Managed card issuance services:

Boosting payment cards to the top of your customers' wallets
Card personalization is trending towards flat, intricate design. Customer onboarding, card delivery and activation are all moving towards a fully digital, integrated process.

Welcome letters are both personalized and offering integrated Augmented Reality (AR).

Card issuance and fulfillment portfolios as a whole are embracing an audience-targeted and individualized approach.
Enabling multi-channel customer experience with digital issuance for physical cards

The modern banking customer wants a secure, convenient, speedy service from their bank that’s configured around their needs and how they live their lives.

Giesecke+Devrient (G+D)’s managed card issuance services enable you to deliver a truly differentiating customer service across both physical and digital touchpoints to maximise brand experience, boost customer loyalty and widen revenue streams from day one of your customer relationships. Adopting managed card issuance services ensures you have full visibility and traceability of your card processes, and can offer this in-depth visibility to your customers too.

Leveraging our more than 160 years of passion and expertise, as well as our global network of production and personalization centers means you can offer a secure, speedy and reliable card issuance service, and one that can be uniquely configured to deliver optimum customer experiences. With our service you’ll be able to choose from a range of options.
Managing your service portfolio

Issuance enablement
- EMV profile, data and key management covering requirements from all common global and domestic payment schemes.
- Issuance enablers provide onboarding wizards for smooth enrolment of card programs.
- Digital interfaces for online reporting, online configuration and reporting.

Card personalization
- Card personalization from basic alphanumeric to fully individualized and colored graphical designs.

Card carrier and fulfillment
- Carrier personalization from simple welcome letters to fully individualized and color-printed contents.
- Fulfillment from simple flyers with terms & conditions to fully individualized and color-printed customer booklets.

Individual packaging
- Individual packaging options specialized for dedicated target groups.
- Gifting and premium packaging solutions.

PIN provisioning
- Customizable physical PIN mailers - print and delivery.
- Innovative digital and ePIN solutions.

Issuance logistics
- Delivery services with dedicated turnaround and management of various logistics channels including postal fee management and digital track & trace.
- Spot services for immediate response to short-term card requests.
- Campaign management.
- Data analytics services.

One record, multiple channels, global reach
- Digital delivery options to accompany printed materials.
- Enhance printed material with digital augmented experiences.
- Notification and activation services for customer card fulfillment.
- Digital card activation services.
- Digital wallet integration.
With all of these personalization and customization options, managing and monitoring the supply chain and fulfillment process becomes even more crucial to success.

As circumstances change, banks also need flexibility to adapt their production processes or customizations to meet requirements.

For example, a bank may include an insert with an offer for new customers. If that offer is changed, banks need to quickly be able to cancel or amend that insert to ensure customers do not receive incorrect information.

As a fully managed service, G+D’s card personalization suite provides its clients with a full-featured Issuance Portal to manage card, carrier and packaging production, printing and distribution on a self-serve basis. As an issuance enabler, our issuance portal provides interfaces for online configuration and reporting.

The portal offers stock updates, in-depth reporting and forecasting as well as the ability to configure and manage all issuance and production processes.

In addition, we offer consulting for any aspect of personalized card issuance and the industrialization of banks’ business processes.

Our service specialists are the ideal partners for tailoring a specialized service portfolio to the needs of your card holders. Based on our vast experience, we can ensure efficient, effective delivery of almost any desired end user experience.

With the portal, the issuing bank can:

- Manage the design and layout of their standard cards, carriers and printed materials.
- Manage campaigns.
- Monitor service-level agreements (SLAs) to ensure on-time delivery.
- Real-time reporting and analytics to view stock levels and card status updates.
- Alter, redirect or cancel production quickly and easily.
- Access digital delivery channels for service enhancement, card activation and digital wallet integration.

Convego® Connect API

For complete customization and integration of card issuance services into your current digital estate, Convego® Connect offers a suite of APIs and SDKs with full plug and play connectivity.
Card personalization

The customer’s payment card is perhaps one of the most enduring and powerful elements of your relationships with your customer. They see it every time they make a transaction, and with validity periods of at least two years, the payment card will be with the customer for a long time, making it ideal real estate to reinforce your brand identity.

