



EUROPEAN CENTRAL BANK



EUROPEAN CENTRAL BANK

E-payments in Europe - the Eurosystem's perspective

Johannes Priesemann

Payment Systems Policy Division

**Directorate General Payment
Systems**

1. Introduction

Why this conference?

- New technologies and new actors

E-payment circle and e-payment initiatives

- New legislation

Legal framework for e-commerce

- New **opportunities** and...

threats: Security of e-payments

- Still new currency and central bank

Policy considerations - “e-SEPA”?



EUROPEAN CENTRAL BANK

1. Introduction

★ Against this background...

elaborate in a dialogue input for the central bank policy

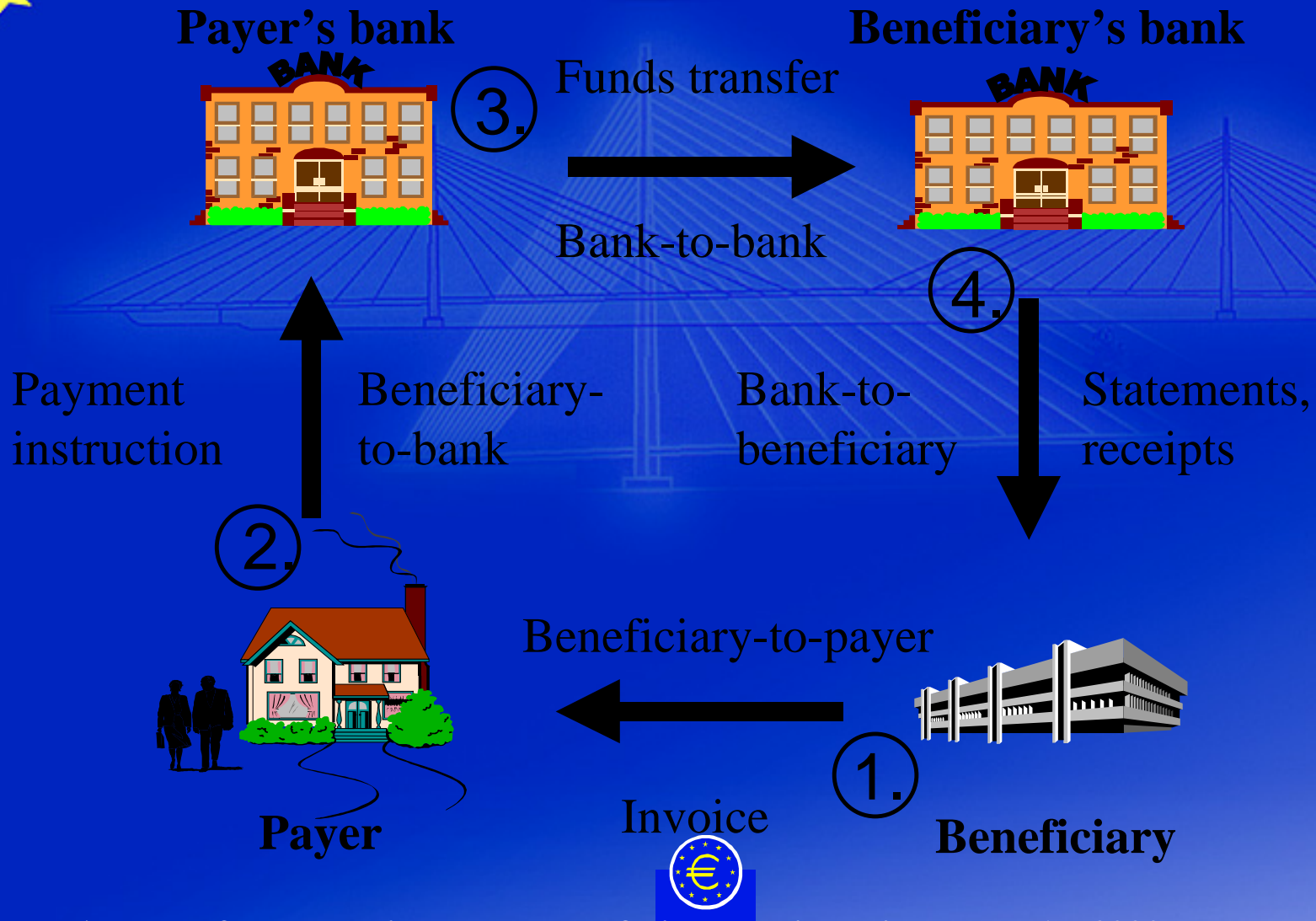
objective to promote the smooth operation of the payment system for payments in the euro area and with third countries

focus today is on electronically initiated and processed payments for retail e-commerce



