

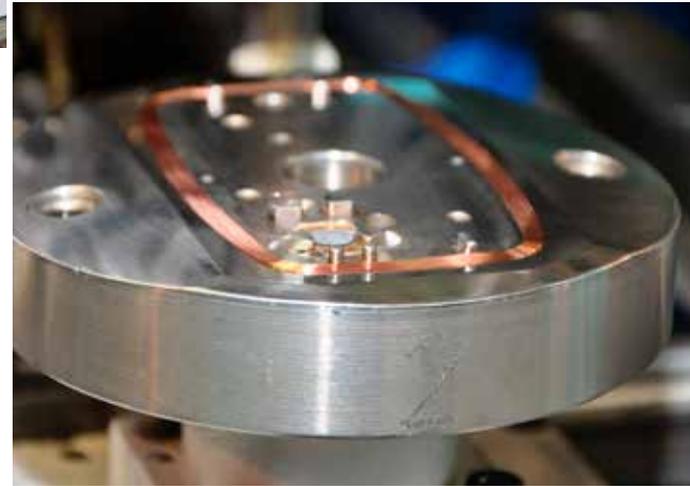
Absolute Access

THALES

# Multi-Application Cards made by an Innovative Company



THALES  
DIS BPS Deutschland GmbH



## Our Technology and our Know-How

Thales DIS BPS Deutschland GmbH is specialized in the development, design, manufacturing and sales of high quality and long lasting contactless and contact smart cards.

Depending on the customer requirements our cards can be made of different material combinations, can be printed using several techniques and carry additional features enhancing multiple usage and security.

The highly automated inhouse production starts from module manufacturing and goes along the value chain with antenna development and production up to the laminated card with final electrical testing being the last step. Card personalization and chip programming are additional services provided by Thales DIS BPS Deutschland.

Most of our equipment and all offered material compositions are the result of our own R&D. Due to the active influence on every production step we provide reliable, high quality products while being flexible enough to realize immediate specific requirements and evolve with our customers.



### Low Frequency (125 kHz) Contactless Cards

Based on our wired copper antennae which are well to our contactless C11 module we produce low frequency standard cards (e.g. Hitag™, Atmel/Temic 55xx or EMxx) as well as customer specific versions in a completely automated line.

Our own antenna development and production makes combinations of several antennae possible which we market as TWIN cards.

### High Frequency (13,56 MHz) Contactless and Dual-Interface (DIP) Cards

In order to manufacture high quality proximity and precise vicinity coupling cards we embed copper wire directly into a foil substrate to create the antenna and subsequently weld our C3 chip module to this antenna.

Based on the same antenna technology we produce our own dual-interface cards using our Thales DIP module. The module is soldered to the antenna following ROHS requirements.

Standard products are all memory and processor chips according to ISO specifications 14443 A/B and 15693.

### Ultra High Frequency (800-900MHz) Contactless Cards

Using our years of experience in module and antenna production we developed a high quality UHF card following EPC class1 Gen2 standard as alternative to label products for long reading ranges.

The Thales C1 module with the UHF loop designed for the specific application is placed next to the copper wired antenna using NXP's Golden Tag Technology. Similar to all of our card products this card is a multilayer laminate, too, allowing to chose from our range of material compositions for the special customer requirement. Our flexibility in development and production makes combinations possible of UHF and HF chips and allow the embedding of an additional contact chip module.

### Contact Smart and Hybrid Cards

Starting from our own module manufacturing followed by our flexible chip embedding infrastructure we are able to produce various types of reliable smart cards in short term.

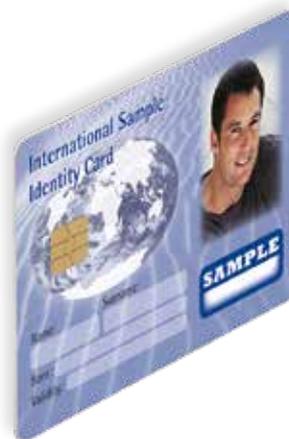
Integrated quality checks, initialization and chip programming procedures are standard for different memory and microprocessor based products.

There is a variety of hybrid cards possible when combined with our own contactless cards. Those cards as well as combinations of several contactless technologies complete our product range.

## Your Requirement and Your Application

Every day smart contactless and contact cards conquer new applications. They allow the optimization of industrial processes, enhance system security or intensify customer loyalty with comfort for the user at the same time.

You can rely on Thales as a partner with plenty of experience for a successful realization of your project: choose from a broad range of cards made with state of the art technology – meet highly motivated partners with deep technical competence.



### Ticketing

Our contactless and contact based smart cards will help you to eliminate falsifications, create security while having faster transactions, bind customers and generate add-on business.

Special material compositions have been developed for access to ski arenas, sport grounds, clubs or fun and adventure parks.

UHF cards allow automatic access to e.g. secured parking grounds from several meters distance.

### Public Transport

Our contactless and dual interface smart cards will help you to increase your passenger throughput, they allow interoperability, permit a rapid validity check and bind your customers. Our cards enable the storing of several tickets in one card, comfortable check-in / check-out procedures and handling of multiple applications.

We hold certifications for national and international standards as German VDV-KA and ITSO.

### Working Environment

Our contact based and contactless smart cards will help you to avoid unauthorized access to buildings, generate unique identification, enhance your corporate identity, optimize the time attendance of your employees, simplify vending systems and secure your IT systems. Our cards support multi-application and secure file handling thus combining physical and logical access. The cards can be fitted with additional optical security features.

### Vending/E-Purse

Our contact based and contactless smart cards will help you to optimize your payment procedures enhancing security, improve corporate identity and allow additional applications.

Our cards can be company or member cards to be used in cashless payment surroundings as canteens, vending machines, leisure parks, discotheques etc.

## Reliable Card Technology with strong Know-How and Creativity

CARDAG Deutschland GmbH is located near the city of Eisenach in the county of Thuringia/Germany and focuses on the manufacturing of contact based and contactless smart cards. Working as a pioneer in the card business we offer superior product quality and reliability based on two decades of experience in this market.

Being an independent specialist we nevertheless realize extensive projects using the specific know-how of our parent company Trueb Switzerland, too. The Trueb group of companies is a leading supplier of solutions in national identity card projects as well as smart debit and credit cards. Building on a solid base of competence in various card manufacturing techniques, innovative approaches and state of the art equipment, we are sure to provide you with a tailor made chip technology in card format. We support your specific solution.

- Design and production of contactless products LF – HF – UHF and combinations
- Dual Interface Thales DIP and DIS soldering technology
- eDatapage inlays
- Contact Smart Cards
- Coil on Module-Embedding
- Own development of manufacturing and test equipment
- Technical consulting service
- Software development, Card programming service



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