



## MULTOS helps Slovenian Bank pioneer Smart Card Technology

### Profile

Headquartered in the South West of Slovenia, Banka Koper has been operating for 50 years and is currently the country's seventh largest bank. The bank has built a strong regional presence, owning about 80-90% of the region's banking market and it is expanding nationally. Located at the gateway to Central and Eastern Europe, a region with diverse cultures and rapidly-growing economies, it has been critical that Banka Koper adopts an innovative and proactive approach in order to capitalise upon its business development opportunities.

Banka Koper has been instrumental in the introduction of electronic banking practices in Slovenia. In 1992, it developed the country's first domestic payment card system, known as Avisa, for which seven other Slovenian banks now hold sub-licenses. It is also the holder of a license for card-related products within the MasterCard and Visa systems.

In 2002, the Italian Sanpaolo IMI Group acquired over 62% of the share capital of Banka Koper, thus securing long-term stability for the bank, encouraging organic growth in its home territory and also helping to provide access to new international markets.

### Challenge

In 1999, Banka Koper was faced with three main challenges: integrating a range of new applications necessary for a complete revamp of its retail banking system; migrating its business payment system from state agency to commercial banking; and migrating to EMV (Europay, MasterCard, Visa) - the global standard that ensures smart cards, terminals and other systems can interoperate.

***"Since working with MULTOS, our experience has been only positive. We have been able to develop innovative, stable, bug-free applications and the support we have received has always been excellent,"***

***Gojmir Nabergoj, Banka Koper***

### Business value

Banka Koper is using the MULTOS operating system for its multi-application chip programme, to achieve the following benefits:

- Meet all business and security requirements across all business areas and in all banking channels on *one single platform*
- Allow Banka Koper to write its own applications, tailored specifically to its domestic, international and corporate customers
- Helped support Banka Koper's strategic objective of converting more than 800,000 customers' Maestro debit cards and over 200,000 credit cards to chip within three years

### Solution Snapshot

The MULTOS operating system defines a secure environment for smart card applications - the MULTOS Virtual Machine. It also defines an Application Programming Interface (API) for on-card applications to provide access to low-level smart card functions such as cryptography

and inter-application communications. The API also provides terminals and other Interface Devices (IFD) mechanisms for loading, deleting and executing on-card applications. The specification includes requirements for the security of the micro-controllers and the safe implementation of cryptography as well as requirements for the highest, achievable security levels.

As an open operating platform, MULTOS allows card issuers the flexibility to build specific, tailored smart card solutions using their own card applications or off-the-shelf products. This frees them from proprietary smart card solutions.

### Migrating to EMV

Smart cards are revolutionising banking with better security and scope for multiple, additional applications beyond simple debit or credit card functionality. Early adopters, such as Banka Koper, are not only reducing fraud but generating entirely new revenues and differentiation.

To enable an effective system, Banka Koper was required to address three main challenges in 1999: integrating a range of new applications necessary for a complete revamp of its retail banking system; migrating its business payment system from state agency to commercial banking; and migrating to EMV cards.

### MULTOS open standard solution meets all needs

Following extensive market analysis, Banka Koper chose MULTOS as the preferred operating system for its multi-application chip programme.

"While many of our competitors use a variety of chips for different business areas, our aim was to define and use one solution to achieve each of our business objectives. MULTOS allows us to meet all our requirements on one platform," says Gojmir Nabergoj, head of Banka Koper's Electronic Money and Automation Division.

"Indeed, one of the primary drivers for implementing MULTOS was its interoperability and open standard architecture. Based on the platform, we write our own applications, tailored specifically for customers in the domestic, international and corporate sectors," Nabergoj concluded.



# MULTOS Case Study

## Pioneering smart card technology

By December 2004, Banka Koper had started routinely issuing Activa cards and by the beginning of 2005, it had started to phase out all magnetic strip cards and was replacing them with chip-enabled cards. Other Activa system members are now following suit including: Banka Celje, Deželna banka Slovenije, Gorenjska banka, Nova Kreditna banka Maribor, Poštna banka Slovenije, Raiffeisen Krekova banka and Volksbank Ljudska banka.

Moreover, corporate customers also benefit from the development of a Public Key Infrastructure (PKI) application, introduced in 2000. This PKI functionality facilitates secure electronic business using digital certificates stored on the card.

