



G+D
Currency Technology

Securing values

in a
connected
world



**The value of
our money is based on
confidence.**

In a dynamically
changing world
G+D Currency Technology
shares its unique
expertise of securing values.
Together we will drive
the future of cash
on the firm foundation
of trust.

Securing values in a connected world ...

G+D Currency Technology ensures values in a world of change. As a leader in currency technology in all key areas of the cash cycle, we are constantly maximizing productivity, efficiency, and profitability – while redefining the themes of security and service for all partners along the cash cycle.



... by shaping our future together

The future is part of our DNA: since 1852 Giesecke+Devrient has been driving the development of the currency industry – always with the goal of giving our customers long-term and reliable advantages.

Digitalization

The real digital revolution has only just begun. Through new IT solutions, e.g. in the area of artificial intelligence, the cash cycle can be shaped more efficiently than ever before. Our solutions experts are already driving substantial new developments. They have increased the productivity of central banks and cash centers while, at the same time, providing maximum security.



Big data analytics

Today there are more than 460 billion banknotes in circulation. And there will be more. That means that over the course of a banknote's life cycle, ever-larger amounts of data can be made available. There is huge potential in this that can be used by our customers for many innovative services and even for new business models. With the help of the most up-to-date track-and-trace methods, for example, G+D Currency Technology can trace the flow of banknotes in detail. In this way information about banknote circulation can be collected, and this can be used as a basis for developing innovatively improved banknotes. And, with big data analytics, even more precise prognoses for the cash cycle can be made.



Connectivity

Industry 4.0, the Internet of things, secure inter-connection of machines, IT-systems and processes: with highly secure solutions for data management and data exchange, we enable our customers to use these revolutionary tools with the greatest value and benefits for their specific business needs. Still, networking means even more to us: namely, close relationships with you, our customers. We foster an open exchange of knowledge and together, we work to strive for the best solutions.

Automation

In the currency field, automated processes not only have great potential to increase efficiency, they also offer significantly more security by eliminating human cash handling. Thanks to our holistic approach to cash-center automation and G+D Currency Technology's deep understanding of banknote processing, we create intelligently automated cash centers. Beyond that, innovations such as NotaTracc allow the processing of more than a million banknotes per day on a single BPS M-system – and link cash into automated logistics. We keep realizing our vision of the zero-touch cash center – approaching the peak of efficiency and security.



Real trust is based on solid values

Billions of people place their trust in the value and authenticity of their banknotes. With our unique skills, we create new and secure foundations for monetary transactions: as a leader in quality, we offer pioneering solutions along the entire cash cycle. To ensure this we live up to three values: the power of innovation, proven reliability, and close collaboration with you.

innovative
to move you
ahead

Innovation for us means never being satisfied, and passionately forging new paths. Yet, we always have the big picture in mind, from start to finish, down to the smallest detail, until we have found the best, most future-proof solutions. Because we are convinced that only what is carefully thought through will take our customers farther.

collaborative
to fulfill your
requirements

Closeness and trust shape our work relationships with customers from all over the world. What drives us? We want to share our knowledge openly with our customers and put customer service first. Why? Only when we truly understand each other, can we fully meet their needs. This is what we call being "customer-centric".

reliable
to secure your
business

Engineering excellence is both a legacy and an ambition. We constantly use our technological leadership to redefine the standards for the highest, premium quality. The decisive criterion for this: maximum security. Thanks to G+D Currency Technology, banknotes today are already up to 99.9975 percent safe from counterfeiting. And we will continue to do everything we can that people can rely upon their money in the future.



Innovative Together, always one step ahead

Customers demand solutions that will bring them obvious gains in productivity, not just today, but in the long-term as well. Above all, they want to be equipped for future developments. That is why we work passionately with our customers to shape the future of the cash cycle securely and efficiently, from trailblazing security features for banknotes to high-performance banknote processing to individual, comprehensive solutions for the entire cash center.



Progress often begins with details ...

What distinguishes us: we are always at least one crucial step ahead – for instance, in the development of security features for banknotes. One of our many current innovations is the security thread Galaxy®. Here, microscopic mirrors are arranged on a plastic foil. If you tilt the banknote they create dynamic, colorshift effects of previously unknown brilliance and powerful light. There could hardly be anything more technically difficult for counterfeiters to overcome.

