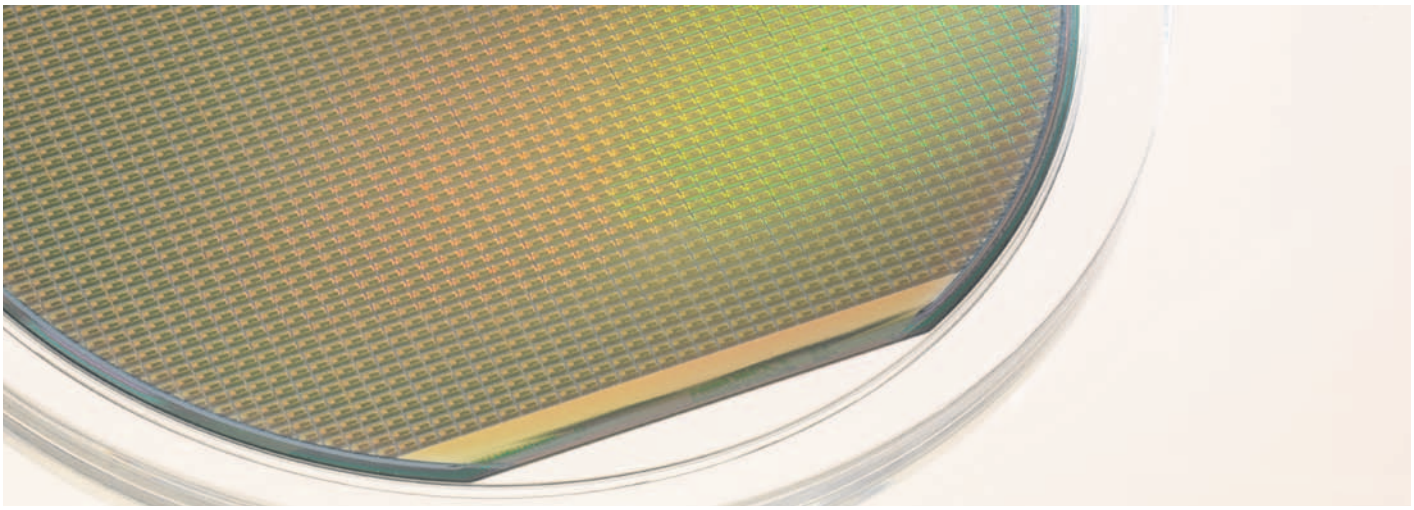
LEGIC advant transponder chips

For flexible and secure ID systems at 13.56 MHz



advant – the right decision

FREE CHOICE OF MEDIUM
With advant, you have a free choice of smartcard, key fob, watch, credit card, NFC smartphone or PKI smartcard as an identification medium.

SECURITY & CONTROL
advant allows the use of modern encryption methods (AES, 3DES) and supports the unique Master-Token System-Control™, which guarantees ownership of the ID system based on physical smart-cards.

COMBINATION OF APPLICATIONS
advant is the optimal foundation for a combination of applications: from access control and time & attendance to cashless payments, printer management and e-ticketing.

THE APPLICATIONS OF YOUR CHOICE ON THE MEDIUM OF YOUR CHOICE

For every need

Source: Fraport AG

LEGIC advant as chip are memory transponder chips for smartcards, keys and watches. Thanks to the flexible multi-application element, up to 127 applications can be combined. advant transponder chips are available in various storage capacities and ISO standards.

ATC1024-MV: Communicates via ISO 15693 and is therefore suitable for long-range identification of distances of up to 70 cm (1024 Byte memory).

ATC2048-MP: Suitable for easy ID solutions with a moderate number of applications in a read range of up to 10 cm (2048 Byte memory).

ATC4096-MP: For enhanced security requirements, up to 127 applications and distances of up to 10 cm (4096 Byte memory). The ATC4096 hardware is certified according to Common Criteria EAL4+ and therefore protected against attack.

CTC4096-MP: Multi-RF transponder with 4kByte of memory, communicates via ISO 14443 and LEGIC RF standard, and is the first choice for flexible migration to LEGIC advant.

[ADVANT AS A CHIP]

Keys and IDs on smartphones

Store employee IDs, electronic keys, travel cards and membership cards on a smartphone. LEGIC advant on mobile are software-virtualised (AFS4096-JP) transponder chips that operate on storage media such as NFC smartphones.

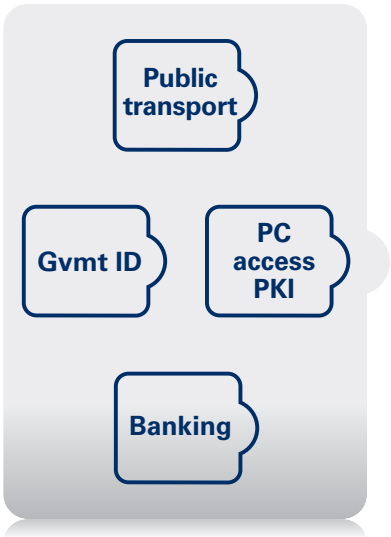
Combination with third-party applications
With advant on mobile established LEGIC applications such as access control, time & attendance and cashless payments can be combined with third-party applications; for example, PC logon (PKI), credit card payments and electronic travel cards.

