Building a ‘security chain’ in an eDocument issuance program

# Introducing the eSAM (eSecurity Awareness Model) Free Web Tool

eSAM – V3 - June 2018

# eDocument Issuance program

- **Governments need a secure, yet efficient way to manage the eDocument issuance process**

- **This starts with a careful evaluation of risks**
  - Type of fraud
  - Cost/impact of fraud

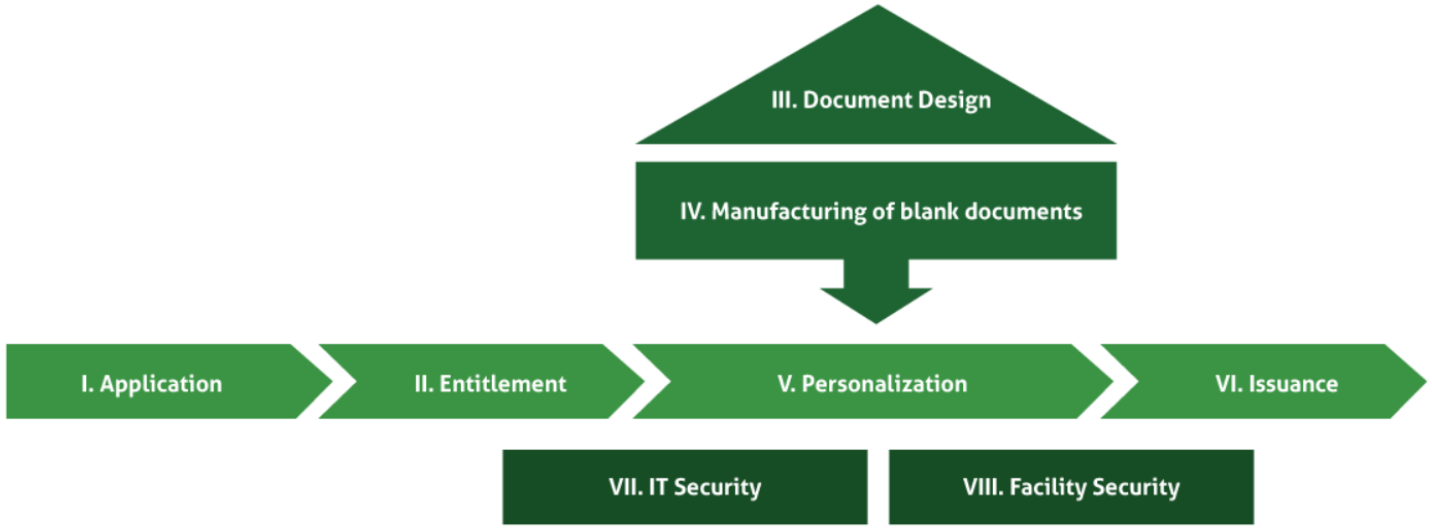
- **Find balance between:**
  1. **Cost**
  2. **Security**
  3. **End user convenience**

- **For their specific conditions**

# eDocument Issuance program

- **How to optimize the security, convenience and cost balance challenge ?**
- **Who to believe ?**
  - **Vendors will try to push their security features and their enrolment and personalization solutions**
- **Where to find 'Best Practices' ?**
  - **Security Awareness Model (eSAM) from**

