



**WELCOME TO THE INAUGURAL newsletter of the International Polymer Currency Association (IPCA).**

IPCA will assemble the knowledge and experience of various industry sources such as technical experts, polymer printers and Central Banks, in order to keep the industry up to date on developments in polymer banknote technology.

There is growing interest in polymer banknotes from countries around the world and the benefits they provide are becoming increasingly acknowledged. Undoubtedly, the polymer banknote will play an integral role in our banking future.

As polymer is the way forward, IPCA is the first step.

## Leading Edge Security



Clear windows can incorporate security features such as the transitory image.

Today, scanning technology means visual details on a banknote can be replicated accurately enough to deceive the eye. Polymer based security features are more efficient in addressing the threat posed by reprographic technology.

# Latin America's largest economy issues first polymer banknote



The design of the Brazilian 10 Reais Banknote depicts the discovery period of Brazil's history.

**TO COMMEMORATE 500 YEARS since the discovery of Brazil, the Central Bank of Brazil has issued a polymer 10 Reais banknote.**

Brazil, Latin America's largest economy, has taken advantage of the extensive design parameters of polymer to present a bold dynamic face to the world. The design colourfully celebrates the discovery of the country with the image of Pedro A. Cabral, the Portuguese navigator who first arrived in Brazil. It also carries images of the multitude of different races that make up the cultural melting pot that is Brazil.

Public interest in the new polymer note has been extremely positive, with discussions revolving around the security features that make counterfeiting more difficult, the environmentally friendly nature of polymer, its recyclability, the improved cleanliness of each note and the durability of each note – durability is at least five times greater than paper notes.

The use of the polymer banknote has enabled the incorporation of leading edge security features never before used in Brazilian currency. The combination of transparency and opacity of the polymer substrate provides the security edge. The metamer window filter on the new banknote provides a unique element of banknote verification. The centre of the transparent window is printed in red ink (metameric filter) and when folded it overlaps the metamer feature on the other side and the number 10 becomes visible to the eye. A tactile benefit is also achieved by blind embossing in the window that can be felt with the tip of the finger. Another new polymer enabled security feature is the Shadow Image, which enables the caravel (XVI century ship) to be visible when the note is held up to the light.

With the planned issue of 250 million polymer 10-Reais notes over 2 years, Brazilians will have every opportunity to experience the entire range of new features that surround the polymer note.

## Polymer success in Australia spreads across the region...

**BANK INDONESIA HAS RECENTLY released 500 million new 100,000 Rupiah polymer banknotes into general circulation. Following the success of polymer in Australia and New Zealand, the Governor of Bank Indonesia said, "the money, made from polymer substrate lasts longer and is much more difficult to counterfeit than paper."**

The recent financial crisis in Indonesia caused a massive public withdrawal of banknotes around the country. The crisis also saw a dramatic increase in counterfeiting.

In order to increase the currency supply and to increase the security of banknotes, Bank Indonesia issued the new banknote made from polymer substrate.

The application of new security features on the banknote has helped enhance and protect the integrity of the Indonesian currency.

# European Trendsetter

## Northern Ireland leads the way

**NORTHERN IRELAND'S LARGEST bank, Northern Bank, has issued a commemorative 5 Pound polymer banknote, the first of its kind to be issued by any bank in the European Union. Two million 5 Pound polymer banknotes have been issued to mark the advent of the new millennium.**

The polymer banknote includes enhanced security features, which make counterfeiting more difficult. It is waterproof, far more difficult to initiate a tear and lasts at least five times as long as paper notes.

In view of the global attention being paid to counterfeiting, the polymer banknote could well be the shape of things to come.

The design of the polymer banknote, which 'reads' vertically, visibly reflects Northern Banks dynamic approach to the new millennium and its desire to adopt advanced, proven technologies.

Tony Murphy, Northern Banks' Chief Operating Officer said, "it's a note which reflects Northern's innovative and dynamic approach. We hope the people of Northern Ireland enjoy using it. This new note will mark Northern Banks entry into the new millennium and is sure to cause a stir".



The front of the millenium five.

