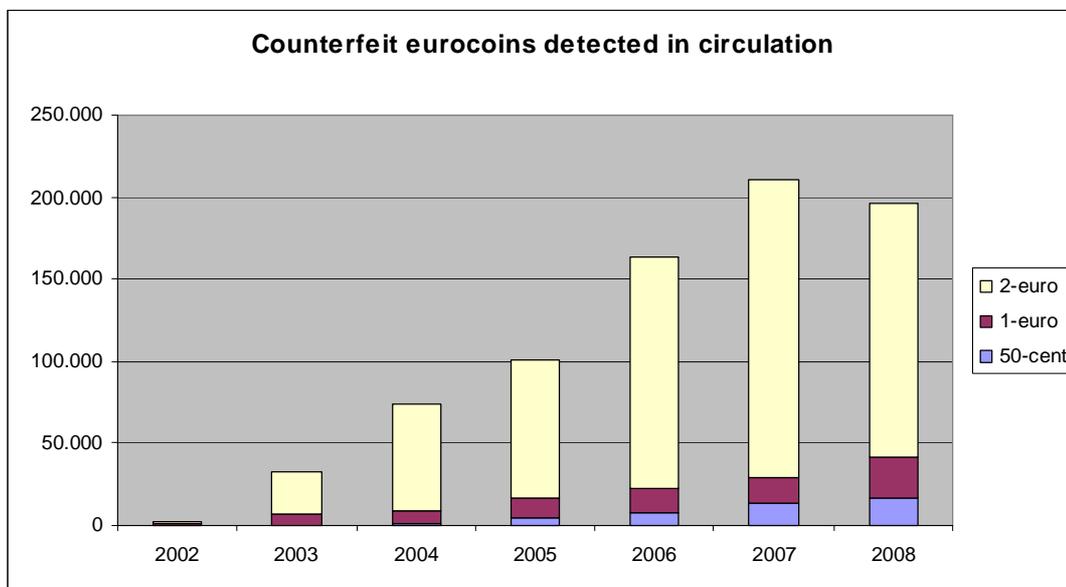
The breakdown by denomination of counterfeits found in circulation for the last four years is shown below:

<b>Counterfeit euro coins detected in circulation, 2005 – 2008*</b>				
	<b>50-cent</b>	<b>1-euro</b>	<b>2-euro</b>	<b>Total</b>
<b>2008</b>	16 600	24 500	154 800	195 900
<b>2007</b>	13 000	16 200	181 900	211 100
<b>2006</b>	8 300	14 100	141 400	163 800
<b>2005</b>	4 000	12 800	83 700	100 500

\* The figures comprise both stamped counterfeits (common classes) and cast counterfeits (local classes).

The number of 2-euro counterfeits decreased by 15%, although this denomination remains by far the most counterfeited euro coin. Counterfeit coins of 50-cent and particularly 1-euro increased strongly, by 28% and 51%, respectively. Overall, more than 780 000 counterfeit euro coins have been removed from circulation since the introduction of the euro coins in 2002.

The evolution since the introduction of euro coins in 2002 is given in the following chart:



The progression in the number of counterfeit euro coins removed from circulation reflects, to a large extent, the efforts Member States are making to implement Commission Recommendation of 27 May 2005 concerning the authentication of euro coins. As a result of these efforts, the number of counterfeits removed from circulation increased more rapidly than before in 2006 and 2007, thus making euro coins even safer for users.

In 2008, several Member States completed the implementation of the Recommendation and consolidated the number of counterfeits removed from circulation, while the numbers of counterfeits removed declined sharply mainly in those Member States in which coin authentication does not take place systematically and where, therefore, detection of counterfeits is much more subject to variations.

In addition to the consolidation the authentication efforts by Member States, some slowdown in the new counterfeiting activity seems to have taken place. This is shown by the number of new types of counterfeit coins discovered, which is smaller in 2008 compared to past years.

Counterfeit euro coins were found in all Member States of the euro area in 2008, with the exception of Cyprus. Germany remains the country where most counterfeit coins are found, but its share has come down the last two years to around 40%, which demonstrates progress made in other countries. Small amounts of counterfeit euro coins are also detected in Member States which are not part of the euro area and third countries.

Overall, the number of counterfeit coins detected in circulation in 2008 remains significantly lower than the sum of counterfeit coins in the euro area countries before the introduction of the euro, although the situation is different among Member States. The number is also very small from an international perspective and by comparison to the 82 billion (genuine) euro coins or the 15 billion of the three highest denominations.