# eSecurity Awareness Model (eSAM)

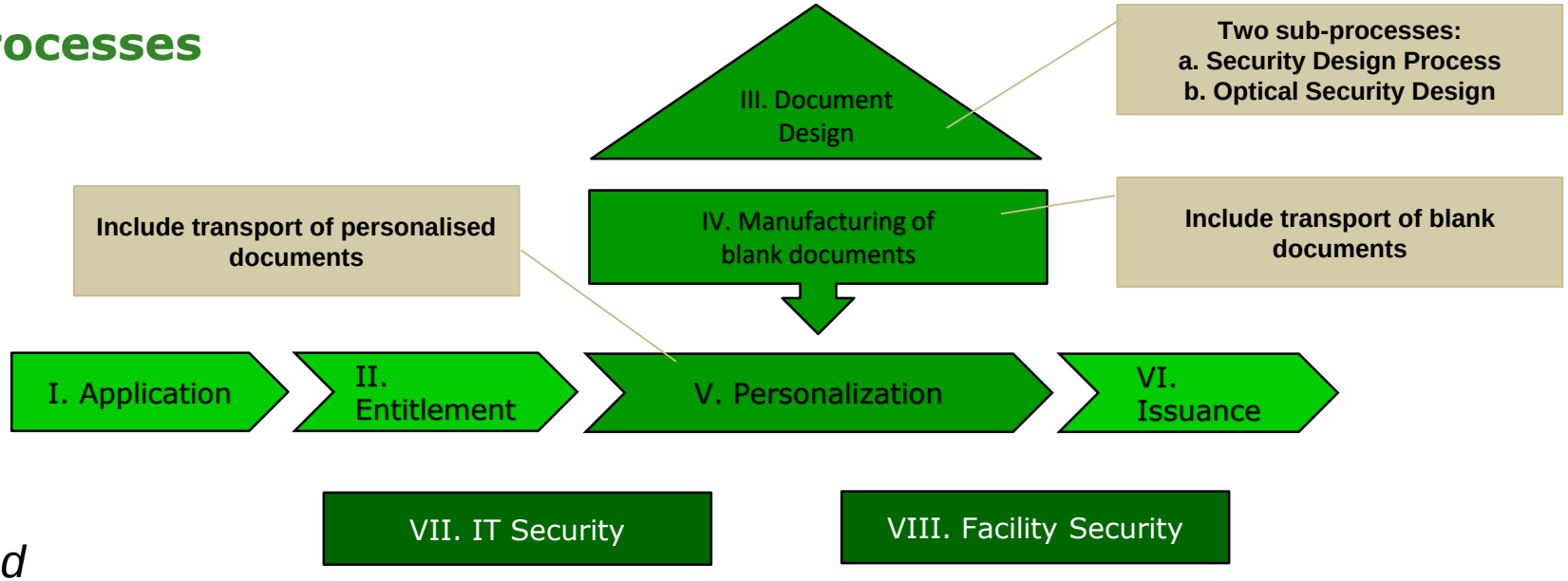



- **The eDocument Security Awareness Model (eSAM) has been developed by SIA**
  - To help governments with their secure document development program
  - And to understand what is required to build a 'security chain'
- **Self-assessment tool:**
  - For evaluation of an existing program or
  - For trying different scenarios and see the effect on the security chain

# eDocument Security Awareness Model

- **The eSAM consists of three basic process flows and covers the complete security chain:**

  1. **Application to Issuance (dataflow)**
  2. **Document design to Personalization (material flow)**
  3. **Support processes**