## SPECIAL REPORT:

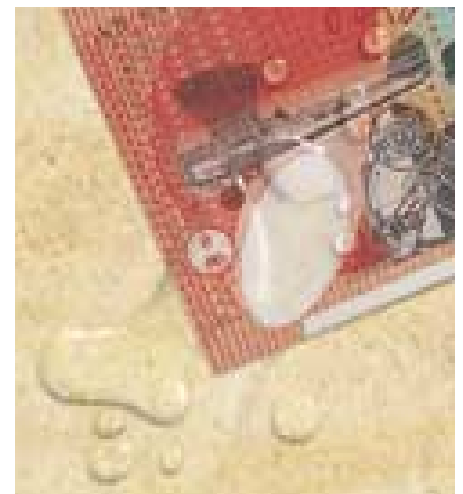
### Australian Experience Proves Polymer Lives Longer

'Polymer outlasts paper because it is stronger, non porous and non fibrous'.

Rigorous laboratory trials, a range of industry recognised tests and specially designed simulations have demonstrated its performance in extreme conditions: polymer banknotes endure temperatures up to 120°C with no significant impact. But the real test has been in everyday use of the notes.

The circulation life of a polymer note is around five times that of the equivalent paper note. Polymer's durability across diverse handling and climatic conditions has been demonstrated in Australia over the last ten years. Australia's paper \$10 note had an average life of eight months. Today, the polymer \$10 note lasts at least 40 months.

Source: Reserve Bank of Australia



Polymer bank notes are impermeable to water and suitable for use in humid conditions.

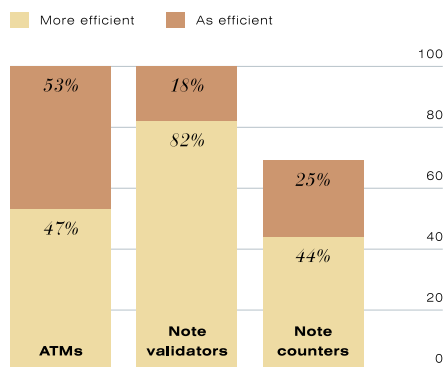
# Banknote design in step with an automated world

By Wayne Jackson, Senior Research Scientist, Note Printing Australia Ltd.

**THE EVER INCREASING DEMAND FOR BANKNOTES TO BE USED IN machines indicates unequivocally that machines must be considered in the design of new banknotes. Banknotes made from polymer have proven to be especially friendly to the smooth operation of cash in all types of machines, such as ATM's, Teller Assist Machines, Vending Machines and Currency Verification and Currency Sorting Machines.**

Currently machines are required to count, transport, dispense and verify banknotes. Banknotes must be able to feed neatly into a machine so the transport system can present each note consistently without impacting on the throughput of the machine. Sensors and detectors must be able to accurately verify and count banknotes, which must then be delivered to the end user in a manner that requires no additional labour or processing.

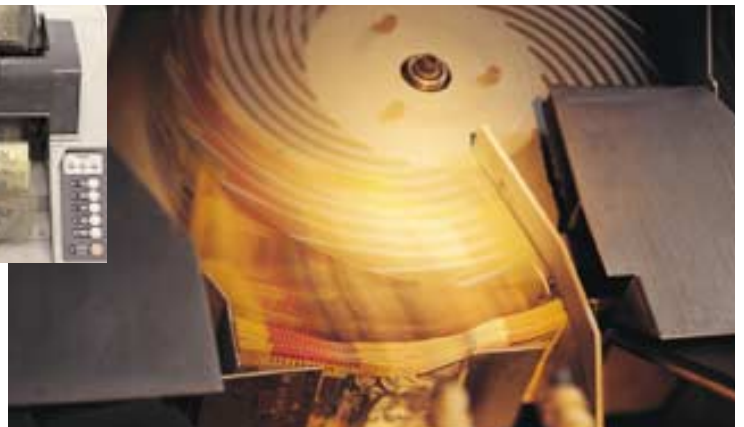
Surveys conducted amongst manufacturers and users of Automatic Teller Machines, Note Validators and Note Counters, have established that polymer banknotes have led to significant improvements in machine processing.



Machine Processing Improvements Summary.  
Source: Reserve Bank of Australia



Polymer banknotes are suitable for desktop counters.



