

Pursuant to Article 44 paragraph 2 point 3 and in conjunction with Article 24 paragraph 1 of the Central Bank of Montenegro Law (OGM 40/10, 46/10), at its meeting held on 1 July 2011, the Council of the Central Bank of Montenegro passed the following

## **DECISION**

### **ON AUTHENTICITY AND FITNESS CHECKING AND RECIRCULATION OF EURO NOTES AND COINS**

#### **I. BASIC PROVISIONS**

##### **Article 1**

This Decision regulates the manner of authenticity and fitness checking of euro notes and coins, conditions and manner of recirculation of euro notes and coins and the manner and procedure of replacement, withdrawal and destruction of unfit euro notes and coins.

##### **Article 2**

With a view to protecting the integrity of euro notes and coins, this Decision shall ensure the withdrawal from circulation unfit euro notes and coins and their replacement with new fit notes.

For the purpose of attaining objective under paragraph 1 above, authenticity and fitness checking of euro notes and coins shall be carried out in the manner set forth in this Decision.

##### **Article 3**

Authenticity and fitness checking of euro notes and coins shall determine fit, unfit, suspected and counterfeit euro notes and coins.

Fit euro notes and coins, within the meaning of this Decision, are euro notes and coins that have been checked for authenticity and fitness and classified as genuine and fit for recirculation.

Unfit euro notes, within the meaning of this decision, are damaged and worn out euro notes and coins and maculature (original euro notes and coins with error and as such went in circulation), assessed as unsuitable for recirculation after authenticity testing in accordance with this decision.

Suspect and counterfeit euro notes and coins shall be defined in special regulation governing handling suspect euro notes and coins.

##### **Article 4**

Obligors of authenticity and fitness checking of euro notes and coins shall be banks and financial institutions and other providers of payment services of euro notes and coins, bureau de exchange, and all other entities engaged in processing and distribution of euro notes and coins to public, including cash and transit companies and other entities that deal with on secondary basis with processing and distribution of euro notes and coins to public through cash dispensers within such secondary activities (traders, casinos, and the like), as well as the Central Bank of Montenegro in pursuing payment system operations (hereinafter: cash handlers).

Financial institution, within the meaning of paragraph 1 above, shall be micro-credit financial institution, credit union or a party dealing with credit and guarantee operations licensed and/or approved by the Central Bank of Montenegro (hereinafter: the Central Bank).

Cash handlers, who entrust processing, payout or pay-in of euro notes and coins by way of agreement to other legal persons, shall ensure the implementation of this decision by this contract by legal person who has been entrusted by processing, payment of euro notes and coins.

## **II. AUTHENTICITY AND FITNESS CHECKING AND RECIRCULATION OF EURO NOTES**

### **Article 5**

Cash handlers shall check euro notes for authenticity and fitness in the manner and in line with procedures laid down in this Decision.

### **Article 6**

The authenticity and fitness checking of euro notes shall be carried out either by:

- 1) a type of euro note handling machine successfully tested by the Central Bank, or
- 2) manually by a trained staff member of the cash handler.

Central Bank shall determine list of successfully tested euro note handling machines and publish it on its web site.

The list under paragraph 2 above shall include only successfully tested types of banknote handling machines listed on the ECB's website.

The Central Bank shall not be held liable if a successfully tested type of euro note handling machine is unable to classify and treat euro notes in the manner specified hereof.

### **Article 7**

Euro note handling machines successfully tested by the Central Bank shall be classified into the following two categories:

- 1) customer-operated machines, and
- 2) staff-operated machines.

General technical requirements for the machines under paragraph 1 above and their classification shall be enclosed in Annex I making an integral part hereof.

Customer-operated machines and staff-operated machines may only be put into operation by cash handlers if they have been successfully tested by the Central Bank and listed on its web site.

The machines under paragraph 3 above may be used with the standard factory settings, including any updates thereof that have been successfully tested unless stricter settings are agreed between the Central Bank and the cash handler.

#### **Article 8**

Euro notes checked by a customer-operated machine shall be classified and treated in accordance with Annex IIa making an integral part hereof.

Euro notes checked by a staff-operated machine shall be classified and treated in accordance with Annex IIb making an integral part hereof.

Euro notes that are not authenticated as genuine euro notes following classification carried out in accordance with Annex IIa or IIb hereof or following manual authenticity checking by a trained staff member of the cash handler shall be acted upon by cash handler in accordance with regulation governing handling suspect euro banknotes.

#### **Article 9**

Manual authenticity and fitness checking of euro notes may be performed only by staff members of the cash handler who has passed organised training carried out by National Counterfeit Centre.

#### **Article 10**

Fitness checking of euro notes shall be carried out in accordance with the minimum standards laid down in Annexes IIIa and IIIb making an integral part hereof.

Annex IIIa of the Decision lays down minimum standards for automated fitness checking of euro notes by banknote handling machines, while Annex IIIb of the Decision lays down minimum standards for manual fitness checking of euro banknotes.

#### **Article 11**

Euro notes which has not been processed during the procedure of authenticity checking may not be recirculated, but they will be forwarded to cash handler or Central Bank for processing for the purpose of carrying out the procedure of authenticity checking.

#### **Article 12**

Euro notes may only be recirculated via customer-operated machines or cash dispensers if they have been checked for authenticity and fitness by a type of banknote handling machine successfully tested and classified as genuine and fit.

