Enhance Smart Card Business through Common Criteria

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- Smart Card Market Overview
- Samsung Smart Card IC Business
- Smart Card IC & Process Technologies
- Common Criteria Certification and Security
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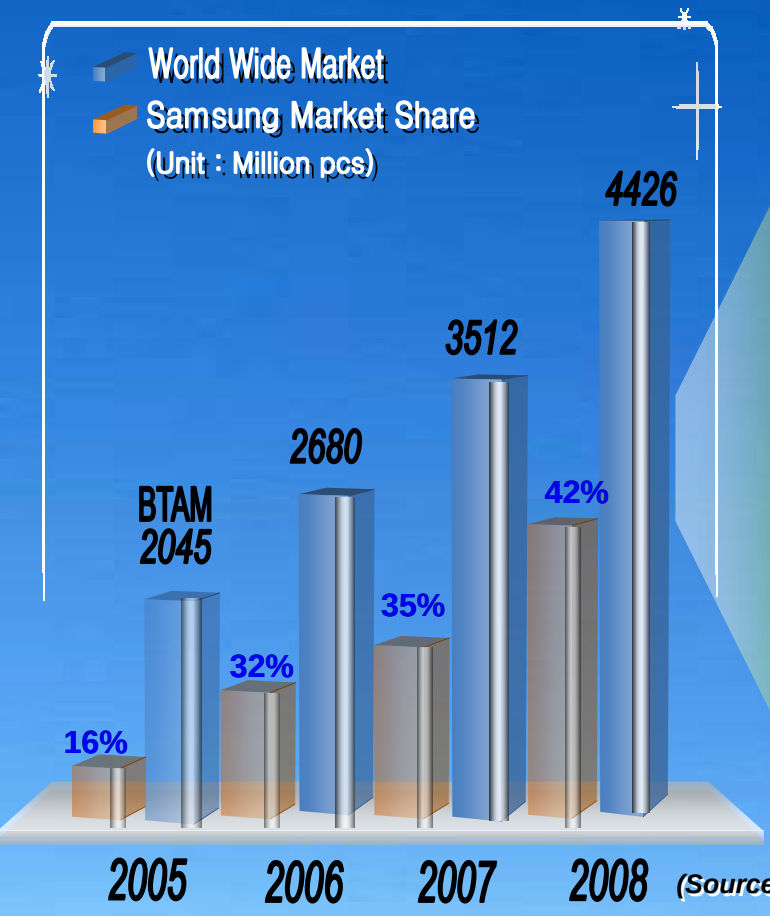
Samsung Smart Card IC Business

❖ Business Performance by Year (2005~2008)

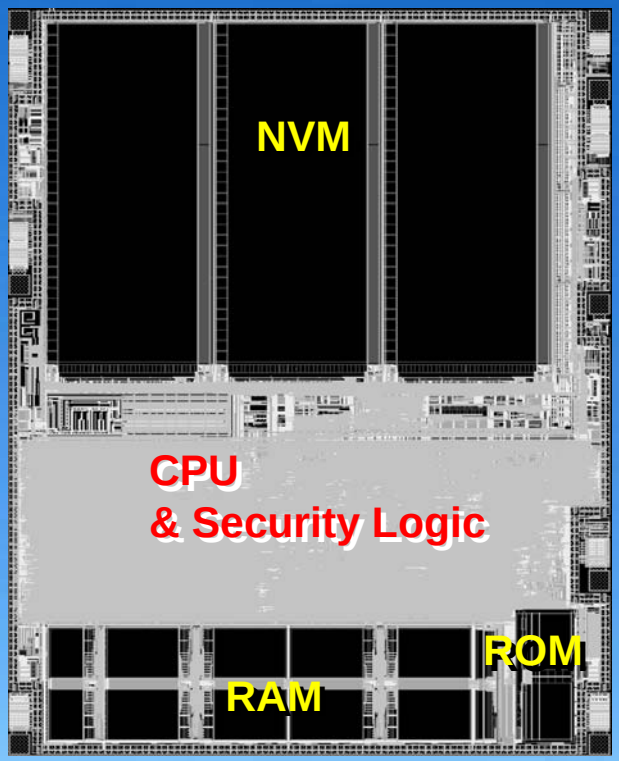


(Source: Samsung Marketing Group)

