



**BANK ĊENTRALI TA' MALTA**  
**EUROSISTEMA**  
**CENTRAL BANK OF MALTA**

**CONSULTATIVE PAPER**  
**ON**

**EURO BANKNOTE RECYCLING**

**THE CENTRAL BANK OF MALTA'S PROPOSAL FOR A DIRECTIVE IMPLEMENTING THE  
EUROSISTEMA BANKNOTE RECYCLING FRAMEWORK**

Deadline for replies: **30 September 2008**.

Replies should be sent to: [info@centralbankmalta.org](mailto:info@centralbankmalta.org).

This document is prepared as a basis for consultation and discussion with all stakeholders. It does not prejudice the final form or content of any decision or position to be taken by the Central Bank of Malta.

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## 1. INTRODUCTION

### 1.1. Importance of this paper

This paper should be considered carefully by your organisation for the following reasons:

- **Implementation in Malta of the Eurosystem regime for the detection of counterfeit and unfit euro banknotes will considerably change the policies, procedures, methods of operation and due diligence standards applicable in Malta to banknote authentication and fitness sorting, as relevant to organisations that redistribute, sort or re-issue (hereinafter ‘recycle’) euro banknotes;**
- These developments will affect the rights, obligations and business processes of all organisations which recycle euro banknotes, as well as the rights, obligations and business processes of service companies engaged by these organisations to carry out such activities on their behalf;
- The Central Bank launches this consultation having no fixed ideas, in the interest of seeking guidance from the market as to the most appropriate course of action to take where discretion in implementation is possible. This consultative paper is therefore an opportunity for your organisation to help shape the final content of legislation to be adopted within this area.

### 1.2. Aim

**This paper seeks to inform the Central Bank’s future policy initiatives in relation to the regulation of banknote recycling and to initiate discussion and collect the views of stakeholders in light of the Central Bank of Malta’s<sup>1</sup> implementation of the Eurosystem Banknote Recycling Framework<sup>2</sup>, which the Bank is bound to bring into force by 1 January 2009 with a transitional period for compliance ending before 1 January 2010.** It seeks to clearly explain the proposed changes to operational methods and standards relating to euro banknote fitness sorting and authentication with a view to correctly understanding the implications of the proposed legislation for operators in the market.

### 1.3. Consultation process

**It is important to stress that this paper does not contain any fixed ideas** and presents draft legislation with a view to generating maximum insight from the market, seeking to generate feedback, recommendations and suggested ways forward.

This paper has been preceded by various legislative acts protecting the euro against counterfeiting<sup>3</sup> as well as by the Eurosystem Banknote Recycling Framework,<sup>4</sup> which is to be implemented

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<sup>1</sup> The terms ‘Central Bank of Malta’, ‘Central Bank’ and ‘the Bank’ are used interchangeably within this document, save where indicated otherwise by the context.

<sup>2</sup> European Central Bank, *Recycling of Euro Banknotes: Framework for the Detection of Counterfeits and Fitness Sorting by Credit Institutions and Other Professional Cash Handlers*, 2005, available at {<http://www.ecb.europa.eu/pub/pdf/other/recyclingeurobanknotes2005en.pdf>}.

<sup>3</sup> See, in particular, articles 44 to 55 of the Central Bank of Malta Act (*Cap. 204 of the Laws of Malta*), as well as Council Regulation 1338/2001/EC of 28 June 2001 laying down measures necessary for the protection of the euro against counterfeiting. For information on further European law applicable in this area, see SCADPLUS, Measures to protect the euro against counterfeiting, at {<http://europa.eu/scadplus/leg/en/lvb/l33136.htm>}

<sup>4</sup> ECB, *supra* note 2.

domestically by each euro area national central bank. As the authority with responsibility for the circulation of euro banknotes in Malta<sup>5</sup>, the Central Bank is concerned with all issues related to the quality and authenticity of banknotes in circulation, mindful of the need to ensure public trust in legal tender currency. **The Central Bank therefore aims to bring into force measures that effectively implement the Eurosystem Banknote Recycling Framework and which ensure the detection of counterfeit and soiled or damaged euro banknotes and their withdrawal from circulation.**

**The consultation process will last until the end of September 2008.** During this time, any queries arising may be directed to the Central Bank as per the contact details provided in this document. Please note that any responses received by the Bank could be made public unless a request otherwise is made and the Bank feels that the request is justified.

