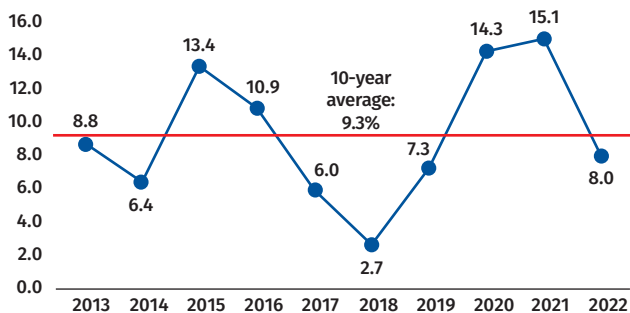


Issuing Currency

Currency in Circulation

Malaysia's currency in circulation (CIC) grew by 8.0% to RM162.1 billion in 2022 (2021: RM150.1 billion), compared to a record high of 15.1% in 2021 (Chart 1). This can be attributed to the public holding less cash for precautionary reasons as we transitioned out from the COVID-19 pandemic. Continued acceleration of digital payments¹ also contributed to the lower CIC growth, similar to the trend observed in many other countries.

Chart 1: CIC Annual Growth Rate (%)



Source: Bank Negara Malaysia

Currency Operations

The Bank is responsible for the entire currency-issuing value chain, including planning, issuance, circulation and withdrawal of currency notes and coins.

One of our responsibilities is to maintain high quality of notes in circulation. This requires the Bank to regularly process and remove from circulation unfit notes that fall below our prescribed standards. The Bank also works closely with financial institutions (FIs) and registered currency processors (RCPs)² on the processing of currency.

FIs and RCPs handle and process large volumes of notes on a daily basis and, thus, play an important role in ensuring that notes are processed, authenticated and sorted according to the quality standards set by the Bank. Among others, the Bank requires our notes not to be defaced with any word or symbol as well as not damaged.

Banknotes that pass this process are deemed fit and will be reissued into circulation (Diagram 1). Recirculating fit notes is both cost-effective and environmentally sustainable, given that note printing is water- and energy-intensive. In contrast, notes that do not meet quality standards are classified as unfit and will be shredded³.

As the sole issuer of currency, the Bank has a duty to ensure sufficient supply of notes and coins to meet public demand at all times, including during festive seasons when demand for cash is normally higher. The Bank ensures currency availability by keeping its stock at appropriate levels through timely delivery of new notes from the banknote printers as well as fit notes generated from currency processing.

In our daily currency operations, the Bank processes millions of notes each day using high-speed processing machines at our Automated Cash Centre (ACC) and five regional offices (BNMOs) in Pulau Pinang, Johor Bahru, Kuala Terengganu, Kuching and Kota Kinabalu. In 2022, we processed a total of 2.41 billion (2021: 1.84 billion) pieces of notes nationwide.

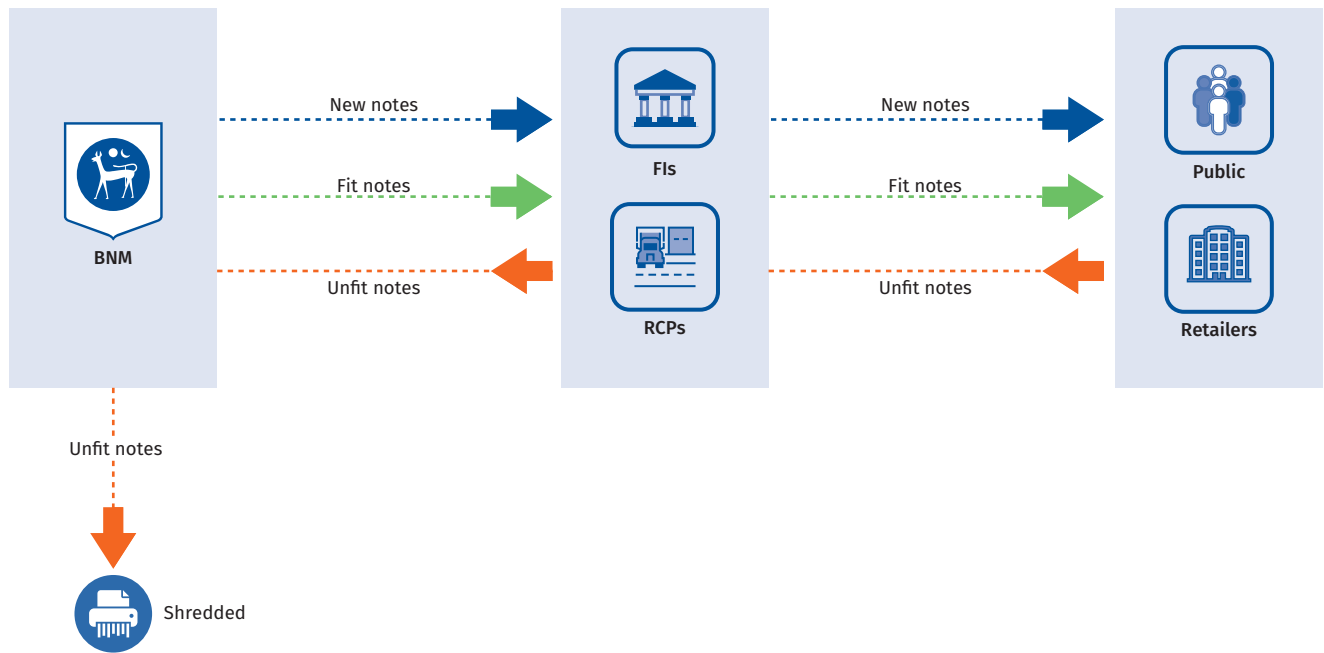
The Bank is also responsible for maintaining the integrity of Malaysian currency. This means minimising the risk of counterfeiting incidents to ensure high public confidence in our notes and