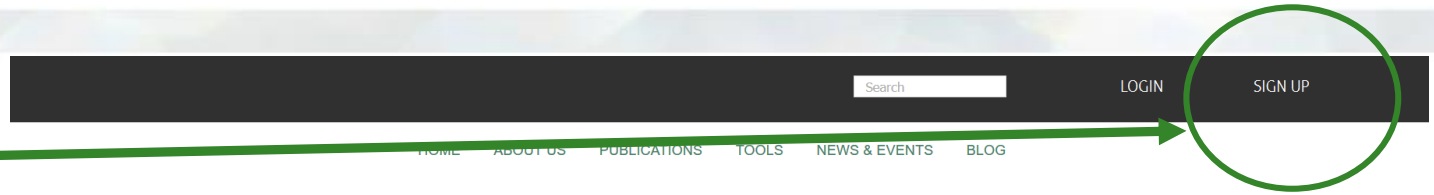

*Any data inputted is fully confidential*

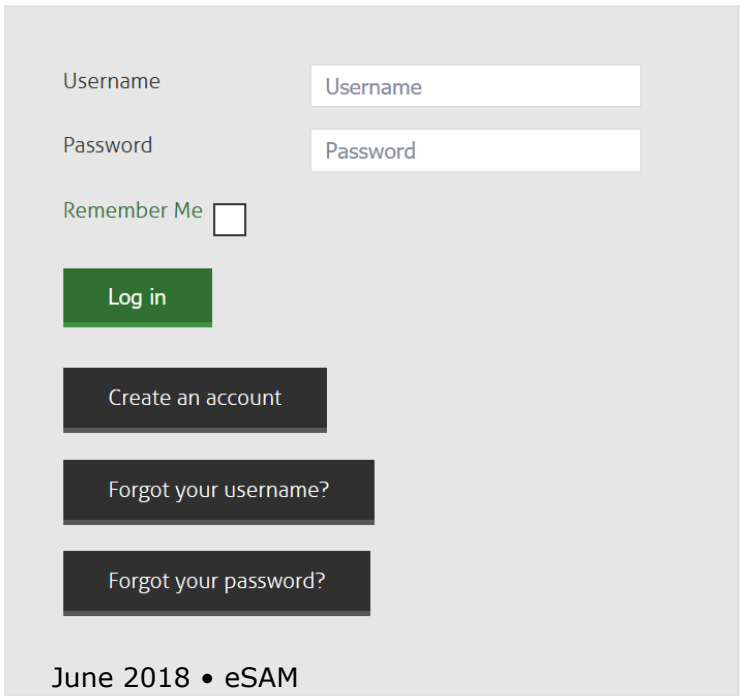
# eSAM Sub-Processes

- **Application/entitlement (first time/renewels; in person/on-line; lost or stolen document; limited breeder documents; biometrics)**
- **Design (design process; international standards; substrate material; durability; security features; how to inspect?)**
- **Personalization (central/de-central/overseas; safeguard transport and storage of blank documents and consumables)**
- **Issuance (in person/mail; how to mitigate risk of issuance to wrong person?)**
- **IT- and Facility security (how to protect data and prevent unauthorized access; security certification)**

# eSAM : How does it work ?

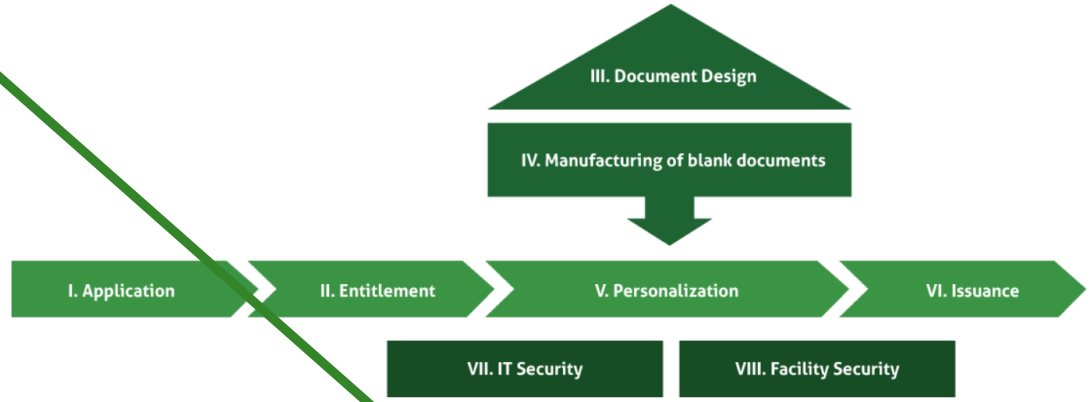
- **Go to SIA's Website**
- **Create a Web account**
- **Login to access eSAM**




## eSecurity Awareness Model (eSAM)

The eDocument Security Awareness Model (eSAM) is designed to support governments in the development of their eDocument programs – helping them understand what is required to build an effective 'security chain'. It can be used as a self-assessment tool to evaluate existing programs, the security impact of additional changes, or to test multiple new scenarios.