Along with this consultation process, the Central Bank of Malta has also requested an opinion of the European Central Bank (hereinafter 'ECB') on the draft legislation included below, as required by Malta's obligations under European law.<sup>6</sup> Once the views of stakeholders and the ECB have been adequately taken into account, it is envisaged that implementation of the Eurosystem Banknote Recycling Framework will be carried into effect at Maltese law by means of a Central Bank of Malta Directive issued under article 5(3) of the Central Bank of Malta Act<sup>7</sup> by 1 January 2009. A twelve month transitional period from that date will be granted in order to allow stakeholders to bring themselves into line with the new measures.

## **2. VISION OF THE CENTRAL BANK OF MALTA**

### **2.1. Vision of the Eurosystem in creating a Banknote Recycling Framework**

Article 106 (1) of the Treaty establishing the European Community and Article 16 of the ESCB Statute give the Eurosystem the legal mandate to issue euro banknotes. A primary task of executing this mandate is to ensure the integrity and preservation of euro banknotes in circulation and, by extension, the public's trust in euro banknotes. To attain these objectives, the condition (quality) of euro banknotes in circulation must be maintained at a good level so as to ensure that banknotes are accepted as a means of payment by the general public and can be readily used by banknote accepting devices. Moreover, only banknotes in good condition can be easily and reliably checked for genuineness. As banknotes inevitably deteriorate during circulation, worn or defective banknotes should be quickly withdrawn from circulation and replaced by new or fit banknotes. In addition, protecting the integrity of euro banknotes as a means of payment means that counterfeit euro banknotes need to be quickly recognised and immediately handed over to the competent national authorities to support investigations by law enforcement authorities.

To ensure a smooth banknote supply and that the banknotes in circulation are of good quality, some Eurosystem national central banks had an agreement with credit institutions that only banknotes processed by Eurosystem national central banks should be issued by cash dispensers and automated teller machines (hereafter collectively referred to as 'ATMs'<sup>8</sup>). This strategy ensured that credit institutions would not re-issue counterfeits to their customers. In addition, it

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<sup>5</sup> In accordance with Article 106 of the EC Treaty and Article 16 of the ESCB Statute.

<sup>6</sup> See Council Decision (EC) 98/415 of 29 June 1998 on consultation of the ECB by national authorities regarding draft legislative provisions, [1998] O.J. L189/42.

<sup>7</sup> Cap. 204 of the Laws of Malta.

<sup>8</sup> The term 'automated teller machine' should cover all kinds of self-service, customer-operated devices issuing banknotes, irrespective of other services offered (e.g. electronic bank transfers, printing of statements of account, etc.), except cash-recycling machines.

ensured a continuous backflow of banknotes to NCBs and, for the most part, enabled them to control the quality level of banknotes in circulation due to a sufficiently high return frequency of the circulating banknotes.

Article 6 of Council Regulation 1338/2001/EC of 28 June 2001, which lays down measures necessary for the protection of the euro against counterfeiting, obliges credit institutions and any other institutions engaged in the sorting and distribution to the public of banknotes (and coins) as a professional activity, including establishments whose activity consists of exchanging banknotes of different currencies, such as bureaux de change (hereafter collectively referred to as 'credit institutions and other professional cash handlers' or 'intermediaries'), to withdraw from circulation all euro banknotes (and coins) received by them which they know or have sufficient reason to believe to be counterfeit, and to immediately hand them over to the competent national authorities (in Malta's case, to the Central Bank of Malta). Moreover, Article 6 stipulates that EU member states are to take the necessary measures to ensure that credit institutions and other professional cash handlers which fail to discharge the aforementioned obligation are subject to effective, proportionate and deterrent sanctions.

On 18 April 2002, the Governing Council of the ECB adopted the Eurosystem's terms of reference for the use of cash-recycling machines and cash-in machines (hereinafter 'ToR'), which lay down guidance covering both the detection of counterfeits and minimum sorting standards for euro banknotes. In the wake of its implementation by Eurosystem national central banks, credit institutions in countries where banknote recycling was previously prohibited by law or agreement with Eurosystem national central banks now have the possibility to provide their customers with banknotes processed internally by machines covered by the ToR, in addition to those ordered from Eurosystem national central banks.

Following the adoption of the ToR, some Eurosystem national central banks have taken measures in cooperation with the banking sector and the government, respectively, aiming at broadening the scope of the ToR. Frameworks have been set up providing for a further release of euro banknote recycling by credit institutions and other professional cash handlers on condition that the banknotes are duly checked for authenticity and fitness by banknote handling machines successfully tested by a Eurosystem national central bank in compliance with the Eurosystem's common test procedures. Pending implementation of the Eurosystem Banknote Recycling Framework by all euro area national central banks, and as a result of the different national traditions regarding credit institutions' role in the cash cycle and the non-uniform implementation of the ToR at national level, there are the following three models within the euro area:

1. Credit institutions have to supply their customers only with banknotes received from the Eurosystem national central bank. Banknote recycling is only allowed by means of cash-recycling machines tested by the Eurosystem;
2. Credit institutions have to supply their customers only with banknotes received from the Eurosystem national central bank.<sup>9</sup> Banknote recycling is only allowed if banknotes are authenticated and fitness-checked by cash-recycling machines or other equipment successfully tested by the Eurosystem;
3. Credit institutions are not bound by national central bank regulations regarding banknote recycling, but are expected to cooperate with the national central bank and follow its guidance.

