The Royal Mint

Securing Money

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March 2015

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- The history of coin security
- What makes a secure coin today
- The future of Coin Technology
- First look at the new UK £1 launching 2017

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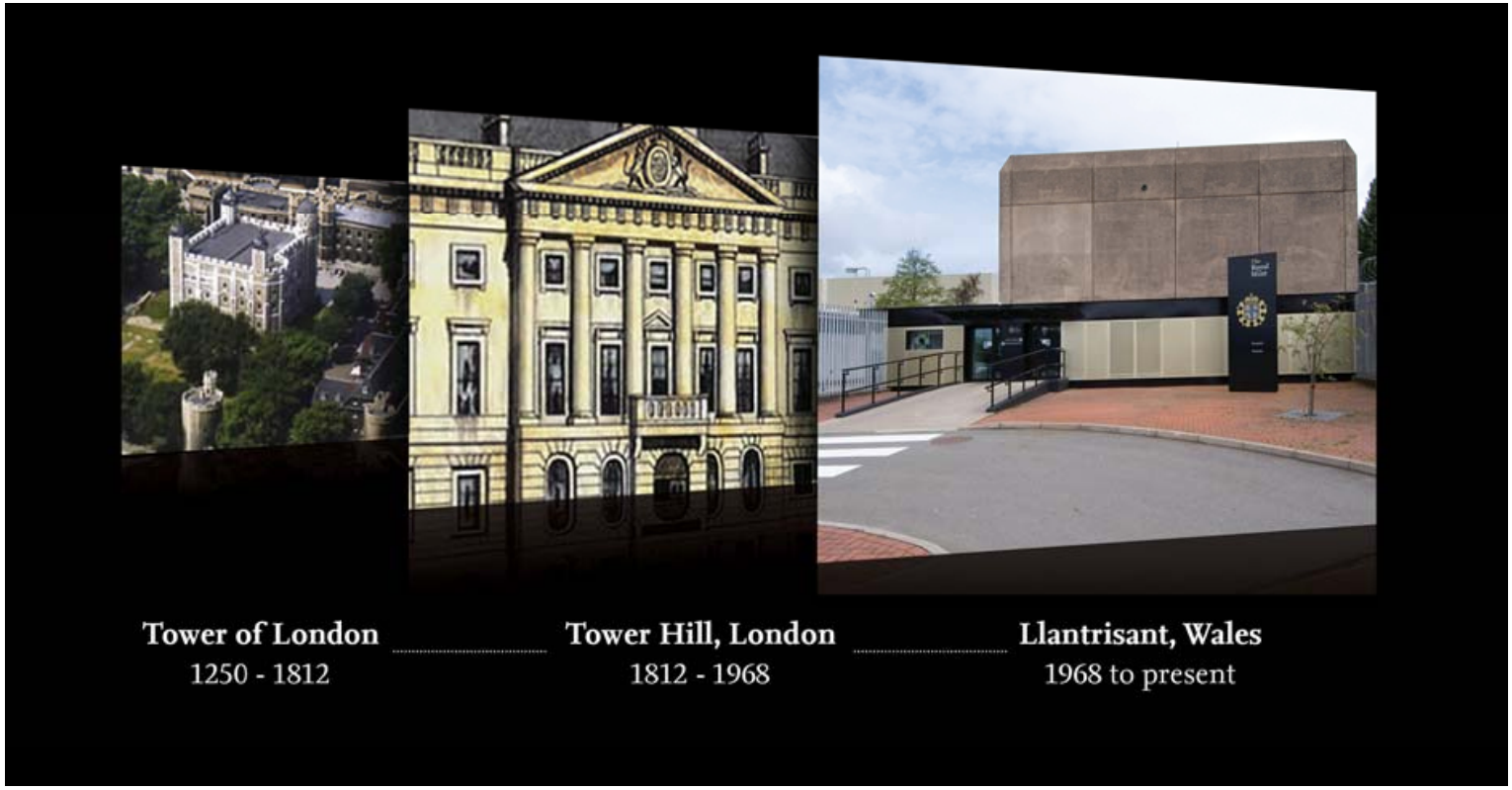
Our History