LOGIN AND GO TO ESAM

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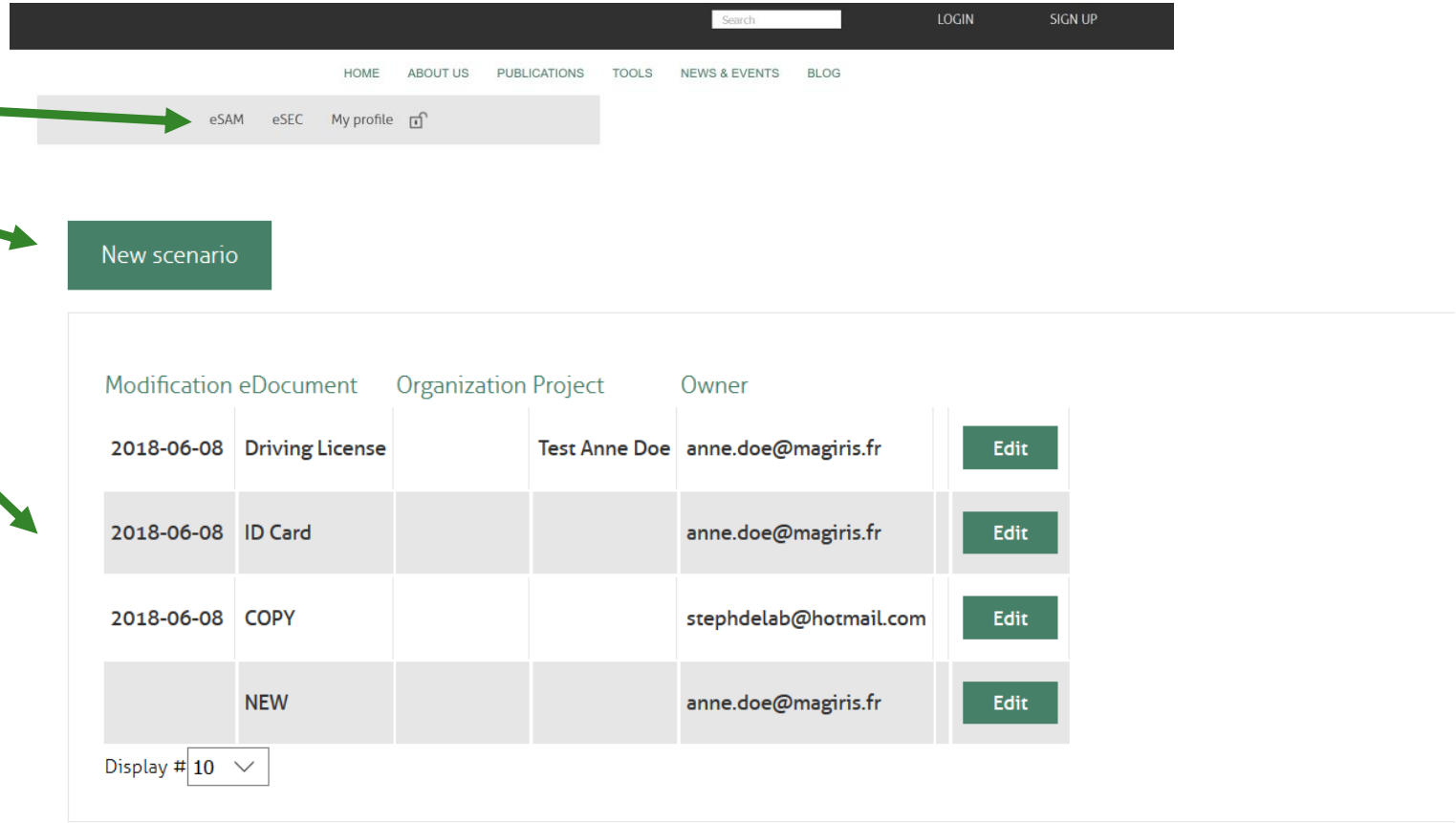
# eSAM : Scenario

**Once logged in**

- **Access eSAM**
- **Create a new scenario**
- **Access a scenario you have created previously**