## 2.2. Counterfeit coins seized before circulation

In addition to the counterfeit euro coins removed from circulation, counterfeits are regularly seized before they enter into circulation, mainly in the framework of police operations. These include dismantling of clandestine mints, but also seizures of significant quantities from persons that might, in one way or another, be involved in the distribution of counterfeit coins. These seizures occur irregularly and the number of counterfeits seized before circulation therefore varies significantly from year to year.

The number of counterfeit coins seized before circulation in 2008 was around 11.000. The breakdown per denomination of counterfeit euro coins found before circulation and registered in the CMS for the last four years is shown below:

<b>Counterfeit euro coins detected before circulation, 2005 – 2008*</b>				
	<b>50-cent</b>	<b>1-euro</b>	<b>2-euro</b>	<b>Total</b>
<b>2008</b>	1	2	11 200	11 203
<b>2007</b>	8	66 700	23 200	89 908
<b>2006</b>	3	13 000	750	13 753
<b>2005</b>	50	50	3 500	3 600

\* The figures comprise both stamped counterfeits (common classes) and cast counterfeits (local classes).

One more illegal mint was dismantled by law enforcement, in March 2008. The operations, located in Austria, had just started producing 50-cent counterfeits. A small number of counterfeits was seized and no counterfeit of this type has been found in circulation up to now. This brings to 15 the total number of illegal mints discovered since the introduction of the euro currency in 2002.

In addition, the Italian Carabinieri marked an important success, in April 2008, against the distribution network of a major counterfeiting class. Under the operation 'Dante Alighieri' 6 persons were arrested that had been involved in the distribution of a particularly sophisticated class of 2-euro counterfeit. About 700 counterfeits were also seized at that occasion.

Overall, about 280.000 counterfeit euro coins have been seized before circulation since 2002.

## 2.3. Common classes (stamped counterfeit coins)

Counterfeit coins detected in the Member States are analysed by Coin National Analysis Centres (CNACs). They are classified by reference to already identified

counterfeit types. Counterfeits that cannot be classified to one of the already identified types are sent to the ETSC in order to create a new class or variant.

A distinction is made between common classes and local classes. Local classes correspond to cast counterfeit coins, usually produced in smaller quantities. These are considered in the next section.

Common classes are counterfeits made with a stamping process, similar to the one used in official minting. Variants are sub-types of classes.

### 2.3.1. Creation of common classes

The total number of families of counterfeits (common classes) created by the ETSC continued to rise substantially in 2008, indicating a potential increase in the number of illegal mints producing counterfeit euro coins. In particular, 12 common classes were created in 2008, a development similar to but lower than previous years. The number of common classes created by the ETSC for each year since the introduction of euro coins is indicated in the table below.

<b>Number of newly identified common classes</b>				
	<b>50-cent</b>	<b>1-euro</b>	<b>2-euro</b>	<b>TOTAL</b>
<b>2002</b>	1	5	5	11
<b>2003</b>	6	4	5	15
<b>2004</b>	11	3	8	22
<b>2005</b>	9	3	6	18
<b>2006</b>	6	5	3	14
<b>2007</b>	7	6	2	15
<b>2008</b>	6	2	4	12
<b>TOTAL</b>	46	28	33	107

The total number of classes has now risen to 107 for the three highest denominations. Despite the large number of common classes, the bulk of counterfeit coins is still concentrated. In particular, one common class represented in 2008 almost 40% of the total number of registered counterfeits (found in circulation). For the 50-cent denomination, a majority of the counterfeits found in circulation belongs to a single class. In total, six classes are responsible for more than 75% of the total number of counterfeits found in circulation. Except for one, no illegal mint has been dismantled for any of those classes.

Of the total number of classes, 17 were connected to the clandestine mints that have been dismantled until now and six classes are linked to another class. This leads to the conclusion that there are illegal mints that are producing or have produced up to 84 classes of counterfeit euro coins and that remain undiscovered to date.

### 2.3.2. Creation of variants

Within the common classes, the diversity of counterfeit euro coins has also continued to increase significantly, reflecting an intense and continuing activity of counterfeiters, producing new minting tools and additional quantities of counterfeit coins. In 2008, 40 new variants were created, which is lower than in previous years. This brings their total number to 475.

The number of variants (including new classes) created by the ETSC for each year since the introduction of euro coins is indicated in the table below.