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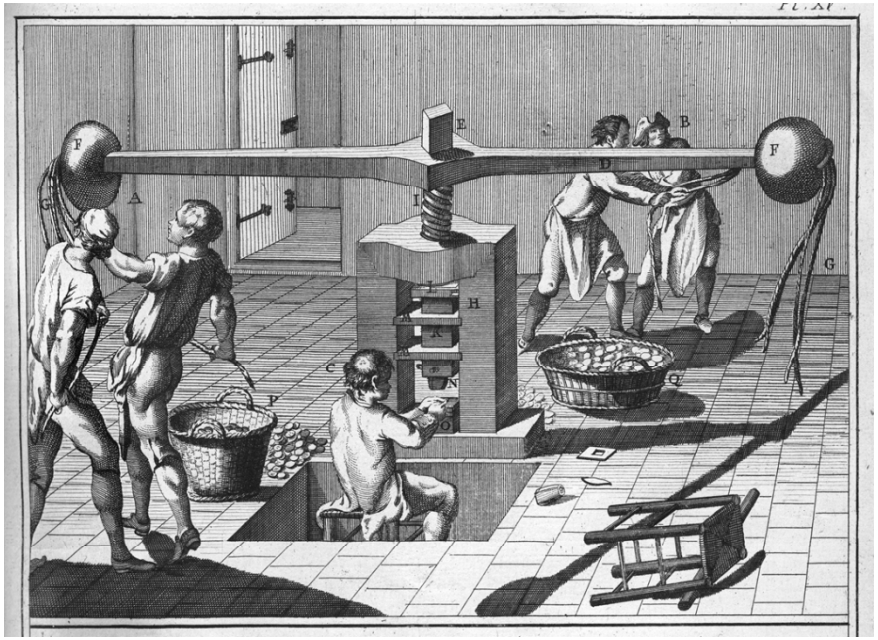
The History of Coin Security

- The battle between coin minter and counterfeiter has waged for thousands of years
- Up until the 20th Century most coins were made from gold and silver
- The 17th Century was a golden age of coin innovation
- Milling and edge lettering. First widely used on coins from the 1660s when the coining process is modernised and machinery introduced for the production of coins



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Sir Isaac Newton – Security Advisor

- Isaac Newton makes the point that having the highest quality coin is the best way to deter counterfeiting.
- This incorporates the coin as a whole – accuracy of the specification and the highest quality design.
- Raises the bar to which the counterfeiter must match.

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Independent Verification
The Trial of the Pyx

- Since at least 1282 coins produced by The Royal Mint have been independently verified.
- The oldest quality assurance test in the world.
- An independent jury verifies that the coinage matches the weight and specification as laid down by Royal Proclamation.
- Trial plates against which the fineness and composition of the coins can be checked are kept for comparison.

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Coin Security Features Today

There are two major types of coin security:

Overt Security

Visible security features

Covert Security

Hidden security features

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Overt Security

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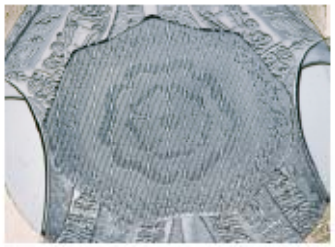
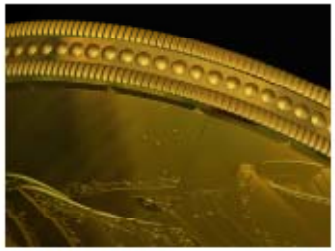
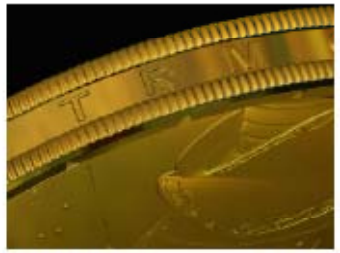
Security Features