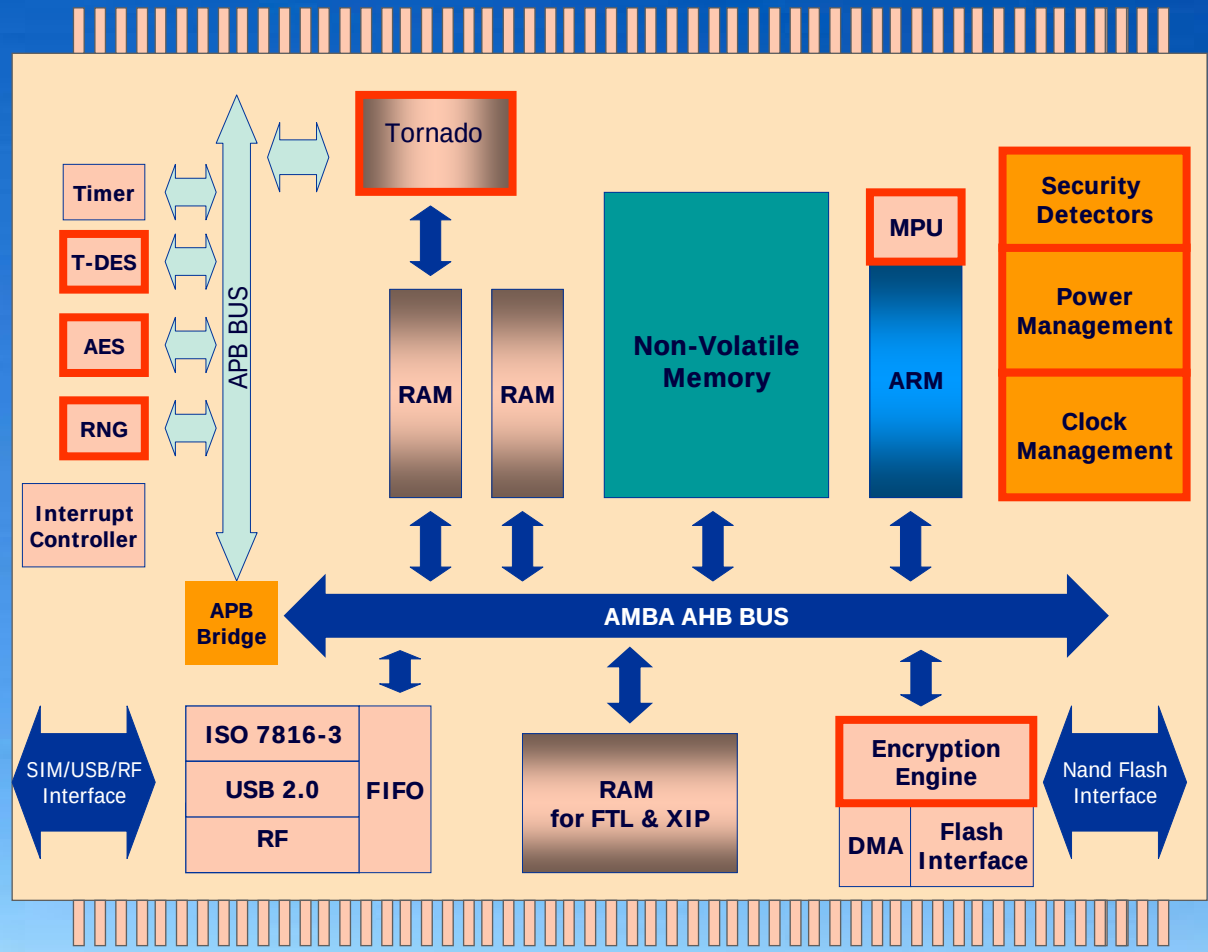
*2008 Global Smart Card IC Competitive Strategy Leadership Award by Frost & Sullivan

Schematics of Smart Card IC

❖ Chip Layout and Block diagram



768K NVM FLASH



• Red boxes are security related blocks

Smart Card IC Applications

Transport (RF USIM)

USIM

ATCS

Transport

Samsung Smart Card

Payment

National -ID

e-Passport

IP TV

Samsung Makes the Difference !