¹ See Chapter 1.5 on Promoting Safe and Efficient Payments and Remittance Services.

² Companies that are registered with the Bank under the Currency Act 2020 to carry out currency processing business, defined as the business of collecting, sorting as well as packing currency by quality, quantity and denomination.

³ To reduce the environmental impact of the Bank's currency operations, we will be adopting waste-to-energy process to convert the shredded notes into other usable forms of energy.

Diagram 1: Banknote Recirculation Model in Malaysia



Note: FIs – Financial Institutions
RCPs – Registered Currency Processors

Source: Bank Negara Malaysia

coins. In this respect, Malaysia’s counterfeiting index is insignificant at 0.3 parts per million (ppm)⁴ as of end-December 2022, well below the international counterfeiting benchmark index of 15 ppm. Our notes are embedded with numerous security features. Counterfeits detected are mostly poor imitations of genuine notes without any security features. An effective defence against counterfeit currency is widespread awareness of our security features (see the accompanying article entitled Banknote Counterfeiting in Malaysia: Trends, Challenges and Strategies).

For the procurement of notes, the Bank implements a competitive and open-tender process involving a range of reputable and eligible international banknote printers to keep operational costs down. Likewise, we also procure coin blanks through open tender for minting at our own facility, Kilang Wang.

In 2022, we issued four commemorative coins to mark special occasions that have national significance (Diagram 2). Featuring a different aesthetic element, the first square-shaped commemorative coin was introduced in conjunction with the 100th anniversary of Universiti Pendidikan Sultan Idris. We have an online platform for the public to order and pay for commemorative coins, with the purchased commemorative coins delivered directly to buyers’ homes.

To promote a greater appreciation of numismatics among the public, ringgit notes with special serial numbers with repetitive prefixes and numbers, such as LL0000001-0000010 and LL8888888, are regularly auctioned. In 2022, the Bank, via an appointed auctioneer, conducted two online auctions that attracted strong interest from collectors and bidders from around the world.

⁴ In other words, only three pieces are counterfeit for every ten million pieces of notes in circulation.

Diagram 2: Commemorative Coins Issued in 2022

100th Anniversary of the Cooperative Movement in Malaysia100th Anniversary of Universiti Pendidikan Sultan Idris50th Anniversary of Kuala Lumpur as a City50th Anniversary of Jabatan Sukarelawan Malaysia

Source: Bank Negara Malaysia

Currency Act

The Currency Act 2020 (CA2020) provides a comprehensive regulatory and operational framework for the management of currency operations, including the powers of the Bank to regulate and supervise currency processing businesses. This oversight is critical in the overall management of currency operations, given that most FIs outsource their currency operations to RCPs.

In line with the provisions of CA2020, the Bank on 1 April 2022 completed the registration of four cash-in-transit (CIT) companies as RCPs under the Act. Accordingly, all four companies have now come under the regulation and supervision of the Bank for currency processing business.