Provision of paragraph 1 above shall not apply to euro notes that have been delivered directly to a cash handler by the Central Bank or by another cash handler that has already checked the euro notes for authenticity and fitness in this manner.

### **Article 13**

Euro notes which have been checked for authenticity and fitness by trained staff members of cash handler but not by a type of banknote handling machine may only be recirculated over the counter.

Notwithstanding paragraph 1 above, recirculation of euro notes which fitness and authenticity was checked manually by trained staff members via customer-operated machines or cash dispensers shall be allowed in remote business units of the cash handler with a low level of cash operations.

The Central Bank shall determine the volume of euro notes to be recirculated in accordance with the provisions of paragraph 2 above individually for each cash handler in the manner that does not exceed a maximum of 5 % of the overall volume of euro notes which are distributed annually via customer-operated machines or cash dispensers by cash handler in its entire business network.

Where an exceptional event occurs as a result of which the euro notes supply is significantly impaired, cash handlers' trained staff members may, on a temporary basis, and subject to the relevant Central Bank's agreement that the event is exceptional, carry out manual authenticity and fitness checking of euro notes to be recirculated via customer-operated machines or cash dispensers.

### **Article 14**

In order to monitor the compliance of cash handlers with this Decision and to oversee developments in the cash cycle, the Central Bank shall collect information from cash handlers, also by electronic means, before banknote handling machine is put into operation and obtain information specified in Annex IV with appendices making an integral part hereof.

### **Article 15**

Central Bank shall, pursuant to the law governing establishment and operations of banks, carry out on-site inspections, including also unannounced ones, at cash handlers' premises to monitor their banknote handling machines, in particular the machines' capacity to check for authenticity and fitness and to trace suspect counterfeit euro notes and euro notes that are not clearly authenticated and to verify the procedures governing the operation and control of the banknote handling machines, the treatment of checked euro notes and any manual authenticity and fitness checking.

Central Bank is authorised to take samples of processed euro notes to check them at its own premises.

When in the course of an on-site inspection the Central Bank detects non-compliance with the provisions of this Decision, it shall require the adoption by the cash handler of corrective measures within a specified time limit. Until the non-compliance is rectified,

the Central Bank may prohibit the cash handler from recirculating the banknote denomination(s) concerned.

If the non-compliance is due to a failure of the type of banknote handling machine, the Central Bank may remove it from the list referred to in Article 6 paragraph 2 hereof.

### **III. AUTHENTICITY AND FITNESS CHECKING AND RECIRCULATION OF EURO COINS**

#### **Article 16**

Cash handlers shall ensure that euro coins which they have received and which they intend to put back into circulation are subject to an authenticity and fitness checking procedure.

Authenticity and fitness checking of euro coins means the process of verifying that euro coins are authentic and fit for circulation.

#### **Article 17**

Authenticity and fitness checking of euro coins shall be performed by:

- 1) coin-processing machines which have been successfully tested by the Central Bank; or
- 2) manually by cash handler's trained staff member.

Central Bank shall determine the list of successfully tested coin-processing machines and publish it at its web site.

Coin-processing machines registered by the European Commission / European Anti-Fraud Office (OLAF) / European Technical and Scientific Centre (ETSC) as successfully tested coin-processing machines may only be registered on the list under paragraph 2 above.

#### **Article 18**

Euro coins which fitness and authenticity is checked in the manner specified in Article 17 hereof, shall be recirculated.

Following authenticity checking, all suspected counterfeit coins and euro coins unfit for circulation shall be submitted to the National Counterfeit Centre.

The Central Bank shall collect fee for treating euro coins unfit for circulation in cases and in the amount determined by special regulation.

#### **Article 19**

The Central Bank shall check submitted euro coins unfit for circulation as follows:

- the quantity declared shall be checked by weighing each bag or box;
- authenticity and visual appearance shall be checked on the basis of a sample of at least 10% of the submitted quantity.

In the event that anomalies following the checks referred to in paragraph 1 above are identified, the entire bag or box shall be checked.

Where the acceptance or processing of euro coins constitutes a health risk for handlers or a submission fails to meet packaging and labelling standards, the Central Bank may refuse to accept such coins.

#### **Article 20**

Cash handlers shall provide the Central Bank, once a year, with at least the following information:

- the types and number of coin-processing machines used;
- the location of each coin-processing machine; and
- the volume of coins processed per coin-processing machine, per year and per denomination, for at least the three highest denominations.

### **IV. MACHINE TESTING**

#### **Article 21**

Cash handlers shall, prior to the use of banknote handling machines and coin-processing machines, request the Central Bank to test them.

#### **Article 22**

The procedure of testing banknote handling machines and coin-processing machines by the Central Bank shall include, depending on the type of machine, verification of the manner of work of the machine during the control of quantity, authenticity and sorting of euro notes and coins.

The procedure of testing of banknote handling machines and coin-processing machines shall be performed by the Central Bank using palette of counterfeits, authenticated, fit and unfit euro notes and coins which it has at its disposal.

#### **Article 23**

Central Bank shall carry out testing of banknote handling machines and coin-processing machines based on the requests submitted by cash handler or authorised representative or distributor of such machines for the territory of Montenegro.

In addition to the request under paragraph 1 above, cash handler or authorised representative or distributor of machines shall submit all relevant data with regard to banknote handling machines or coin-processing machines.

The Central Bank shall keep confidential data obtained under paragraph 2 above.

#### **Article 24**

Upon the testing procedure carried out, the Central Bank shall issue a receipt on the executed testing of the banknote handling machine or coin-processing machine.