Edge Lettering	Latent Feature	Fine Engraving	Micro-dots and Micro-lettering
			
Text impressed into the coin edge	Reveals 2 different images as angle is changed	Similar to the lines used on banknotes	Dots or symbols positioned at precise location

Beading	Groove Raised Lettering	Bi-colour or Bi-metallic Coins	Shape
			
Raised beads in a groove around the coin's circumference	Raised lettering in a groove around the coin's circumference	Two composite parts are struck together creating a secure bond	Quick public recognition

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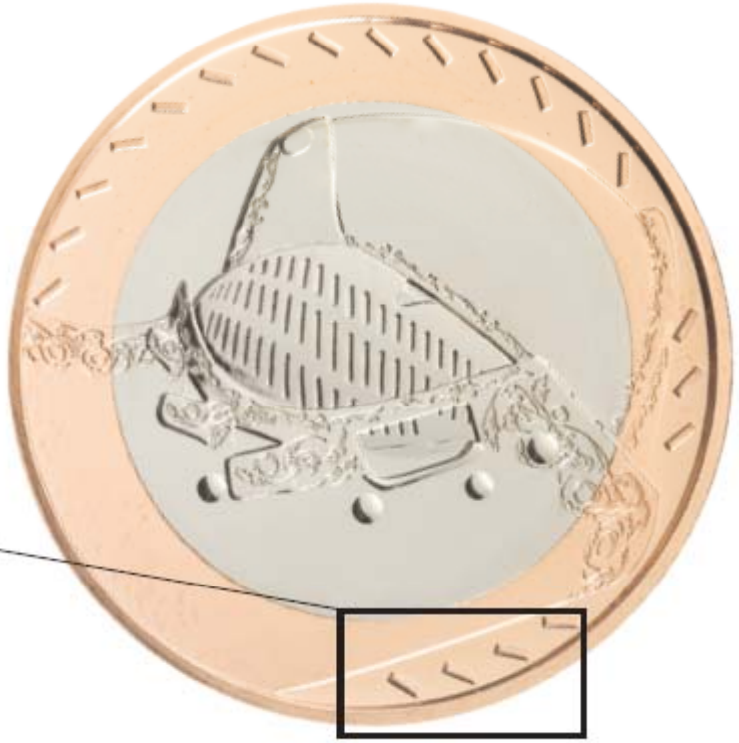
Edge Lettering

A security feature where letters run around the edge of a coin. The letters are formed into the edge of the coin prior to striking. This is a technically complex process and as a result very difficult to counterfeit.



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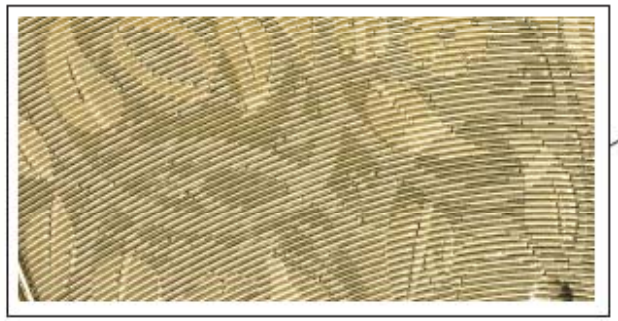
Latent Image