... and affects the big picture

As a holistic supplier, we are driving forward the development of the cash cycle at all levels – significantly. In 2016 alone we registered 171 new patents. Our customers benefit from unique synergies and knowledge transfers. With intelligently networked solutions made up of systems, software, and services, we increase efficiency, productivity, and security. Solutions range from compact tabletop systems to the integrated, fully automatic cash centers. The application of artificial intelligence technologies, smarter networks, and big data analytics open up previously unknown possibilities.



future-proof

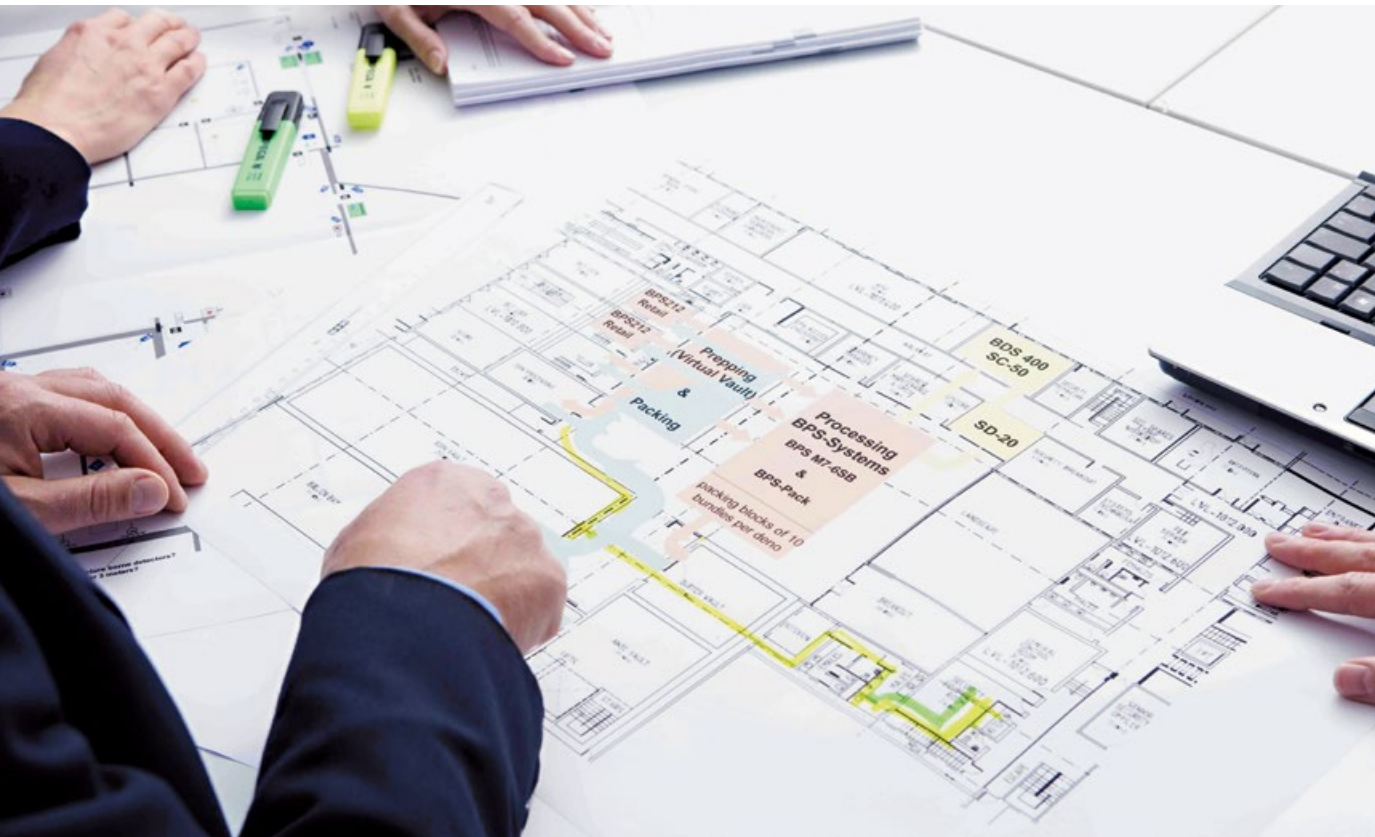
Future goes serial

Our innovation power also helps other branches progress: currently, we are supporting the pharmaceutical industry in the complex task of introducing secure, cost-efficient, and future-oriented solutions for pharma serialization.

