G&D has specialized in the provision of secure payment products for decades and is a reliable partner for banking institutions worldwide. Our comprehensive range of payment products and solutions comprises high-end products based on the latest EMV, contactless, and dual interface technologies. Our smart debit and credit products are available on a wide range of platforms and based on secure and highly flexible operating systems.

- **Convego Element**, G&D’s multi-application product line for native payment cards, is optimized and tailored for EMV-based transactions
- The G&D Java™-based multi-application product line Convego Join offers clients the flexibility to implement and combine value-added applications onto chip cards
- Contactless cards and devices are available within the G&D product line Convego Air
- G&D offers payment products tailored to different market requirements and country-specific needs

### The full service

Alongside the comprehensive portfolio of flexible configurable card products and card solutions, we also offer all services related to electronic payments – such as personalization, system integration, project management, and technical consulting – from a single source.

With many years of market experience and a strong international alignment, G&D is able to provide optimum support to banks to adapt to the constantly changing landscape of cashless payment transactions.

G&D invests continuously in new features and innovations in order to meet the needs of the international financial services markets today and in the future.

### The added value of Convego Element

- Provides a platform for highly secure EMV card products, fully configurable to issuer requirements
- Supports the implementation of a wide range of value-added applications including data storage features for loyalty, e-ticketing, secure storage, offline e-purse, and access control
- To enhance the benefits of multiple applications, there is also PIN and data sharing
- Enables the implementation of country-specific applications, defined by national payment schemes
- Convego Element products are available on most advanced chip platforms

<table>
<thead>
<tr>
<th>Features</th>
<th>Supported authentication method</th>
<th>EEPROM size in kByte</th>
<th>Payment applications</th>
<th>Further applications</th>
<th>Type approvals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Convego Element SD</td>
<td>4-8</td>
<td>VIS 1.4.x</td>
<td>EMV Authentication (DPA, CAP)</td>
<td>Visa and further payment schemes</td>
<td></td>
</tr>
<tr>
<td>Convego Element DI</td>
<td>8-12</td>
<td>VIS 1.4.x</td>
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### G&D product and service offerings

- Standard products and customer-specific smart card development
- Card and chip personalization project management for EMV migration
- Technical consulting

Team up with the leader in secure payment products
**Convego Join – G&D’s highly flexible product line built on the full power of Java™**

Designed for the advanced payment markets, G&D’s Convego Join product family is the perfect solution for all multi-application product requirements. It allows banks additional tailoring of card products and devices according to individual needs. Convego Join combines both Java Card™ and Global Platform technologies and conforms to the latest requirements of the global and local payment schemes.

<table>
<thead>
<tr>
<th>Features</th>
<th>Supported authentication method</th>
<th>EEPROM size in kByte</th>
<th>Java Card/GlobalPlatform standards</th>
<th>Payment application</th>
<th>Further applications</th>
<th>Type approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Convego Join</td>
<td>SDIA</td>
<td>16–32</td>
<td>JC2.1/J2.2/2.1</td>
<td>VIS 1.4.x, M/Chip 2.1, and further payment schemes</td>
<td>VISA</td>
<td>Java Card/GlobalPlatform standards</td>
</tr>
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<td>Convego Join DI</td>
<td>SDIA</td>
<td>8–68</td>
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<td>VISA</td>
<td>Java Card/GlobalPlatform standards</td>
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</table>

**The added value of Convego Join**
- Convego Join is a highly flexible platform, designed to fulfill all requirements of a modern Java™-based single- or multi-application smart card solution
- Various applications can be added to Convego Join products, from a cost-critical loyalty scheme and performance-sensitive transport application to high-end multi-applications and Public Key Infrastructures (PKI)
- Convego Join products are made safe with a wealth of security algorithms and functions
- With its optimized and sophisticated memory management and very high communication speed, Convego Join is one of the world’s leading Java Card™ implementations

**G&D product and service offerings**
- Standard products and customer-specific smart card development
- Applet development
- Card manufacturing
- Personalization
- Bureau services
- Technical support
- Consulting

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**Convego Air – G&D’s product line for contactless payment cards**

Contactless payment cards differ from magnetic stripe and contact-based smart cards as they communicate with payment terminals using radio frequency only. A secure contactless card has an integrated circuit chip (ICC) and an antenna embedded into the plastic card body.

<table>
<thead>
<tr>
<th>Features</th>
<th>Available form factors</th>
<th>Features</th>
<th>Applications</th>
<th>Type approvals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Convego Air</td>
<td>ID-1/CR80 format, Mobile phone sticker format, Mini card format, Key chain attachment, Full face reflective card, Customized formats</td>
<td>Most advanced chip platforms, Fast transaction times, Excellent antenna performance, Suitable for hybrid production, Private label and loyalty schemes upon request</td>
<td>VISA, MasterCard, JCB, PSE, PBOC, and further payment schemes</td>
<td>Most of the products are VISA and MasterCard type approved</td>
</tr>
</tbody>
</table>

**The added value of Convego Air**
- Convego Air products are available on a wide range of platforms for EMV and non-EMV payments
- Convego Air platforms feature a built-in multi-application development environment for the implementation of value-added retail, loyalty, transit, and access control applications
- Besides the standard card format, Convego Air products are also available in different and unique form factors

**G&D product and service offerings**
- Standard products and customer-specific smart card development
- Standard card formats and custom non-card formats
- Card manufacturing
- Personalization
- Bureau services
- Technical support
- Consulting
Customized and regional products

As one of the most experienced market leaders for card-based payment products and services, G&D has developed an in-depth understanding with regard to various market demands and customer requirements. G&D offers payment products based on platforms tailored to local market requirements around the world.

**SECCOS®**

The operating system SECCOS, specified by the German Central Credit Card Committee, ZKA, provides a multi-application platform for chip-card-based payment applications. Authorization on networks, legally binding electronic signatures, as well as new distribution channels like the Internet can be operated by SECCOS chip cards without the effort of application-based development.

**PBOC**

G&D has developed specific local solutions for PBOC (People’s Bank of China) and has been involved in the development of PBOC compliant products right from the start. In the Chinese core market, G&D offers card products based on the PBOC specifications in different versions for contact, contactless, and dual interface payment transactions.

G&D also supports several licensed products in order to address individual market requirements such as:

**Advantis**

Advantis (formerly TIBC) is a multi-application operating system for payment cards and is mainly deployed in Spain, Latin America, and the Caribbean.

**Proton PRISMA**

The Proton PRISMA supports a range of banking applications including e-purse and non-banking applications, including capacity for customized applications, e.g. loyalty and access control.

**MULTOS™**

MULTOS is a multi-application open standard smart card operating system that enables a smart card to carry a variety of applications. These products are available in different versions such as SDA, DDA, Dual Interface, and others.

For more detailed information please contact G&D.