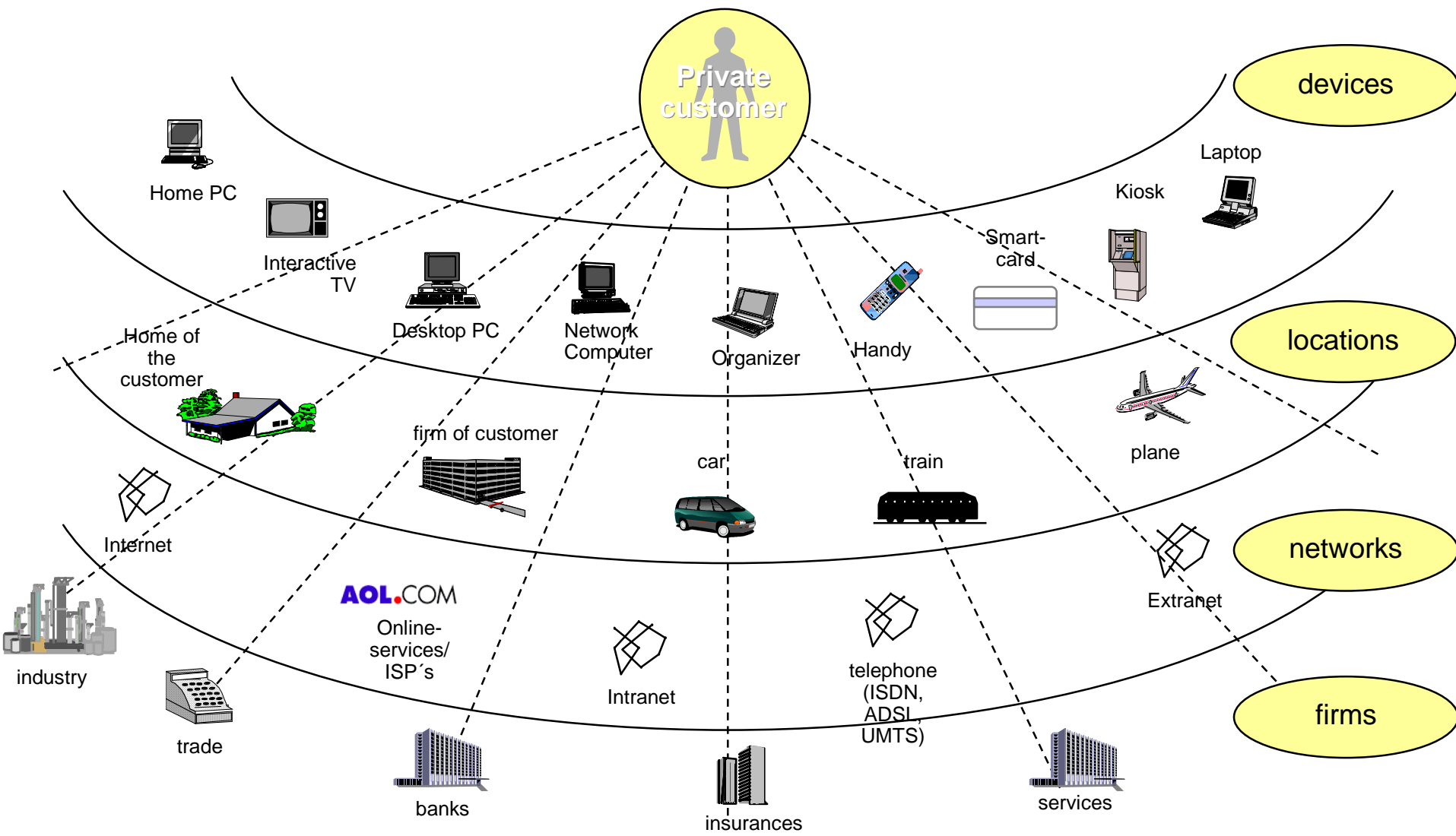
EUROPEAN CENTRAL BANK

2. e-payment circle



Adapted from H. Leinonen, Bank of Finland Discussion paper 17, 2000
EUROPEAN CENTRAL BANK

2. E-payment initiatives



2. E-payment initiatives

E-invoicing and e-reconciliation

- example electronic bill presentment and payment:
 - bundling of invoices to reap economies of scale: payment service providers consolidate the invoicing and payment
 - is a lack of standards an issue?
 - do incumbents block new entrants?