Collaborative

Sharing knowledge for tomorrow's success

Sharing is a characteristic trend of the future, across industries, including the currency industry. Because only those who share information can overcome limitations, and make the seemingly impossible possible. Let us use the opportunity to discuss how to shape the future of a secure cash cycle!



The future is open

The more dynamic the transformation, the greater the need for solutions that are perfectly suited for the future – solutions that will still result in superior benefits even in ten years' time. So, we believe in transparency and open-mindedness when working with customers and partners to develop the ideal concepts for tomorrow. Because we are convinced that only close communication will generate maximum flexibility in the connected cash cycle, in order to make lasting use of the opportunities offered by the digital world.

Proximity is relevant

Closer to the markets, to customers and their desires and demands: 4,800 employees in 20 countries around the globe participate every day in our customer and service-oriented culture – in every key area of the cash cycle. The result: holistic solutions from a single source, for maximum productivity, security, and convenience.



future-proof

Fit for the future with flexibility

Keeping capacities flexible, reducing investment: an increasing number of customers want alternatives to purchasing systems or running their own cash centers. We offer individual answers through our contract models and managed services.

Reliable

The leading edge, engineered with excellence

Banknotes today are more secure than ever. Although there are more opportunities for the cash cycle in the wake of digital transformation, there are also risks. So security is one of our main themes for the future. Driven by our passion for excellent engineering, we are always working on ways to further expand the boundaries of the possible – always with the goal of reliably securing values.



Security knows no compromise

With modern high-performance systems, such as the G+D Currency Technology BPS M-systems, it is possible to process more than 100,000 banknotes per hour. Yet, despite all of the gains in productivity, security is still the crucial criterion. Our developers never compromise. For us, creating confidence has always meant that we never make promises we cannot keep. The result: outstanding project reliability, from planning to long-term, reliable operations and support.

Confidence through excellence

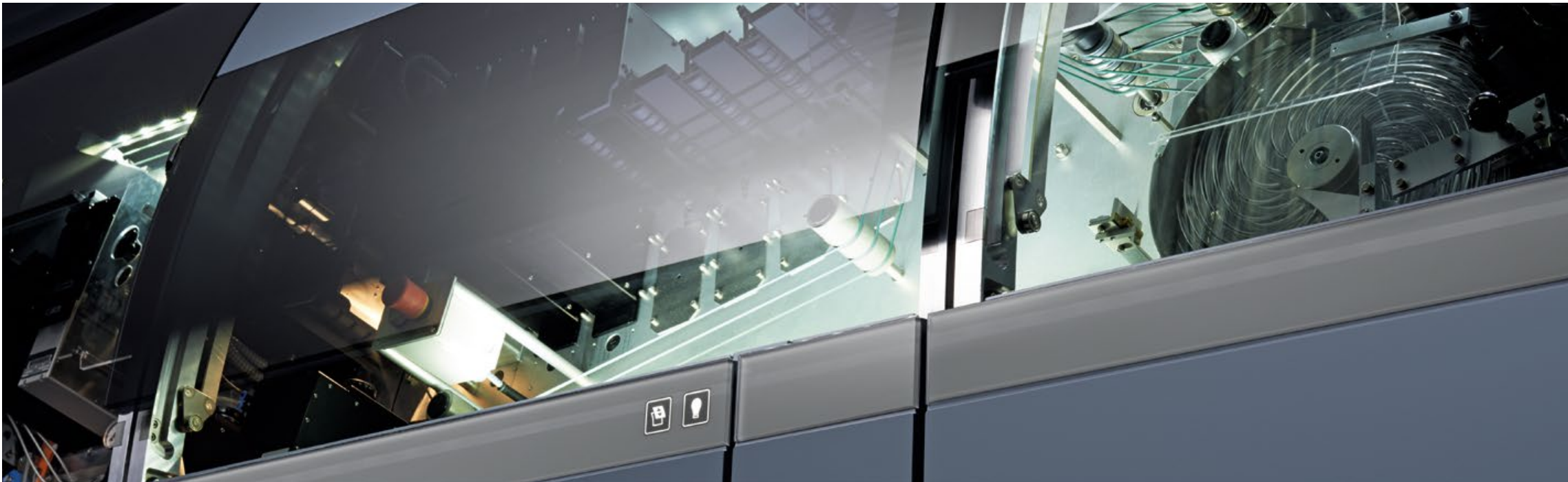
The most modern robotics and sensor control, innovative software, or high-efficiency service concepts open up many new opportunities for more productivity and control in currency processing. With innovations such as the automatic loading system NotaTracc, the NotaScan family of sensors, software solutions for efficient cash management, or our remote services, we are pointing the way worldwide. The basis is always our uncompromising commitment to precision work in the tried-and-true tradition of German engineering.