In 2022, we issued two guidelines⁵ for the members of the public to improve handling of currency.

The first is the revised Guidelines on Reproduction of Malaysian Currency Image issued on 1 April 2022. This document outlines the circumstances under which the reproduction of the images of Malaysian currency notes or coins are allowed and the conditions to be

observed to maintain the dignity and integrity of our currency. Among others, the Guidelines require that the reproduced images:

- must maintain the original design, differ in size from the actual currency note, refrain from distorting the Ruler's image or any of the designs; and
- must not be deemed inappropriate, offensive, compromise the currency's dignity and integrity, or appear on commonly discarded products (e.g. tissues and face masks).

The second is the revised Guidelines on Quality of Currency and Handling of Suspected Counterfeit Currency issued on 22 December 2022. This document provides the latest guidance on the following:

- how to assess the quality and integrity of CIC, including proper handling of currency, how to differentiate between fit and unfit notes, and procedures involved to exchange unfit currency with FIs for fit ones; and
- how to detect counterfeit currency, as well as procedures for handling such currency. Step-by-step guidance is provided on how to handle suspected counterfeit currency using the simple Feel-Look-Tilt-Check (FLTC) authentication method to detect counterfeit currency.

⁵ Accessible from the Bank's website at <https://www.bnm.gov.my/guidelines-related-to-currency-management-and-operations>.



Issuing Currency

In 2023, the Bank will continue its work on strengthening the regulatory framework for currency management operations by issuing two new policy documents. These policy documents will impose the

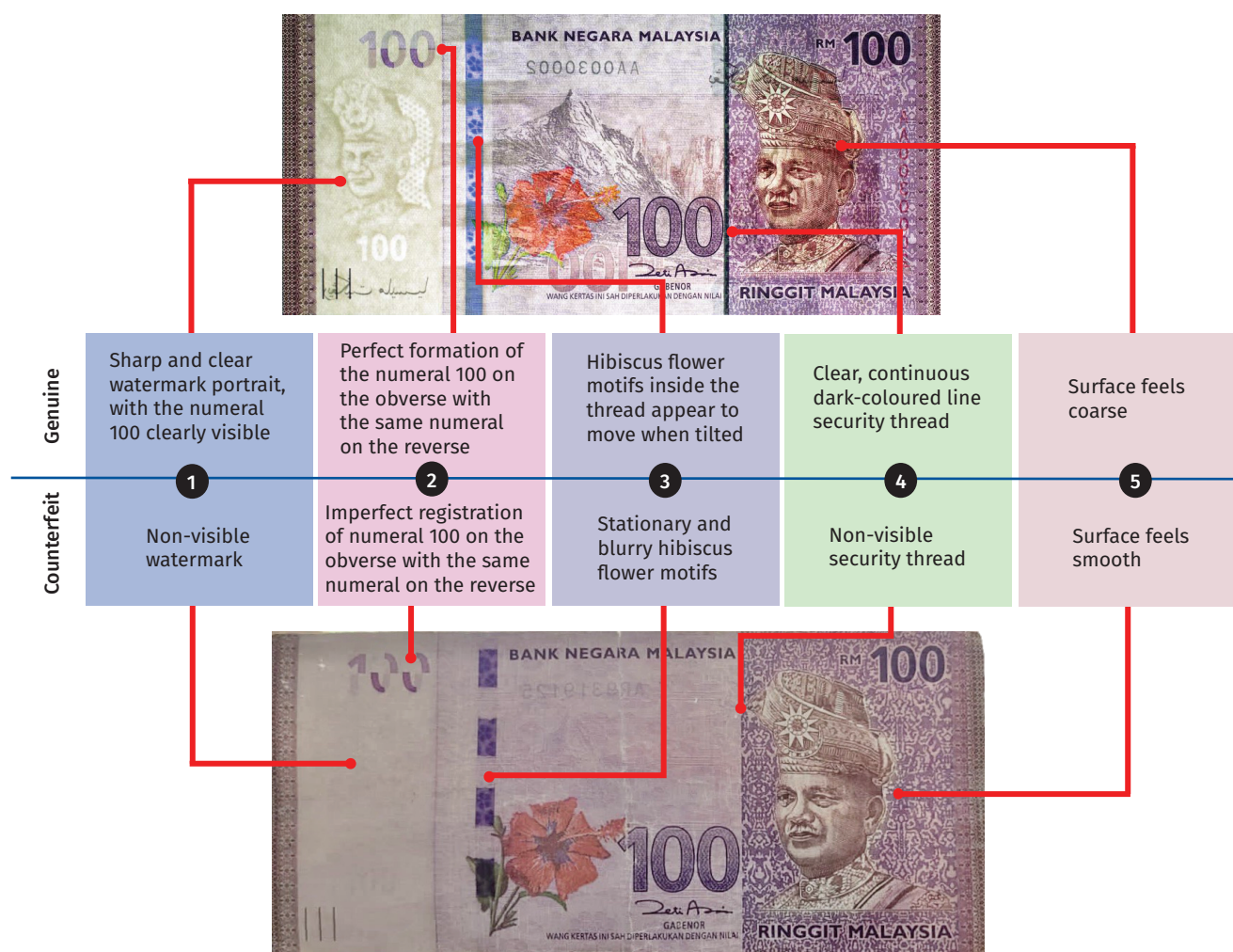
necessary requirements on FIs and RCPs to observe the quality and integrity of currency, and manage their business, affairs and activities prudently, professionally and with integrity.