Security
The security of advant on mobile is certified according to Common Criteria (ISO 15408) EAL4+ by the German Federal Office for Information Security (BSI).

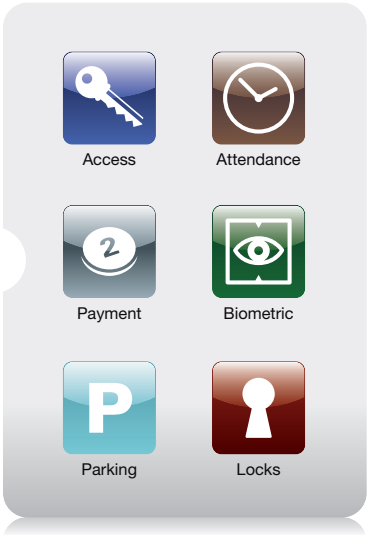
Cost control and efficiency
advant on mobile are charged only when used. Enabling can occur at any time and after roll-out, if the NFC smartphone is prepared accordingly. Thus, costs are incurred only for identification applications in active use and can be controlled at all times.

Equipped for the future
In future, it will be possible to allocate electronic keys over the mobile telephone network, regardless of time or place. With LEGIC, you are prepared for this new technology – the company will be able to provide trusted services to its partners.

Third-party applications



LEGIC applications



[ADVANT ON MOBILE]

Keys and IDs on credit cards

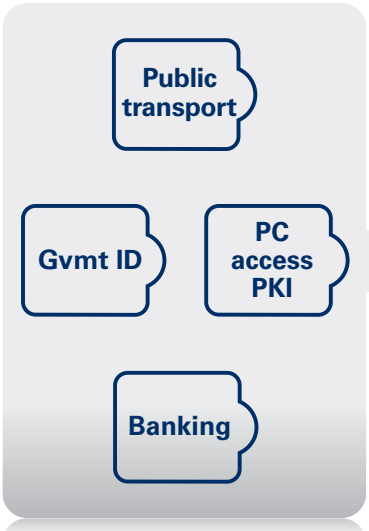
Store employee IDs, electronic keys, travel cards and membership cards on a credit card. LEGIC advant on credit card solutions are software-virtualised (AFS4096-JP) transponder chips that operate on storage media such as credit cards.

Combination with third-party applications
With advant on credit card solutions, established LEGIC applications such as access control, time & attendance and cashless payments can be combined with third-party applications; for example, PC logon (PKI), credit card payments and electronic travel cards.

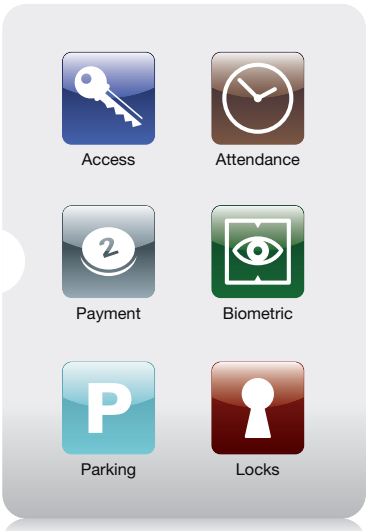
Security
The security on advant on credit card solution is certified according to Common Criteria (ISO 15408) EAL4+ by the German Federal Office for Information Security (BSI).

Cost control and efficiency
advant on credit card solutions are subject to a charge when used. This can occur on existing credit cards, if they have been prepared accordingly. Thus, costs are incurred only for identification applications in active use and can be controlled at all times.

Third-party applications



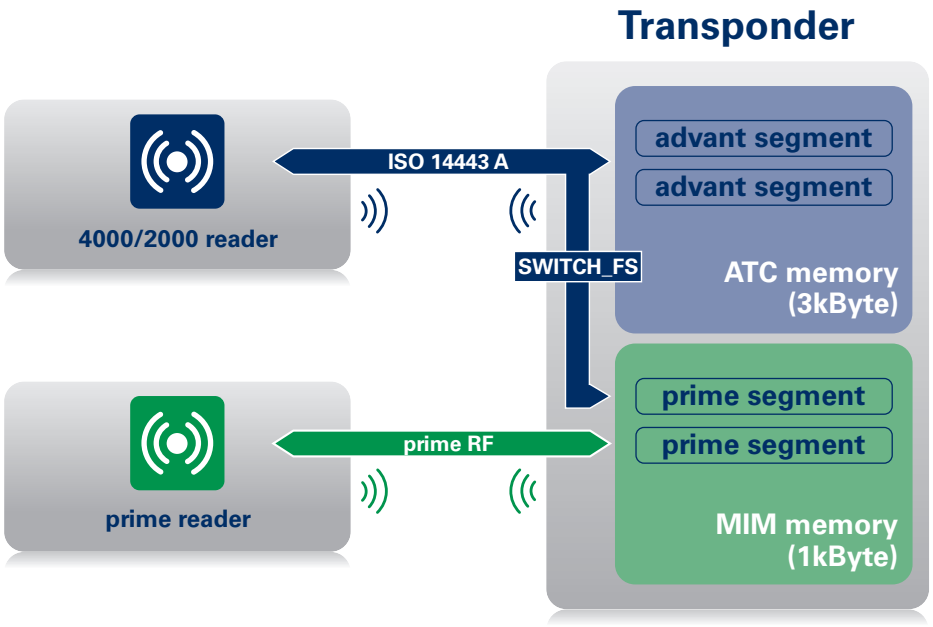
LEGIC applications



[ADVANT ON CREDIT CARDS]