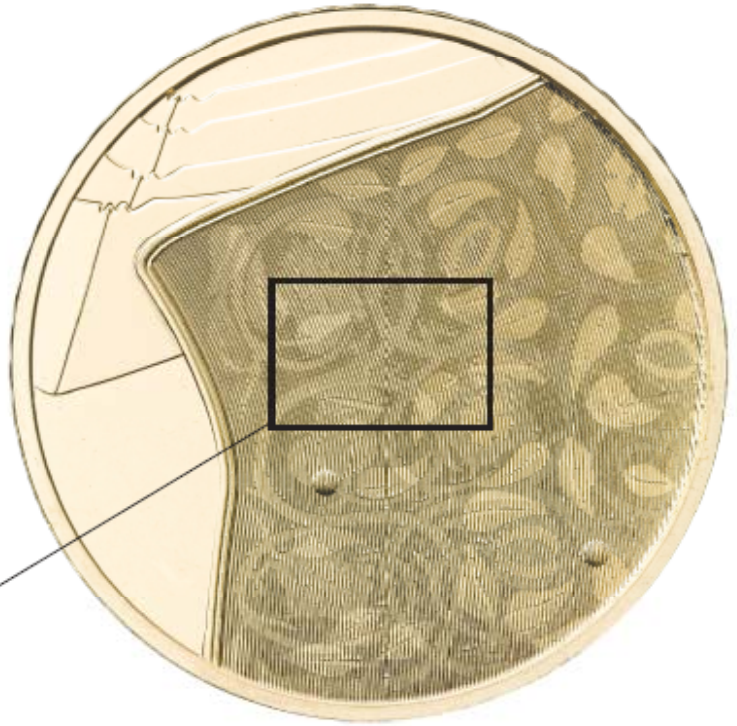
A high-tech security feature struck into the coin design that significantly deters counterfeiting.

An intricate and detailed pattern is cut expertly into the coin tooling.

The result is an intricate and secure design on the coin that moves and changes when the coin is tilted.

It provides the public with a quick and easy anti-counterfeit test and reassurance of the coin's integrity.





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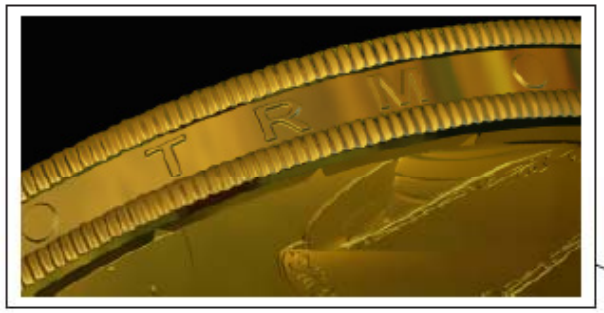
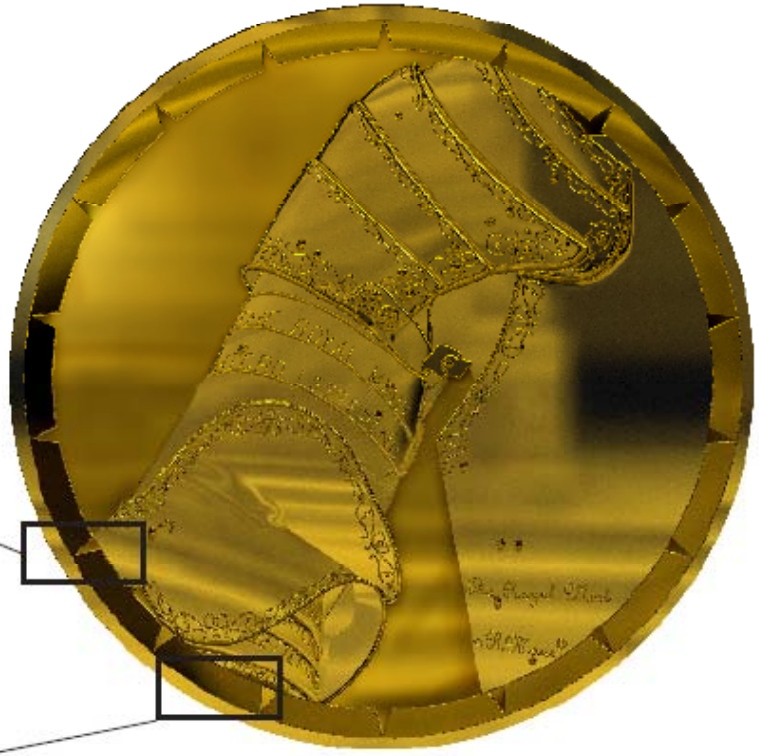
Raised Edge Lettering and Beading in a Groove

This feature offers a high level of visual security and is extremely difficult to replicate or counterfeit. This security feature was developed within The Royal Mint to provide a significant enhancement in on-going overt coinage security.





