



Giesecke & Devrient

Creating Confidence.

## Cash Is Here to Stay

### *Why Banknotes Matter*

With the rise of virtual payment methods, the continued existence of cash has repeatedly been called into question, culminating in economist Kenneth Rogoff's proposal in 2014 to abolish cash altogether. However, despite all the clamour, cash is still very much alive and kicking:

- currency in circulation is expected to continue to grow by an average annual rate of approximately 5% for the foreseeable future
- although there are significant geographic variations, around 85% of all retail payments worldwide are still made using cash
- a study of American consumers' behaviour by *the San Francisco Federal Reserve Bank*, published in September 2014, states that at 40%,
  - cash makes up the single largest share of consumer transaction activity
  - is the dominant instrument for low-value payments
  - is not a niche payment instrument but also used when other forms of payment are easily available
- a study by the Deutsche Bundesbank 2014, the third of its kind, showed that the amount of cash Germans carry in their pockets hasn't changed since 2011. In Germany, more than half of all daily purchases are still being paid cash (53%)
- the ATM market, in a 2014 forecast by *Retail Banking Research (RBR)*, is set to expand by almost 30% in the next couple of years

## Four reasons for the resilience of cash

There are four reasons for the ongoing popularity of cash despite an increasing number of virtual means of payment:

- History has shown that the concept of monetary systems involving tangible values – from cowry shells and beads through sacks of grain to cigarettes (as illustrated in the famous Radford study "The Economic Organization of a POW Camp") – is deeply entrenched in the collective consciousness of all peoples
- Cash is the safest way of payment
- Cash is the simplest, most convenient, most flexible and fastest way of payment
- Cash is often the only payment method available in countries with a large number of unbanked or underbanked people

## **Challenges for cash**

All of this, however, does not mean that the players in the cash cycle can rest easy. There are two main challenges when it comes to cash: the production of secure banknotes and the efficient management of banknotes in the cash cycle.

## **Innovation steeped in tradition**

Giesecke & Devrient (G&D) with its more than 160 years of experience and expertise in banknote creation and currency management solution excels in both. It is a market leader in the creation of banknotes, in substrates, security solutions, banknote processing systems and automation technology. G&D serves customers in more than 150 countries all over the world, among them central banks as well as commercial banks, print works, cash centers or casinos. As early as 1852, company founders Hermann Giesecke and Alphonse Devrient not only developed designs to meet aesthetic demands, but also revolutionised banknote security by adopting a holistic, forward-thinking approach to banknote production from the very start. Today, G&D is a leading international technology provider headquartered in Munich, Germany with three business units: Banknote, Mobile Security, and Government Solutions. The Group has a workforce of over 11,450 employees and generated sales of approximately EUR 1.83 billion in the 2014 fiscal year. 58 subsidiaries and joint ventures in 31 countries ensure customer proximity worldwide.

## **Safeguarding every step in the lifecycle of a banknote**

Together with its wholly owned subsidiary Louisenthal, G&D literally safeguards every phase in the lifecycle of a banknote – from the substrate through security features, design, and printing to processing and the destruction of worn-out notes. Continuous technological innovation is necessary for each phase to ensure the best protection against counterfeiting and to guarantee smooth and efficient handling throughout the cash cycle. At G&D, banknote security in the paper is based on one technological principle that security features and banknote substrate form a unit. The modular system of substrates, watermarks, security threads, and security foils makes it possible to combine individual banknote paper features and to customise them according to country-specific circulation conditions and design wishes. When it comes to banknote design and printing, the challenge is to reconcile design aesthetics with cash cycle functionality, creating a “printable” banknote. A systemic approach is required, making the best use of the three basic components of complex technical products: design, material and technology. Only an approach like that will meet the requirements both of the public as end-users and of all stakeholders of an automated cash cycle. People and machines need to be able to determine banknote authenticity quickly and unambiguously by look, feel and tilt. The banknotes themselves have to be durable, easy to use, and affordable to produce. And last but not least, banknotes must be authenticated, sorted, and counted which requires high-tech sensors and processing systems that also determine the fitness for circulation.

## **Complex ecosystem**

Banknotes today, just like every other globalised product and solution, exist in a complex and expanding ecosystem. G&D provides services, software and solutions for that ecosystem, beginning with the design, and engineering of cash centers, printing and paper plants through lifecycle services and managed services, such as operating cash centers or printing plants on the customer's behalf, to software solutions and service. This also comprises solutions for big data, where G&D provides the IT infrastructure and software to resolve specific challenges in the cash cycle, as well as security appliances like "*BPS Eco-Protect*" which ensures secure communication from and to banknote processing systems.

## **Setting standards for efficiency and security**

Continuously raising the bar through innovative technologies is a prerequisite to stay ahead of counterfeiters. It means improving security features on an ongoing basis, developing new, more sophisticated effects, and combining technologies to achieve new standards of security. Increasing the efficiency and security in all aspects of the cash cycle with new products and services is required by all players in the industry. Apart from improving processes and enhancing system performance, this also comprises an ongoing optimisation of the banknote itself in terms of durability and machine-readability.

Dostoevsky once said of banknotes that they are "printed freedom"<sup>1</sup>. We at Giesecke & Devrient are proud to contribute to this freedom and to the peace of mind that comes with it.

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<sup>1</sup> Based on „The Dostoevsky archive“, compiled by Peter Sekirin, account by Nikolai Fon-Fokht in "Dostoevsky's Writing: *Crime and Punishment*"