The Central Bank shall issue the receipt for successful execution of testing of the banknote handling machine or coin-processing machine for specified time period and/or it shall determine a deadline for retesting the machine.

Banknote handling machine or coin-processing machine which has not been retested successfully may not be further used.

#### **Article 25**

Upon each upgrade or update of hardware and/or software of the banknote handling machines or coin-processing machines which have been successfully tested, the producer or authorised representative shall provide the Central Bank with the request for retesting of the respective machines.

### **V. REPLACEMENT OF UNFIT EURO NOTES AND COINS**

#### **Article 26**

The Central Bank shall replace unfit euro notes when more than 50% of euro notes have been presented.

In the event when less than 50% of euro notes is presented, the Central Bank may replace unfit euro notes provided that the applicant proves that the missing parts have been destroyed and if the Central Bank replaces such notes with the correspondent foreign bank.

#### **Article 27**

For the purpose of replacing euro notes in the manner specified under Article 26 hereof, the following is required:

- 1) identification of the applicant;
- 2) upon reasonable suspicion that a criminal offence has been committed or that euro note has been intentionally damaged, the applicant is obliged to provide written explanation with regard to the cause of the damage and what has become of the missing parts of euro note;
- 3) if euro notes are soiled, stained, or impregnated, an applicant shall provide written explanation on type of soil, stain or impregnation;
- 4) a written statement should be provided on the cause and kind of neutralisation which has been subdued by cash handler's trained staff or trained persons employed in transport and security of euro notes (hereinafter: the professional cash handlers) after euro notes have been discoloured by activated anti-theft devices, chemical composition of the ink which damaged euro notes and other necessary technical characteristics;
- 5) when euro notes have been damaged in larger quantities due to the use of anti-theft devices, they must be submitted in packs of 100's euro notes (straps) if they meet such requirement.

### **Article 28**

The Central Bank shall replace unfit euro coins which changed some of its features due to circulation, worn out, rust or physical impacts, and which can be determined with certainty that is genuine euro coin.

### **Article 29**

The Central Bank shall bear replacement costs of unfit euro notes and coins.

Exceptionally, the Central Bank shall collect fee for the replacement of unfit euro notes and coins in cases of:

- replacement of unfit euro notes by professional cash handlers if euro notes have been damaged by the incorrect use of anti-theft devices;
- treatment and replacement of unfit euro coins provided that more than one kilogram of unfit euro coins has been treated by denomination for each year, whereby the fee may increase if individual delivery of unfit euro coins contains euro coins treated by chemical or other harmful substances to the extent they can cause health risk, and that legal and natural persons cooperating closely or regularly with the Central Bank on the withdrawal from circulation of unfit and counterfeit euro coins may be exempted from paying the fee.

The Central Bank shall determine the amount of fee under paragraph 2 above by way of special regulation.

### **Article 30**

When the Central Bank determines that damaged euro notes and coins cannot be replaced regularly after their checking, but their checking requires activities outside normal procedures and special costs, it shall inform the client thereof.

If it agrees, the client shall give written statement accepting the application of extraordinary procedures and replacement costs of euro notes and coins.

If the client does not agree with the application of the extraordinary procedures, the Central Bank shall keep euro notes and coins under paragraph 1 above.

### **Article 31**

The Central Bank shall not replace unfit euro notes and coins in the events when there is reasonable suspicion that unfit euro notes and coins resulted from criminal offence which has not been completed by competent authorities.

In the events under paragraph 1 above, the Central bank shall keep unfit euro notes and coins as evidence with the statement of receipt and it shall submit it to competent authorities for further procedure.

### **Article 32**

The Central Bank shall not replace unfit euro notes and coins if they are intentionally damaged (e.g. pierced coins) or fraudulently damaged and if it is material loss of weight of coin.

## **VI. WITHDRAWAL AND DESTRUCTION OF UNFIT EURO NOTES AND COINS**

### **Article 33**

The Central Bank shall withdraw from circulation euro notes and coins unfit for circulation.

Unfit euro notes and coins shall not be put back into circulation but they must be destroyed.

Destruction of unfit euro notes and coins, within the meaning of this decision, shall be return of such euro notes and coins to foreign correspondent banks.

## **VII. HANDLING OF SUSPECT EURO NOTES AND COINS**

### **Article 34**

Euro notes and coins which were not verified as authentic during authenticity and fitness checking in accordance with the provisions hereof, shall be deemed suspect euro notes and coins.

Cash handlers shall immediately withdraw suspect euro notes and coins from circulation and submit them to the National Counterfeit Centre.

Suspect euro notes and coins shall be handled in accordance with the provisions of regulations governing handling suspect euro notes and coins.

## **VIII. TRANSITIONAL AND FINAL PROVISIONS**

### **Article 35**

The provisions of Articles 5 to 25 hereof shall apply as of 1 January 2013.

