

# Gemalto transport offer

Secure e-ticketing solutions and services



FINANCIAL SERVICES & RETAIL

ENTERPRISE

INTERNET CONTENT PROVIDERS

PUBLIC SECTOR

TELECOMMUNICATIONS

**TRANSPORT > SOLUTION**



**gemalto**<sup>\*</sup>  
security to be free

# Transport applications: a complete range of solutions

||||| Simplifying the experience for passengers,  
reducing fraud and ensuring security of public transport transactions

An increasing number of cities around the globe are moving from magnetic tickets to contactless technology-based solutions, where customers appreciate the undisputed convenience and reliability. Contactless technology is gaining momentum in the mass transit sector as it drastically reduces maintenance and ownership costs. The number of passengers using underground transport, buses, ferries and automated car parks continues to grow. With this growth comes an increase in expectations, as users demand quick access even at rush hour. This is why delivering faster transaction times, providing multiple contract formats and cost-effective value-added services have become crucial for the success of your business.

With over ten years' experience in transport applications, Gemalto has developed a complete portfolio for contactless automatic fare collection ticketing media. There are currently more than 100 million Gemalto travel cards in circulation throughout the world.

Setting up a transport infrastructure covers a wide range of stages, from back office management to card personalization. These various aspects of deployment are dealt with by different actors and it is not always simple to manage the whole project due to the complexity of the different aspects of a transport solution.

This is why Gemalto offers guidance to transport operators throughout the various stages of deployment of their solution, assisting them far beyond just supplying the cards. As such, Gemalto acts as a global solution provider, offering a complete portfolio of products and services.



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## Secure process for creating or exchanging secured Keys and Application Modules

Ensuring security and combating fraud are key concerns for operators of parking areas since terminals are located in unsafe environments.

**Gemalto is an undisputed leader in the field of digital security, both in terms of the material aspect and in terms of software, and provides card authentication solutions to prevent unauthorized card modification.**

The Key exchange ceremony ensures that master or derived keys are securely transferred from the transport operator to the card manufacturer.

Gemalto's Secure Application Modules (SAM) guarantee the highly-secure storage of secret keys and digital certificates. These modules are fitted in transport terminals or used by smart card manufacturers personalization centers.

Gemalto offers you a range of SAMs enabling you to choose according to the infrastructure and the type of card authentication that you require:

- > **Celego SAM Desfire™** for Desfire and Mifare cards
- > **Celego SAM Calypso™** for Calypso cards (DES, DESX, 3-DES)

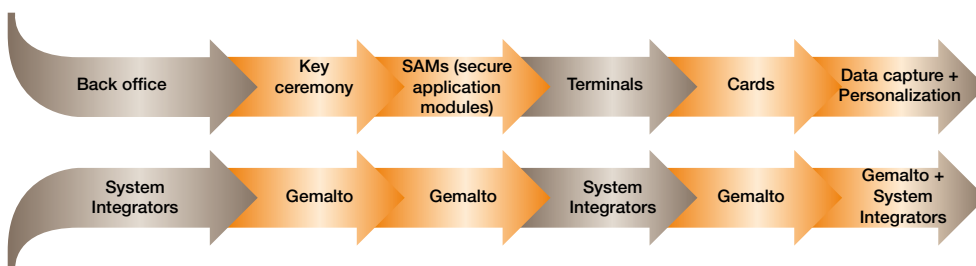
## The cards: Celego - a complete range of cards

### ■ Celego Mifare™

When high-speed transactions are required, the contactless smart card range from Gemalto is an ideal solution.

Mifare is a contactless smart card technology adapted to ticketing and access control systems. Its main features:

- > **Convenience:** A large number of card readers in the field accept Mifare Classic cards. It has become the most widely deployed contactless card across the world. The Mifare card by Gemalto is available with a 1k memory for standard fare systems and 4k when a complex interoperability system between several operators is put in place, with fares depending on multiple criteria (zone, journey, etc.)
- > **Speed:** the transactions are completed in less than 100 ms, with the card held up to 10 cm from the reader.
- > **Security:** Mifare Classic cards offer a certain level of security, notably in comparison to magnetic travel tickets, according to the overall security level applied to the acceptance system. While they alone cannot offer complete security for the entire system, they nonetheless offer a good compromise between low cost and a tried-and-tested solution, user comfort and short transaction time.