However, to effectively maximize the branding potential offered by payment cards, you need to select a supplier that offers the most complete range of options, layouts, materials and finishes to ensure your brand is presented in the strongest manner.

G+D’s personalization solution can offer a wide range and combinations of materials and production options, as well as:

- Unlimited fonts and layouts.
- Vertical orientation.
- Nearly unlimited variety of colors to fit various card designs.
- Special card body materials, such as metal or eco-friendly materials.
- Highly durable graphics.

Perhaps the most comprehensive personalisation option that G+D offer is Drop on Demand (DoD). DoD allows you to print a card customized to the individual customer. With DoD, cards can be configured with individual customer graphical data, like photos or signatures for increased ‘tailored’ appeal.

This wealth of options allows you to offer to your entire customer base a card that completely embodies your brand.

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### Choosing the best optical personalization technology for your card

<table>
<thead>
<tr>
<th>Feature of Technology</th>
<th>Embossing (with back indent)</th>
<th>Thermo-Transfer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Raised</td>
<td></td>
</tr>
<tr>
<td>Element position</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>Element size</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>Font and font size</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>Image/Graphics</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Colors</td>
<td>Monochrome, Silver, Gold (metallic)</td>
<td>Monochrome, Silver, Gold (metallic)</td>
</tr>
<tr>
<td>Front / Back</td>
<td>Front</td>
<td></td>
</tr>
<tr>
<td>Edge-to-Edge</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Durability</td>
<td>Permanent</td>
<td>Overlay required</td>
</tr>
<tr>
<td>Complexity</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Availability</td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>
For Visual and Visual+ the issuing bank can enable customers to customize the appearance of their own card, using an online portal managed by G+D. As an alternative, G+D’s Convego® Connect service can help banks to build their own digital banking experience. Using Convego® Connect’s suite of APIs and SDKs, banks can integrate the Design It Yourself workflow into their own digital estate, allowing for a truly seamless user story.

Visual transcends the usual constraints of card manufacturing and personalization. Your customers can simply and quickly configure the design printing of their own card, enabling a truly unique expression of their lifestyle.

A Visual+ customized card begins with choosing card edge color, tactile elements, metallic design elements and many other parts of the physical card makeup. The customer can then either select artwork from an online gallery or upload their own – with the bank choosing design policies and features upfront.

Digital Design Printing with personalization is designed to complement traditional methods of card personalization and production.

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**Thermo-Transfer (Durable)**

<table>
<thead>
<tr>
<th>Thermo-Transfer</th>
<th>Thermo-Sublimation</th>
<th>Thermo-Retransfer</th>
<th>Drop On Demand Inkjet (DOD)</th>
<th>Laser</th>
<th>3D Printing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flat</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Raised</td>
</tr>
<tr>
<td>Variable</td>
<td></td>
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<tr>
<td>Variable</td>
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<tr>
<td>Variable</td>
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<tr>
<td>Yes</td>
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<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Black, White, Silver, Gold (metallic)</th>
<th>CMYK</th>
<th>CMYK, White, Silver, Gold (metallic)</th>
<th>CMYK, White</th>
<th>Black, Grey</th>
<th>CMYK, White</th>
</tr>
</thead>
<tbody>
<tr>
<td>Both</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Front</td>
<td>Yes</td>
<td>No</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Permanent</th>
<th>Overlay required</th>
<th>Permanent, opt. Varnish</th>
<th>Permanent, opt. Varnish</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>4</td>
<td>5</td>
<td>3</td>
</tr>
</tbody>
</table>

Entrust only

Yes

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*Design guides of schemes apply

All optical card personalization methods can be combined with electrical features like magnetic stripe, contactless, contact or DI chip. Graphical personalization of activation labels with alphanumeric, graphics or images is supported.
Card carrier and fulfillment

Currently, most payment cards are delivered to customers homes in envelopes, with an enclosed letter to which the customer's new card is affixed.

This ‘carrier’ is often one of the first pieces of literature a customer will see from their bank after they join, so it is a valuable part of the customer journey. Banks can deliver additional brand messages, and introduce offers and additional products to increase customer stickiness and ROI.