Until the application of the provisions of Articles 5 to 25 hereof, fitness and authenticity checking of euro notes and coins shall be made as follows:

- 1) **Euro notes checking** shall be made:
  - by machines that can recognise security characteristics contained by euro notes;
  - by feeling the “raised” print for the purpose of determining the quality of paper and its embossing (in the part of the signs of the European Central Bank, central motive and numerical sign in the left lower corner of front and reverse side of euro note);

- by looking at the watermark, the security thread and the see-through register – matching detail;
- by tilting the banknote: on the front of the banknote to check the hologram foil stripe (on the banknotes of EUR 5, 10 and 20) or the brilliance of the iridescent stripe on the reverse side;
- by tilting the banknote: on the front of the banknote to check the hologram foil patch (on the banknotes of EUR 50, 100, 200 and 500) or the colour-shifting ink on the reverse side;
- by checking several protection characteristics (e.g. positive and negative micro print, ruptures on hologram foil or hologram, brilliance of iridescent stripes and colours on UV lights);
- by applying accordingly minimum standards for manual authenticity checking of euro notes as set forth in Annex IIIb hereof;

**2) Euro coins checking** shall be made:

- by machines that can recognise security characteristics contained by euro coins;
- by visual control of relief design, sharpness of contrast on euro coins, margins and precision of its processing, colour and biasing, if cash handler does not have machine referred to in indent 1 above.

**Article 36**

Cash handlers shall harmonise their operations with the provisions of Articles 5 through 20 hereof until 31 December 2012.

For the purpose of harmonising their operations with the provisions of Articles 5 through 20 hereof, cash handlers shall pass Business Plan for the implementation of the Decision on fitness and authenticity checking and recirculation of euro notes and coins (hereinafter the Business Plan) and submit it to the Central Bank no later than within six months following the day of this Decision comes into force.

**Article 37**

Business Plan shall include but not be limited to:

- 1) list of business units handling cash;
- 2) volume of euro notes and coins processing anticipated for recirculation to clients during one year period by business units, in accordance with this decision;
- 3) organisation of the processing of anticipated volume of euro notes and coins and passing of procedures for processing, in accordance with this decision;
- 4) current condition of number and types of banknote handling machines and coin-processing machines installed and the distribution of the machines installed by locations;
- 5) plan and dynamics of procurement and instalment of machines by locations in preparation period;
- 6) overall planned capacity of all banknote handling machines and coin-processing machines installed after expiry of preparatory period (the capacity of machines installed increased by the capacity of machines planned to be installed by end of preparatory period), broken down by each type of machine;

- 7) list of business units where, exceptionally, manual fitness and authenticity checking will be performed in accordance with the conditions specified hereof and anticipated amount of small transactions per day.

If the Central bank establishes that the submitted Business Plan does not contain all data under paragraph 1 above, or if data are not compliant with this decision, cash handler shall, upon Central Bank's request, make additional elaboration of the submitted data.

Cash handler shall inform the Central Bank in writing every three months on the realisation of the Business Plan.

The Central Bank shall keep confidential data obtained under this Article.

#### **Article 38**

In period from the day this decision enters into force until deadline specified in Article 35 paragraph 1 hereof, cash handlers shall apply this decision to the extent possible in accordance with the dynamics of the implementation of this decision presented in the Business Plan.

#### **Article 39**

The Decision on replacement of damaged banknotes and coins (OGRM 44/03) shall cease to be valid on the day of the entry into force of this Decision.

#### **Article 40**

This Decision shall enter into force on the eighth day following that of its publication in the Official Gazette of Montenegro, and the provisions of Articles 5 through 20 shall apply from 1 January 2013.

### **COUNCIL OF THE CENTRAL BANK OF MONTENEGRO**

Decision no. 0101-4014/16-3-2010  
Podgorica, 1 July 2011

**CHAIRMAN  
GOVERNOR,**

**Radoje Žugić**

## ANNEX I

### EURO NOTE HANDLING MACHINES

#### 1. General technical requirements

- 1.1. To qualify as a banknote handling machine, a machine has to be capable of processing batches of euro banknotes, classifying the individual euro notes and physically separating the euro notes according to their classifications without the intervention of the machine operator, subject to Annexes IIa and IIb. Banknote handling machines need to have the required number of dedicated output stackers and/or other means to ensure the reliable separation of the euro notes processed.
- 1.2. Banknote handling machines have to be adaptable to ensure that they are capable of reliably detecting new euro counterfeits. Moreover, they have to be adaptable to enable the setting up of more or less restrictive fitness sorting standards, if applicable.

#### 2. Categories of banknote handling machines

Banknote handling machines are: 1) customer-operated machines or 2) staff-operated machines.

Table 1  
Customer-operated machines

<b>A. Customer-operated machines where cash is deposited with customer tracing</b>		
1.	Cash-in machines (CIMs)	CIMs allow customers, by using a bank card or other means, to deposit euro notes in their bank accounts, but do not have any cash-dispensing function. CIMs check euro notes for authenticity and allow for traceability of the account holder; fitness checks are optional.
2.	Cash-recycling machines (CRMs)	CRMs allow customers, by using a bank card or other means, to deposit euro notes in their bank accounts and to withdraw euro notes from their bank accounts. CRMs check euro notes for authenticity and fitness and allow for traceability of the account holder. For withdrawals, CRMs may use genuine fit euro notes that have been deposited by other customers in previous transactions.
3.	Combined cash-in machines (CCMs)	CCMs allow customers, by using a bank card or other means, to deposit euro notes in their bank accounts and to withdraw euro notes from their bank accounts. CCMs check euro notes for authenticity and allow for traceability of the account holder; fitness checks are optional. For withdrawals, CCMs do not use euro notes that have been deposited by other customers in previous transactions but only euro notes loaded separately into them.
<b>B. Other customer-operated machines</b>		
4.	Cash-out machines (COM)	COMs are cash dispensers which check euro notes for authenticity and fitness before dispensing them to customers. COMs use euro notes loaded into them by cash handlers or other automated systems (e.g. vending machines)

