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**Smart cards in European
Financial Services**
Charles Goldfinger
Digital Money 3 Conference
London, April 4, 2000

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**Smart cards in European
financial services**

q Presentation plan

- Imminent take-off or eternal application of the future ?
- Lessons of experience
 - Debit cards
 - Electronic purse
- Multi-application cards: Holy grail or Fool s Trap ?
- Interoperability challenge
- European Commission posture
- Critical success factors

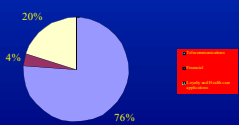
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Financial smart cards

q Imminent take-off
• Optimistic projections for 2005 - 2010

q or eternal appli cation of the future ?
Smart card market 1997



(Source Gemplus, Ologa, Philips)

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Financial applications: 4% of the total



Blue skies

- q **Mobility management**
 - ÿ Terminal independence
 - ÿ Thin client facilitator
- q **Secure access**
- q **Greater efficiency**
 - ÿ On-line/off-line integration
 - ÿ Certificate management
- q **Developing innovative services and systems**
 - ÿ Flexible stored value management
 - ÿ Cross-channel applications

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Dark clouds

- q **Atlantic divide**
 - ÿ Limited acceptance in the US
- q **Technical performance**
 - ÿ Certificate management
 - ÿ Network overhead
- q **Technological uncertainties**
 - ÿ Which operating system ?
- q **Fragmentation**
 - ÿ Geographical
 - ÿ Sectoral

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Dark clouds

- q **Ambivalent commitment of banks**
 - ÿ Doubts about economic viability
 - u Elusive business strategy
 - ÿ Belief in strategic importance of technology
 - ÿ Co-opetition and not-so hidden agendas
 - u Banks and banks
 - u Banks and retailers
 - u Banks and card networks

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FASC: Today and tomorrow

q Today

- ÿ Debit cards
- ÿ E-Purse

q Inconclusive experience

- ÿ Cross-border replicability ?
- ÿ Customer acceptance ?
- ÿ Business case ?

q Tomorrow

- ÿ Multi-application cards
- ÿ Internet Sesame

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FASC today

q Debit security cards

- ÿ Business case considerations
 - u Fraud reduction
 - u Telecommunication costs reduction
- ÿ Replicability issue
 - u Strong business case in France
 - u UK deployment scheme based on other considerations
 - â SC seen as a core technology
 - â Competitive threats from retailers
 - ÿ Who are part of the scheme

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Electronic purse

q Lessons of experience

- ÿ Variety of approaches
 - u Over twenty projects in Europe
- ÿ Common elements
 - u Incompatibility between current schemes
 - u National/local focus
 - u Cash replacement emphasis
 - u Low market acceptance
 - â Slow terminal deployment
 - â Very low transaction rates

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Electronic purse

q Business case for a 'stand-alone' EP

- ÿ Elusive or hopeless ?
 - u Teething problems ?
 - ß Financial products build up slowly
 - ¥ Debit card experience
 - u or a structural defect ?
- ÿ Two fatal flaws
 - u Marketing focus
 - ß Retailers
 - ß Customers
 - u Technology - business mismatch

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Electronic purse

q Marketing focus

- ÿ Merchants
 - u Large retailers
 - ß Why encourage small purchases
 - u Small shopkeepers
 - ß Any additional revenues ?
 - ß No cost reductions
 - ÿ Customers
 - u No incentive to switch
 - u Cash preference
 - ß Older customers
 - ¥ Not technology friendly
- Targeting laggards rather than early adopters**

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Electronic purse

q Technology - business mismatch

- ÿ Technology
 - u More sophisticated and expensive than magnetic stripe
 - u Need for a dedicated system architecture
 - ß Reloading
- ÿ Business proposition
 - u Small amount transactions
 - ß Lower than credit and debit card

