

Turning Threats into Opportunities

Crane Currency is both a leader in the banknote industry and one of its veterans, tracing its history in banknote printing back to the 1700s. It was acquired by the confusingly-named Crane Co (there was no previous connection between the two companies), a diversified manufacturer of engineered industrial products, in late 2017 and now forms part of the Payment and Merchandising Technologies division, along with Crane Payment Innovations and Cummins Allison, two world leaders in cash accepting and processing technology.



Sam Keayes, Crane Currency.

This summer Sam Keayes was appointed President, having joined the company in early 2019 as Vice President International, and he now leads all three of Crane Currency's businesses – US Government Products, International and Technology. Currency News spoke to Sam to find out how and why he joined Crane, where he sees the company's strengths and what it – and the broader industry – are doing to face the challenges ahead.

Q: Can you give some background about your career to date?

A: After working for the British government, including in Bosnia, Kosovo and the USA, I moved into M&A, then into high-technology businesses in security, defence and transport. The safety-critical nature of these sectors – where a single quality error can result in injury or death – gave me a solid grounding in how to deliver consistently excellent quality, which is Crane's calling card.

Q: How did you come to join Crane Currency and what attracted you to the job?

A: I was drawn to Crane Currency by three things: the expertise, diversity and collaborative culture; the operational excellence and continuous improvement, driven at every level through implementation of the Crane Business System; and of course the astonishing Crane Currency micro-optics security technology.

Q: Crane Currency was a specialist banknote paper and security technology producer, providing all the banknote paper for the US dollar. 20 years ago, it acquired the Swedish Riksbank's printing and paper operations, developed new micro-optics technology and has now also some \$100 million invested in a new printing plant in Malta – in the process transforming Crane Currency into an international supplier of banknotes. How does operating now as part of Crane Co present opportunities for the business?

A: In Sweden, we have been manufacturing banknotes since 1755. In the US, we have supplied the most durable banknote substrate in the world since 1879 – in fact our paper was used even earlier in the original currency that allowed the USA to become an independent nation.

Innovation is also in our DNA. Zenas Crane's 19th century invention of embedding a silk thread into banknote paper was the revolutionary security technology of its time.

Being part of a diversified, multi-national company like Crane Co gives us unrivalled long-term stability and access to investment. As part of a transparent, publicly owned company, our customers can also see for themselves that we are in excellent financial shape, that we implement the most ethical business practices and that we take our commitments to society, philanthropy and the environment seriously.

Q: How does the structure of Crane's Payment and Merchandising Technologies division, of which you are now part, work in practice? What has been the impact of Crane Co's subsequent acquisition of Cummins Allison and how does this fit with your own plans?

A: Our customers benefit from a Crane team that can help them create the most beautiful, secure and trusted banknotes in the world, with the confidence that their banknote security technology will work seamlessly with automated banknote acceptance devices all around the world.

Specifically, this has helped Crane Currency to perfect IR machine readability in our micro-optics security threads, eg. MOTION® Detect and RAPID® Detect.

This is a new and novel combination that offers the best of both worlds: highest level public security with unique and secure IR-based properties, which is the preferred characteristic used by the widest number of cash processing machines globally, from central banks to simple cash acceptors used in vending applications.

Crane Co equipment processes well over 150 million cash transactions each day, so we know that the magnetic sensors used to detect magnetic security threads are the primary cause of banknote jams in vending machines. This put us in a unique position to innovate solutions that improve public security, whilst improving the functionality and performance of the increasingly automated cash cycle.

Q: Two of your main competitors offer polymer as a banknote substrate or as a hybrid. Is Crane going to move in this direction too? Can it afford not to? What is Crane's polymer strategy?

A: Crane Currency has plenty of experience in printing on polymer and hybrid substrates for our customers – our modern printing plant in Malta was specifically equipped to allow us to print for all segments of the market.

In fact, we are finding that a much bigger trend is the continued growth in central banks choosing highly durable cotton banknote paper, which is more cost effective and has a greater ability to incorporate leading public security features.

Our strategy is to give our customers, each of whom have unique requirements, choices that offer them the greatest value for money. We live in 'interesting' times, where central banks are exploring different options and features – all of which plays to Crane's strengths.

Q: Crane's banknote paper technology, combined with the US BEP and Federal Reserve capabilities, enable US paper-based banknotes to achieve extremely long circulation lives compared with any other country. But other countries have not gone down the same route. Why not?

A: Long before my arrival, Crane Currency was steadily advancing what is possible with durable banknote paper. In the US, mostly due to the extremely durable paper, combined with optimised sorting algorithms and other techniques, the life of the average \$1 bill has been extended to over 6.5 years.

This technical know-how is applied in Sweden to create the uniquely strong and soil-resistant ENDURANCE™ banknote paper, which is popular all over the world.

Q: Crane has been described as a single high security feature technology company – it offers micro-optics only. Is there a plan to expand its security feature portfolio?