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Fine Engraving

Fine engraving delivers a security feature similar to that seen on banknotes, with the added benefit of 3D design.

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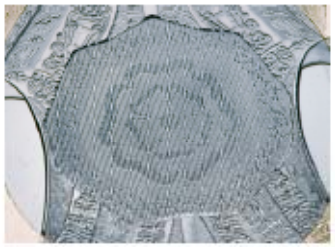
Security Features

Edge Lettering	Latent Feature	Fine Engraving	Micro-dots and Micro-lettering
			
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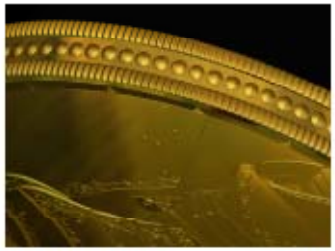	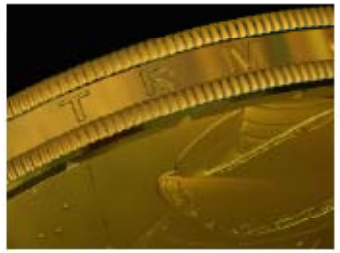		
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Covert Security

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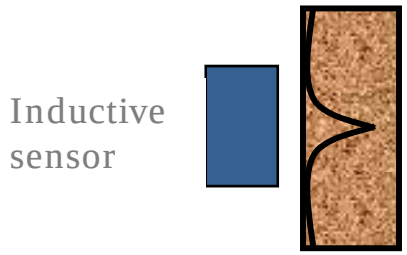
Electromagnetic Signature

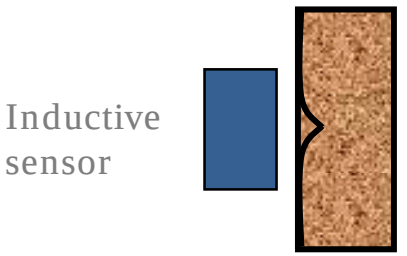
EP23

Used in most vending machines

A mixture of high and low frequencies used to determine composition and validity

- High frequencies do not penetrate into the core of the coin and are therefore sensitive to the surface material.
- Lower frequencies penetrate deeper into the coin and are therefore sensitive to both surface and core material.





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Slide 16

EP23 This slide says more or less the same thing as the last slide. Also, position og text and image

Emma Penrice, 21-05-2014

The next innovation in coin security

EP35

- Used in many high security industries such as tax stamps, passports and luxury goods
- The Royal Mint has found a way to incorporate this feature into a coin to create a new generation of 100% machine-readable, coins that offers banknote strength security

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Slide 17

EP35 This slide says more or less the same thing as the last slide. Also, position og text and image