<b>Number of newly identified common classes + variants</b>				
	<b>50-cent</b>	<b>1-euro</b>	<b>2-euro</b>	<b>TOTAL</b>
<b>2002</b>	1	14	19	34
<b>2003</b>	6	7	50	63
<b>2004</b>	12	12	72	96
<b>2005</b>	12	7	81	100
<b>2006</b>	10	9	51	70
<b>2007</b>	10	18	44	72
<b>2008</b>	8	6	26	40
<b>TOTAL</b>	59	73	343	475

The variants describing all counterfeit types detected include national sides of all countries that have issued euro coins until 2008, except for Slovenia, Malta and Cyprus and the three states having a monetary agreement on the euro (Vatican, San Marino and Monaco).

In addition to the usual circulation coins, counterfeits have been found of commemorative euro coins, i.e. 2-euro coins with specific national sides.

### 2.4. Local classes (cast counterfeit coins)

The number of cast counterfeit coins detected as well as the percentage of the total number of counterfeits in circulation are shown in the table below.

<b>Cast counterfeit coins</b>							
<b>Year</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>
<b>Number</b>	756	1172	405	384	64	275	310
<b>Percentage</b>	34.85%	3.58%	0.54%	0.38%	0.04%	0.13%	0.16%

Cast counterfeit coins mainly concern the 2-euro denomination. They are generally of a relatively low quality and quantity.

### **3. REGULAR ACTIVITIES OF THE ETSC**

The primary mission of the ETSC is the technical/scientific analysis and classification of common classes of counterfeit coins. This type of activity is already covered in chapter 2.

The Council attributed the coordination of the activities of the competent technical authorities to protect euro coins against counterfeiting to the Commission. This coordination takes place mainly in the Counterfeit Coin Experts Group but materialises also through the cooperation with coin related and other groups.

#### **3.1. Counterfeit Coin Experts Group (CCEG)**

The Counterfeit Coin Experts Group (CCEG), chaired by the Commission/OLAF, is the basic group serving to co-ordinate Member States' technical actions with respect to the protection of the euro coins against counterfeiting, in line with Council Decision of 8 December 2003 and the Commission Decision of 29 October 2004. The CCEG meetings bring together the Heads of the Coin National Analysis Centres (CNACs), the ETSC as main player, the ECB and Europol.

The CCEG held three meetings in 2008. These have enabled the exchange of information on subjects emerging from the daily work at the CNACs and the ETSC and allowed for discussing some of the specific initiatives (see below). In addition, the following cases of medals and tokens in the framework of the Council Regulation 2182/2004 of 6 December 2004 concerning medals and tokens similar to euro coins have also been discussed:

- a series of 8 medals resembling the series of Vatican coins depicting pope John Paul II: the Commission and the CCEG opined that the designs for those medals were indeed similar to the euro coins;
- three medals, bearing references to Cyprus, Malta and Slovenia: the Commission and the CCEG considered the designs of the two medals concerning Cyprus and Malta sufficiently different from euro, the design of the Slovenian medal was considered similar to the Treaty of Rome commemorative coin of Slovenia;

- a series of 7 medals, mentioning the Vatican, Slovakia, Germany, Luxemburg and Monaco: the Commission and the CCEG were of the opinion that the design of the ‘common side’ of those medals was similar to the common-side design of 2-euro coins and that one Slovakian medal and the German medal also showed similarity to the national designs of genuine euro coins.

### **3.2. Other institutional groups**

Also in 2008, the ETSC has regularly informed the following groups about the situation of coin counterfeiting and discussed possible actions to be undertaken:

- The Mint Directors Working Group (MDWG), which brings together the heads of the Mints of the EU Member States. In that framework, Commission/OLAF promotes and cooperates in the elaboration of a study concerning higher security characteristics for coins; and has initiated a study on the measurement of the conductivity of euro coins.
- The international Mint Directors Conference (MDC), comprising participants from official mints throughout the world, as well as industrial observers. In the framework of the MDC’s Technical Committee, OLAF chairs the Subcommittee on counterfeit and unfit coins, aimed at better authentication of circulating coins and stronger international cooperation in technical matters and with law enforcement.
- The Euro Coin Sub-Committee (ECSC) of the Economic and Financial Committee, which brings together representatives from the coin issuing authorities of the Member States. Commission/OLAF initiatives are systematically discussed in that group.
- The Euro Counterfeiting Experts Group (ECEG), functioning in the framework of the Advisory Anti-fraud Coordination Committee (Cocolaf). This group, chaired by OLAF, brings together counterfeit experts from law enforcement, central banks and ministries.
- The ECB’s Counterfeit Working Group (CWG) concerning counterfeit banknotes. Also, the ETSC continues to contribute to the improvement and testing of the CMS database, which is administered by the ECB.
- Europol’s Forgery of Money Group. The ETSC highlights the counterfeit coin aspects at the Europol meetings and provides assistance to Europol and National Central Offices (NCOs). The ETSC also maintains contact with the Counterfeit Currency Unit of the General Secretariat of Interpol.
- The Euro Cash User Group (ECUG). Meetings are organised by the Commission and the ECB in order to inform the main users of euro cash in the private sector about developments concerning euro banknotes and coins, including counterfeits.

### **3.3. Cooperation with private sector coin-operated industry**

In 2008, the cooperation continued with the coin-processing and coin-operated industry, with a view to enabling better prevention of fraud in this domain. The Commission/OLAF keeps the coin-operated industry informed of technical

developments regarding counterfeits, foreign coins and other objects, so that equipment may be adjusted to safely reject these objects.

Besides the meetings mentioned above of the ECUG and ad-hoc meetings with representatives from the industry, a specific workshop was organised in January 2008 on coin authentication. At this workshop, the industry gave feedback on the implementation of the Commission Recommendation on authentication. Also, the publication on the OLAF website of a list of coin-processing machines, which includes machines that have been successfully tested on their detection capabilities of counterfeit coins, was discussed at the workshop. Following the workshop, the first version of the list was published and has been regularly updated. The number of machines on the list has been growing steadily over the year and reached 33 at the end of 2008. It can be found on the following address: [http://ec.europa.eu/anti\\_fraud/pages\\_euro/euro-coins/machines.pdf](http://ec.europa.eu/anti_fraud/pages_euro/euro-coins/machines.pdf)

The ETSC, in close collaboration with the French CNAC, continued to organize and receive in Pessac a number of test sessions with coin mechanism manufacturers, aimed at updating sorting and coin validating equipment in the recognition of euro coins and the rejection of counterfeits.

#### **4. SPECIFIC INITIATIVES CONCERNING THE PROTECTION OF EURO COINS**

##### **4.1. Pericles actions for the protection of euro coins**

The 'Pericles' Programme is a Community financing facility aimed at reinforcing the protection of the euro banknotes and coins against counterfeiting, by means of seminars, conferences, staff exchanges, studies and other actions undertaken by Member States or the Commission. In the year 2008, in addition to other activities, the Pericles Programme financed a number of initiatives specifically or equally oriented to the protection of euro coins, as follows.

Counterfeit currency manual. The Commission, in cooperation with Europol, the European Central Bank and experts from Austria, Belgium, France, Germany, Italy and Interpol has been working on a counterfeit currency manual, in two different formats. A simplified form of this manual, entitled "Counterfeit euro? What to do", helps police officers in recognising counterfeits and outlines the first measures to take when first discovering a counterfeit euro banknote or coin. In 2008, 400.000 copies of the booklet have been published and distributed to law enforcement throughout the EU.

An advanced form of the manual, containing more detailed information for counterfeit experts, as well as analyses of technical, institutional, operational and legal issues regarding counterfeiting, was finalised and is expected to be completed in 2009.

The 'ETSC Work Team'. The Pericles programme also financed the Commission's initiative for the "ETSC Work Team for technical support to law enforcement on counterfeit euro coins". The Work Team chaired by OLAF, held one regular and two technical meetings in 2008.

The main topics discussed at the regular meeting were the following:

- Use of technical data on euro coin for law enforcement.
- Technical database on clandestine print shops & mints.
- Summary sheets for law enforcement on selected coin classes.

The technical meetings focused on issues related to the technical analysis of counterfeits by coin experts, covered notably the following topics:

- Improvement of support tools for classification by experts of counterfeits.
- Estimation of the counterfeit ratio for coins in circulation.
- Action to be taken in case of particularly dangerous counterfeits.

Training. The ETSC provided training on counterfeit euro coin analysis and classification to representatives of law enforcement agencies from the EU Member States as well as from Europol on the ETSC premises in Pessac on 16-17 April 2008.