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# eSAM : Sub-processes

## New Scenario

- **Select Type of eDocument**
- **Name Scenario**
- **Access sub-processes separately**
- **You may delete your scenario here**
- **Sections you have submitted appear here**


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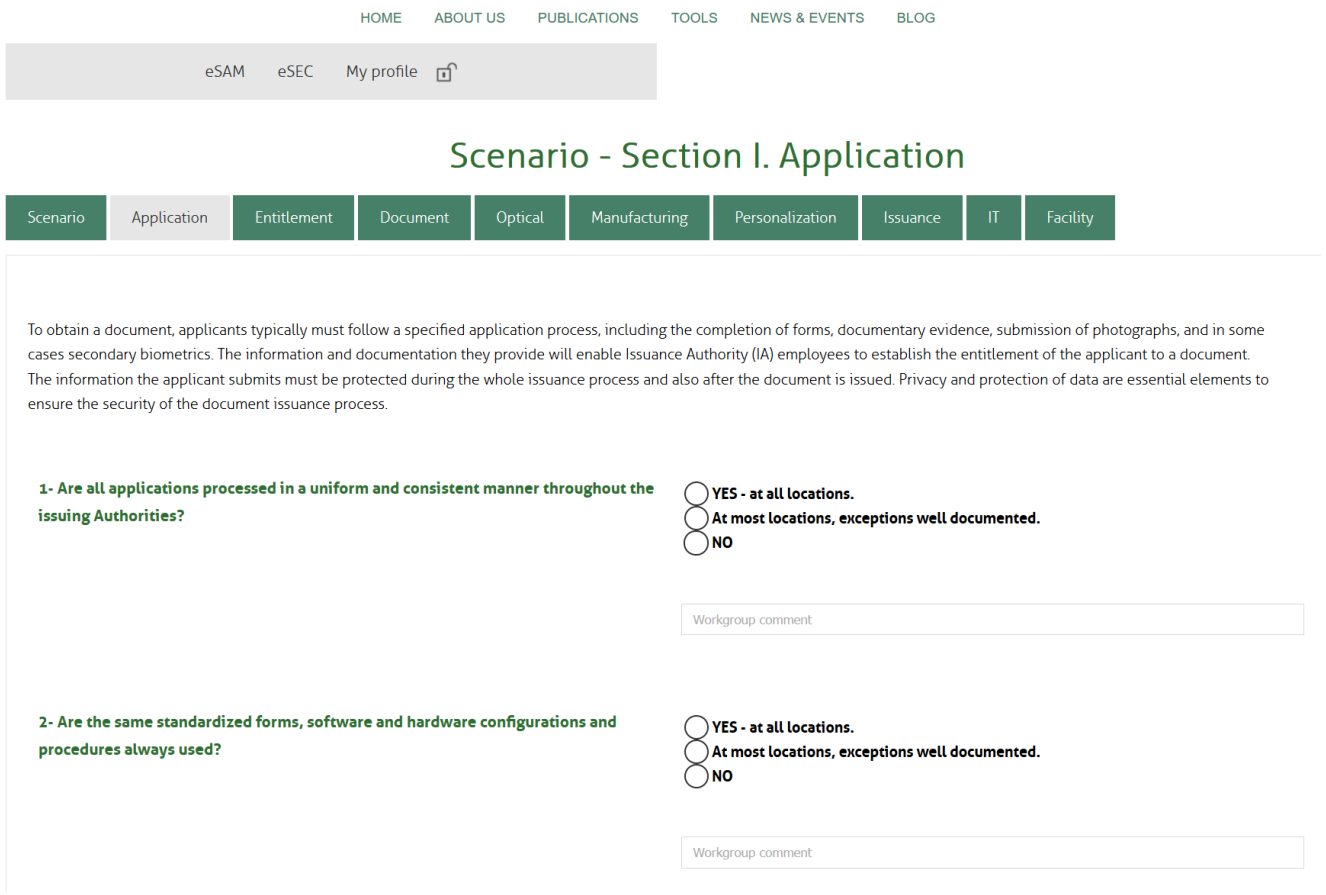
# eSAM : Multi-choice Questionnaire

