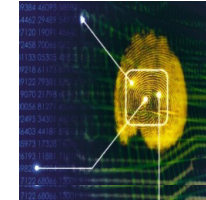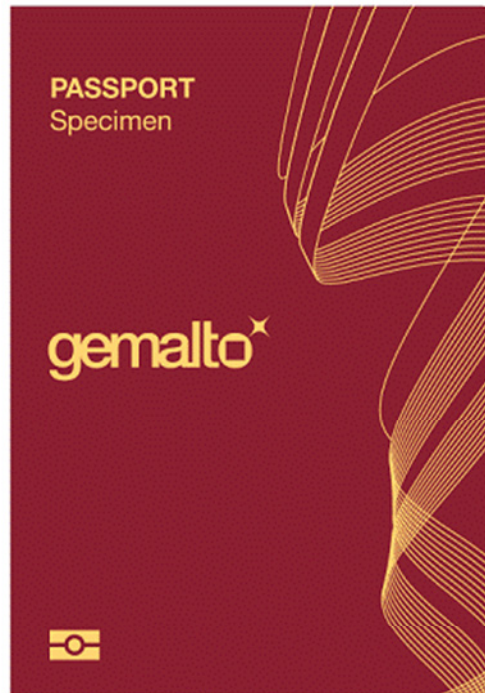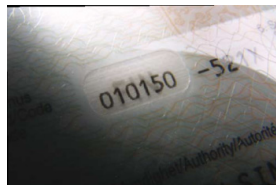# 3ʳᵈ Generation Electronic Passport

**Supplemental Access Control (SAC) for future-proof security and privacy**

Gemalto

Verna Heino

ICAO MRTD Symposium, Montreal

September 12ᵗʰ 2011

# Securing Identity Documents

# The use of a contactless system entails an element of risk
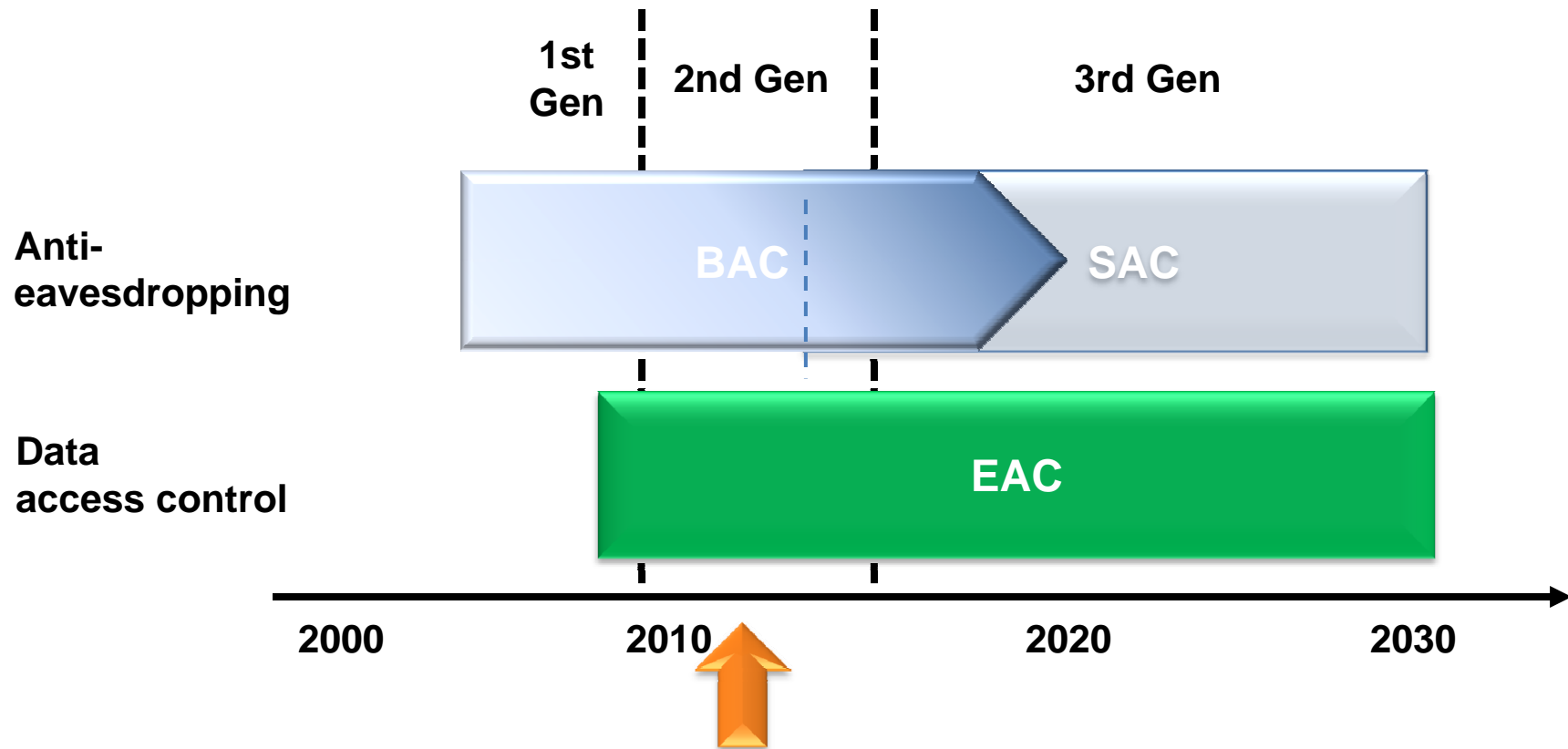
✦ **Skimming**

- Retrieve the data from the chip without passport holder's approval

✦ **Eavesdropping**

- Intercept data while the passport chip communicates with the reader

# Natural evolution of the ePassport...

| | 1st Gen | 2nd Gen | 3rd Gen |
|---|---|---|---|

**Anti-eavesdropping**

BAC → SAC

**Data access control**

EAC

2000      2010      2020      2030

# Supplemental Access Control (SAC): future-proof security in travel documents

## Beyond BAC...

- ✶ Privacy for citizens

- ✶ Strengthen BAC mechanism

- ✶ ICAO interoperability and backward compatibility

## ...to SAC

- ✶ Protection against eavesdropping

- ✶ Similar in function to BAC…

- ✶ … but higher entropy cryptography

- ✶ Allows usage of Card Access Number (CAN)

