## PROJECT RESULTS

# Card-based protocols
## Ensuring interoperability of electronics payments across Europe and globally

● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ●



*Simplifying card payments Europe wide (photo: Joël Gavy)*

*EPAS set out to overcome obstacles to the interoperability of electronic payments schemes in the single European market. It developed and demonstrated three major card-based protocols built on open and interoperable standards to support the successful creation of the Single Euro Payments Area (SEPA). The same approach is now being made available worldwide through an ISO 20022 standardisation process.*

The European banking industry, the European Central Bank and the European Commission worked together to create SEPA. This will enable consumers, businesses and public administrations to make and receive payments in euro between and within countries under the same conditions anywhere in the area. Users will be able to make cashless payments from domestic accounts to anywhere within SEPA.

Integrating the market for payment services required removal of all technical, legal and commercial barriers between fragmented national payment markets. By developing and using open and common standards, SEPA will foster an efficient and competitive payments industry in Europe. A crucial element is the harmonisation of the billions of electronic retail payments made with debit and credit cards.

Such harmonisation requires issuers, acquirers, card schemes and operators to adapt to the SEPA card framework. Key features are cardholders can pay with one card all over the euro area, and retailers will be able to accept all SEPA cards in a single terminal. As a result, payment-card processors will be able to compete and to offer services throughout the euro area. This will make the market for processing card payments more reliable and cost efficient.

To avoid unnecessary legislation, banks, retailers, vendors, services providers, card schemes and users teamed up in the Electronic Protocol Application Software (EPAS) initiative to deliver the necessary standards to meet the need for Community-wide payment standards by 2010.

**Creating necessary conditions**
To reach SEPA's objectives, EPAS had to:
- Involve key stakeholders in card-payment, manufacturing and software-development services;
- Clearly identify the business requirements; and
- Ensure a universal solution that could subsequently become the worldwide standard for interoperable payments by cards.

Overall, the ITEA project has delivered a series of specifications that will enable a smooth migration from today's non-interoperable and proprietary solutions with dedicated

---

## EPAS
## (ITEA 05008)

● ● ● ● ● ● ● ● ● ● ● ● ● ● ●

**Partners**
Atos Worldline (Belgium and Germany)
BP
CETREL
Equens
Galitt
Groupement des Cartes Bancaires (CB)
Hypercom
Integri
Ingenico
Lyra Network
PAN Nordic Card Association
PayLife
Retail Services Company (RSC)
Royal Bank of Scotland (RBS)
SERMEPA
SIBS
Wincor Nixdorf International

**Associate partners**
American Express Services Europe
Gemalto
Logic Group
Mellon Technologies
Monext
Point International
POS Partner
Quercia (Unicredit Group)
Scheidt & Bachmann
Servebase
VeriFone
Visa Europe

**Countries involved**
Austria
Belgium
France
Germany
Greece
Italy
Luxembourg
Portugal
The Netherlands
Scandinavian & Baltic countries
Spain
United Kingdom

**Start of the project**
March 2006

**End of the project**
October 2008

# PROJECT RESULTS

interfaces to an open environment based on interoperable hardware and software components from different manufacturers.

This involved developing three major elements for point-of-interaction transactions:

1. A **terminal management system** (TMS) for data transfer, including encryption, and maintenance to ensure easier administration and suitable security;
2. A **retailer protocol** covering administrative, payment-service and device-service exchanges that ensures a clear separation between sales and payment functions, removes dependencies between payment services and products, and offers a common protocol for all types of architectures and environments; and
3. An **acceptor-acquirer protocol** covering authorisation, completion, rejection, reconciliation, diagnostic and service exchanges to provide a single common solution for multiple acquirers, remove local and regional constraints, and embed security.

The EPAS standard was presented in Paris in November 2008. Partners Ingenico and Hypercom demonstrated how their payment-terminal solutions could be interconnected with acquirer protocol systems supplied by Atos Worldline, an issuer simulator from Experian, a TMS protocol from SRC and retailer protocol systems from Scheidt & Bachmann and Wincor-Nixdorf. GALITT and Integri provided software simulators for this demonstration environment.

## Universal specifications

EPAS resulted in standardised universal specifications free of royalty and/or charges. Based on the collective work of key stakeholders in the European card-payment industry, this initiative makes possible a single, common solution on various platforms provided by global key-terminal manufacturers and solutions providers. A dedicated legal structure will ensure further evolution and maintenance of the specifications and standards.

Standardisation will continue in ISO 20022. Availability of an EPAS ISO 200222 standard will enable global acceptance and ensure convergence with payment standards already developed for credit transfers and direct debits. As a result, banks and users will be able progressively to reduce the gap between card and non-card payment processes based on a common industry-led solution.

## Major project outcomes

### Dissemination
The outcome of the EPAS Project has been widely disseminated during Cartes' 2008, the world's exhibition dealing with cards, terminals and their associated applications. A common communication and several demonstrations were held on the booths of participants in the EPAS Consortium.

### Exploitation
Exploitation of the protocols have already been planned by several partners, namely members of the card payment industry willing to start pilots on an international level.

### Standardisation
EPAS is the very first card initiative worldwide endorsed by ISO 20022 to issue standards following the specifications of this international norm. First drafts of the EPAS standards are expected to be issued by year end (2009).

### Spin-offs
The EPAS Management Board has decided to set up a dedicated legal structure in Brussels in the form of an International Non-Profit Organisation (AISBL) to ensure the evolution of the standard, especially in the framework of ISO 20022. The proposed EPASOrg new structure will also ensure an adequate protection of the Intellectual Property Rights generated in the project.