## Section

- **The questionnaire consists of a list of questions with multiple choice answers.**

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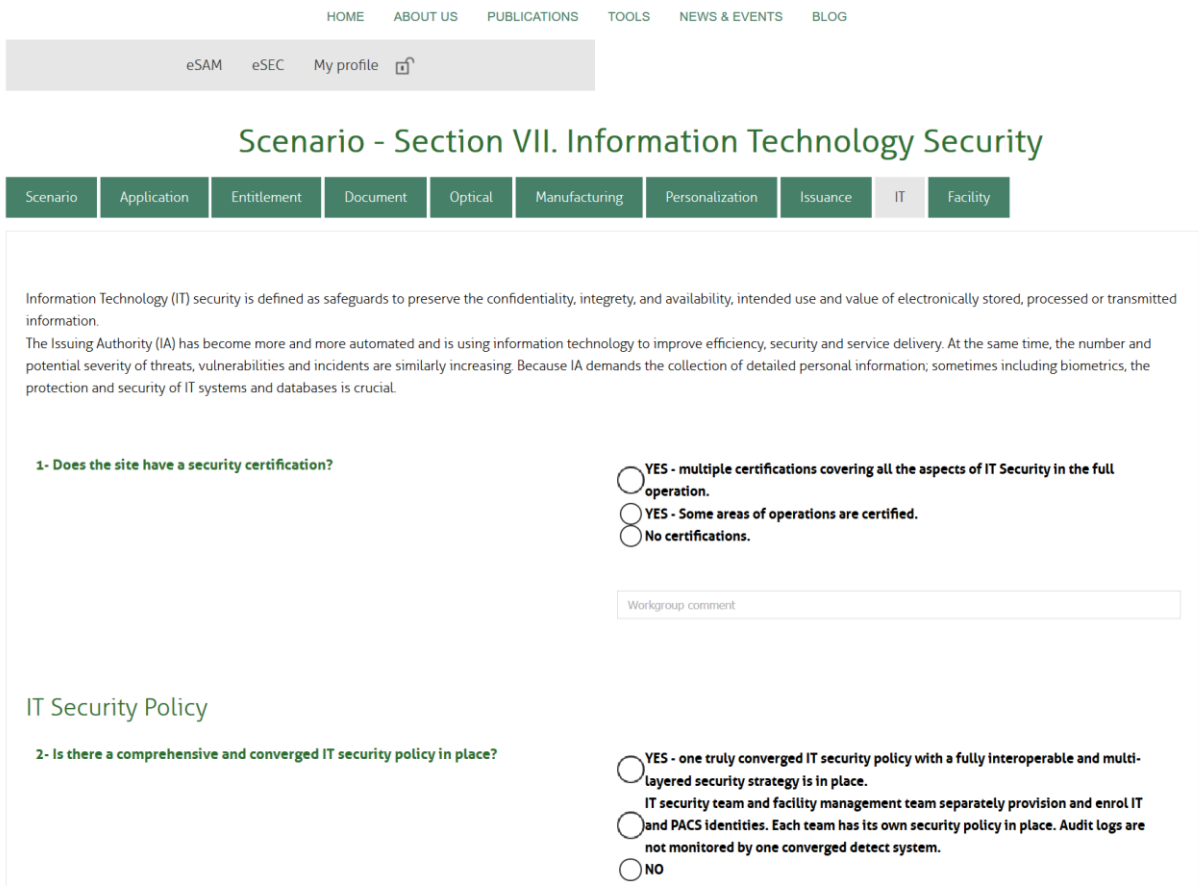
# eSAM - Support Processes