EUROPEAN CENTRAL BANK

2. ...e-payment initiatives continued...

Internet adaptations of existing instruments

- Example credit cards:
 - leveraging an existing technology and brand into a new environment
 - security and legal issue: fraudulent use - security being addressed by newly developed standards and by “virtual credit card numbers”; liability allocation varies
 - is interoperability and customer acceptance an issue?
- Example credit transfers:
 - e-banking solutions in internet shops
 - solutions offer national scope only



EUROPEAN CENTRAL BANK

2. ...e-payment initiatives continued...

Internet adaptations of existing instruments

- Example direct debit:
 - difficult user authentication on the internet
 - direct debit schemes are national (tied to legal framework)
- Example debit cards:
 - use in internet shops possible in some EU countries only
 - safety enhanced vis-à-vis direct debit by the use of the card and terminal



EUROPEAN CENTRAL BANK

2. ...e-payment initiatives continued...

Innovative payment instruments and services

Prepaid payment services

- Example e-money services (card or software based):
 - many initiatives and solutions
 - so far low acceptance and little interoperability
 - costs for merchants an issue?
- Example personal online payment services:
 - ease of use; e-mail as message for payment transfer
 - prudential regulatory status close to bank
- Prepaid cards (scratchcards)
 - national solutions, limited acceptance



EUROPEAN CENTRAL BANK

2. ...e-payment initiatives continued...

Innovative payment instruments and services

- Cumulative collection services
 - focus on small value payments by accumulation
 - limited acceptance and mostly national solutions
- Payment portal services
 - bundling of e-payment instruments on the internet to offer choice to payer and service to payee
- Mobile phone payments
 - leveraging on an existing widespread device
 - many initiatives and a number of international standardisation efforts



EUROPEAN CENTRAL BANK

2. ...e-payment initiatives continued...

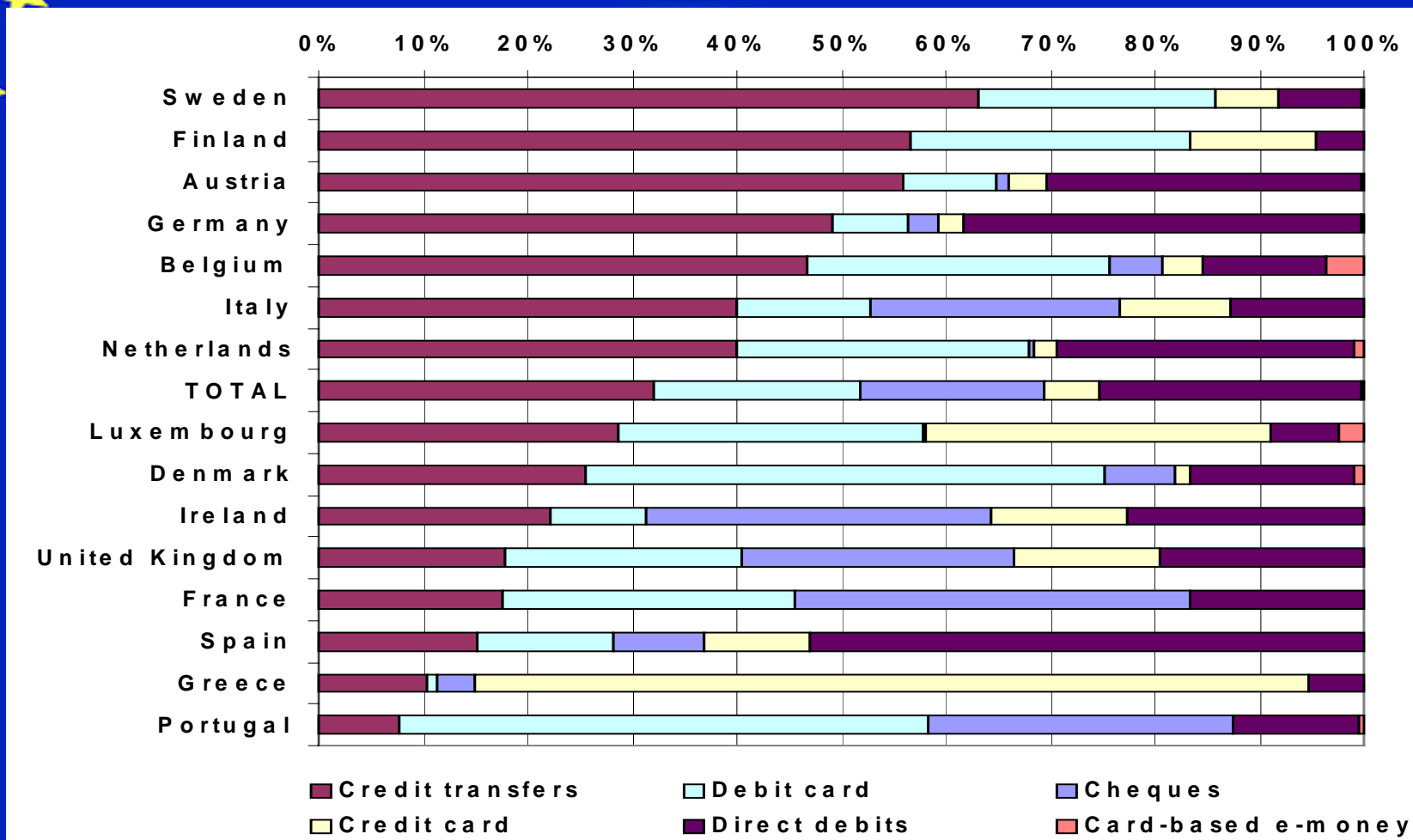
Situation can be characterised by:

- new entrants, notably telecommunications companies and technology providers entered and are now often in alliance with banks
- gradually more elements of the payment circle become “electronic”, often beginning at the wholesale end
- for communication between payer and e-payment provider many innovative solutions compete
- no massive breakthrough of any single solution
- solutions frequently at a national level



EUROPEAN CENTRAL BANK

2. Usage of different non-cash instruments in the EU



Source: Blue Book (ECB), 2000 data



EUROPEAN CENTRAL BANK

3. Legal framework for e-commerce

A number of recent EU legal acts aim at fostering electronic commerce and ensuring a legally safe and sound conduct of e-payments:

- E-commerce Directive
- E-money Directives
- E-signature Directive
- Prudential supervision and related Directives

Commission is currently consulting the public on a possible legal framework for the Single Payment Area in the Internal Market



EUROPEAN CENTRAL BANK

4. Security of e-payments

Security components of e-payments

- **Availability**
- **Authenticity and authorisation**
- **Integrity**
- **Non-repudiation**
- **Confidentiality**



EUROPEAN CENTRAL BANK

4. Security of e-payments

Technologies

- Symmetric encryption
 - problem of key distribution in large networks - not suitable for mass-use
- Asymmetric encryption
 - addresses the problem of key distribution
 - requires an infrastructure with co-operation on organisational aspects of key management
- Legal backing and interoperability open issues?
- Organisational challenges of PKI: who takes the lead?



EUROPEAN CENTRAL BANK

5. Policy considerations

- Mandate of the Eurosystem: promote the smooth operation of payment systems
- Focus is on efficiency and security
- Policy stance currently: catalyst to facilitate change and development



EUROPEAN CENTRAL BANK

5. Policy considerations

Efficiency

- The development of efficient e-payment solutions comes at a time where banks and authorities strive to build a single euro (and European) payments area
- potential benefits to be reaped by widening the scope of straight-through-processing
- challenge in this situation is finding the right balance between competition and co-operation
- **Envisaged future work:** investigation of standard implementation and potential lack of standards (ePI, reconciliation, ...)



EUROPEAN CENTRAL BANK

5. Policy considerations

Security

- Eurosystem as overseer concerned about security of all payment instruments - confidence in the currency may be at stake
- As a catalyst promoting efficiency the Eurosystem will take into account security of new instruments
- **Envisaged future work:** development of general security guidelines?
security objectives?
detailed requirements?
Investigation into the trade-off security/efficiency; into interoperability?



EUROPEAN CENTRAL BANK

5. Policy considerations

Monetary policy aspects

- Need to safeguard the role of central bank money as the unit of account; redeemability requirement aims at this objective
- Need to ensure effectiveness of monetary policy instruments; reserve requirements may be imposed
- e-money may have repercussions on information content of indicators; adequate statistics may be collected

Conclusion:

e-payments are not expected to jeopardise ECB's ability to maintain price stability.



EUROPEAN CENTRAL BANK

5. Policy considerations

Oversight

- Oversight aims to maintain systemic stability; focus here is primarily on large-value payment systems
- Majority of new initiatives do not change interbank settlement but build on existing infrastructure
- Hence - the SEPA work to build a euro infrastructure is of importance for e-payments
- A general push towards real-time settlement may be expected - customer driven
- **Envisaged further work:** Investigation into effect / requirements of e-payments on existing and evolving infrastructure



EUROPEAN CENTRAL BANK