- Advanced Process Technology
- Leading Advanced Product Development
- Develop New Product Concept
- Leading on Security Engineering

Smart Card IC Technologies

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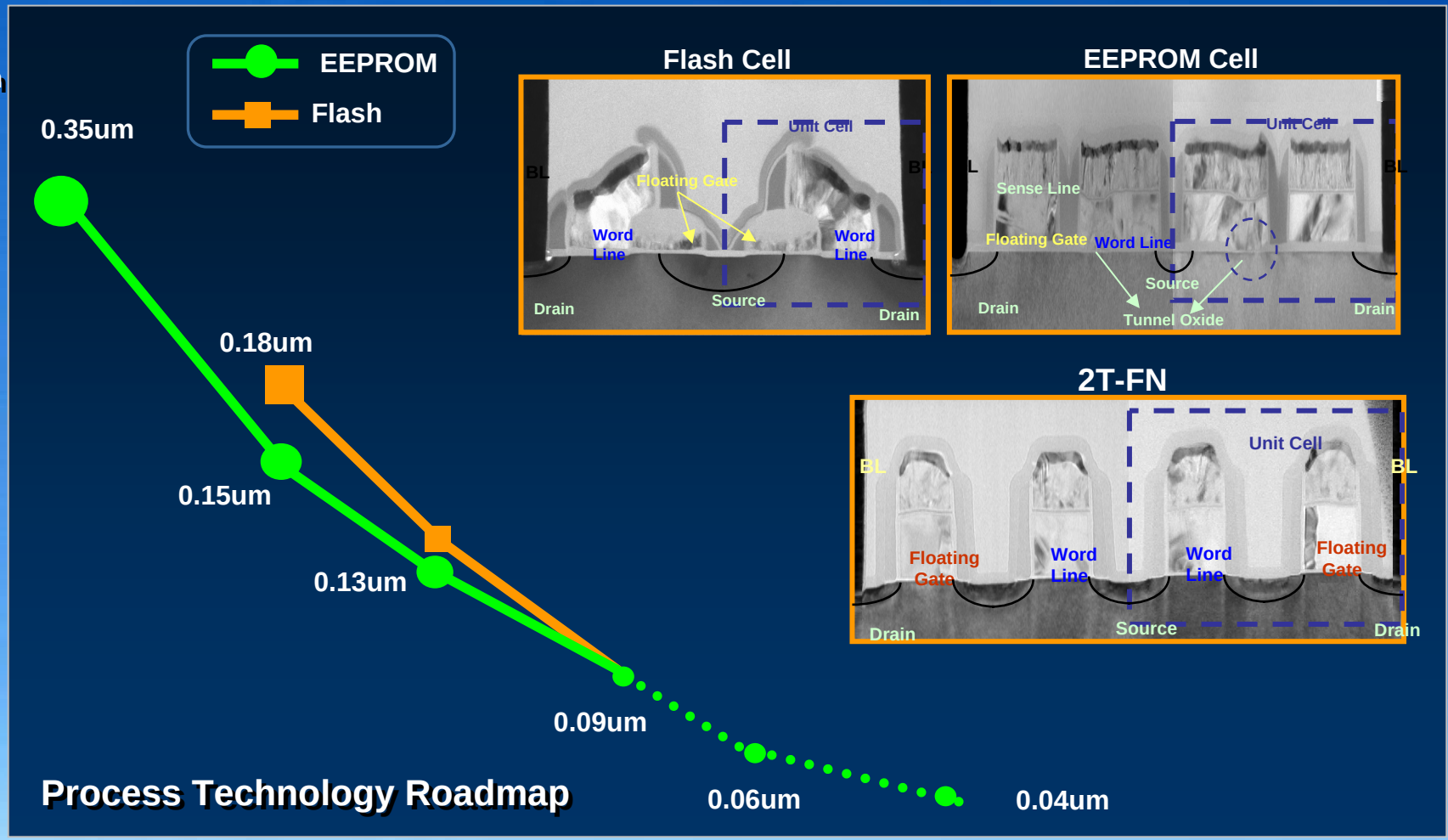
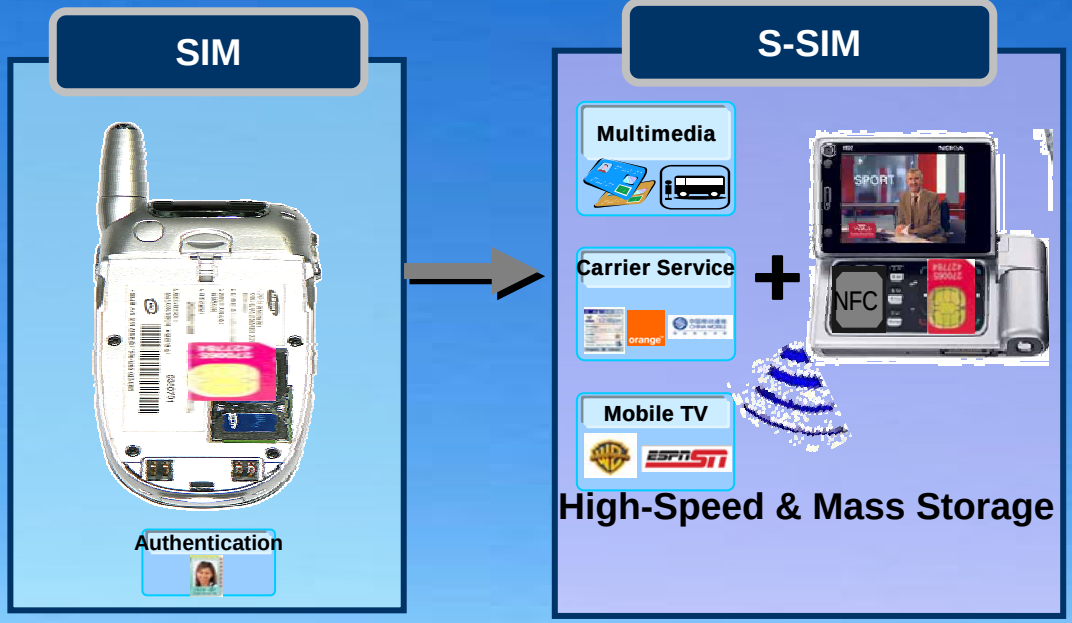
❖ *Fastest moving IC Supplier toward technology migration*