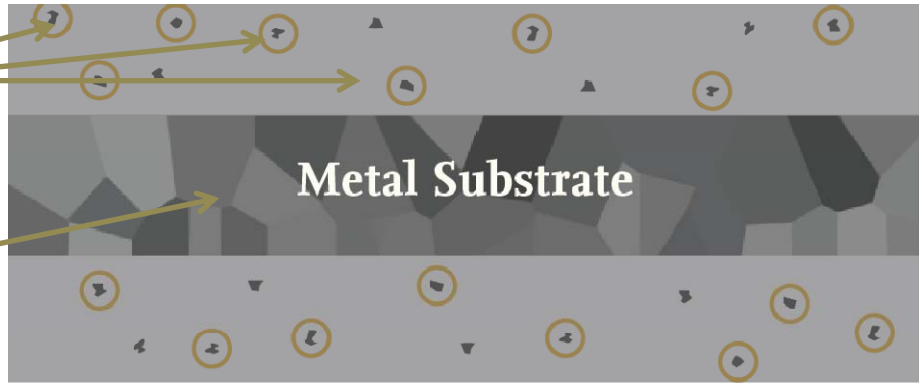
Emma Penrice, 21-05-2014

The High Security Feature

The high security feature is incorporated into the plated layer during the production process

High security feature clearly visible throughout the plated layer

Metal Substrate



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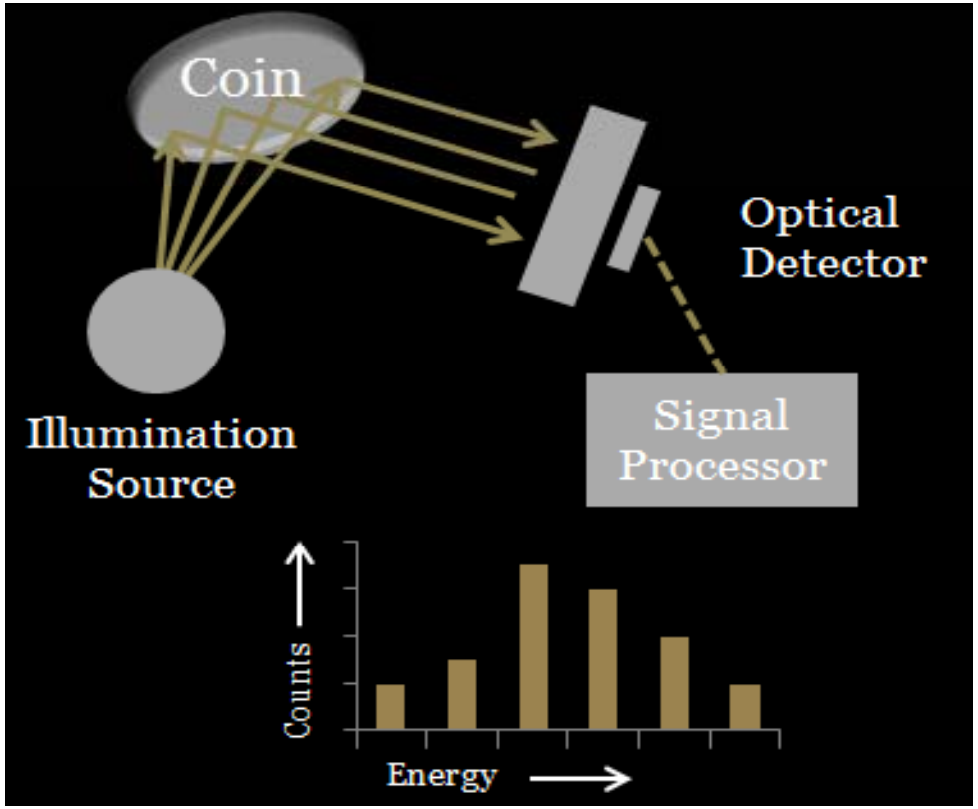
How Does it Work?

Detected using stand alone optical readers

Readers can be incorporated throughout the cash cycle

The technology is able to check and verify coins at a rate of thousands per minute