## ■ Celego DESFire™

Security and speed of use are of utmost importance when it comes to large-scale access control for areas such as public transport, corporate or commercial buildings and administrations.

Transport operators are now facing increasingly complex demands.

It is therefore essential that their infrastructures authorize the use of multiple applications in a secure environment.

The microprocessor-based smart card is an ideal solution for optimizing data storage and enhancing security and flexibility. These cards can handle far more complex applications than traditional memory cards.

The new generation of Gemalto Desfire cards offers optimum security, flexibility and interoperability, with a memory capacity of 2K, 4K or 8K, according to the type A standard.



### > Interoperability and flexibility:

the Gemalto Desfire solution offers maximum interoperability compliant with the four levels of standard ISO 14443-A. Moreover, its file architecture can be completely personalized.

> **Security:** thanks to its embedded 3-DES encryption engine and authentication features, Gemalto Desfire is the solution for protecting data while ensuring fast contactless transactions.

> **High-speed:** Gemalto Desfire opens the door to performing transactions at a speed of up to 424 Kbits/sec, and even 848 Kbits/sec with the very latest generation, Desfire EV1.

## ■ Celego Calypso™

The Calypso technology, originating from a European program, is designed and developed for transport operators. Gemalto has developed its own Calypso mask, industrializing its CD21 masks (which include an electronic purse allowing the user to pay for goods costing small amounts) and TanGo™ for Calypso.

### > the security of Calypso™

**Microprocessor cards is built around the notion of secure sessions and ratification:** These

mechanisms are optimized for computer ticketing (speed and security combined); according to the card they are based on either DES, DES X or triple DES encryption algorithms.

They are used to:

- guarantee the integrity and authenticity of the read and write data on the card.
- certify the authenticity of both the terminal and the card during exchanges between them.
- facilitate processing in the event of a transmission error following validation of the transaction in the card, to avoid the user being penalized by the payment being taken twice.

> **Double interface (contact or contactless):** Using this technology, your passengers will be able to perform contactless transactions in a single gesture. Using public transport will therefore be made more convenient to them, and your infrastructure will be more than capable of managing a significant volume of transactions. For less speed-sensitive operations such as card recharging, Calypso cards can also be used in contact mode.

With the above range of cards you can manage your subscriptions (yearly, monthly, weekly, elderly or student) and rechargeable tickets effectively.

### > “100% contact-free” option:

Gemalto also offers “100% contact-free” cards, for operators who only perform contactless transactions. With the above ranges of products you can take out a subscription on a card (yearly, monthly, weekly, elderly or student) and/or incorporate rechargeable books of tickets effectively.



## ■ Data capture & personalization

Historically developed for the banking sector, card personalization is now frequently used in the transport, health and identity management sectors.

During a project launch or card renewal period, it needs to be possible for a vast number of cards to be personalized and distributed in a very short timeframe. Reliable industrial solutions are necessary to meet the required production capacity.

To facilitate such large-scale production, Gemalto offers two alternatives:

### > Outsourced personalization

includes data capture and processing (generation of a personal information database when the registration form is submitted), graphical and electrical personalization, packaging and mailing.

### > In-house personalization -

Gemalto offers a directly transferable, integrated personalization solution at the customer's personalization center.

Gemalto also provides transport solutions combined with banking and mobile telecommunication applications.

## Remote sales and services

Gemalto offers remote sales solutions to offer users easy access to their personalized cards, simple-to-use card readers to recharge travel tickets from any personal or public computer, at works committees or on company premises. This internet-based sales and home delivery service, which includes a telephone helpline, interfaces directly with the internet site of the operator or the organizing authority.

## New products

Travel tickets are charged onto contactless ticket cards. Gemalto also offers objects that communicate by Radio Frequency (Contactless: 13.56 MHz, standard ISO 14443 1-4), such as contactless USB keys, contactless bank cards housing your Transport application, and NFC mobile telephone services. Gemalto is ideally placed to offer you assistance and guidance with these inevitable developments in products and services.