Banknote Counterfeiting in Malaysia: Trends, Challenges and Strategies

As the sole currency issuing authority, only the Bank has the power to issue legal tender currency notes and coins in Malaysia. Legal tender means that the currency notes and coins issued by the Bank are legally recognised as valid means of payment. Counterfeit currencies, on the other hand, are imitations of genuine notes and coins that are produced by criminals with the intention to deceive the public for financial gain. Counterfeit currency is not legal tender and has no value. As such, the Bank does not reimburse any counterfeit Malaysian currency.

In Malaysia, counterfeiters usually target high denomination notes due to their high value. At first glance, counterfeit notes may appear similar to genuine notes. Upon closer inspection, however, there are clear differences that the public should be aware of. Genuine notes have many embedded security features that are harder to replicate. Thus, the best way to differentiate a genuine note from a counterfeit is to identify common security features such as the watermark, perfect see-through register, security thread and intaglio print (that gives a coarse feel on the surface of the notes) (Diagram 1).

Diagram 1: Identifying Genuine and Fake Banknote



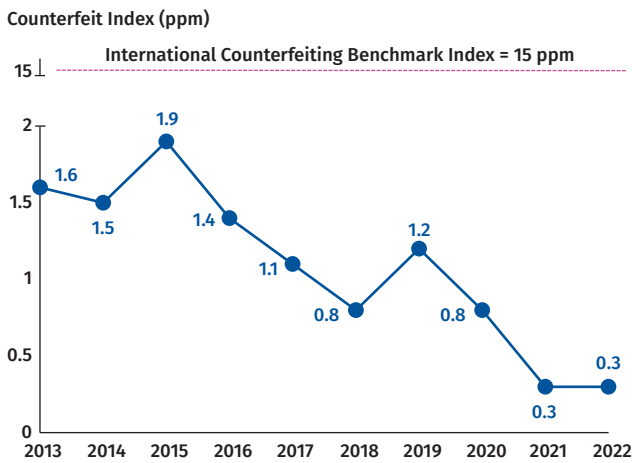
Source: Bank Negara Malaysia

Five Key Facts About Note Counterfeiting in Malaysia

Incidence of note counterfeiting in Malaysia is well below the international counterfeiting benchmark index of 15 parts per million (ppm).

Key Fact 1: Malaysia’s note counterfeiting index has been trending downwards

Chart 1: Counterfeit Index (ppm) Over 10 Years



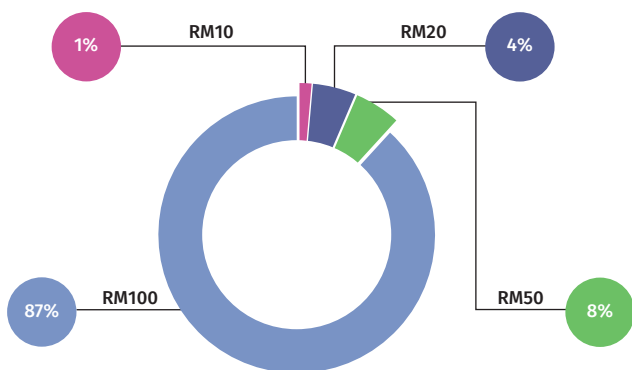
Source: Bank Negara Malaysia

In the last ten years, our note counterfeiting index has steadily declined from a peak of 1.9 ppm in 2015 to 0.3 ppm in 2022 (Chart 1), equivalent to only three pieces of counterfeits for every ten million pieces of currency notes in circulation. Reported cases of counterfeit notes are very rare.