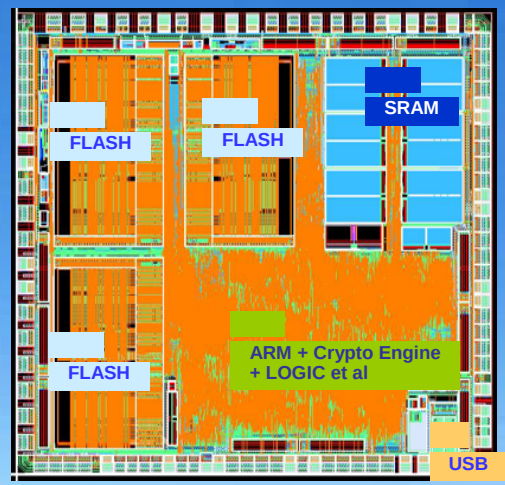


Samsung Lead High-End Smart Card

- ***A higher value-added business***
  - ***Innovative technology such as S-SIM will lead SIM industry in near future. (High Density SIM, SWP & NFC)***
  - ***S-SIM (S3FS9CI) – the First CC certified product in High Density SIM***



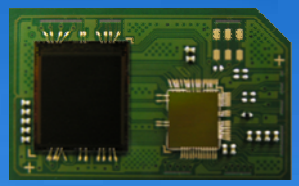
<CC certificate>



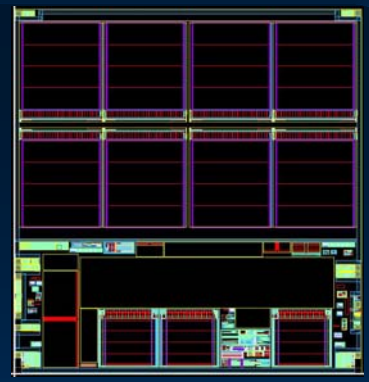
<S-SIM Chip Layout>

Samsung Makes the Difference !