## Travel in style with innovative card designs

In the highly competitive public transport market, it is imperative for a company to stand out from the crowd.

Passengers want to be different from the rest too. We provide stylish, unconventional cards with which users can reflect their personality and define their own image, helping to encourage customers' long-term loyalty.

Gemalto offers you a dynamic alternative to turn traditional travel cards into trendy fashion items. With Gemalto's extensive range of eye-catching card bodies, you can modernize your company's image as more in-touch and high-tech. You can choose from an array of different inks, finishes and distinctive features, each adding an elegant touch to liven up your cards' design.

### Cards to suit your personality

If you want to better target new customer segments, such as young people or tourists, make use of Gemalto's innovative card body range. These solutions offer a wide variety of options that can be adapted to suit all tastes, occasions and locations. Gemalto card bodies can also help you segment your customer base, enabling you to better target the individual habits and needs of your subscribers.

### > A metallic effect for real impact:

A special metallic ink coating adds a touch of sophistication to cards with an otherwise standard design. This extra touch, which adds a flash of gold or silver to your customer's wallet, brings real added value. An easy way to add prestige to your travel card solution.

### > Signature panel or personalized stripes, to strengthen your image:

Add a personalized strip or signature panel to your cards, using your brand's own colors.



### > Hot stamping, make your mark:

Gemalto's hot stamping process will add an unexpected dimension to your cards' appearance. Make your presence known by hot stamping letters to emboss the name or logo on your cards. Your customers are sure to appreciate this elegant touch.

> **UV ink, Get glowing:** Thanks to Gemalto's innovative inks, why not hide a secure message on your cards that can only be read in certain conditions. An ordinary card in your customer's wallet turns into a secure pass when exposed to UV light.

> **Pearlescent effect:** Depending on how the card is held, it reflects fragments of light, highlighting the images on the card - a good way to communicate a message or promote a particular event.



If you want to better target new customer segments, such as young people or visiting tourists, make use of Gemalto's innovative card bodies. These solutions offer a variety of creative options that can be adapted to suit all tastes, occasions and locations

■ **A range of packaging and personalization: delivering your card in style!**

With a range of ready-to-use packaging solutions and a comprehensive service offer, Gemalto offers you made-to-measure solutions integrating your own wishes, specifications and requirements, with a view to boosting the brand's reputation as much as possible through personalization of the design, and communicating directly with the card holder using innovative means.

Customized solutions such as leaflets and card-holder sleeves can also facilitate card issuing. Starting with the card, you can then go on to the card holder, to achieve a completely personalized design:

With a range of ready-to-use packaging solutions and a comprehensive service offer, Gemalto offers you made-to-measure solutions integrating your visual identity and your specifications and requirements.

> **Personalized standard card:**

Graphical and electrical personalization, including a photo, the bearer's name and the series number. You can count on our experience and excellence during the different stages of personalization, from secure data processing to customer delivery.

> **Card like me :**

Another step forward: your customers can personalize their own card with the photo of their choice and send it to our data processing center.



> **Personalized card inserts:**

Reinforce your one-to-one communication with the cardholder.

> **Mini wallet:**

A practical way to store your card: this insert comprises a rapid information guide and a card-holder section: up to 30 pages, perforations an option, four colors, up to two card slots.

> **Leaflet for travel card:**

Have your card accompanied by a leaflet! Efficient folding means the leaflet can be opened and closed easily.



> **Hard or flexible card holder:**

Protect your contactless card using a sleeve that is at the same time sleek and solid, and you also have a means of personalizing the card with your choice of colors, and by adding your own logo.



> **Slide packaging:**

Here is an innovative, entertaining way to catch your customer's attention: ideal for strengthening the promotion of your card, with a message communicated on each surface of the packaging. When the packaging is pulled on one side, both sides open up simultaneously, to reveal the card.



> **Digi Book:**

A book in CD format with three folds: in the middle a plastic band for the card, on the left a compartment designed to hold a slim insert, and on the right a sleeve to carry the card holder. This can be entirely personalized with your customer's visual.

> **Card packaging:**

An easy-to-open sealed pouch for storing up to three documents.

||||| The world leader in digital security

[www.gemalto.com](http://www.gemalto.com)

**gemalto**  
security to be free