"By building a rich banking relationship based on personalized service and added-value functionality, this infrastructure is an effective tool for acquiring and retaining, high margin customers at the start of their working lives," said Nabergoj.

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S pametno kartico Activa-Maestro, ki jo prejmete s paketom Burja, so vam na voljo dodatne storitve, dodatni prostor in dodatni čas, saj kartica ni več samo plačilna in identifikacijska, ampak mnogo več. Nanjo si lahko naročite digitalna potrdila, potrebna za poslovanje z različnimi e-portali:

- e-banka: bančni opravki z elektronskim bančništvom i-Net Banka,
- e-davki: oddaja elektronske davčne napovedi in številne druge storitve na portalu eDavki,
- e-uprava: urejanje matičnih in drugih pomembnih zadev na državnem portalu e-uprava.

Naročite paket Burja na [www.banka-koper.si](http://www.banka-koper.si). Če le nimate osebnega računa pri Banki Koper, vas vabimo, da ga odprete v vam najbližji enoti.

**Banka Koper**  
Banka Koper št. 1, Priljubljenih 14, 1000 Ljubljana, tel.: 01 588 5 000

**eDavki**

**i-Net Banka**

Today, more than 10,000 corporate Internet business cards have been distributed, allowing users to make secure electronic payments via Banka Koper's 'i-Net Bank' e-banking server. The smart cards use digital certificates to identify the customer to the i-Net server and can protect the transfer of data by using public and private keys.

In May 2005, Banka Koper implemented the MasterCard Chip Authentication Programme to provide stronger authentication for their online banking, phone banking and electronic commerce customers and cardholders performing transactions online, thereby helping to prevent from different fraud types. Smart card readers were issued to the bank's retail customers for use in conjunction with their EMV bank cards.

In 2006 Banka Koper will be introducing another added value, OneSmart WEB functionality. The cardholder will be able to enter and store information such as name, address, credit card data, favourite websites and passwords for access to encrypted data. Notes can be added and forms downloaded from websites can be completed automatically. Cardholders pay for goods and services, use POS terminals, shop via the Internet and withdraw cash at ATMs normally and at no additional cost. The card is valid for four years.

Vendors involved in the chip and authentication programme include: MasterCard International, Infineon (chips), CPI (cards), ACI Worldwide (processing), Keycorp (mask), Vasco (OTP readers), Xiring (OTP readers), nCipher (Authentication Server) and TranSend, (PocketServer PC application for updating data on the card and interfacing with websites).

## How it works in practice

Every Banka Koper retail and commercial customer has been issued with a next generation chip and PIN credit or debit card. Containing sophisticated security technology enabling them to verify their identities when using the card in non face-to-face environments, users authenticate their details via a portable card reader when accessing their bank account or shopping online. After tapping their PIN into the reader, a unique password is securely generated which the user types into the web page when prompted. By entering a 'one use only' password, rather than the normal fixed password, the likelihood of password fraud is dramatically reduced and limited to a specific web connection.

"The growth of Internet banking is evident," comments Nabergoj. "Already 16 per cent of our customers are using Internet banking solutions. Our priority in this area is security, and MULTOS, with its built-in RSA functions, enables us to implement full dynamic data authentication."

Research from analyst house Forrester estimates that the total number of Europeans using Internet banking will rise from 75 million in 2005 to 130 million by 2007.

## Benefits of a MULTOS platform

"Since working with MULTOS, our experience has been only positive. We have been able to develop innovative, stable, bug-free applications and the support we have received has always been excellent," comments Nabergoj.

"Today, Banka Koper is the Slovenian leader in smart card technology. At least half of all credit and debit card transactions are done through our processing system."

Chip technology observes the EMV international standard adopted by Europay, MasterCard and VISA. It is now mandatory for all cards issued by banks on behalf of MasterCard and VISA International. The EMV specification ensures cross-border functioning of both smart cards and terminals.

## Next steps with MULTOS

Using its growing knowledge of smart card technology, Banka Koper is exploring a number of application areas including loyalty cards for a major retailer, and non-banking applications such as car parking and toll booth payment schemes.

"Banka Koper has a history of technology-enabled innovation. It was one of Slovenia's first banks to introduce ATMs, optical character recognition and the Activa payment card in 1992. Technology innovation is crucial to the long-term goal of bolstering our strong market position. We intend to exploit the EMV chip infrastructure, to provide more secure card payments and to launch further value-added products which really make a difference to our customers," says Nabergoj.