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<sup>9</sup> Smaller cash transactions over the counter are normally excluded from this provision.

The possibility of recycling euro banknotes enables credit institutions and other professional cash handlers to perform their role in the currency supply in a more effective and more cost-efficient manner. In order to avoid competitive distortions and to establish harmonised standards on banknote recycling within the euro area, the Eurosystem has agreed on a general framework to be applied for the entire euro area. The framework covers credit institutions and other professional cash handlers and lays down clear requirements for banknote recycling and, in particular, common rules for the detection of counterfeits and minimum standards for fitness checks of euro banknotes.

## **2.2. Vision for the implementation of the Eurosystem Banknote Recycling Framework in Malta**

The Central Bank must increasingly be concerned with the regulation of processes ensuring euro banknote counterfeit detection and fitness sorting measures and standards with a view to ensuring public trust in the banknotes in circulation. The Central Bank believes that this Directive will promote a level playing field leading to a competitive, safe, effective and efficient euro banknote recycling process.

Through this Directive, the Central Bank aims to remove any differences in present operations which may lead to competitive distortions, and to ensure a consistent and measurable high quality in the processes leading to the recycling of euro banknotes. Furthermore the Central Bank aims to provide assistance to operators in this market in order for them to be able to achieve these goals.

## **3. DRAFT CENTRAL BANK OF MALTA DIRECTIVE IMPLEMENTING THE EUROSISTEM BANKNOTE RECYCLING FRAMEWORK**

### **3.1. Introduction**

1. In terms of article 5(3) read in conjunction with article 5(1)(e) of the Central Bank of Malta Act (*Cap. 204*) (hereinafter referred to as “the Act”), the Central Bank of Malta (hereinafter referred to as “the Bank”) has been empowered to issue directives in order to provide for the circulation of euro banknotes. For the purposes of this Directive, unless otherwise provided or made clear from the context, terms used in this Directive shall have the same meaning as is assigned to them under the Act.
2. This Directive lays down provisions enabling the Bank to implement policy regarding euro banknote recycling by credit institutions and other professional cash handlers. This policy will ensure the integrity and preservation of euro banknotes in circulation and hence will lead to maintaining the confidence of the public in euro banknotes.
3. Having regard to Article 106(1) and 105(2) of the EC Treaty, articles 42 to 55 inclusive of the Act, and to Article 6 of Regulation 1338/2001/EC laying down measures necessary for the protection of the euro against counterfeiting, this Directive is based on the European Central Bank paper of 16 December 2004 entitled “*Recycling of euro banknotes: Framework for the detection of counterfeits and fitness sorting by credit institutions and other professional cash handlers*” and shall be interpreted and construed accordingly.

### **3.2. Scope and Application**

4. This Directive:
  - a. provides credit institutions and professional cash handlers with assistance in complying

with the obligations laid down in Article 6 of Regulation 1338/2001/EC and article 50 of the Act;

- b. seeks to effectively implement a Eurosystem common policy regarding banknote recycling by credit institutions and other professional cash handlers in order to avoid competitive distortions within the euro area and to contribute to the establishment of a single euro cash area;
  - c. ensures that credit institutions and professional cash handlers observe standards of due diligence in the handling of euro banknotes so as to contribute to maintaining the quality, genuineness and fitness of the euro banknotes in circulation.
5. This Directive applies to credit institutions and other professional cash handlers established or providing services in Malta.
  6. This Directive is without prejudice to any applicable legislation in respect of counterfeit currency.