Table 2  
**Staff operated machines**

1.	Banknote processing machines (BPMs)	BPMs check euro notes for authenticity and fitness
2.	Banknote authentication machines (BAMs)	BAMs check euro notes for authenticity
3.	Teller assistant recycling machines (TARMs)	TARMs are cash recycling machines operated by cash handlers that check euro notes for authenticity and fitness. For withdrawals, TARMs may use genuine fit euro notes that have been deposited by other customers in previous transactions. In addition, they keep euro notes in safe custody and allow cash handlers to credit or debit the bank accounts of customers
4.	Teller assistant machines (TAMs)	TAMs are machines operated by cash handlers that check euro notes for authenticity. In addition, they keep euro notes in safe custody and allow cash handlers to credit or debit the bank accounts of customers

Where customers feed euro notes to be deposited into TARMs or TAMs, or take the euro notes dispensed by these machines, these machines have to be considered customer-operated machines and have to classify and treat the euro notes in accordance with Annex IIa.

### 3. Types of banknote handling machines

Central Bank tests types of banknote handling machines. Types of banknote handling machines can be distinguished from each other through their specific detector systems, software or other components for the performance of their core functionalities. These are: (a) the authentication of genuine euro banknotes; (b) the detection and separation of euro notes suspected to be counterfeit; (c) the detection and separation of unfit euro notes from fit euro banknotes, if applicable; and (d) the tracing of objects identified as suspect counterfeit euro notes and of euro banknotes that are not clearly authenticated, if applicable.

**CLASSIFICATION AND TREATMENT OF EURO NOTES BY CUSTOMER-OPERATED MACHINES**

Table 1  
**Classification and treatment of euro notes by customer-operated machines in which cash is deposited with customer tracing**

	Category	Properties	Treatment
1	Objects not recognised as euro notes	Not recognised as euro notes because of any of the following: - Not euro notes - euro banknote-like objects - wrong image or format - large folded corner(s) or missing part(s) - feeding or transportation error of the machine	Return by the machine to the customer
2	Suspect counterfeit euro banknotes	Image and format recognised, but one or more authentication feature checked by the machine not detected or clearly out of tolerance	Withdraw from circulation*  To be handed over to National Counterfeit Centre for authentication checking supported with information on account holder, at the latest 3 working days after deposit in the machine.  Do not credit to the account holder
3	Euro notes that are not clearly authenticated	Image and format recognised, but not all authentication features checked by the machine are recognised because of quality and/or tolerance deviations. In most cases unfit euro notes	Withdraw from circulation.*  The euro notes are processed separately and handed over for authentication checking to the National Counterfeit Centre, at the latest 3 working days after deposit in the machine  Information on the account holder is stored for eight weeks after the euro notes have been detected by the machine. This information is made available on request to the competent national authorities. Alternatively, in agreement with the competent national authorities, information allowing the traceability of the account holder can be handed over together with the euro notes to those authorities  May be credited to the account holder
4a	Euro notes that are identified as genuine and fit	All authenticity and fitness checks carried out by the machine giving positive results	Can be used for recirculation  Credited to the account holder
4b	Euro notes that are identified as genuine and unfit	All authenticity checks carried out by the machine giving positive results. At least one fitness criterion checked giving a negative result	Withdraw from circulation.**  Cannot be used for recirculation and are returned to the Central Bank.  Credited to the account holder

Euro notes are classified into one of the following categories and are physically separated by category. Machines which do not check euro notes for fitness do not need to distinguish between categories 4a and 4b.

Categories 2 and 3 euro notes are not returned to the customer by a machine if the machine allows the cancellation of a deposit transaction. Retaining such euro notes when a transaction is cancelled can be done by storing them in a temporary storage area in the machine.

Central Bank may agree with a cash handler that category 3 euro notes may not be physically separated from categories 4a and 4b euro banknotes, and that in such a case all three categories must be treated as category 3 euro banknotes.

Table 2

**Classification and treatment of euro notes by other customer-operated machines**

	Category	Properties	Treatment
A	(i) Objects not recognised as euro banknotes; or	(i) Not recognised as euro notes because of any of the following: - non-euro notes - euro banknote-like objects - wrong image or format - large folded corner(s) or missing part(s) - feeding or transportation error of the machine.	Withdraw from circulation*
	(ii) Suspect counterfeit euro banknotes, or	(ii) Identified as suspect counterfeit euro notes because image and format recognised, but one or more authentication feature checked by the machine not detected or clearly out of tolerance.	Withdraw from circulation*
	(iii) Euro notes that are not clearly authenticated	(iii) Euro notes that are not clearly authenticated because image and format recognised, but not all authentication features checked by the machine recognised because of quality and/or tolerance deviations. In most cases unfit euro banknotes.	Withdraw from circulation*  To be handed over to the National Counterfeit Centre immediately for authentication, at the latest 3 working days after deposit in the machine.
B1	Euro notes that are identified as genuine and fit	All authenticity and fitness checks carried out by the machine giving positive results	Can be dispensed to customers
B2	Euro notes that are identified as genuine and unfit	All authenticity checks carried out by the machine giving positive results. At least one fitness criterion checked giving a negative result	Withdraw from circulation**.  Cannot be dispensed to customers and are returned to the Central bank

**NOTE:** When classifying in the column 4: "Procedure", designated expressions shall have the following meaning:

**Withdraw from circulation\*** - act in accordance with the decision regulating the procedure with suspicious copies of euro notes and coins and other activities for protection of euro against counterfeiting

**Withdraw from circulation\*\***- submit to the Central Bank in accordance with Articles 26 through 29 hereof (replacement of euro notes and coins).