Flexible migration and scalable security

The CTC4096-MP410 multi-RF transponder chip is your convenient solution for flexible migration to LEGIC advant or the implementation of individual security standards for different areas. The CTC4096-MP410 (cross-standard transponder chip) complies with the progressive security level of advant and is also compatible with the LEGIC RF standard.



The route from prime to advant

The route from prime to advant
The CTC platform creates individual and flexible migration scenarios for today's users of prime applications. Instead of having to replace the entire installation in one step, with the CTC platform the transponder can be switched to advant step by step. Once the full migration to advant has been completed, the LEGIC RF standard interface can be indefinitely disconnected if desired.

Scalable security
The CTC platform enables users to move between different installations with one transponder chip. This means that, depending on security requirements, individual areas can be selectively designed and implemented based on prime or 4000 series reader chips without replacing the identification medium.

Investment security & sustainability
The cross-standard transponder chip complies with the progressive security level of advant transponder technology. A LEGIC 4000 series reader chip can also access the prime memory through the advant interface.

Simplified card design
Until now several transponder chips for different RF standards have had to be placed on a data medium. With the CTC platform, a single chip is sufficient. For ID medium manufacturers, this means a simplified card design, maximum user convenience and lower costs.

[CTC – FROM PRIME TO ADVANT]

Overview

	ATC1024-MV	ATC2048-MP	ATC4096-MP	CTC4096-MP	AFS4096-JP
RF standard	ISO 15693	ISO 14443 A		LEGIC RF standard/ ISO 14443 A	ISO 14443 A
Memory size (Byte)	944	1968	4096	1002/2984	4096
UID (Byte)***	8	4	7	4/7	4/10***
Safe ID	yes				
Range**	up to 70 cm	up to 10 cm		up to 25 cm	up to 10 cm
Key management (per application)	Master-Token System-Control™				
Data transfer and storage encryption (per application)	3DES, DES, LEGIC encryption		AES (128/256 Bit), 3DES, DES, LEGIC encryption		
Cryptographic authentication (per application)****	64 Bit		112 Bit		
Max. number of applications *	59	123	127		
Memory segmentation	dynamic				
Application segment size	variable				
Data retention (min.)	10 years			20 years	(typical) 10 years***
EEPROM cycles (min.)	100000		500000	100000	(typical) 500000***
Baud rate (kbit/s)	up to 26.48	106	up to 424	up to 424****	up to 424
Form of delivery	Wafer	MCC2 Modul	MOA4 Modul Wafer	Wafer	Java Card™ Applet
Certified hardware platforms	–		up to CC EAL4+	–	up to CC EAL5+
Smartcard requirements	–				Java Card™ 2.2.x, Global Platform 2.1.1

* Memory size indications are nominal values. The actual max. number of applications depends on the memory requirements of applied applications
** The max. reading range depends on the RF standard used, the requirements of national spectrum management authorities, reader application, antenna and transponder surroundings
*** Regardless of the platform used
**** Depends on the RF standard

THE ID NETWORK

LEGIC represents an international network of companies and experts for contactless people identification. We design and provide hardware, software and services for ID applications from access control, time & attendance and cashless payment through to biometrics and e-ticketing. Based on this technology platform, more than 250 partner companies develop reliable ID systems. Since 1992, we have been driven by the vision to enhance a secure and simpler everyday life for people and organisations.

The LEGIC technology platform includes transponder and reader chips as well as software & services for the easy management of rights and applications. We also provide consultancy for end users and comprehensive support for our licence partners in developing and marketing products based on the LEGIC technology platform. Our licence partners are application developers, reader and ID media manufacturers and system integrators as well as many end users.

Our open technology platform supports all common smart card standards and enables solutions tailored to individual needs using identification media such as RFID tags, contactless chip cards and NFC smartphones. The unique flexibility of the LEGIC technology platform allows the combination of various applications on one identification medium.

Every day 150 million people in more than 100,000 companies and institutions identify themselves using our network. Identify with us too.

LEGIC®

THE ID NETWORK

Trademark disclaimer: Java Card™ is a registered trademark of Sun Microsystems. LEGIC is not affiliated with or otherwise linked to Sun Microsystems. Sun Microsystems neither sponsors nor endorses LEGIC or its products. Subject to change without prior notice.

LEGIC Identsystems Ltd
Binzackerstrasse 41
Post Box 1221
8620 Wetzikon
Switzerland
Tel. +41 44 933 64 64
info@legic.com

legic.com

fly.13.06.002.en_v01