### **3.3. Definitions**

7. For the purpose of this Directive:
  - “authentication machines” means equipment that can automatically count and authenticate banknotes inserted by intermediaries and sort them automatically into good and suspected counterfeit banknotes. For the purposes of this Directive, deposit machines that can automatically count, authenticate and sort banknotes inserted by the public and classify them separately into good and suspected counterfeit notes shall be treated as authentication machines;
  - “banking business day” means a day on which both the respective intermediary and the Central Bank of Malta are open for business;
  - “banknote” means a banknote denominated in euro;
  - “banknote handling equipment” means customer operated machines and sorting and authentication machines;
  - “cash handling” means the operations of counting, authentication and fitness sorting of banknotes;
  - “customer operated machines” means machines intended to be operated by the public or by customers of an entity, such as automated teller machines, recycling equipment and cash-in machines;
  - “staff operated machines” means machines operated by staff members which allow the processing of packages of banknotes, classify individual banknotes either as genuine or suspect (rejected notes) without the intervention of the machine operator and physically sort and separate the suspect (rejected) banknotes from those classified as genuine euro banknotes, which either:
    - (i) check the authenticity and fitness of banknotes (i.e. banknote processing machines/banknote sorting machines); or
    - (ii) check only the authenticity of banknotes (i.e. banknote authentication machines).However, the following machines shall not be considered "staff operated machines" and are not covered by this document:
    - (i) banknote authentication devices that require the user to decide whether a banknote is genuine or not;
    - (ii) banknote authentication devices which process single or batches of banknotes and classify, without the intervention of the user, the banknotes as genuine or suspect but do not physically separate the suspect banknotes from the genuine ones in an automated way;
    - (iii) staff-operated automated teller assistant devices (automatic till safes) which are used



- by teller staff of credit institutions as a day safe at the front end.
- “force majeure” means abnormal and unforeseeable circumstances beyond the control of the party pleading for the application of those circumstances, the consequences of which would have been unavoidable despite all efforts to the contrary, or where such party is bound by other legal obligations covered by the legislation or regulation of any state or supranational authority.
  - “intermediaries” mean credit institutions and professional cash handlers;
  - “authentication” means an operation to detect, among banknotes handled, those that are suspected to be counterfeit;
  - “fitness sorting” means an operation to detect, among banknotes handled, those that are unfit banknotes;
  - “professional cash handlers” means institutions engaged in the sorting and distribution to the public of banknotes as a professional activity, including entities whose activities include exchanging banknotes of different currencies;
  - “recycling equipment” means equipment that can be used independently by customers for the deposit, withdrawal or exchange of banknotes;
  - “service company” means an entity, irrelevant of corporate form, that handles cash on behalf of an intermediary;
  - “sorting machines” means machinery for the automated counting, authentication and fitness sorting of banknotes. For the purposes of this Directive, automated deposit machines that can automatically count, authenticate and sort banknotes inserted by the public and classify them separately into genuine, unfit and suspected counterfeit notes shall be treated as sorting equipment;
  - “unfit banknotes” means genuine banknotes that are no longer fit for circulation in terms of the provisions of this Directive;

### **3.4. Principles**

8. Intermediaries must ensure that banknotes are only to be returned to circulation via ATMs or other customer-operated devices if they have been checked for both authenticity and fitness by successfully tested banknote handling machines.
9. Banknotes which have been checked for authenticity by trained staff members, either manually or without the use of successfully tested banknote handling equipment, shall not be returned to circulation via ATMs or other customer-operated devices, but can only be re-issued over the counter after being checked for fitness.
10. Banknotes suspected of being counterfeit and unfit banknotes cannot be put back into circulation and must be delivered to the Bank.
11. Banknotes that are not checked for authenticity and fitness shall not be re-issued and must be delivered to the Bank.

### **3.5. Requisites for Banknote Handling**

12. Intermediaries shall re-issue banknotes to customers only if these banknotes are duly authenticated and fitness sorted according to the criteria set out in Annex I to this Directive, whether manually or mechanically. Banknotes that are not authenticated or fitness sorted, as well as banknotes that are unfit, shall be returned to the Bank. Banknotes that are suspected of

being counterfeit shall be returned to the Bank as soon as possible and at the latest before close of business on the banking business day immediately following the day of detection.

13. (1) Intermediaries shall perform the operations of authentication of banknotes and fitness sorting of banknotes that are intended for distribution to the public in customer operated machines mechanically, in accordance with the criteria and procedures set out in Annex II to this Directive, using banknote handling equipment that has been successfully tested by a national central bank of the Eurosystem in compliance with the common procedures laid down by the European Central Bank as indicatively described in Annex III to this Directive<sup>10</sup>, which equipment appears on the list of banknote handling equipment that has passed such testing, as posted on the website of the European Central Bank and/or Central Bank of Malta. Banknotes which have been authenticated or fitness sorted either manually or without the use of successfully tested banknote handling equipment shall not be returned to circulation via customer operated machines.

(2) Intermediaries which install banknote handling equipment tested in accordance with sub-article (1) shall notify the Bank of the use of the machines prior to putting them into operation.

