



# Currency Solutions Catch Fire

*Shipments of banknote and securities printing presses to both state printing works and private currency printers grow as the technological edge wins wider recognition.*

**Komori range** *gaining global momentum*

The rarefied world of currency printing has seen a considerable reordering in the past few years as one central bank after another has chosen Komori equipment to produce their country's banknotes. There are important reasons for Komori's strength. First, however, a look at the overall trends and drivers affecting this special field.

Currency is a medium of exchange, a unit of measurement and a storehouse of wealth. The value placed on currency does not derive from any inherent or physical value but rather from the general and sustained belief in its worth. Money in some form has been in use since the Bronze Age – cattle and cowrie shells – but numismatists trace the history of paper currency to Tang Dynasty China, where receipts of deposit were developed in the 7th century to overcome the difficulties of heavy copper coins that were used in large commercial transactions. Marco Polo acquainted Europeans with the use of paper

money by the Yuan Dynasty, and merchants in medieval Italy and Flanders began using banknotes for the transport of large sums over long distances.

Today paper currency is issued by the central bank in most countries. Cash is a universally accepted method of payment that is quick and direct. Banknotes offer flexibility, liquidity, security, convenience and anonymity.

Banknotes must be aesthetically pleasing and recognizable by consumers. They must embody both tradition and innovation, be durable and machine readable, and offer reliable protection against counterfeiting. Some of the significant changes going forward will likely be the increased use of polymer substrates along with security features such as embedded threads that can incorporate color shifting, holographic images, de-metallization, UV luminescence and machine-readable properties as well as windows, foils, microlenticulars, optically variable inks, and UV fluorescent and iridescent printed features.

So the industry of paper currency printing is growing, and currencies themselves are becoming more complex, with more security features, more colors, more processes and more materials. At the same time, both state printing works and private producers of banknotes and securities are under



Currency LC32



Currency IC532III

increasing pressure to meet tighter schedules, achieve greater efficiencies and fulfill the highest standards of eco-friendly operations. This is where Komori comes in. Its security press team is responsible for a considerable increase in shipments of currency and security printing machinery in the last few years, and the company expects this trend to continue as Komori's technological advantages in this field become more widely recognized.

#### **Four months that changed history**

The story really begins in 1958. That year Komori was one of five select Japanese companies invited to take part in a competitive bidding process to supply a two-color sheetfed dry offset press to the National Printing Bureau of Japan of the Ministry of Finance. Four months from design to installation was the drop-dead absolute condition for success. Nearly everyone in the company thought it couldn't be done. Then the word came down from top management: 'Make it happen. Komori must win this.' The design and manufacturing team in the Adachi Factory (the former Sekiyado Factory) worked literally day and night and delivered the press on schedule. It worked flawlessly. The following year the bureau ordered a four-color dry offset machine, and this was soon followed by orders for multicolor dry offset presses and intaglio presses. Over time, Komori became the leading supplier of currency and security printing machinery for the National Printing Bureau, helping to secure the country's supply of money during the critical period of high growth from 1955 to 1973. The high print quality of Japanese currency and government bonds soon became legend in the financial industry.



In the early 1980s, Komori began to consider supplying production lines to the central banks of other countries and private banknote printers. It quickly became clear that success in this initiative would entail providing software, prepress equipment and systems, design and platemaking expertise (including engraving proficiency), peripherals, logistics systems, and advanced security systems for the entire physical facility.

#### **Going global**

In 1987 the Komori International Currency System Seminar, a seminal event for the company, was held in Tokyo to show the industry the state of Komori technology and demonstrate the machines that would become the core of Komori's currency printing press lineup. One year later, in 1988, the order from Korea for a nine-color dry offset sammel printing press (LTS-932) signaled the company's first export of security printing machinery.

Sales of security presses to Russia and China were followed by the shipment of full currency production lines to India in 1996 and to Nigeria in 1998. As customers awaited the full-fledged participation of Komori in the global market, the company unveiled its latest products at an open house event held in the Tsukuba Plant in 2010. This re-energized strategy led to a flurry of orders: a currency printing line for the central bank of the Philippines followed by a line for banknote/securities



Currency RN 332III



Currency 40 CC



printer De La Rue International Limited, a line for the state printing works of Indonesia, a security press for Vietnam, and then a second line for the central bank of the Philippines. Well positioned at present, Komori forecasts strong growth for at least the next decade.