**Two support processes are distinguished:**

- **IT security**
- **Facility security**

**These only contain some basic questions if not covered by a certificate in the first place.**

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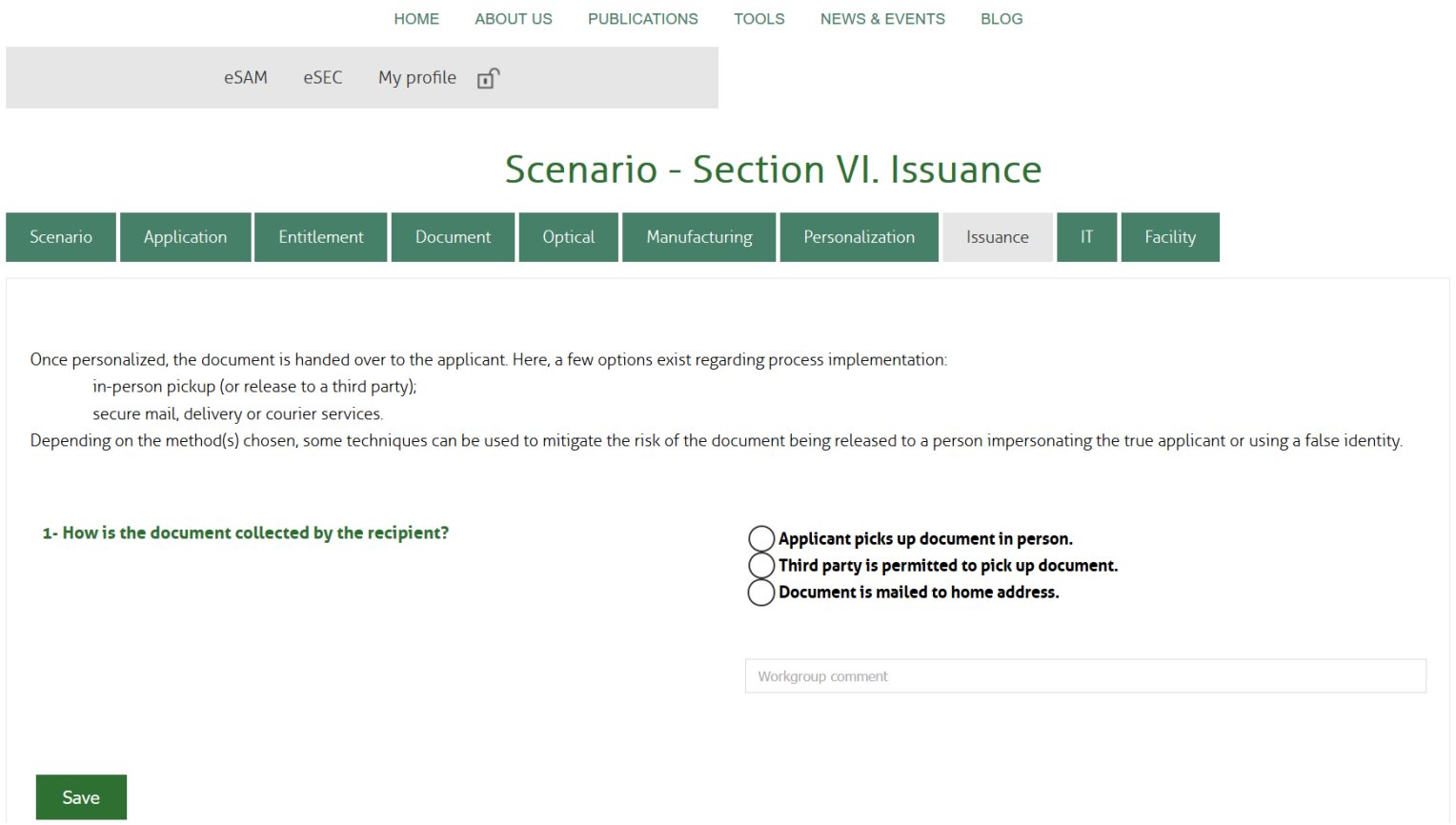
# Different choices in program

**In the Issuance process the Issuing Authority (IA) can make different choices :**

- **Applicant picks up document in person**
- **Third party is permitted to pick up document**
- **Document is mailed to home address**