❖ One chip S-SIM



Embedded NAND



Reduce PKG cost

- Legacy COB compatible
- No external capacitor for NAND flash memory
- No extra wire bonding

High Security

- Fully Embedded Memory
- No external memory interface

Better Functionality

- Fast Read Cycle
- Easy to Use

Cost Effective

- Large density memory to use code execution
- Low packaging cost

One Chip S-SIM **takes both advantages from high-speed data read function of NOR flash and the advanced data storage function of NAND flash**

Common Criteria in the Market

- *Standard security measure in Smartcard*
- *Strong needs in FS & ID market*
- *e-Passport requires CC EAL4+ or higher*

Cumulated Number of Certificates

CC EAL5+ Certificates

Bundesamt für Sicherheit in der Informationstechnik

Deutsches IT-Sicherheitszertifikat

BSI-DSZ-CC-0501-2008

S3CC9LC 16-bit RISC Microcontroller for Smart Card, Revision 2

from Samsung Electronics Co., Ltd.

PP Conformance: Smartcard IC Platform Protection Profile, Version 1.0, July 2001, Eurosmart, BSI-PP-0002.

Functionality: PP conformant plus product specific extensions' Common Criteria Part 2 extended

Assurance: Common Criteria Part 3 conformant EAL 5 augmented by ALC_DVS.2 (Sufficiency of security measures), AVA_MSU.3 (Analysis and testing for insecure states) and AVA_VLA.4 (Highly resistant)

Common Criteria Recognition Arrangement for components up to EAL 4

The IT product identified in this certificate has been evaluated at an accredited and licensed / approved evaluation facility using the Common Methodology for IT Security Evaluation, Version 2.3 extended by advice of the Certification Body for components beyond EAL 4 and guidance specific for the technology of the product for conformance to the Common Criteria for IT Security Evaluation (CC), Version 2.3 (ISO/IEC 15408:2005).

This certificate applies only to the specific version and release of the product in its evaluated configuration and in conjunction with the complete Certification Report.

The evaluation has been conducted in accordance with the provisions of the certification scheme of the German Federal Office for Information Security (BSI) and the conclusions of the evaluation facility in the evaluation technical report are consistent with the evidence adduced.

This certificate is not an endorsement of the IT product by the Federal Office for Information Security or any other organisation that recognises or gives effect to this certificate, and no warranty of the IT product by the Federal Office for Information Security or any other organisation that recognises or gives effect to this certificate, is either expressed or implied.