A modern currency production line consists of an offset press for the printing of the background colors and images; two intaglio presses (one each for the back and face of the notes) for providing relief and tactility in the portraits, scrollwork, numerals and lettering unique to each denomination; a numbering press to add one or more unique serial numbers; and a varnishing press to provide additional durability.

### The premier lineup

The latest Komori currency solutions lead off with the Currency LC32, an innovative double-deck multicolor offset press with a maximum printing speed of 12,000 sheets per hour that is available in eight, 10 or 12 colors. This press is expected to transform the industry. The machine uses an innovative blanket and impression cylinder configuration and incorporates the world's first Print Registration Monitoring system. In addition, it may be specified with the PQA-C inspection system.

The Currency IC532III is a five-color indirect intaglio sheetfed press equipped with a nonstop feeder and two delivery piles along with one delivery sampling pile for continuous production at the maximum printing speed of 10,000 sheets per hour.

Komori's numbering press, the Currency RN332III, is a three-color machine featuring a double-size common impression cylinder, a photopolymer plate cylinder, and an inspection cylinder that works together with a high precision inspection camera.

The Currency 40CC is a perfecting sheetfed varnishing press that lays down an even film

of either aqueous or UV varnish on both the front and back sides of the sheet regardless of the type of substrate, either cotton or polymer.

To be competitive in this very special industry, Komori has long understood that unrivaled technological excellence is a given. What really distinguishes Komori from the competition, however, are attributes familiar to every printer who has ever faced a deadline. Ease of operation and ease of maintenance. Ample consideration for the load on the operator in every task. Short makeready performance, a discipline that Komori truly pioneered in every segment of printing. Precision operation from feeder to delivery. Unbelievably smooth sheet transport. Komori's laser focus on efficiency. Service and support that know no bounds. And Tsukuba quality – the palpable difference in machine quality that comes only from Komori's Tsukuba Plant, the pathbreaking modern R&D and manufacturing facility that is setting the direction for the future of the industry. Komori for the ultimate in printing. More and more, a matter of course.



## Indonesia

**Perum Percetakan Uang RI**  
Mr. Prasetyo / President Director

Komori received an order for a currency printing line from Perum Percetakan Uang RI in July 2013. The outstanding performance of a previously installed Komori numbering press was one of the key justifications for the state-owned enterprise to select Komori to supply the new line.



## Philippines

**Banko Sentral ng Pilipinas**  
Mr. Juan De Zuniga Jr. /  
Fmr. Deputy Governor

Banko Sentral ng Pilipinas (BSP) placed an order for a second line of equipment in September 2012, with Komori completing the installation in September 2013. Komori installed the first line at BSP in March 2012, and the success of these presses led to BSP selecting Komori to supply the bank with a second line of currency printing equipment.



## Vietnam

**National Banknote Printing Plant**  
Mr. Dinh Quy Bao / President Director

Komori received an order for an intaglio press from the National Banknote Printing Plant (NBPP) in November 2012, and installation started in November 2013. Komori installed and commissioned an offset press for NBPP in December 2009, and that machine's exceptional performance since commissioning earned Komori the customer's trust.



## Creativity and innovation in **banknote production**

*Two centuries* of progress in printing

De La Rue was founded by Thomas de la Rue in Guernsey, Channel Isles, in 1813. Its first commercial venture that same year was as publisher of a Guernsey newspaper, *Le Miroir Politique*. Its first move into security printing was in 1853 when it was awarded the contract to print the UK's first surface printed and perforated stamps. In 1860 it began printing currency, the first notes being for Mauritius in denominations of 10 shillings, £1 and £5. In recent years, De La Rue has been involved in the design or production of currency for over 150 countries. De La Rue is now the world's largest integrated commercial banknote printer. At its 45,000-square-meter Gateshead facility, the company has produced banknotes for over 120 central banks. It employs over 4,000 people worldwide, of which 570 are at Gateshead, where it has presses covering offset, intaglio and gravure processes that provide the capacity to produce 400,000 banknotes an hour. In April 2013, the first polymer note printed at De La Rue – the \$5 Fijian note – was produced using Komori equipment.