(3) Intermediaries which shall have installed banknote handling equipment before the date this Directive becomes effective in terms of article 25 shall notify the Bank thereof before the date when the remainder of rights and obligations contained within this Directive shall acquire the force of law in respect of intermediaries also in terms of that article.

14. Intermediaries shall perform the operations of authentication of banknotes and fitness sorting of banknotes that are intended for distribution to the public over the counter either mechanically as provided in article 13 or manually by trained staff members.

15. Without prejudice to any right of recourse an intermediary may have in respect of a service company, an intermediary shall be fully responsible and liable for all purposes under this Directive also for any cash handling activity carried out on its behalf by a service company that is not a professional cash handler within the meaning of this Directive. Should an intermediary engage such a service company to carry out any cash handling activity, that intermediary shall ensure that such service company is contractually bound in its regard by the same conditions as would be applicable to that intermediary under this Directive in respect of such cash handling activity. Intermediaries shall ensure that any service company engaged is of good repute in respect of the cash handling activities to be carried out.

### **3.6. Exceptions**

16. Without prejudice to article 12, but by way of derogation from article 13, in the case of *force majeure* an intermediary may, on an exceptional and temporary basis, supply customer operated machines with banknotes in respect of which the operations of authentication and fitness sorting have been performed manually by trained staff members or trained staff members of a service company. In any such case, the intermediary shall immediately and in a detailed manner notify this fact to the Bank, specifying the nature of the event and the likely duration of the state of *force majeure*.

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<sup>10</sup> Annex III is included solely in order to provide a preliminary and general description of the process for the sake of clarity, but shall in no way be construed as binding or as having the force of law.

### **3.7. Collection of Information**

17. (1) Without prejudice to the provisions of article 23 of the Act, the Bank may require any intermediary to provide it with such information as the Bank may consider necessary to enable it to monitor the banknote recycling activities of intermediaries on an ongoing basis, to assess the quality of euro banknotes in circulation, or to take appropriate action, and the Bank may enquire into and ask for clarifications of any information so provided.

(2) Any intermediary required to provide the Bank with information or clarifications as specified in the preceding sub-article shall comply with such requirement within the timeframe stipulated by the Bank.

18. Intermediaries shall regularly provide the Bank with the following information in accordance with the parameters established under article 19:

- a) general information on the recycling of banknotes and centres for the deposit and checking of banknotes;
- b) statistics on the volume of cash operations; and
- c) information on customer operated machines.

19. The Bank shall establish and communicate to intermediaries the content, procedure and schedule for transmitting the information mentioned in article 18 in accordance with its own requirements and the requirements of the European Central Bank.

20. The information furnished shall be treated as confidential and subject to professional secrecy, and may be published only in aggregated form.

21. Without prejudice to article 17, intermediaries that do not collect, distribute or exchange banknotes except in over-the-counter transactions shall not be required to report the data provided for in article 18 above.

### **3.8. Monitoring of Intermediaries**

22. Intermediaries shall allow the Bank (and bind service companies to allow the Bank, in accordance with article 15) to carry out system checks of machines in operation in order to analyse or verify authenticity detection and fitness detection as well as the traceability of transactions for customer operated machines.

23. Intermediaries shall also allow the Bank (and bind service companies to allow the Bank, in accordance with article 15) to analyse or verify any arrangement governing the operation of these machines and the subsequent handling of the processed banknotes as well as, on a sample basis, the fitness sorting carried out by trained staff.

24. Without prejudice to any other remedy or power of the Bank available at law, if the Bank ascertains any infringement during inspections under this title, any intermediary concerned shall take the required measures so as to ensure compliance with the requirements of this Directive without delay. Where system checks reveal that a certain type of banknote handling machine does not detect all topical counterfeits, the respective intermediary shall update all its

relevant machines without delay.

### 3.9. General

25. This Directive shall become effective on 1 January 2009. However, rights and obligations contained within this Directive, with the exception of articles 13(2) and 17 thereof, shall not have the force of law in respect of intermediaries before 1 January 2010.

### 3.10. Interpretation

26. Requests for interpretation of matters relating to this Directive are to be addressed to the Bank.

## 4. ANNEXES

### 4.1. ANNEX I

This Annex provides minimum sorting standards for manual and automated fitness sorting of euro banknotes. Euro banknotes shall only be recycled if they are evaluated as fit according to the sorting criteria defined below. The sorting thresholds are set on the assumption that the quality of euro banknotes in circulation can be maintained in each Member State at the level targeted by the Eurosystem.