G+D allows complete flexibility and customization for carriers. Everything from paper size, paper stock, printing options, card placement and envelope/packaging can be tailored to deliver a rich customer experience – including the ability to disguise the document to prevent interception and enhance security.

Banks can use G+D’s SDG solution to leverage the rich data they already possess about their customer to include micro-targeted, on demand printed carriers and inserts. This includes custom printed, per-customer carriers and other inserts, such as T+Cs, brochures, letters or booklets to inform and educate customers about other products and services.

This custom approach can also be leveraged to interface with banks’ digital offerings, with the opportunity to embed custom QR codes or use augmented reality technologies.

With Smart Document Generation, the issuing bank can enable staff to design the appearance of their carriers and fulfillment portfolio, using an online portal managed by G+D.

As an alternative, G+D’s Convego® Connect service can help banks to build their own digital administration workplace. Using Convego® Connect’s suite of APIs and SDKs, banks can integrate the SDG workflow into their own digital estate, allowing for seamless portfolio management.

<table>
<thead>
<tr>
<th>Carrier and fulfillment options</th>
<th>Cross-, C-, Z- or roll-fold, address on top or bottom.</th>
<th>Selecting an ideal amount, size and number of components per mailpiece ensures an optimum balance for delivering content in the most economical manner.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carriers in A4 or A3 format or American equivalents.</td>
<td>Pre-printed insert pages, folds or stapled booklets.</td>
<td>Cost for postage or couriers can be kept under control. Our vast experience in sorting and grouping services both for data and for physical mailpieces allows finding the most efficient solution for the service levels you are asking for.</td>
</tr>
<tr>
<td>CMYK or monochrome black, simplex or duplex.</td>
<td>Envelopes with or without windows or franking.</td>
<td></td>
</tr>
<tr>
<td>Machine-readable pre-printed carrier or white paper insert.</td>
<td>Dynamic weight unit, barcode and chip reading for QA.</td>
<td></td>
</tr>
<tr>
<td>Nesting or collating options.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Classic fulfillment (card mailing)

Visual fulfillment

Smart letter

Booklet
Managed card issuance services: Boosting payment cards to the top of your customers' wallets
Individual packaging

To further enhance presentation, G+D can offer a wide range of alternative and creative packaging and presentation solutions.

<table>
<thead>
<tr>
<th>Premium feel</th>
<th>Branded extras</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use to give your customers a VIP-experience, whether that’s for your entire customer base or just for top-tier clients.</td>
<td>Bundle additional items with the card, packaged in a sleek gift box for a truly special feel. These branded gift options include wallets, organizers and pens.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Secure</th>
<th>Other payment options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Packages are security-sealed to prevent theft or tampering.</td>
<td>Expand your customer’s payment toolset and include other payment devices, such as wearables or tokens and fobs so they have more ways to pay.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Welcome experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>You have the option to include pre-printed special welcome materials to offer customers the best onboarding experience.</td>
</tr>
</tbody>
</table>
PIN provisioning

Where banks choose not to offer PIN selection as part of the initial card activation process, we can provide generated PIN management and provisioning as a further managed service.

The ‘PIN letter’ is an additional opportunity to establish brand in the mind of the customer, provide reassurance and direction as to next steps and also potentially inform customers of additional products or services that may be of interest. G+D can offer the same level of customization and personalization to the PIN mailing as it does for the carrier:

- SDG support for additional inserts.
- QR code/AR technology for digital enhancements.
- Security options to disguise the mailing, preventing interception and fraud.
- PIN concealment with peel/scratchoff panels.
- Inclusion of additional booklets/leaflets/other material.
- Various folding/paper stock options to align with brand.
- Full colour branding opportunities.
- ePin solution for efficient, secure, digital delivery and activation of PINs.
One record, multiple channels, global reach

Quality customer experience is omni-channel. Integrating physical card issuance processes with digital offerings enhances and reinforces the customer journey, providing opportunities for tailored service and true brand differentiation. G+D offer a range of digital solutions to enhance the card issuance process:

Digital delivery options to accompany printed materials

The information contained within a card carrier can be delivered to the customer digitally to any device, as PDF, HTML or video content. This ensures that key messages and information are reinforced, and that customers learn all needed information in the way that they prefer.