# ...translated into legislations and standards

**Legislation**

- ✖ ICAO recommends SAC for ePassports worldwide in 2014

- ✖ Europe mandates SAC in 2014 (ePassport and eResidence Permit)

**Specifications & Standards**

- ✖ ICAO Technical Report (TR-SAC) for MRTD

- ✖ Common Criteria Protection Profile SAC from ANTS Certified by ANSSI

ANSSI Agence nationale de la sécurité des systèmes d'information

# Complete SAC Suite

- �֍ ICAO Technical Report Supplemental Access Control (TR-SAC)

- ✖ Common Criteria Protection Profile SAC Certified by ANSSI

- ✖ Conformity Test Plan

- ✖ Universal Reader Tool

**UNIVERSAL READER TOOL**

# Transparent within existing usages, systems and processes



- **Travellers: more privacy... and no other change!**
  - Transparent usage, same as a BAC passport

- **Border Control: same process, same equipment**
  - Officer manipulation of SAC ePassport similar to BAC
  - Software upgrade of the readers to add SAC protocol in addition to BAC

- **Passport issuers: enhanced security with minimal effort**
  - Sourcing of SAC-enabled passports' Operating Software
  - Software update of issuance: data preparation, quality control

# Key requirements for smooth migration

| | |
|---|---|
| **Full compliance** | • Full **compliancy** with international regulations and standards<br><br>• Rely on partners involved in **standard bodies**<br><br>• Leverage ICAO and EU **interoperability tests** (2004 – 2008) |
| **Seamless migration** | • **BAC-SAC-EAC flexible configurations** for efficient stock management<br><br>• Return on experience from **BAC to EAC migrations** |
| **Trusted and future-proof** | • **Long-term viability** through widest set of security features<br><br>• Trusted, long term, reliable supplier leveraging **international best practices** |

# Who is concerned?

- **Europe: EU Mandate**
  - Why: to secure the non-EAC protected data: name, face
  - Who: all 27 EU countries

- **Non-European: ICAO recommendation**
  - Countries already with 2nd generation EAC passports
    - Why: to secure the non-EAC protected data: name, face
    - Who: Korea, Morocco, Singapore…
  - Countries with 1st generation BAC passports
    - Why: to upgrade their security from BAC to SAC
    - Limited impact on infrastructure
    - Who: all other countries on all continents

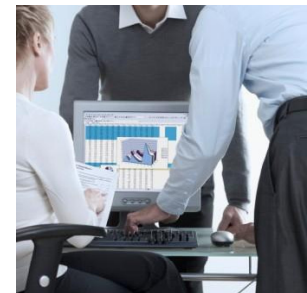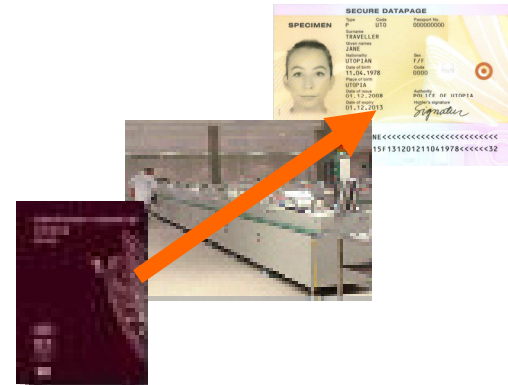→ All countries in the world are concerned by SAC

# When ?
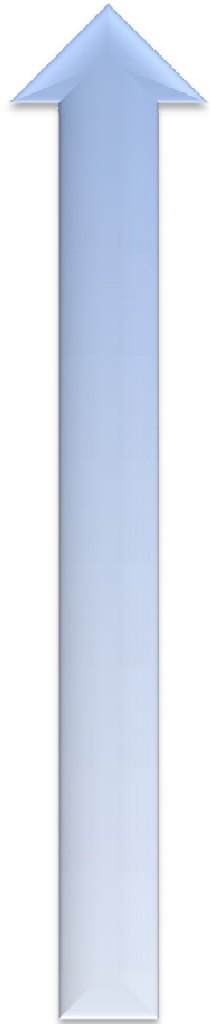
✴ Deploy in 2014
  - Issue new SAC passports to citizens

✴ Migrate in 2012-2013
  - Agree on plan with supplier
  - Upgrade issuance system
  - Source SAC-ready passports

✴ Prepare it now
  - Build understanding
  - Define migration plan

# Gemalto Trusted Partner



✕ The number one choice…

- Over 25 ePassport references
- 500 million citizens addressed

✕ …with a long track record

- 2004-08  Fastest ICAO OS in all ICAO and EU interoperability tests

- 2005      World's 1st BAC ePassport, EU-compliant (Sweden, Norway)

- 2011      Europe's 1st SAC-enabled eResidence Permit, in line with EU 2014 specification

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**gemalto**
*security to be free*

# Thank you.

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