#### I. MINIMUM REQUIREMENTS FOR MANUAL FITNESS SORTING FOR CREDIT INSTITUTIONS AND OTHER PROFESSIONAL CASH HANDLERS

In the course of the fitness checks to be carried out by trained staff of credit institutions and other professional cash handlers, euro banknotes with any visual or physical defects are to be sorted as unfit and shall not be used for recycling. The fitness checks are to be carried out by a visual inspection of the individual banknotes and do not require the use of any tools to help check certain properties of the banknotes. The following table comprises the features relevant for the manual fitness checks and define the minimum sorting requirements.

**Table 1: List of sorting criteria for manual (visual) fitness checks of euro banknotes**

	<b>Feature</b>	<b>Requirements</b>
1	Soiling	General distribution of dirt across the entire banknote <sup>1)</sup>
2	Stain	Localised concentrations of dirt with an area coverage of at least 3mm <sup>2</sup> <sup>1)</sup>
3	Graffiti	Deliberate graphic alteration of the banknote, for example, figures or letters <sup>1)</sup>
4	De-inked note	Visually recognisable lack of ink on part or whole of the banknote, for example, washed banknotes
5	Tear	Banknote exhibiting at least one tear at the edge
6	Hole	Banknote exhibiting at least one visible hole
7	Mutilation	Banknote with part(s) missing, along at least one edge (in contrast to holes), for example, a missing corner
8	Repairs	Parts of the same banknote joined together by tape or glue
9	Composed note	Banknote consisting of parts from different banknotes
10	Limppness	Structural deterioration resulting in a marked lack of stiffness
11	Crumples	Multiple random folds across the whole banknote that strongly affect the visual appearance of the banknote

12	Dog-ears	Dog-ears on banknotes are to be unfolded
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<sup>1</sup>The Central Bank of Malta provides reference documents for credit institutions and other professional cash handlers.

Furthermore, euro banknotes exhibiting clearly noticeable defects in visible security features shall be sorted as unfit.

## II. MINIMUM REQUIREMENTS FOR AUTOMATED FITNESS SORTING

### Reliability

The acceptable tolerance level for the fitness checks by banknote processing machines or cash recycling machines is 5%. This means that a maximum of 5% of the euro banknotes that do not meet the fitness criteria below are allowed to be sorted as fit.

**Table 2: List of sorting criteria**

	Feature	Definition
1	Soiling	General distribution of dirt across the entire banknote
2	Limpness	Structural deterioration resulting in a marked lack of stiffness
3	Dog-ears	Corner folds
4	Tears	Self-explanatory
5	Holes	Self-explanatory
6	Mutilation	Banknote with part(s) missing, along at least one edge (in contrast to holes)
7	Repairs	Parts of the same banknote joined together by tape or glue
8	Composed note	Banknote consisting of parts from different banknotes
9	Stain	Localised concentration of dirt
10	Graffiti	Deliberate graphic alteration of the banknote
11	Crumples	Multiple random folds
12	De-inked note	Lack of ink on part or whole of the banknote, eg a washed banknote
13	Folds	Self-explanatory

### 1. SOILING

Soiling of banknotes increases the optical density of the notes and decreases their reflectance. The following table specifies the soiling level of banknotes which are still deemed as fit for recycling:

**Table 3: Soiling level of limit samples**

Denomination	Maximum density difference between limit sample and new banknote <sup>*)</sup>	Minimum reflectance which limit sample must exhibit (%)	Filter
€5	0,06	87%	Cyan
€10	0,06	87%	Magenta
€20	0,06	87%	Cyan
€50	0,07	85%	Magenta
	0,08	83%	Yellow
€100	0,06	87%	Cyan
	0,07	85%	Yellow
€200	0,05	89%	Yellow
€500	0,04	91%	Magenta

<sup>\*)</sup> Measurement to be made in the non-printed area but not in the watermark area.

The Central Bank of Malta keeps reference banknotes showing a soil level derived from the aforementioned figures. Circulated soiled banknotes exhibiting a visual soil level higher than these banknotes shall be sorted as unfit.

## 2. LIMPNESS

As far as possible, banknotes with a very low stiffness should be out-sorted. As limpness normally correlates with soiling, it can be expected that most of those banknotes can also be detected via soil sensors.

## 3. DOG-EARS

Dog-ears with an area of more than 130 mm<sup>2</sup> and a minimum length of the smaller edge greater than 10 mm should be sorted as unfit.

## 4. TEARS

The ability of sorting machines to detect tears is limited and depends on the location (direction) of the tears. Euro banknotes with tears larger than those indicated below should be sorted as unfit provided they are 'open' and located outside the area of the transport mechanics of the machine.