High tech - low value

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Electronic purse

q Need for a radical rethink

- Basic concept
 - From cash substitution to cash enhancement
 - Increase the range
 - Pure cash substitution
 - Non reloadable/anonymous
 - Cash enhancement
 - Reloadable/accountable
 - From market segmenting to market overlapping
 - Seamless financial card
 - Credit — debit — purse

From EP product to EP function

- Marketing
 - Focus on early adopters
 - Make switching benefits explicit
 - Incentive rather than punitive pricing

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Electronic purse

q Shifting marketing focus

- Generic cash
 - Low and diffused demand
 - Cash in infrastructure as a network good
 - From critical mass to ubiquity
- Specific cash
 - High and concentrated demand
 - Critical mass easy to attain
 - Example
 - Prepaid GSM cards
 - Retail loyalty cards

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Multi-application cards

q Holy Grail

- Maximising scarce real estate
 - Taking advantage of chip integration
- Economies of scope
 - Taking advantage of system integration
 - Developing innovative services and systems
- Stronger business case
 - Higher revenues potential
 - Cross-selling

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Multi-application cards

q Fool s Trap

- ÿ Customer acceptance
 - u Risk management
 - u Complexity of use
 - u Privacy concerns
- ÿ Brand management
 - u Brand primacy or brand coexistence ?
- ÿ Institutional complexity
 - u Card real estate governance
 - u Revenue and cost allocation
- ÿ Technological uncertainties
 - u Security architecture
 - u Operating systems

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Multi-application cards

q No panacea

- ÿ Accept a plurality of approaches
- ÿ Progressive implementation
 - u Initial focus on multi-functional cards
 - ß Common application owner
 - ß Unity of purpose
 - u an d defined user groups
- ÿ Hide complexity
- ÿ Think system and network

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Interoperability challenges

q Standards

- ÿ EMV
 - u Avoid X-25 syndrome
 - ß Not quite compatible networks
 - u CEPS integration
 - u Multi-functional environment
- ÿ CEPS
 - u How common is Common ?
 - u Migration path
 - u Multi-functional integration
- ÿ SET
 - u Smart card integration
 - u Governance
 - u Future
 - ß Cybercom outlook

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Interoperability challenges

q Technical

- ÿ How many chips?
- ÿ How many keys ?

q Institutional

- ÿ Co-ordination
- ÿ Continuity and migration
- ÿ Intersectoral dialogue
- ÿ Co-opetition management
 - u Conflicts of interest
 - u Zero sum and non-zero sum games

European Commission posture

q Shifting into a higher gear

- ÿ Long-standing interest in smart card
 - u Technological focus
 - u Few pilot project
 - u Uneasy relationship with financial institutions
- ÿ Two vectors of urgency
 - u Euro
 - u Electronic commerce

Recognised need for new initiative and approaches

European Commission posture

q Political and financial commitment

- ÿ E-Europe initiative
 - u Smart card — one of the ten priority actions
 - ß Objectives
 - ÿ Harmonise smart card based infrastructures across industrial sectors
 - ÿ Encourage interoperability via business reciprocity agreements,
 - ÿ Promote integration of smart card based payments services
 - ß Milestones
 - ÿ Smart card charter —April 2000
 - ÿ Common specifications for generalised smart card infrastructure — end of 2000
 - ÿ Smart card-based payment services deployment — end of 2001
- ÿ Cross-programme on smart cards in third IST call
 - u Substantial funding
 - u Deadline — May 0, 2000

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Critical success factors

- q **Combine interoperability and large-scale deployment**
- q **Recognise the variety of approaches**
 - y Create a formal structure for
 - u Bring together all concerned parties
 - β Banks
 - β Financial networks
 - β Other card issuers
 - β Merchants
 - β Specialised standard bodies
 - β Technology suppliers
 - u Ensuring standard convergence
 - β Focus on interfaces, APIs and performance criteria

Toward GSM/ETSI model for FASC ?

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Critical success factors

- q **Create the strategic triangle**

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graph TD
    GSM((GSM)) <--> Internet((Internet))
    GSM <--> SmartCard((Smart card))
    Internet <--> SmartCard
  
```

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