future-proof

High security meets high speed

Forty-four banknotes per second: the BPS X9 system is the fastest currency processing system in the world – and hence the most recent proof of our quality leadership, a worldwide testimonial to the future-oriented, quality inspection of freshly printed banknotes.





Welcome to our
world of trust!

G+D Currency Technology in numbers

3 x number 1

G+D Currency Technology's quality leadership is based on market, innovation, and technology leadership in the field of banknotes.

150 x global reach

Our products and solutions are used in over 150 countries.

5,000 x one step ahead

More than 5,000 cash centers worldwide make use of our technologies.

171 x ahead of time

In 2016 we applied for 171 new patents.

145 x at the highest level

Over 145 central banks trust our security solutions.

99.9975 x security

Banknotes are 99.9975 percent counterfeit-proof. (Statistics from the European Central Bank, January 2016.)

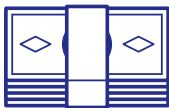
135,000,000,000 x trust

To date, we have printed 135,000,000,000 banknotes.

The safest banknotes

Our markets

Governments, central banks, and banknote printworks around the world rely upon our banknote solutions.



Our offer

G+D Currency Technology offers unique expertise in all areas of manufacturing counterfeit-proof banknotes around the world:

- » Banknote design
- » Security features
- » Banknote substrate
- » Print technologies
- » Quality assurance
- » Logistics services
- » Plant engineering

Your benefits

- » Highest quality, security, and reliability in every aspect of the development and manufacturing processes
- » Maximum protection against counterfeiting, thanks to innovative, highly complex security features
- » Cost effectiveness and efficiency with the most modern plant and processing technologies
- » From design to delivery: holistic support from a single source

High-tech for inimitability

When you hold a banknote in your hands, it is not just about a piece of printed paper. It is about the trust that you place in the value and authenticity of your money.

In order to provide the greatest possible security for banknotes, we are constantly developing our technology. With highly precise intaglio printing, variable and dynamic 3D effects including secure windows, complex security threads, invisible magnetic, infrared, or UV features, and more, we turn every banknote into an inimitable piece of high-tech, always putting us at least one step ahead of counterfeiters.



High precision all along the line
In addition, banknotes from G+D Currency Technology maintain longevity under diverse conditions, thanks to their robustness and durability. For instance, with Hybrid™ we produce a completely new kind of substrate for banknotes that combines the advantages of cotton and polymer, resulting in maximum longevity.

And we also help banknote printers, for example, by supporting them with comprehensive logistics, from reliable delivery to tailor-made system solutions. For customers around the globe we build entire printing facilities and paper mills.

To summarize: our power of innovation and our uncompromising dedication to quality ensure that people can continue to place their trust in their money – today and in the future. With G+D Currency Technology banknotes are the safest – and therefore still most widely used – means of payment of our time.



future-proof

Micro technologies for macro security

Tiny micro-mirrors set maximum standards: the highly innovative security thread Galaxy® creates brilliant, dynamic 3D effects that make it possible to detect authenticity from any angle.