The ETSC also participates regularly in seminars concerning the protection of the euro organised under the Pericles programme. One of these events was the Euro South-East conference, held in Nicosia from 2 to 6 November 2008, which featured a specific workshop on counterfeit euro coins.

#### **4.2. Coin-related legislative developments**

During the year 2008, significant developments took place concerning legislation to protect the euro. A total of four legislative texts were amended by the Council on 18 December 2008, acting on proposals made by the Commission.

##### Amendment of Council Regulation 1338/2001

Council Regulation (EC) No 1338/2001 of 28 June 2001 lays down the basic measures necessary for the protection of the euro banknotes and coins against counterfeiting.

The main modification of the adopted amendment concerns the obligation for credit institutions and other cash handlers to check the authenticity of euro banknotes and coins before they are re-circulated. This obligation will be effective by 31 December 2011, at the latest, and is expected to have a major impact on the effective detection and removal from circulation of counterfeit euro coins. This impact is already felt in some Member States following the implementation of the Commission Recommendation of euro coin authentication, of 27 May 2005. Another modification to the Regulation, explicitly authorises the transport of counterfeits by competent authorities for the purpose of analysis.

Also Council Regulation 1339/2001, which extends the effects of the above Regulation to Member States that have not adopted the euro as their single currency, was amended. For these Member States, the required authentication must be performed by trained staff or by machines successfully tested to identify counterfeit banknotes and coins.

## Amendment of Council Regulation 2182/2004

Council Regulation (EC) No 2182/2004 established rules designed to avoid confusion between euro coins and medals/tokens similar to euro coins. The amendment adopted on 18 December 2008 aims to strengthen the protective measures and to increase transparency.

The most important modification prohibits medals and tokens, not only when their overall design is similar to those appearing on euro coins, but also when characteristic parts of the designs are similar. These design parts may be common, such as the geographical representation of Europe, or symbols representative of national sovereignty of Member States, such as the effigies of the Head of State and the coat of arms.

Also Council Regulation 2183/2004, which extends the effects of the above Regulation to Member States that have not adopted the euro as their single currency, was amended.

## Evaluation of the Commission Recommendation of 27 May 2005

In Article 12 of the Commission Recommendation of 27 May 2005 concerning authentication of euro coins and handling of euro coins unfit for circulation, it is provided that “three years after the publication of this Recommendation, the present rules will be evaluated in the light of the experience gained (...)”. This evaluation process was finalised in 2008 following extensive consultation of many stakeholder groups and lead to an evaluation report. In particular, two further workshops were organised begin 2008 with experts from Member States, following a first workshop organised in 2007.

The evaluation comprised a detailed examination of the different measures put in place by Member States and was particularly important in view of preparing the legal provisions for implementing the authentication obligation for coins, introduced in the above-mentioned amendment of Council Regulation 1338/2001.

The evaluation showed that the provisions of the Recommendation regarding the authentication of euro coins have been implemented in a satisfactory way in a growing number of Member States. Moreover, it has opened the way for a unified system of authentication of euro coins throughout the euro area. In particular, Austria, Belgium, France and Germany and the Netherlands have reached high standards of implementation. In all these countries, the coin sorting centres, operated by cash-in-transit companies (CIT) or by local branches of the National Central Bank (NCB), form the backbone of the implementation.

The focus on the three highest denominations seemed appropriate. In terms of checks, annual testing of each coin-processing machine is not feasible in all Member States; thus an appropriate sampling seems to be necessary. The relevance of the detection test was confirmed. Experience has also shown that by implementing the authentication procedures, a substantially larger proportion of coins can be authenticated each year compared to the 10% indicated in the Recommendation.

Concerning the handling of coins for circulation, it was considered essential to establish the principle that Member States reimburse coins that have become unfit due to long circulation. However, coins deliberately altered should in principle not be reimbursed. For the removal of unfit coins, it seemed that the definition of a specific fitness test was not feasible and that the removal of coins rejected in the sorting process can be expected to eliminate already a large proportion of unfit coins from circulation.

In line with the conclusions of the evaluation, the Commission has stated its intention to propose in 2009 legally binding measures on coin authentication and the handling of unfit coins, based on the Recommendation and taking into account the evaluation carried out in 2008.

### **4.3. Cooperation with third countries**

Euro coins circulate not only within the EU but also outside its territory. It can be expected that the same holds for counterfeit euro coins. In order to protect euro coins outside the EU, OLAF/ETSC signed two cooperation arrangements in 2008 with two third countries.