At its Head Offices in Basingstoke, it has a large design team, highly experienced in the special and complex craft

of banknote and security print design. The team works closely in cooperation with central banks to design banknotes and also handles numerous design projects for passports, electronic passports, national and electronic IDs, driving licenses and tax stamps. The design department also creates holographic images that not only yield stunning visual effects but also act as additional security devices. De La Rue is listed on the London Stock Exchange. Its clear vision is to build long term, mutually beneficial partnerships throughout the industries in which it operates. This includes customers, suppliers, academic and scientific institutions – all with the aim of accelerating the generation of new technology and innovations. In this respect, it expects to steadily increase its investment in R&D – a key focus in creating new solutions for the ever-evolving securities and banknote industries.



# De La Rue inaugurates **new Komori**



## *Banknote printing* par excellence

*Trusted partner of governments, central banks, issuing authorities and commercial organizations*



Lower deck printing unit of the LC-1232 double-deck multicolor offset press showing how accessible the lower units are. Inking ducts can be seen at the lower end of the unit.

October's inauguration of the new Komori print line at De La Rue, Gateshead, England, drew delegates from throughout the world. In 2011 Komori established its Technical Agreement with the company, which is the world's largest integrated commercial banknote printer and is a trusted partner of governments, central banks, issuing authorities and commercial organizations around the world. Komori's agreement with De La Rue extends beyond providing security printing systems to a comprehensive technological cooperation to work closely together along with other selected partners to improve quality, productivity and efficiency levels for the security printing industry.

After a pre-event welcome for all guests and an exchange of commemorative gifts between Tim Cobbold, Chief Executive, De La Rue plc, and Yoshiharu Komori, Chairman, President and CEO, Komori Corporation, the new Komori print line was officially inaugurated by Mr. Komori and Mr. Masao Uno, Minister for Financial Affairs at the UK's Embassy of Japan.

Delegates were then given a plant tour to see in production the new Komori line, which consists of the new Currency LC32 multicolor offset press in 12-unit configuration, the Currency

# currency line



De La Rue Chief Executive Tim Cobbold with President Yoshiharu Komori

IC532III multicolor intaglio press and the Currency RN332III three-color numbering press. Included in the tour was a presentation on banknote design by Alan Newman, De La Rue's Head of Design, and a demonstration of the De La Rue-developed DLR9000 single note inspection system.

Under the title, Creating Value through Re-invention, Komori Security Group executives presented the latest innovative technology for the banknote and security printing industry prior to a novel presentation by De La Rue's Director of Manufacturing, Dean Banks, describing De la Rue's journey with Komori from Tokyo to Newcastle.



Day of standout events educates and entertains elite assembly



Tim Cobbold, Chief Executive

*"There is an increased call for the highest quality standards and shorter lead times. It is also evident that customer expectations are changing to demand products that are more robust and incorporate even greater security. More than that, central banks and state printing works expect to see suppliers across the industry working in partnership to continuously develop customer-focused innovations that challenge the traditional industry paradigms. Our new Komori print line here in Gateshead is part of our £100 million investment program to ensure that De La Rue answers these challenges even more effectively."*



Dean Banks, Director of Manufacturing

*"We want to create strong, long-term partnerships that are to the benefit of our customers, so, as with all our suppliers, we ask ourselves, 'Are they people we want to work with? What can they give us that others can't, and do they have that commitment and that certain special something that will enable us to produce industry-changing solutions?' Our relationship with Komori began in 2006, and our journey to create our new Komori print line started in 2011. Now, more than ever, I am convinced that the decision was the right one."*



Alan Newman, Head of Design

*"De La Rue has the industry's largest banknote and security design team, with 10 designers, six of whom concentrate on banknotes. Over the last five years, they have worked on designs for over 55 different currencies and currently realize designs for over 80 new banknotes a year. We are very proud of having won nearly all the top design awards presented by the International Association of Currency Affairs and the International Banknote Society over the last few years. The team is, of course, always seeking to incorporate innovative features, and the state-of-the-art technologies of our latest Komori machines provide us with new design opportunities."*