Despite low note counterfeiting incidence, the Bank remains vigilant in curbing currency counterfeiting activities.

Key Fact 3: High denomination notes are more likely to be targeted

Chart 2: Counterfeit Percentage Based on Denominations

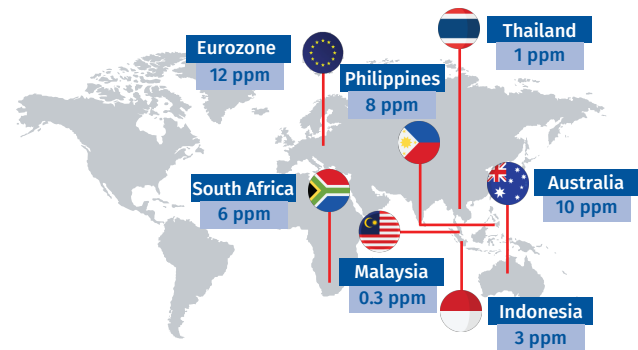


Note: Data from Jan'22 – Dec'22

Source: Bank Negara Malaysia

Key Fact 2: Malaysia’s note counterfeiting index is lower than that of other benchmarked countries

Diagram 2: Counterfeit Index Against Other Countries



Note: Data for 2021 (rounded up), except Malaysia

Source: Websites and Annual Reports of the Respective Central Banks

Malaysia’s low note counterfeiting index underlines the robustness of the anti-counterfeiting security features embedded into our notes.

Key Fact 4: Central region recorded higher incidence of currency counterfeiting

Diagram 3: Counterfeit Cases Reported According to Region



Note: Data from Jan'22 – Dec'22

Source: Bank Negara Malaysia

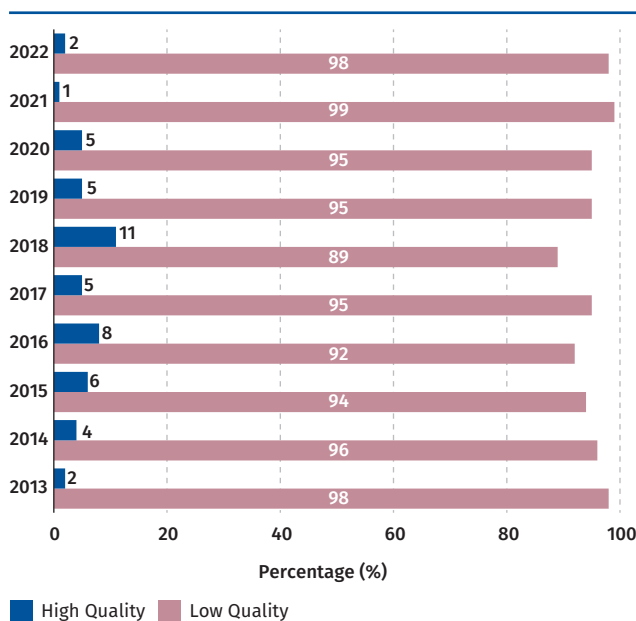
The two highest denominations, namely RM100 and RM50, are the most targeted denominations (Chart 2), accounting for 95% of all counterfeiting incidents reported to the Bank, due to their higher value.

The Central region, which has the highest concentration of population and CIC, recorded higher incidence with 69.3% of counterfeit cases reported in 2022 (Diagram 3). Reports of note counterfeiting in other regions are significantly fewer and isolated.

Counterfeit banknotes in Malaysia are mostly of low quality that can be easily identified.

Key Fact 5: Most counterfeit notes are of low quality

Chart 3: Percentage of Counterfeit Cases Based on Quality





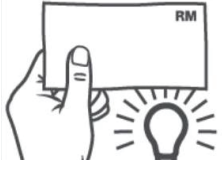







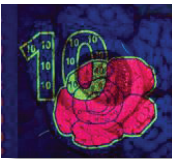

Source: Bank Negara Malaysia

Most counterfeit notes reported to the Bank are simple counterfeits, printed using colour printers on ordinary paper and without any security features embedded. With a smooth surface and no coarse feel, they are mostly of low quality, making the counterfeits easily distinguishable from genuine notes.