On 19 May 2008, the Cooperation Arrangement was signed with the Croatian National Bank. This was followed by a similar Arrangement signed on 30 May 2008 with the Central Bank of Montenegro.

These arrangements provide the exchange of technical data concerning counterfeit euro coins detected in the two countries concerned. Also, technical assistance from the ETSC is envisaged, in order to enable the countries in question to set up a Coin National Analysis Centre and perform the analysis and classification of counterfeit euro coins.

### **4.4. Other potential threats to euro coins**

Besides counterfeiting, there are other potential threats for the use of euro coins in hand-to-hand transactions and vending machines. These threats include foreign coins, slugs, blanks, medals and tokens similar to euro coins. The latter two have already been discussed in section 3.1.

Concerning foreign coins, following discussions between the Commission and the Turkish authorities, the latter announced their intention to replace the existing coins in 2009 with a new series of coins. The new series of Turkish coins were specified in a way that increases the differences with euro coins. They were effectively introduced on 1 January 2009. Besides the technical differences, the visual appearance of the new Turkish coins for 1-Lira and 50-Kurus has been thoroughly modified. This has been achieved with an inversion of the metal alloys (and colours) between the inner and outer parts and particular attention in the selection of the final coin designs. The new Turkish coins should be safely different from euro coins, both from a technical as from a visual point of view, and the risk of confusion seems to be minimised.

The ETSC also replied to inquiries from private citizens on potential confusion of euro coins with the Turkish 1-Lira coin and the Thai 10-Baht coin.

Slugs are coin-like objects specifically produced to imitate the physical properties of genuine coins and are typically aimed at fraudulent use in vending machines. Several cases have been reported by Member States to the ETSC, but the quantities involved are relatively low and need to be addressed mainly at national level.

Some blanks, intended for minting genuine euro coins, have been detected in circulation. As the materials of the blanks correspond to the materials used for the euro coins, it is difficult to detect them in vending or sorting machines. The quantities involved are relatively low and require action mainly at national level.

## 5. CONCLUSIONS

Following successful efforts by the competent authorities of Member States and by Commission/OLAF, the number of counterfeit euro coins removed from circulation has been contained, in 2008, at levels below the ones recorded the year before. At nearly 196 000 pieces in 2008, the number of these counterfeits is 7% lower than in 2007.

This development reflects, to a large extent, the successful implementation of the Commission Recommendation on 27 May 2005, concerning coin authentication. Indeed, efforts undertaken by most of the euro area Member States in the years 2005, 2006 and 2007 resulted in removing larger numbers of counterfeit coins from circulation, following which the situation seems to have gone to a steady-state. At the same time, successful law enforcement operations enabled the dismantling of 15 illegal mints since the introduction of the euro currency, thus inflicting decisive blows to this criminal activity.

As a result, euro coins are now even safer for users. In addition, all known counterfeits can be rejected in well adjusted vending and sorting machines.

It is noted that some euro area Member States are lagging behind in the implementation of coin authentication methods. In these countries, the number of counterfeit coins removed from circulation declined sharply in 2008. In addition, despite the successful law enforcement operations, the bulk of illegal mints have not been discovered, producing over 80 families of counterfeits. These families include the 6 major common classes that account for over 75% of the counterfeit coins removed from circulation. It is important in this respect that the strong increase in 1-euro counterfeits in 2008 is due to a single new counterfeit class.

The year 2008 was particularly important on the legislative side. The rules aiming to avoid medals and tokens similar to euro coins have been strengthened. More importantly, the adoption of the amended Council Regulation 1338/2001 will make it mandatory for professional cash handlers to ensure the authenticity of euro coins is checked before they are re-circulated as of 2012. Preparations have already started to define the implementing provisions for this obligation in an effective and efficient way.

The above considerations indicate that the system for the protection of euro coins is functioning efficiently. However, continuous vigilance and cooperation is necessary to better guarantee the credible use of euro coins. Specifically, the thrust of future action will need to be directed towards the following issues:

- a) Further progress in the implementation of authentication procedures by all Member States.
- b) Further law enforcement action to discover the remaining important illegal mints.
- c) Continued cooperation with the private sector coin-operated industry, so as to ensure technological development is adequate to face the most sophisticated forms of counterfeits.

The Commission, in cooperation with the Member States, Europol and the ECB is working in these directions with a view to further increasing the protection of euro coins.