**ANNEX IIb**

**CLASSIFICATION AND TREATMENT OF EURO NOTES BY STAFF-OPERATED MACHINES**

Euro notes are classified into one of the following categories and are physically separated by category. Machines which do not check euro notes for fitness do not need to distinguish between categories B1 and B2.

**Classification and treatment of euro notes by staff-operated machines**

	Category	Properties	Treatment
A	<p>(i) Objects not recognised as euro, or</p> <p>(ii) suspect counterfeit euro banknotes; or</p> <p>(iii) euro notes that are not clearly authenticated</p>	<p>(i) Not recognised as euro notes because of any of the following:</p> <ul style="list-style-type: none"> <li>- non-euro notes</li> <li>- euro banknote-like objects</li> <li>- wrong image or format</li> <li>- large folded corner(s) or missing part(s)</li> <li>- feeding or transportation error of the machine.</li> </ul> <p>(ii) Identified as suspect counterfeit euro notes because image and format recognised, but one or more authentication feature checked by the machine not detected or clearly out of tolerance.</p> <p>(iii) Euro notes that are not clearly authenticated because image and format recognised, but not all authentication features checked by the machine recognised because of quality and/or tolerance deviations. In most cases unfit euro banknotes.</p>	<p>Return by the machine to the operator for further evaluation and treatment. Withdraw from circulation*.</p> <p>(i) objects not recognised as euro banknotes: after visual evaluation by a staff member these are separated from the suspect counterfeit euro notes and euro banknotes that are not clearly authenticated.</p> <p>(ii) Withdraw from circulation*.</p> <p>Suspect counterfeit euro banknotes.</p> <p>(iii) Withdraw from circulation*.</p> <p>Euro notes that are not clearly authenticated: these are processed separately and handed over for final authentication to the National Counterfeit Centre immediately, at the latest 3 working days after deposit in the machine.</p>
B1	Euro notes that are identified as genuine and fit	All authenticity and fitness checks carried out by the machine giving positive results	<p>Can be used for recirculation.</p> <p>Credited to the account holder</p>
B2	Euro notes that are identified as genuine and unfit	All authenticity checks carried out by the machine giving positive results. At least one fitness criterion checked giving a negative result	<p>Withdraw from circulation**.</p> <p>Cannot be used for recirculation and are returned to the Central Bank.</p> <p>Credited to the account holder.</p>

### **Specific classification and sorting rules for some staff-operated machines**

1. BPMs classify and physically sort euro notes into categories A, B1 and B2 as set out in Annex IIb, for which at least three dedicated output stackers are needed to avoid the intervention of the machine operator.
2. BPMs with only two dedicated output stackers may however classify and sort euro notes if the following requirements are fulfilled:
  - (a) The authenticity and fitness checks are conducted in the same pass. In this pass, any category B1 euro notes must be sorted into one stationary output stacker, whereas both category A and B2 euro notes must be sorted into a separate stationary output stacker that does not have any physical contact with any category B1 euro banknote.
  - (b) If a category A euro banknote is identified as being present in the second output stacker, the operator must re-run the euro banknote(s) from the second output stacker. In this second pass, euro notes suspected to be counterfeits must be separated from the category B2 euro notes by sorting the former into a dedicated output stacker.
3. BAMs classify and physically sort euro notes into categories A and B, for which at least two dedicated output stackers are needed to avoid the intervention of the machine operator.
4. BAMs with only one dedicated output stacker may however classify and sort euro notes if the following requirements are fulfilled:
  - (a) Each time a category A euro banknote is processed, the machine must stop the processing immediately and keep the category A euro banknote in a position that avoids any physical contact with authenticated euro banknotes.
  - (b) The result of the authenticity check must be indicated for any single category A euro banknote on a display.
  - (c) The machine must check for the presence of a category A euro banknote when it stops processing, and processing can only be resumed after the physical removal of the category A euro banknote by the operator.
  - (d) For each stop of the processing mode no more than one category A euro banknote can be accessible to the operator.

## **ANNEX IIIa**

### **MINIMUM STANDARDS FOR AUTOMATED FITNESS CHECKING OF EURO BANKNOTES**

This Annex lays down minimum standards for automated fitness checking of euro notes by banknote handling machines.

In the course of the fitness checks, euro notes with any defect in respect of which a mandatory requirement has been defined as set out below are unfit.

The acceptable tolerance level for the fitness checks by banknote handling machines is 5 %. This means that a maximum of 5 % of the euro notes that do not meet the fitness criteria may be misclassified by the machines and sorted as fit.