Provides a categorical Yes/No answer



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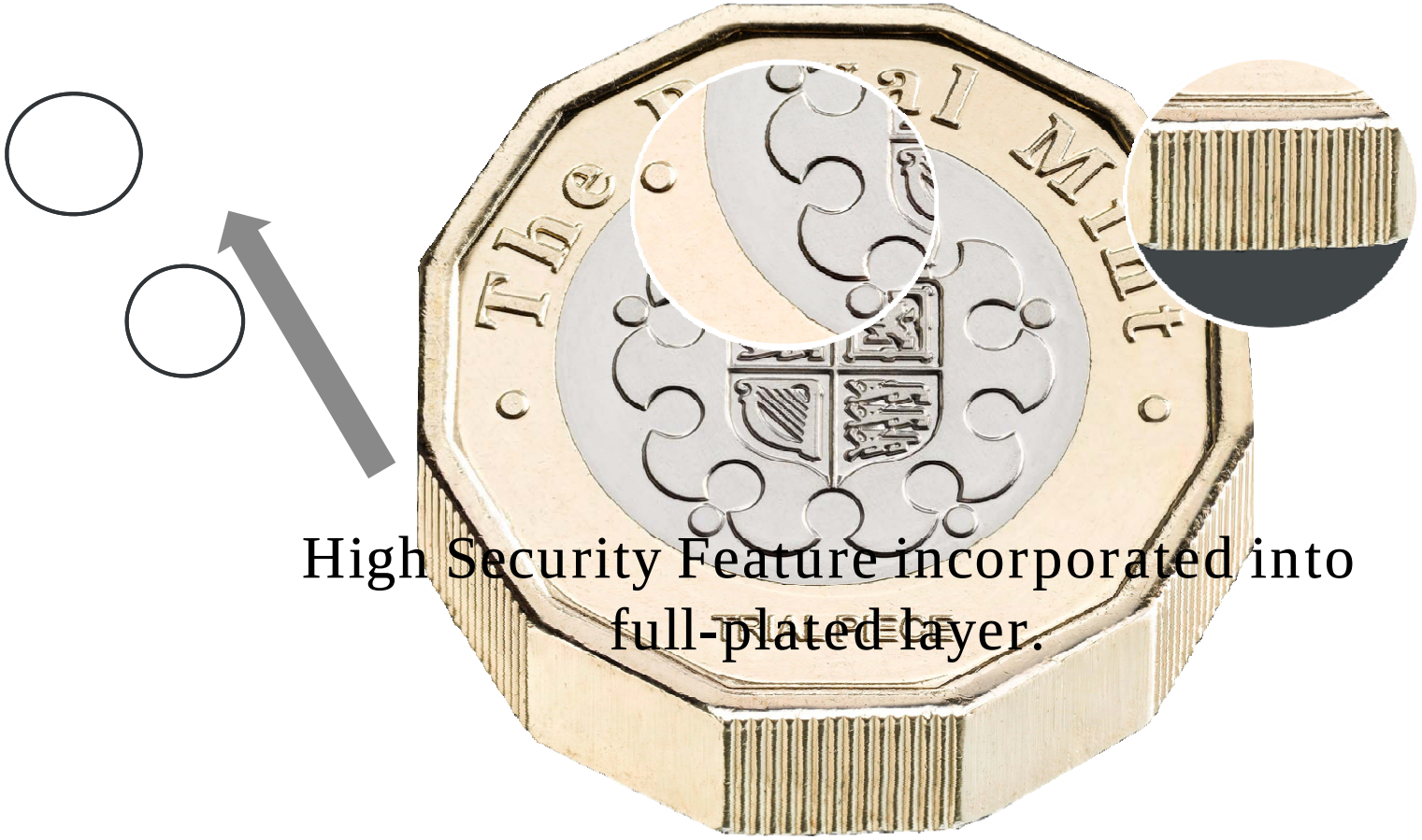
The New UK £1 Launching 2017



High Security Feature incorporated into full-plated layer.

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In Conclusion

- The Royal Mint has been security currency for over 1,000 years
- A multi-featured approach to security represents the ideal solution
- Using it's un-rivalled experience and recently granted patents, The Royal Mint is focused on delivering absolute security and authenticity to both coin and other valuable, metallic based objects

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Established for Tomorrow

Thank you for listening
Any questions?