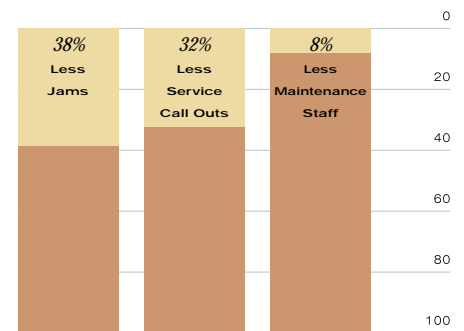
CVCS machines achieve higher productivity rates.

The most important aspect of cash handling machines is that they require consistency to perform at their optimum efficiency. To meet this requirement, polymer banknotes are well designed to improve the operation of all types of cash machines as polymer not only lasts longer, its physical properties and security features remain the same for the life of the banknote. This improved functionality of polymer banknotes allows sensors a greater chance to detect counterfeits, transport systems to be set to an optimum setting and maintenance of the machines to be significantly reduced.

## 38% less machine jams

The machine-friendliness of polymer banknotes over paper not only makes them faster, easier and cleaner to process but results in significant reductions in machine jams, service call outs and maintenance staff.

Polymer's unique properties consequently lead to an increase in productivity, significant reduction in downtime and overall significant cost savings.



Average decline in servicing requirements.  
Source: RBA Machine Processing Improvements Summary

# New Zealand goes all Polymer

by Brian Lang, Chief Manager, Currency Department, Reserve Bank of New Zealand

**With the release in March this year of the \$50 polymer note, all banknotes in New Zealand are now made from polymer.**

The introduction of polymer banknotes has been well accepted by the general public around the country. The banks, other money handlers and the Automated Teller Machine (ATM) companies have reported no problems.

The first note of the series, the \$20 note, was issued into circulation in May 1999. In making the decision to move to 'all polymer' banknotes, we considered all the key factors of this new technology. These included the public security features, such as the clear window incorporated in a polymer note and the cleanliness of the note (obtained by the protective varnish to the polymer substrate, which makes a cleaner environmentally friendly product). The durability of the polymer note was also a key factor. We are expecting the polymer notes to last at least five times longer than our old paper notes.



**With the issue of the \$50 polymer note, all notes in New Zealand are now polymer.**

Prior to the issue of the first polymer banknote in New Zealand, we received the necessary support from the Reserve Bank of Australia. They assisted us in conducting seminars for cash handlers in all our major cities. These

seminars covered topics such as the benefits of polymer banknotes, what security features to look for and advice on how the notes should be handled and stored.

## Cost Effective Focus

Focus on the cost effectiveness of introducing polymer notes was substantial. We concluded that if we changed from paper to polymer, we could recoup the transition costs in two years and the ongoing annual cost of our expected note issue would be reduced by 45%.

## Making the Right Decisions

It has been very pleasing to see that counterfeits have been reduced significantly. For example, to date we have only detected one attempt to counterfeit a \$20 polymer note in New Zealand and that was on paper.

We are also very pleased with the way polymer notes are standing up to wear and tear. The change to polymer has been overwhelmingly positive, for both the public and the Reserve Bank. Our experience to date has clearly shown that our decision was right for New Zealand.

Late last year, we released the special \$10 banknote commemorating the new millennium to collectors. This note was printed on the same polymer substrate used for our new circulating notes, with special security features, which are world firsts. A key objective in releasing the note is to gauge public reaction to the new security features and test their effectiveness, with a view to perhaps incorporating the features in future issues of our circulating notes.

# Viewpoint

**THE POLYMER SYMPOSIUM, HELD in Melbourne and Sydney Australia in October 1999, confirmed a great and growing interest in polymer banknote technology. Central Banks and Banknote Printing Works' personnel from around the globe gathered together to obtain information and exchange experiences with the Central Bank fraternity. The success of this gathering led to the concept of an 'International Polymer Currency Association' (IPCA).**

As we begin the new millennium, a new banknote technology is challenging paper's traditional role as the currency of choice. Polymer has emerged as the new standard in banknote technology. IPCA was formed to provide issuers and the banknote industry at large with information and assistance on the polymer banknote technology. We hope that you find it both interesting and informative.

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# IPCA

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