135,000,000,000

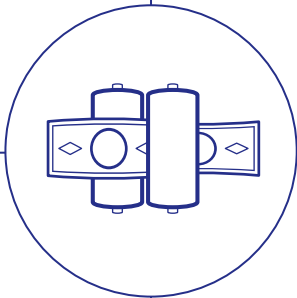
135 billion banknotes have left our banknote printing facilities to date, making a considerable contribution towards securing the cash cycle in more than 145 countries.



The most intelligent systems

Our markets

Our systems are used globally: in central banks, commercial cash centers, commercial banks, CiT (Cash in Transit), commercial enterprises, casinos, and currency exchange offices.



Our offer

G+D Currency Technology offers the most integrated, smartest solutions for counting, authenticating, and sorting inventories of banknotes:

- » Banknote processing systems, from the compact tabletop to fully automated, high-end solutions
- » State-of-the-art cash management software solutions
- » Highly secure network services
- » Systems and technologies for reliably destroying banknotes online or offline
- » The solution provider for entire cash-center solutions, from analysis to project execution

Your benefits

- » Maximum security and reliability at every step of the process
- » Highest efficiency by combining innovative technology and optimized processes
- » Reduction of your total cost of ownership (TCO)
- » Ergonomic operation and secure user guidance
- » Large variety of secured applications for intelligent networking
- » Flexibility of customizing functionality by modular building blocks

The connected cash center

According to trends in Industry 4.0, central banks, large commercial banks, CITs (Cash in Transit), and casinos are connecting their locations, servers, and machines via the Internet. In addition, they create, analyze, and store increasingly larger amounts of business-related “big data.”

Consequently, manipulation, espionage, and economic crimes present new and considerable security risks in these fields of business. G+D Currency Technology helps to minimize these risks. With a wide variety of products and services, we ensure the security of the cash cycle. And we also support companies in their efforts to manage increasingly large amounts of data in sensible ways. For instance, we can use data analytics to help banks match the cash level in their ATMs to their customers’ needs.



Trailblazing innovations for future efficiency

To go beyond limits in cash center optimization, we take a holistic approach towards cash center design, logistics, systems and software. Together with our customers we define seamless material and data flows, to generate maximum efficiency and security. In a nutshell: Reduce hands on cash and create paperless workflows. To step up to that goal our portfolio includes integrated systems, software and services. It stretches from compact tabletops to complete and fully automated cash-center solutions. Innovation to us means listening to market requirements, being constantly curious how to do things better and rolling out best-in-class products, solutions and services to our customers.



future-proof

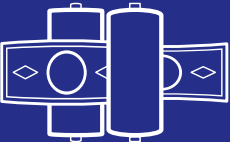
Top performance is not a matter of size

BPS C2 is the latest generation of powerful tabletop processing systems. Able to count up to 1,050 banknotes per minute, with best-in-class sensors and exemplary ease of use, it delivers markedly higher levels of productivity and security, even when space is limited.



2,000

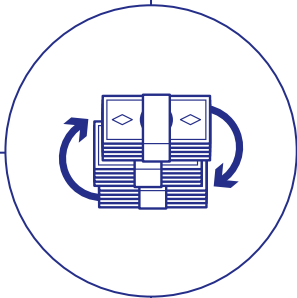
More than 2,000 of our highspeed processing systems are in operation across the world today. For processing high banknote volumes at highest efficiency and security, no matter if at central banks, commercial cash centers, or casinos.



The most individual services + solutions

Our markets

Customers in every part of the cash cycle benefit from our services and solutions.



Our offer

G+D Currency Technology offers integrated solutions using systems, software, and services that fulfill even the most highly individual customers' wishes throughout the entire cash cycle:

- » The most modern automated solutions for cash centers of all sizes
- » Remote maintenance and software updates
- » Individual and 24/7 service support
- » Consulting and services for papermills, printworks and cash-center optimization and set-up
- » Managed services for printworks and cash-center operations

Your benefits

- » Tailor-made service, maintenance, and training concepts result in smooth implementation of systems and the greatest possible system availability
- » Completely hassle-free procedures through integral support, from analyses to operations
- » Network connectivity enables fast and efficient service access
- » Increase in productivity and efficiency through optimized processes and outsourcing

Cash cycle unlimited

Processing cash is becoming an increasing challenge and therefore requires an ever-increasing level of service and technical solutions to sustain productivity.