Bonn, 1 July 2008

For the Federal Office for Information Security

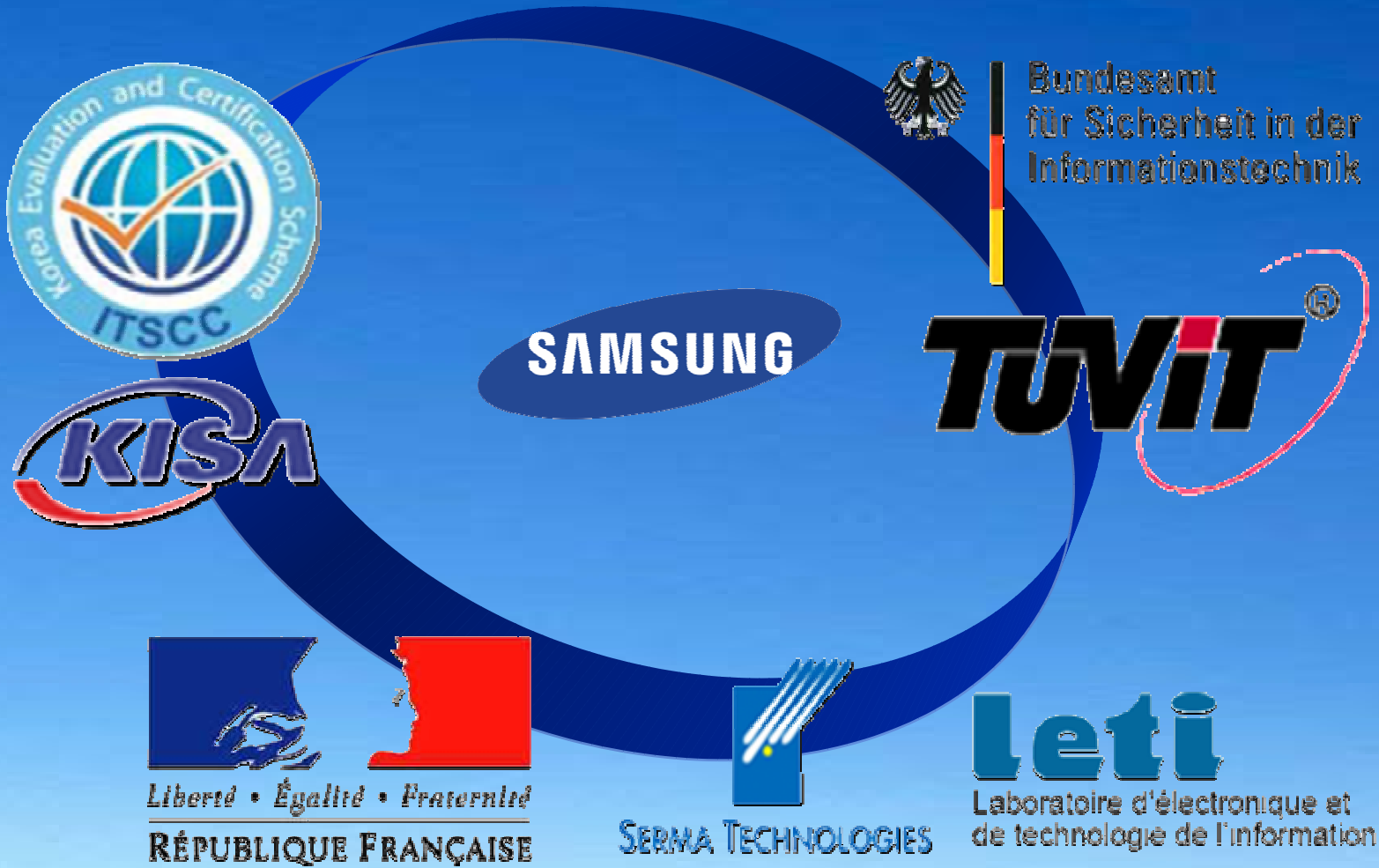
Bernd Kowalski
Head of Department

IT Security Certified

SOGIS - MRA

Common Criteria Achievement

- *As many as possible evaluators and evaluation schemes*
- *Lately, we got the certificate from Korean Scheme*