**Table 4: Tears**

Direction	Width	Length
Vertical	4 mm	8 mm
Horizontal	4 mm	15 mm
Diagonal	4 mm	18 mm*

\* 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.

## 5. HOLES

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

## 6. MUTILATION

Euro banknotes with lengths reduced by 6 mm or widths reduced by 5 mm should be sorted as unfit. All measurements relate to differences from the nominal lengths and widths of the euro banknotes.

## 7. REPAIRS

A repaired euro banknote is created by joining parts of the same banknote together, for example, by using tape or glue. This definition does not cover euro banknotes composed of parts from different euro banknotes (see item 8 below).

Tape covering an area greater than 10x40 mm and which is more than 50 µm thick should be detected and the banknote sorted as unfit.
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## 8. COMPOSED BANKNOTES

Composed banknotes are created when euro banknotes are divided intentionally into several parts only some of which are then joined together, or when parts of different euro banknotes are joined together, in order to create additional euro banknotes.

As composed euro banknotes differ from genuine banknotes by their reduced size, thickness and by a distortion of the image, these banknotes might be identified by the size, thickness or image detectors of the machines.

#### **9. STAINS**

Stains can only be identified as soiling, or if they change significantly the pattern of the euro banknote.

#### **10. GRAFFITI**

As only a few machines are currently equipped with sensors to reliably detect graffiti, no fitness criteria have been specified. There is no mandatory requirement.

#### **11. CRUMPLES**

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

#### **12. DE-INKED BANKNOTES**

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

#### **13. FOLDS**

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

### **4.2. ANNEX II**

#### **CLASSIFICATION AND TREATMENT OF EURO BANKNOTES PROCESSED BY BANKNOTE HANDLING MACHINERY**

##### **I. Customer-operated machines**

In the case of customer-operated machines, the deposited banknotes must be classified according to one of the following categories. Machines which do not check deposited banknotes for fitness and do not recycle fit banknotes, for example cash-in machines, do not need to distinguish between category 4a and category 4b.

**Table 1: Classification of banknotes by customer-operated machines and subsequent treatment**

<u>Category</u>	<u>Classification</u>	<u>Properties</u>	<u>Treatment</u>
1	Not a banknote, not recognised as euro banknote	Not detected as a banknote because of: <ul style="list-style-type: none"> <li>- Wrong image and format</li> <li>- Transportation error (e.g. double feeds, etc.)</li> <li>- Large dog-ears or missing parts</li> <li>- Hand-drafted banknotes, separating cards, etc. or</li> <li>— Non-euro currency</li> </ul>	Return to customer
2	Objects	Image and format recognised, but one or	To be withdrawn from circulation. To be handed

	identified as suspect counterfeit euro banknotes <sup>1</sup>	more authentication features missing or clearly out of tolerance.	over for authentication – together with information on the account holder – to the Bank as soon as possible and at the latest before close of business on the banking business day immediately following the day of detection. Not to be credited to account holder
3	Euro banknotes not clearly authenticated	Image and format recognised, but not all authentication features recognised because of quality and/or tolerance deviations. In most cases damaged or soiled banknotes	The banknotes have to be processed separately and transported to the Bank for authentication as soon as possible, at the latest 20 working days after deposit in a machine. <sup>2</sup> Information on the account holder has to be stored for eight (8) weeks after the banknotes have been detected by the machine. This information shall be made available on request. Alternatively, in agreement with the Bank, the information allowing the traceability of the account holder can be handed over together with the category 3 banknotes to the Bank. May be credited to account holder
4a	Euro banknotes identified as genuine and fit	All authentication and fitness checks supported by the machine delivered positive results	Can be used for recycling. To be credited to account holder
4b	Euro banknotes identified as genuine and unfit	All authentication checks supported by the machine delivered positive results. Fitness checks supported by the machine delivered negative results	Shall not be used for recycling and shall be returned to the Bank. To be credited to account holder

<sup>1</sup> As a rule, this category 2 will comprise most of the banknotes received by intermediaries "which they know or have sufficient reason to believe to be counterfeit" in the sense of Article 6 of the Council Regulation (EC) No 1338/2001 and Article 50 of the Act. The final decision on the genuineness of euro banknotes is made by the Bank.

<sup>2</sup> If category 3 banknotes are not physically separated from category 4a and 4b banknotes, all banknotes are to be treated as category 3 banknotes, and thus are to be returned to the Bank.

Registration and identification of (i) category 2 and 3 banknotes/counterfeits and (ii) the respective account holder is necessary to ensure re-traceability and thus enhance the level of security. To enable counterfeits which have been identified amongst category 3 banknotes by the Bank to be retraced to the account holder, banknote identification features together with the customer identification have to be stored for a minimum of eight weeks after the banknotes have been detected by the machine if the information is not handed over to the Bank together with the category 3 banknotes.