Processes have to be designed to be increasingly efficient and cost-effective. At the same time, commercial suppliers are always under strong pressure to distinguish themselves from the competition by offering attractive services to their customers. With its holistic solutions that combine systems, software, and service, G+D Currency Technology supports its customers in achieving maximum optimization and preparing for the future of efficient and intelligent cash processing.



Recognizing potential – and using it to the greatest possible advantage
Our software solutions, for instance, contribute considerably to the means of managing and processing cash in intelligent and highly reliable ways.



future-proof

From cash centers to efficiency hubs

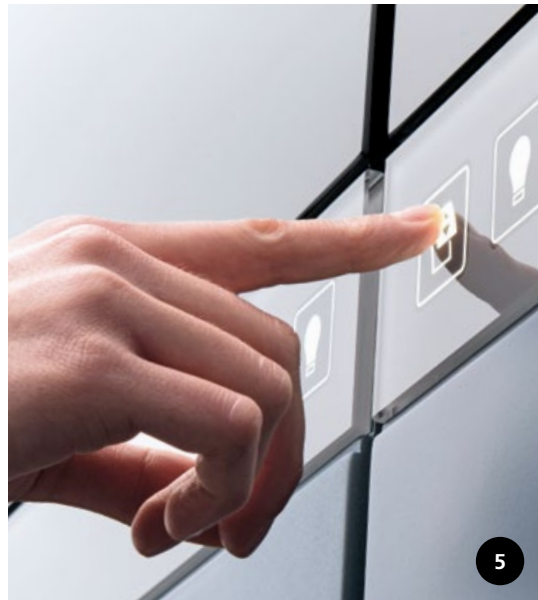
Growing demands on capacity, steadily increasing costs, and the pressure to achieve efficiency: with our integrated total solutions for modernization, expansion, new construction, and operation of cash centers, we set up the foundation for highly productive processes.

Of course, this means supporting the customer from start to finish. We offer a complete service for the set-up and maintenance of our systems. We are a trusted partner for operating entire cash centers. Depending on the requirements of our customers, this comprehensive offer can go as far as designing and managing entire cash centers on behalf of our customers.

BPS Ecosystem

The BPS Ecosystem is an innovative portfolio of networked software products and webservices for making it more efficient and secure to process banknotes.





future-proof

The label

G+D Currency Technology offers products and services that are absolutely "future-proof." In this brochure, the label "future-proof" refers to particular solutions especially suited to accommodating future demands.

Interested in more future-oriented themes from the world of banknotes?
www.gi-de.com/currency-technology

We create confidence

- 1 Banknote Design**
Banknote designs appeal to us aesthetically and reflect the culture and spirit of our time. Our banknote designs are the result of a careful analysis of our customers' cash flows. This gives us a clear picture of required functional elements, which we then weave into a design concept that creates an overall impression of harmony.
- 2 Banknote Production**
Cotton banknotes are the primary payment means of many currencies around the world. The look, touch, and special feel of these notes are familiar. In addition, cotton paper is ideally suited to integrating tried-and-tested, innovative security features.
- 3 Cash Management Services**
Our service starts with a consultation, covers spare parts delivery as well as machine maintenance, and comes full circle with the operation and construction of entire cash centers.
- 4 Banknote Security**
Banknotes must fulfill security criteria on different levels. Thanks to our experience in supporting all aspects of the cash cycle, we know the exact requirements of every touchpoint along the banknote journey.
- 5 Cash Processing Solutions**
From small banknote processing systems to high-performance cash centers, we provide forward-looking solutions that meet all cash cycle needs. This not only includes providing systems, but also software and logistics.

Shaping the future of cash together



Giesecke+Devrient Currency Technology GmbH
Prinzregentenstrasse 159
81677 Munich – GERMANY
Phone: + 49 (0) 89 41190
www.gi-de.com/currency-technology
currency-technology-info@gi-de.com

© 2017 Giesecke+Devrient Currency Technology GmbH
Subject to change without notice.



Find more information
on our website.