## **CSFB Smart Card and RFID Conference**

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Never stop thinking.



#### Disclaimer

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#### Chip Card ICs: Market Development

## Chip Card IC market revenue development



#### Key market drivers

- Mobile Communication
  - High-end SIM ICs
  - Subscriber growth
- Government ID projects
  - Passports
  - National ID
  - Healthcare cards
- Contactless technology
  - Secure travel documents
  - Payment and Transport
- Banking
  - EMV migration push



# Benefit from a Growing Contactless Market through a Complete Product Offering





### Infineon is well Positioned to Serve the Key Growth Markets





#### Market Shares: Infineon Achieved a Positive Development

Market shares (USD) Source: Gartner Dataquest





#### Successful in the Chip Card Market for more than 15 Years





#### Chip Card & Security ICs: Strategy Overview



## LEVERAGE and enforce core competencies

- Security expertise
- High volume production in NVM technologies
- Module Assembly
- Focused System Know-How
- Engineering Excellence
- Strategic partnerships





#### Product Portfolio Security Controllers for Enhanced Security, C'less for Convenience





**Modules & Standard Packages** 





#### Significant Manufacturing Cost Reductions in Chip Card ICs

#### **Microslim technology**

- Volume roll-out of microslim technology (66PE family) since mid 2004
  - Move from 2 transistor/bit to 1 transistor/bit cell design
  - Significant reduction of chip area
  - Higher performance (30 MHz) and increased memory sizes

#### Introduction of FCOS modules

 Ramp-up of "Flip-Chip on Substrate" packaging technology since 01/2005

#### 130nm shrink

- Volume roll-out of first chip card products on 130nm technology in mid 2004
  - First 32bit controller with flash memory dramatically improves flexibility and manufacturing time for customer
  - 32bit architecture enables applications with higher memoryand security-requirements
  - Low power consumption (1.8V) and increased performance (66MHz)



## FAB Cluster Concept for Microcontrollers Certificated Manufacturing Concept within Infineon





# Infineon is a Proven Technology Leader in the Chip Card Segment



#### Prepared for new technology trends in the future

 New NVM technologies are under development with partners: NROM, FeRAM, MRAM



#### Modules

### Bring Infineon's Outstanding Module Technology to the Market





## Chip Card Certification at Infineon

Proof for Infineon Leading Position with Security Controller

- Proactive security evaluations at the highest levels worldwide
- Recent certification high-lights:
  - 66P ZKA/Seccos (German e-purse) approval
  - 66P 6 x ITSEC E4 / high certificates
  - 66P Approval for German signature card
  - 66S/P 18 x Visa Type 3 approval
  - 66P CAST approval for the whole family
  - 66P Mondex Type approval
  - 66P Proton World approval
  - 66P Common Criteria EAL5+ SSVG Protection Profile BSI-PP0002
  - 66M ITSEC E3 / high for French application
    - 88P Common Criteria EAL5+ SSVG Protection Profile BSI-PP0002





#### High-Density SIM - Market Environment HD SIMs enable Operators to Increase their ARPU



Operators' ARPU will grow only through a significant increase of data traffic

(\*) ARPU = Average Revenue Per User



- Operators need a high-density SIM to push this market and to avoid dependency on handset giants
- Up to 10% of all SIM cards will be shipped with memory >1MB (>100m pcs)
- Price for end user 10€ and less



## High-Density SIM – IFX Position Best-in-class Technology from the Market Leader





## Never stop thinking.