Enhance printed material with digital augmented experiences

Customers can use their mobile devices to access Augmented Reality (AR) content embedded in mailed documents, such as links to special offers, video content or push-to-call integration for quick calls to banks’ sales or customer service centers.
Notification and activation services for customer card fulfillment

Customers can be alerted via SMS or in-app message to the status of their card delivery. These alerts can be configured to each step of the issuance process, from shipping to card activation reminders.

Digital card activation

eActivate is G+D’s self-serve card activation service. The customer receives a One-Time Password (OTP) through the mail that they can use online or via automated telephone banking, which arrives separate to the card itself. This combination can also allow the digital issuance of PINs, for more efficient overall issuance process.

Digital wallet integration

G+D Convego® CloudPay Service Broker solution seamlessly mediates the activation of payment cards into OEM wallets. This allows customers to easily use their payment cards in their digital wallets.
Why G+D is your right partner for managing card issuance?

With more than 160 years of passion for securing and enabling payments, G+D work with hundreds of card issuers and have strong relationships with banks and other Financial Services businesses on every continent of the world.

Today, G+D manage the issuance of up to 400 million payment cards every year, for banks located on all five continents. We serve around 188 financial institutions who issue payment smart cards, and as their card vendor, we manage over 100 different kinds of services for them.

We have drawn on this wealth of experience and our unique market understanding to create a suite of physical and digital issuance solutions that offer true personalization and customization to match multichannel customer needs. Our position as market and technology leader allows us to quickly navigate complex partner relationships from processing partners to VISA and Mastercard. This allows quick deployment with less resource requirements and a quicker testing cycle. Our position as preferred partners of international schemes and our participation in global industry forums, allows us to understand mandates, technology changes and new features first and more thoroughly than other providers, offering our clients first mover advantage in many cases.

As technology develops, we are ideally placed to help banks adapt to changes. By integrating the payment card chip’s lifecycle into the personalization setup, we can easily update chips to work with the latest technology, enabling the reuse of existing stock and a flexible approach during any technology migration – leading to a smooth migration.

We have worked with card-issuing clients around the world in various capacities from technology partners and core card production to overflow capacity and business continuity (BCP) support for in-house personalization centers operated by banks. So whatever level of service you need, we can help.

Our depth of expertise, drawn from our own COS and app development ensures that our consultative approach to partnership offers genuine value to our card-issuing clients. We can configure solutions quickly and efficiently, work with our partners’ internal resource and liaise with third parties such as payment processors to quickly troubleshoot any issues and rapidly identify root cause.

We have our own proprietary set of personalization tools, which gives us independence from any third-party supplier and enables faster response to any change requests.
G+D operating model for managed issuance services

Sophisticated production principles
As a global high-volume card manufacturer, G+D follows the latest and most efficient service delivery model – as this diagram indicates. We use two key KPIs to monitor the success of our production operation:

Overall equipment efficiency (OEE):
Measured by levels of utilization, productivity and quality. We strive for an industrial optimum of 85%, which is supported by our lean principle in effect for operating card issuance production centers.

On time and in full (OTIF):
A measure of how effective our logistics and supply chain are at satisfying our customer. Again expressed as a percentage of how many of our customers’ orders arrived on time, at the right place and of the expected quality. We also strive to have this metric as close to 100% as we can.
Our reach

Managed card issuance services with truly global coverage

Certified backbone

Certified frontend

400m cards per year managed for 188 different financial institutions.
Creating confidence

Giesecke+Devrient (G+D) is an international Group providing security technology and headquartered in Munich, Germany. Innovations by G+D make the lives of billions of people in the digital and physical world more secure. With its products and solutions, G+D is one of the market and technology leaders in payments, connectivity, identities, and digital infrastructures.

Established in 1852, the company achieved sales of €2.45 billion in the fiscal year 2019 and employs 11,500 people. G+D has a presence in 33 countries. Its customer base includes central and commercial banks, mobile network providers, automotive manufacturers, health insurance companies, and governments and public authorities.