Case Study

The Royal Mint | Established *for* Tomorrow™

Reducing costs and future-proofing currency

Generating revenue from existing coins and introducing more cost-effective replacements

Details at a glance

Client	Her Majesty's Treasury
Project type	Coin Reclamation Programme
Denomination	5p and 10p
Product specification	Cupro-nickel (CuNi)
Year of issue	2013
Volume	Target 65% extraction of CuNi
Project duration	3 years

Coins have traditionally been manufactured using high cost alloys, usually made of brass, copper, nickel and zinc. Since metals are procured at market rates they are subject to the volatility and availability of the commodities market. Issuance authorities are continually faced with rising costs, driven predominantly by the cost of these raw materials themselves.

In many countries, the intrinsic metal value can be greater than the face value of the coins themselves. This creates negative seigniorage, which can lead to illegal removal and smelting of coins and coin hoarding activities. These reduce the efficiency of the monetary system, and cause further value losses for the issuance authority.

"Our Coin Reclamation Programme gives issuing authorities, treasuries and mints an incentive to switch from old to new coins by funding the otherwise costly change from the metal value realised from the old coins. This helps to maintain demand for new coinage when metal prices are high. Usually, high prices delay re-coinage decisions."

Vin Wijeratne, Director of Finance,
The Royal Mint

Benefits of the Coin Reclamation Programme

- Cost of introducing new coins offset
- Value of metal from legacy coins maximised
- Release of bank vault space taken up by old coins
- Stock optimisation at vault/storage facilities prior to coin changeover
- Major seigniorage improvement compared to solid alloys
- New aRMour® mono-ply coins have more future-proof, cost-effective composition
- New mono-ply coins completely recyclable at end of life

Case Study - Coin Reclamation Programme

Dealing with the challenges

There are security issues involved with removing coins from circulation and having them destroyed. It can be a time-consuming, labour-intensive procedure and difficult to access the appropriate skills or resources. It is also hard to know how to extract the maximum value from these legacy coins, making it an expensive process if managed incorrectly.

Planning out the process

The Royal Mint team put forward a proposal to Her Majesty's Treasury indicating the benefits of a coin reclamation programme. The target was to remove 65% of cupro-nickel (CuNi) 5p and 10p coins within three years, replacing them with nickel-plated steel coins that look and feel the same and, importantly, can co-circulate with the CuNi coins to allow a seamless replacement programme. The Royal Mint sees the switch from solid alloys to copper-and nickel-plated steel as essential for the long-term sustainability of UK coinage.

Essentially, there are three primary stages to any successful reclamation programme:

- Identifying the legacy coins and separating from other coins
- Extracting the valuable alloys and recycling /selling the reclaimed metal
- Replacing legacy coins with durable, cost-effective options such as aRMour® mono-ply plated-steel coins

Taking a partnership approach

The working relationship and open communication with industry stakeholders – vending associations, retailers, cash processing centres and cash-in-transit operators – was crucial to the success of the programme.

A partner to facilitate the withdrawal of the legacy coin was required and it was critical that they met our usual high standards for working with The Royal Mint, so a robust tender process was undertaken. Vaultex best satisfied this requirement. An initial trial was outlined and carried out and, following its success, the wider withdrawal programme was implemented.

Extraction of the CuNi coins was carried out using robust processes, with Vaultex developing innovative solutions to exceed delivery targets with minimum impact on the rest of the cash cycle. Accuracy tests showed an incredibly small margin of error – less than one hundred in every million coins were not the target composition.

Realising multiple rewards – financial and environmental

The coin reclamation programme is delivering many benefits. By replacing CuNi coins with our aRMour mono-ply nickel-plated steel, we have successfully implemented long-term cost-savings for the UK Government, with The Treasury seeing millions of pounds in financial returns.

By choosing aRMour mono-ply coins, with a steel core, The Treasury's currency expenditure is more protected from the volatile metal prices that can have a huge impact on purchasing homogeneous coins. Future spend on coinage is less likely to fluctuate so budgeting is easier.

Converting all of the 5p and 10p coins from CuNi to aRMour mono-ply would avoid generating almost 200,000 tonnes of CO_2 emissions. The purity and size of crushed old coins makes them an ideal feedstock for melting – significantly reducing energy consumption when compared to melting virgin ingots.

Old CuNi coins are being completely recycled into new coins or used in other applications with thousands of tons of high quality metals being recovered. New mono-ply coins are totally recyclable at the end of their life and are used in the stainless steel industry: this all minimises energy consumption and landfill volumes.

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