Counterfeit incidents in Malaysia are mostly perpetrated by small-scale operations, usually by petty criminals who work alone using commercial devices such as photocopiers, scanners and laser printers. As such, the counterfeits that they produce typically lack all embedded security features.

Our notes have numerous security features on both sides. These are a mix of both simple and sophisticated features. Simple features can be detected using the human senses of sight and touch. The public can make use of the Feel-Look-Tilt-Check (FLTC) authentication method (Diagram 4) to check the security features of our notes. The more sophisticated security features such as magnetic inks can be detected by sensors that are fitted on all cash deposit machines (CDM) as well as on high-speed processing machines used by the Bank, FIs and RCPs to process notes. Hence, it is highly unlikely that any counterfeit notes would pass undetected through any of these CDM and processing machines.

Diagram 4: FLTC Authentication Method for Detecting Counterfeit Banknotes

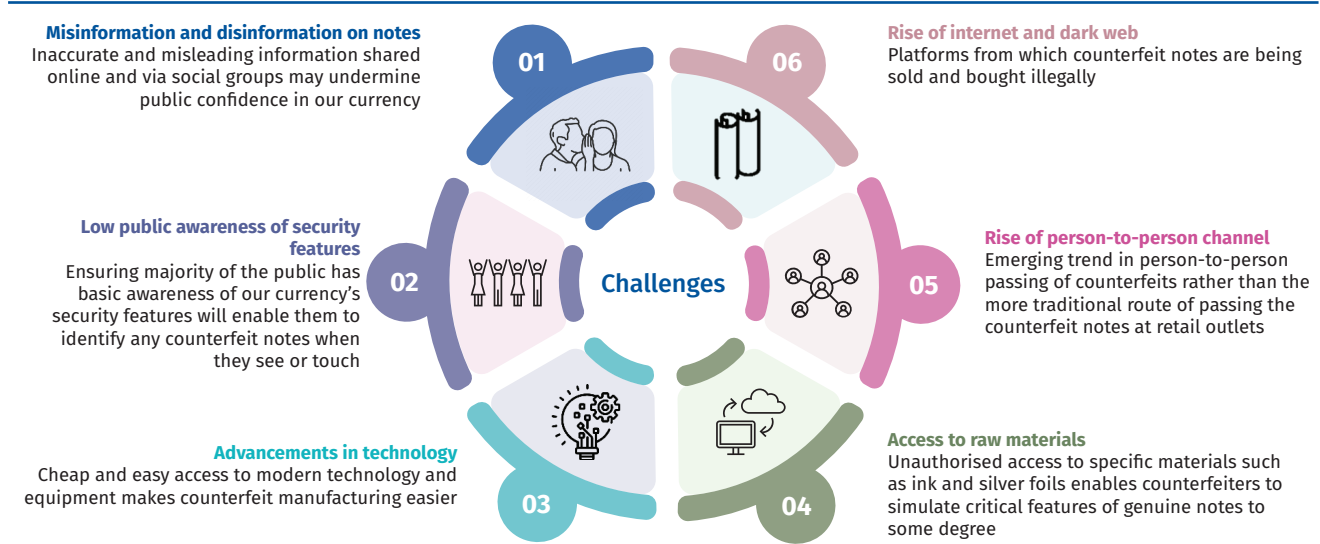
Method	Details	Security Features	
<p>FEEL</p> 	<ul style="list-style-type: none"> • Currency note is printed on a very high-quality paper/polymer material (substrate). • Raised printing effect produced by applying layers of tactile inks on various parts of the obverse and reverse sides of the note. 	<p>Feel the raised print effect on the portrait of the first SPB Yang di-Pertuan Agong</p> 	
<p>LOOK</p> 	<p>Look at the currency note against white light and observe:</p> <ul style="list-style-type: none"> • 3-Dimensional watermark portrait, perfect see-through register and clear window will appear. 	<p>Watermark portrait</p>  <p>Clear window</p> 	<p>Perfect see-through</p> 
<p>TILT</p> 	<p>Tilt the note and observe:</p> <ul style="list-style-type: none"> • Image and colour change at the security thread and coloured glossy patch. 	<p>Colour-shifting security thread</p> 	<p>Coloured-glossy patch</p> 
<p>CHECK</p> 	<p>Check the currency note using simple equipment:</p> <ul style="list-style-type: none"> • UV light device – paper material (substrate) will not glow except for selected security features. • Magnifying glass – micro-letterings will be clearly visible. 	<p>Fluorescent elements</p> 	<p>Micro letterings</p> 

Source: Bank Negara Malaysia

Six Challenges in Managing Currency Counterfeiting Threats in Malaysia

Despite low incidence of currency counterfeiting, managing currency counterfeiting threats remains a challenge (Diagram 5). Enhancing our notes with more security features will not completely eliminate counterfeit notes in circulation as counterfeiters will continue to develop and adopt newer techniques to defraud the public and evade the authorities.