## II. Staff-operated machines

Staff-operated machines must classify the banknotes either as suspect or as genuine. The genuine banknotes should be checked for fitness and unfit banknotes should be separated from the fit ones.

**Table 2: Classification of banknotes by staff-operated machines and subsequent treatment**

Category	Classification	Properties	Treatment
A	i) Objects not recognised as euro banknotes, or ii) suspect counterfeit euro banknotes	Objects not detected as banknotes because of: <ul style="list-style-type: none"> <li>- Transportation error (eg double feeds, etc.)</li> <li>- Wrong image and format</li> <li>- Large dog-ears or missing parts</li> <li>- Hand-drafted notes, separating cards, etc.</li> <li>- Non-euro currency</li> <li>- Image and format recognised, but one or more authentication features missing or clearly out of tolerance, or</li> <li>- Image and format recognised, but not all authentication features recognised</li> </ul>	i) Objects not recognised as euro banknotes: e.g. blank paper, other currencies and cheques. After visual evaluation by staff member these objects should be separated from the suspect euro banknotes. ii) All other objects, i.e. suspect euro banknotes, have to be processed separately and transported to the Bank for authentication as soon as possible and at the latest before close of business on the banking business day immediately following the day of detection.



		because of quality and/or tolerance deviations. - In most cases unfit or soiled banknotes	
B 1	Banknotes identified as genuine and fit	All authentication checks and fitness checks supported by the machine delivered positive results	Can be used for recycling. To be credited to account holder.
B 2	Banknotes identified as genuine and unfit	All authentication checks supported by the machine delivered positive results. Fitness checks supported by the machine delivered negative results.	Shall not be used for recycling and shall be returned to the Bank. To be credited to account holder.

### 4.3. ANNEX III

#### COMMON NCB TESTS FOR BANKNOTE HANDLING MACHINERY USED FOR RECYCLING PURPOSES

In accordance with the Eurosystem's Banknote Recycling Framework, recycling of euro banknotes processed by banknote handling machinery requires the use of machines whose manufacturers have proven that their equipment complies with the requirements set out in that framework. To this end, the Bank offers manufacturers tests common to euro area NCBs for detector systems and banknote handling machines with a broad selection of topical euro counterfeits and genuine fit and unfit euro banknotes at appropriate locations. These tests as well as their results are valid throughout the euro area. Any type of customer-operated or staff-operated machine successfully tested by the Bank according to the Eurosystem's common test procedures can be used throughout the euro area, in line with national regulations/law and without re-testing by other NCBs. The Eurosystem publishes on the ECB/NCB websites a list of customer-operated and staff-operated machines which have passed the common test procedures at an NCB. If a successfully tested type of machine does not pass a re-test by an NCB, the machine will be removed from the ECB/NCB websites. Credit institutions or other professional cash handlers which install such machines are to notify the Bank of the use of the machines prior to putting them into operation.

NCBs will not issue to the manufacturers or other third parties any certification of the machines upon completion of a successful test. However, if a machine has successfully been tested by an NCB, a summary test report can be issued. A test is only valid for the tested counterfeits. The Eurosystem does not bear any formal responsibility in the event that the machines successfully tested by NCBs do not comply with the requirements of the framework. It is therefore the responsibility of the credit institutions and other professional cash handlers, in cooperation with the manufacturers, to update their machines by installing the latest version of the updated authentication hardware and/or software on the machines, as obtainable from the respective manufacturers. Credit institutions and other professional cash handlers shall require manufacturers, after any update of the authentication hardware and/or software, to have the respective type of machine re-tested by an NCB.

Manufacturers are requested to provide NCBs with relevant information on how the machines can be adapted to detect new counterfeits and/or more restrictive or less restrictive fitness standards, respectively, (i) only if software modifications are required, (ii) if software and hardware modifications are required. This information shall be covered by a non-disclosure agreement to be concluded between the parties involved.

## 5. CONCLUSIONS AND NEXT STEPS

This consultative paper serves to inform the Central Bank's future policy initiatives in relation to banknote recycling and to prepare Malta's implementation of the Eurosystem Banknote Recycling Framework. All submissions and comments received will be given serious consideration.

This paper is aimed at gathering input from all stakeholders, and will be distributed amongst credit and financial institutions, professional cash handlers and government authorities and entities. It will also be publicised as well as posted on the Central Bank of Malta's website in order to encourage the collection of views from the widest possible community. Reaction is sought before 30 September 2008, should be marked '**BRF Consultation**', and sent to:

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