Table 1  
**List of sorting criteria for automated fitness sorting**

	Defect	Definition
1.	Soil	General distribution of dirt across the entire euro banknote
2.	Stain	Localised concentration of dirt
3.	Graffiti	Added image or lettering written or marked in any manner on a euro banknote
4.	De-inked note	Lack of ink on part or whole of the euro banknote, e.g. a washed euro banknote
5.	Tear	Self-explanatory
6.	Hole	Self-explanatory
7.	Mutilation	Euro notes with part(s) missing, along at least one edge (in contrast to holes)
8.	Repair	Parts of one or more euro notes joined together by tape or glue or other means
9.	Crumples	Multiple random folds
10.	Limpness	Structural deterioration resulting in a marked lack of stiffness
11.	Fold	Self-explanatory
12.	Folded corner	Self-explanatory

#### **Further information on sorting criteria**

##### **1. Soil**

Soil increases the optical density of euro banknotes. The following table specifies the maximum density increase of limit samples compared to new euro notes that euro notes may exhibit to be classified as fit:

Table 2

**Optical density levels**

Denomination	Maximum density increase of limit sample compared to new euro banknote	Filter
EUR 5	0.06	Magenta
EUR 10	0.06	Magenta
EUR 20	0.08	Magenta
EUR 50	0.07	Magenta
EUR 100	0.07	Magenta
EUR 200	0.04	Magenta
EUR 500	0.04	Magenta

Euro notes not meeting these criteria are unfit. The densitometric measurements of the reference euro notes are based on the following criteria:

- Standard for density measurements: ISO 5 parts 3 and 4
- Standard for the filters: DIN 16536
- Absolute measurements: standard calibration (white tile)
- Polarisation filter: on
- Aperture: 3 mm
- Illumination: D65/2
- Background: white tile standard calibration

The density increase of a reference banknote is the highest value between the averages of at least four measurement points measured on the front and on the back of the banknote in the unprinted area and without any watermark modulation.

**2. Stain**

Euro notes with a localised concentration of dirt covering at least 9 mm by 9 mm in the non-printed area or at least 15 mm by 15 mm in the printed area are unfit.

**3. Graffiti**

At present there is no mandatory requirement to detect graffiti.

**4. De-inked note**

De-inking of euro notes can occur, e.g. if they have been washed or subjected to aggressive chemical agents. These kinds of unfit euro notes might be detected by image detectors or UV detectors.

**5. Tear**

Euro notes with tears which are open and not partly or fully covered by the machine's transport belt(s) are unfit if the size of the tear is greater than indicated below:

Table 3

<b>Tear</b>		
Direction	Width	Length
Vertical	4 mm	8 mm
Horizontal	4 mm	15 mm
Diagonal	4 mm	18 mm (*)

(\*) This is measured by drawing a straight line from the peak of the tear to the edge of the banknote where the tear begins (rectangular projection), rather than measuring the length of the tear itself.

## 6. Hole

Euro notes with holes which are not partly or fully covered by the machine's transport belt(s) are unfit if the area of the hole is greater than 10 mm<sup>2</sup>.

## 7. Mutilation

Euro notes with lengths reduced by 6 mm or more or widths reduced by 5 mm or more are unfit. All measurements relate to differences from the nominal lengths and widths of the euro banknotes.

## 8. Repair

A repaired euro banknote is created by joining parts of euro banknote(s) together, e.g. by using tape or glue. A euro banknote with tape covering an area greater than 10 mm by 40 mm and which is more than 50µm thick is unfit.

## 9. Crumples

Crumpled euro notes can normally be identified if their level of reflectance or stiffness is reduced. There is no mandatory requirement.

## 10. Limpness

As far as possible, euro notes with very little stiffness are sorted as unfit. As limpness normally correlates with soiling, limp euro notes are generally also detected via soil sensors. There is no mandatory requirement.

## 11. Fold

Folded euro banknotes, because of their reduced length or width, can be detected by sensors checking the size of the euro banknotes. In addition, they can be detected by thickness sensors. However, due to technical limitations, only folds fulfilling the criteria laid down for mutilations, i.e. folds leading to a reduction in length greater than 6 mm or a reduction in width greater than 5 mm, can be identified and are unfit.

## 12. Folded corner

A euro banknote with a folded corner with an area of more than 130 mm<sup>2</sup> and a minimum length of the smaller edge greater than 10 mm is unfit.

## **ANNEX IIIb**

### **MINIMUM STANDARDS FOR MANUAL FITNESS CHECKING OF EURO NOTES**

This Annex lays down minimum standards for manual fitness checking of euro notes by trained staff members.

In the course of the fitness checks, euro notes with any defect as set out in the table below, or with a clearly noticeable defect in one of the visible security features, are unfit. However, folded euro notes and euro notes with folded corners may be rectified by manual unfolding where possible. The fitness checks are carried out by a visual inspection of the individual euro notes and do not require the use of any tools.

#### **List of sorting criteria for manual fitness checking**

	<b>Feature</b>	<b>Description</b>
1.	Soil	Visually noticeable distribution of dirt across the euro banknote
2.	Stain	Visually noticeable localised concentration of dirt
3.	Graffiti	Visually noticeable added image or lettering written or marked in any manner on a euro banknote
4.	De-inked note	Visually noticeable lack of ink on part or whole of the euro banknote, e.g. a washed euro banknote
5.	Tear	Euro banknote with at least one tear at the edge
6.	Hole	Euro banknote with at least one visually noticeable hole
7.	Mutilation	Euro banknote with a part/parts missing along at least one edge (in contrast to holes), e.g. a missing corner
8.	Repair	Parts of one or more euro notes joined together by tape, glue or other means
9.	Crumples	Euro banknote with multiple random folds across it that strongly affect its visual appearance
10.	Limpness	Euro banknote with structural deterioration resulting in a marked lack of stiffness
11.	Fold	Euro banknote that is folded, including a euro banknote that cannot be unfolded
12.	Folded corner	Euro banknote with at least one clearly noticeable folded corner

**DATA COLLECTION FROM CASH HANDLERS**

**1. Objectives**

The objectives of data collection are to enable the Central Bank and relevant international institutions to monitor the relevant activities of cash handlers and to oversee developments in the cash cycle.