A: Crane Currency is today primarily a solution provider for central banks, integrating security features from a range of different suppliers to produce award-winning banknotes for our customers.

But yes, it is true that Crane Currency is best known for our popular micro-optics features, which are very easy for the public

to use, easy to customise and are incredibly counterfeit resilient.

We have recently focused efforts on extending this technology onto every substrate and every type of banknote. As a result, we now have a portfolio of complementary micro-optic technologies: *MOTION*®, *RAPID*® and *BREEZE*™ – each available with machine-detection – and *MOTION SURFACE*®.

Q: *Having led the way introducing movement and depth effects into security features, what do you see as the next 'big step' for banknote security?*

A: Simplification. The most secure and beautifully designed banknotes have a smaller number of highly complementary security technologies, that are well understood and used by the public.

This approach reduces costs whilst improving public authentication and multi-level security and functionality.

Q: *The profiles of your major competitors appear similar in terms of vertical integration. How is Crane different? What are your USPs?*

A: Crane Currency has the world's leading security technology and produces exceptionally durable banknote paper. Our deep understanding of automated cash processing is also unique in the industry.

Our design team, knowledge-sharing and customer training methods are all part of the Crane way – as is the application of the Crane Business System, which takes quality and consistency to another level.

Q: *Crane has pursued a strategy of alliances with SPWs. How has this worked out?*

A: Crane Currency has benefited from various partnerships with state printworks and paper mills around the world, many of whom integrate our technology and print on our durable paper. We focus on technical support, so that our partners become more successful and productive in manufacturing their banknotes.

Our philosophy is always to help our customers to succeed, by helping to solve their problems, to share our learnings and in the process to improve operational and print efficiency.

Q: *As mentioned earlier, you have invested \$100 million in a new print production facility in Malta, which opened in 2018, and closed the printworks in Tumba, Sweden, where you still have a paper mill. What is the future for that site?*

A: Tumba is a well-respected paper mill with a long-track record of producing high-quality durable banknote paper. Many

important customers around the world rely on Tumba's capabilities, in particular its skill in integrating wide security threads in long windows, which increase security and improve public ease-of-use. Our printworks in Malta also benefits from printing on Tumba's consistently high-quality paper.

We also have key members of our team in Sweden, including our internationally acclaimed banknote design team. Part of the secret of our success is the outstanding quality of our Swedish banknote and micro-optics design.

Q: *You join the currency industry at a time of unprecedented change and stress – digital payments are increasing globally at the expense of cash and the COVID virus looks to be accelerating this trend, admittedly in some countries more than others. How are you planning to address this uncertainty?*

A: The more uncertain the future, the more people tend to fall back on cash. We have seen a historic increase in demand during

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2020 as the public have preferred cash as a store of value.

I'm pleased that, not least due to the good work of the ICA and the 'Cash Matters' campaign, the importance of maintaining the accessibility of cash to those who need it is getting more traction.

Cash is a public good and endemic 'surveillance capitalism' is not good for society. Personally, I would like to see all countries enshrine in law the right to be able to pay with cash.

Q: *Is the pandemic creating a watershed moment or is it just part of an evolving payments story?*

A: I don't think so. I'm bullish on the future of cash, not least because it will continue to be needed by the huge number of vulnerable people in the world who do not have access to bank accounts. I'm also very sceptical about whether people have enough trust in either banks or governments to give up the security and anonymity of cash.

No doubt the fintech industry will continue to spend huge marketing budgets trying to convert people to e-payments – because how else can they justify an extra 3-5% charge on every transaction and the ability to track customer behaviour and movements 24/7 in order to sell the data to the highest bidder?

Q: *How has Crane operated through the pandemic?*

A: Very carefully, washing our hands at every opportunity! We have invested heavily in new safety protocols, in social distancing and constant education of our associates.

Nevertheless, I count us as very fortunate, thanks to a huge effort from our associates and key suppliers, to have been able to continue 24/7 production at all of our sites in the US, Sweden and Malta. I know that our customers have appreciated our being able to continue to deliver consistently throughout this extraordinary year.

Q: *What is the biggest threat facing the banknote industry today? And what should the industry be doing about it?*

A: At Crane we see every threat as an opportunity. In terms of the future of cash, we should all support the 'Cash Matters' movement to promote the use of and access to cash around the world.

My sense is that cash is a little like the bicycle, which far from being replaced by the car is in fact complementary to other modes of transport and is having a resurgence as a premium product. In terms of our business, I'm always preoccupied by how to continue to attract, retain and grow the best and brightest talent.

Q: *Where do you see Crane Currency in ten years' time?*

A: We want Crane Currency to be the preferred partner of central banks, because of our track record of superior design, quality and reliability, and because of our collaborative, knowledge-sharing, problem-solving behaviours.

And, of course, we expect our banknote security technology to still be 10 years ahead of the counterfeiter!