Samsung Smart Card Security

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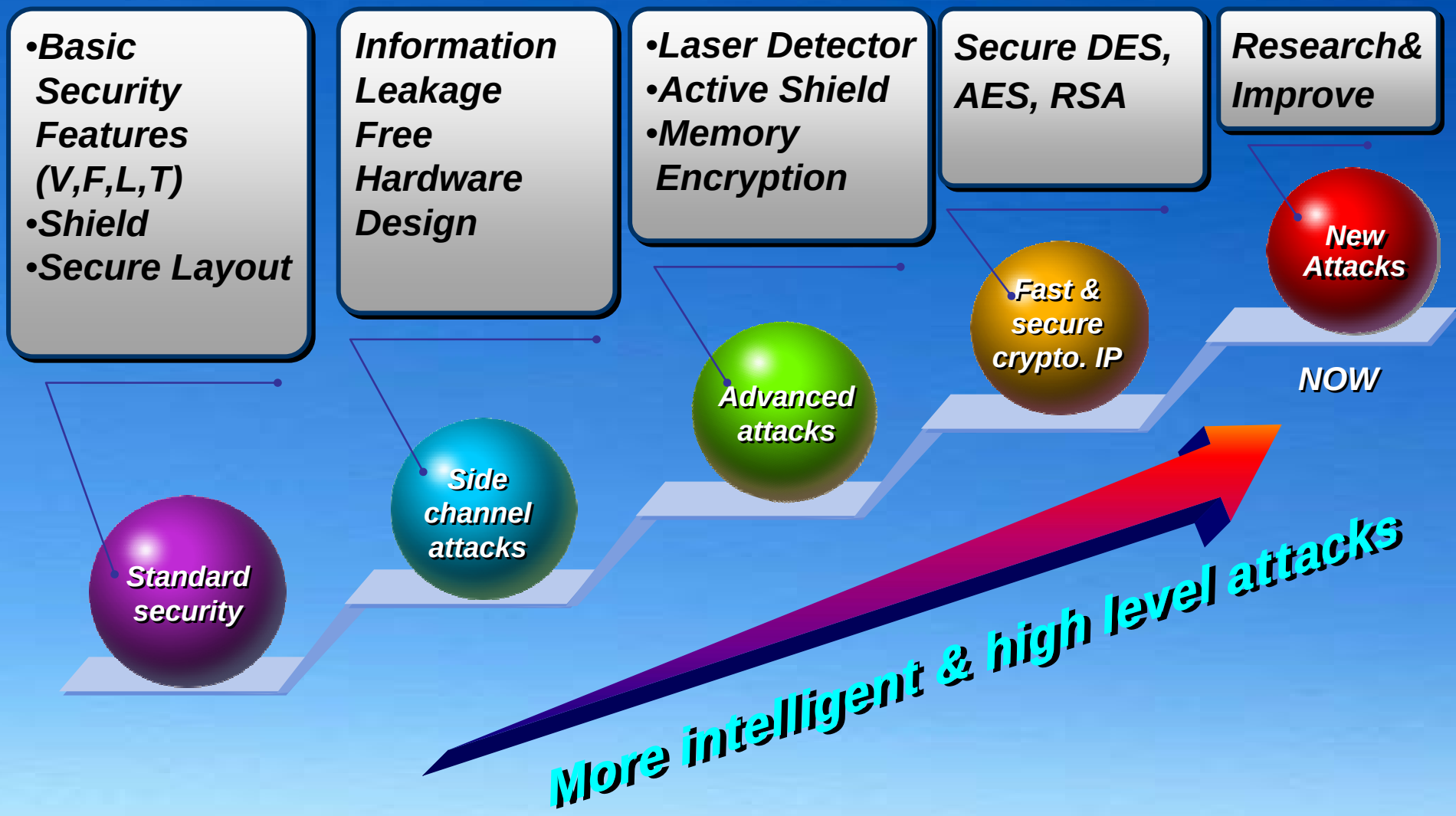
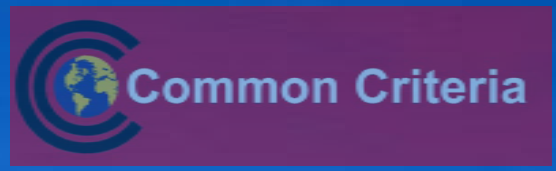
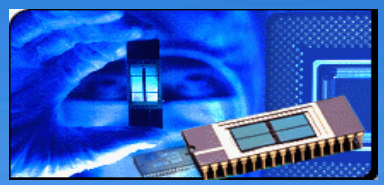
❖ ***Endless Security Improvements***

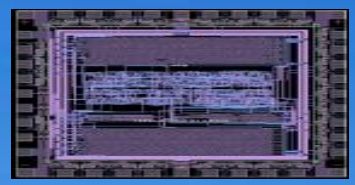


Benefits from Common Criteria



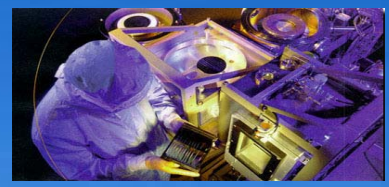


Test Improvements



Design Improvements

Quality Improvements



Security Improvements

- ***Gives a trust***
- ***Make more business chances***
- ***Revenue increasing***

Conclusion

- Samsung has developed many new and advanced security features while performing Common Criteria evaluation, which has improved the product security level.
- As Samsung has got more Common Criteria certification, customer's trust in Samsung smart card.
- Samsung smartcard business will be enhanced numerously through Common Criteria.

Advanced Technology

High Security

Manufacturing Excellence

Worldwide #1 Chip Supplier

Readiness For the Future

World Best Smartcard IC Partner

Thank You!

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