**2. General principles**

2.1 Data on banknote handling machines are only reported when the machines are used for recirculation.

2.2 Cash handlers regularly provide the Central Bank with the following:

- information on establishments where cash is handled such as branch offices, and
- information on banknote handling machines and cash dispensers.

2.3 In addition, cash handlers that recirculate euro notes via banknote handling machines and cash dispensers regularly provide the Central Bank with the following:

- information on the volume of cash operations (number of euro notes processed) involving banknote handling machines and cash dispensers,
- information on remote branches of credit institutions with a low level of cash operations where fitness checks are carried out manually.

**3. Type of data and reporting requirements**

3.1 Depending on its nature, the data collected are divided into master data and operational data.

**Master data**

3.2 Master data cover information on: (a) the individual cash handlers and their banknote handling machines and cash dispensers in operation; and (b) remote branches of credit institutions.

3.3 Master data are provided to the Central Bank on the semi-annual basis, whereby the Central Bank may require monthly or quarterly reporting. The data specified in the template set out in Appendix 1 must be provided, although the Central Bank may require them to be provided in a different format.

3.4 The Central Bank may, for monitoring reasons, require from cash handlers to submit data by branch offices.

3.5 The Central Bank may decide to exclude from the scope of the reporting requirements euro banknote handling machines only used to process euro notes distributed over the counter.

3.6 Data on remote branches specified in the template set out in Appendix 3 must be provided, although the Central Bank may require them to be provided in a different format.

### **Operational data**

- 3.7 Data originating from the processing and recirculation of euro notes by cash handlers are classified as operational data.
- 3.8 Central Bank may decide to exclude some cash handlers from the obligation to report operational data.
- 3.9 Data are provided to the Central Bank on a six-monthly basis, the latest two months after the relevant reporting period, i.e. end-February and end-August. Central Bank may ask for monthly or quarterly reporting. Data shall be provided using the template set out in Appendix 2.
- 3.10 Data are provided by cash handlers which physically handle euro banknotes. If a cash handler has outsourced the checking for authenticity and fitness to another cash handler, the data are provided by the designated cash handler.
- 3.11 Data are reported by cash handlers in terms of pieces (volume), aggregated at national level and broken down by euro banknote denomination. For remote branches of credit institutions, operational data is reported separately.
- 3.12 The Central Bank may decide, for monitoring reasons, to collect the data at local level, such as at branch offices.
- 3.13 The Central Bank may decide to exclude from the scope of the reporting requirements euro notes that are processed on euro banknote handling machines and distributed over the counter.
- 3.14 Cash handlers which have outsourced authenticity and fitness checking to other cash handlers may be requested to provide detailed information to the Central Bank on the latter.
- 3.15 Data on remote branches specified in the template set out in Appendix 3 must be provided, although the Central Bank may require them to be provided in a different format and may agree with cash handlers to collect more extensive data.

### **4. Confidentiality and publication of data**

- 4.1 Both master data and operational data are treated as confidential.
- 4.2 The Central Bank may decide to publish reports or statistics using data acquired under this Annex. Any such publication is aggregated in such a way that no data can be attributed to single reporting entities.

APPENDIX 1

**REPORTING TEMPLATE**

**Master data**

**1. Cash handler information**

Cash handler's name:

Headquarters address:

Postal code:

City:

Street:

Type of company:

- Bank
- Financial institution
- Bureau de change
- Transporter of euro notes and coins
- Trader (retailer)
- Casino
- Other providers of euro notes and coins payment services
- Other subjects engaged in processing and distribution of euro notes to the public

Contact persons:

Names:

Telephone Nos:

Telefax Nos:

E-mail addresses:

Name of legal persons entrusted with euro notes and coins fitness and authenticity checking

Name:

Address:

Zip/postal code:

City:

**2. Customer-operated machines**

Type	Manufacturer	Machine name	Identification (detector system / software versions)	Total number of operations
CIMs				
CRMs				
CCMs				
COMs				
TARMs				
TAMs				

**Staff-operated machines**

Type	Manufacturer	Machine name	Identification (detector system / software versions)	Total number of operations
BPMs				
BAMs				
TARMs				
TAMs				

**3. Cash dispensers**

Type	Total number of operations
ATMs	
SCoTs	
Other	

APPENDIX 2

**REPORTING TEMPLATE**  
**Operational data**

**1. Cash handler information**

Cash handler's name	
Reporting period	

**2. Data**

	Total number of euro notes processed <sup>(1)</sup>	Of which sorted as unfit <sup>(1)</sup>	Of which recirculated <sup>(2)</sup>
EUR 5			
EUR 10			
EUR 20			
EUR 50			
EUR 100			
EUR 200			
EUR 500			

(1) This item covers both staff-operated and customer-operated machines.

(2) Euro notes that are returned to Central Bank, and euro notes recirculated over the counter which are not processed on a staff-operated machine, are excluded.

Number of euro notes distributed via customer operated machines and cash dispensers	
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APPENDIX 3

**REMOTE BRANCHES OF CREDIT INSTITUTIONS**

**1. Information on Bank or Financial Institution**

Name of Bank or Financial Institution	
Reporting Period	

**2. Data**

Name of remote branch	Address	Number of euro notes distributed via customer-operated machines and cash dispensers