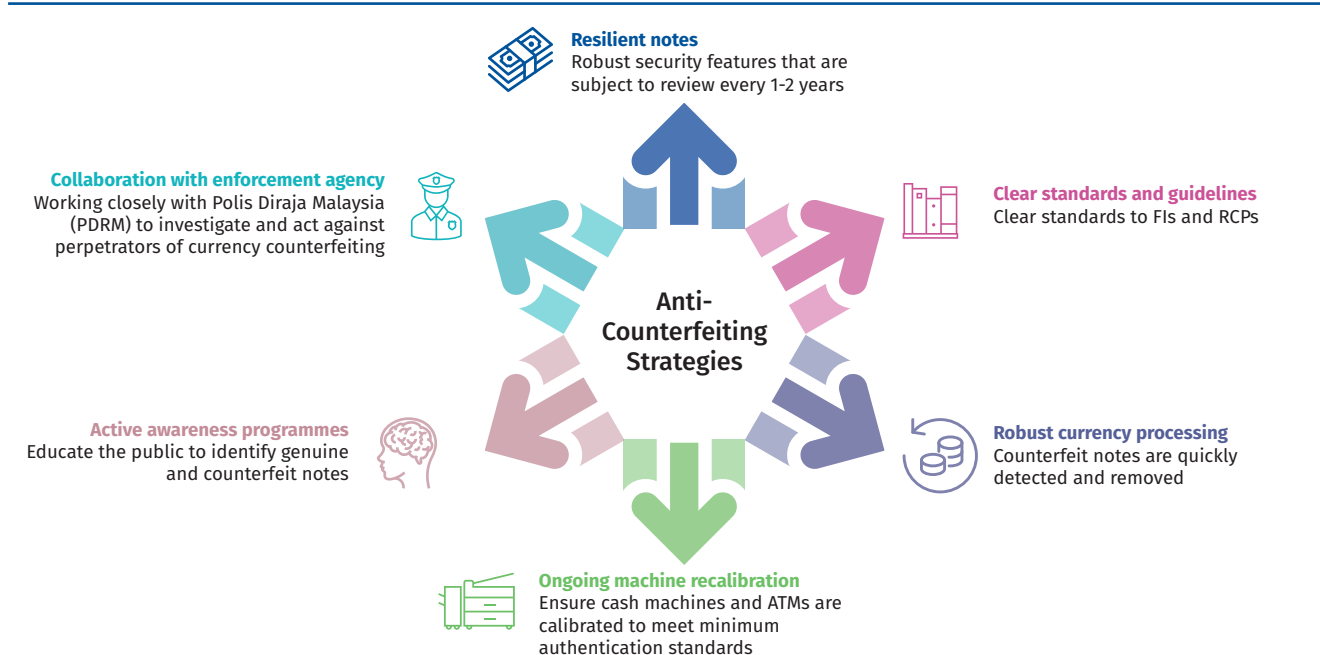
Diagram 5: Challenges in Managing Counterfeiting Threats



Source: Bank Negara Malaysia

The Bank plays an active role to protect the integrity of our currency and ensure high public confidence in the country's notes and coins. Six anti-counterfeiting strategies are deployed to ensure our currency notes and coins remain protected against counterfeiting (Diagram 6).

Diagram 6: Anti-Counterfeiting Strategies



Source: Bank Negara Malaysia

Issuing notes with robust security features into circulation is one of the Bank's multi-pronged anti-counterfeiting strategies. We also develop standards for our industry players and guidelines for the public to ensure any counterfeit notes are detected and removed so that only high-quality notes are reissued into circulation. In combating counterfeiting activities, the Bank works closely with cash machines and Automated Teller Machines (ATMs) operators to calibrate their machines to meet our authentication standards. The Bank also collaborates with external stakeholders to conduct currency awareness programmes to enable them to spot counterfeit notes when they see or touch one. In ensuring the effectiveness of the strategies, the Bank works closely with PDRM to investigate and act against perpetrators of currency counterfeiting.