**The IA's choices have a clear impact on the security, convenience and cost of the program.**

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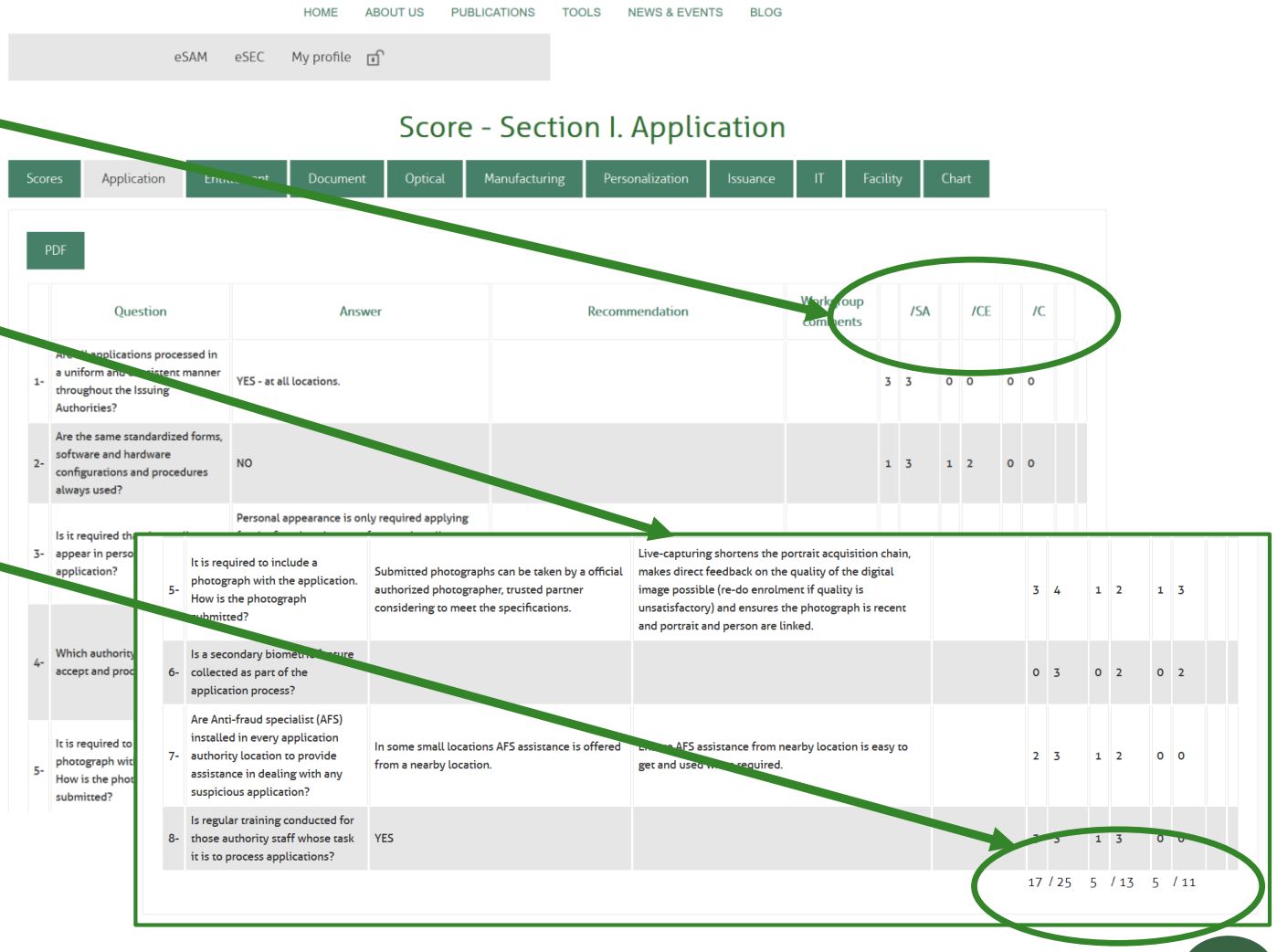
# eSAM Scores and Recommendations

**Scores for Security Awareness (SA), Cost Effectiveness (CE) and Convenience (C)**

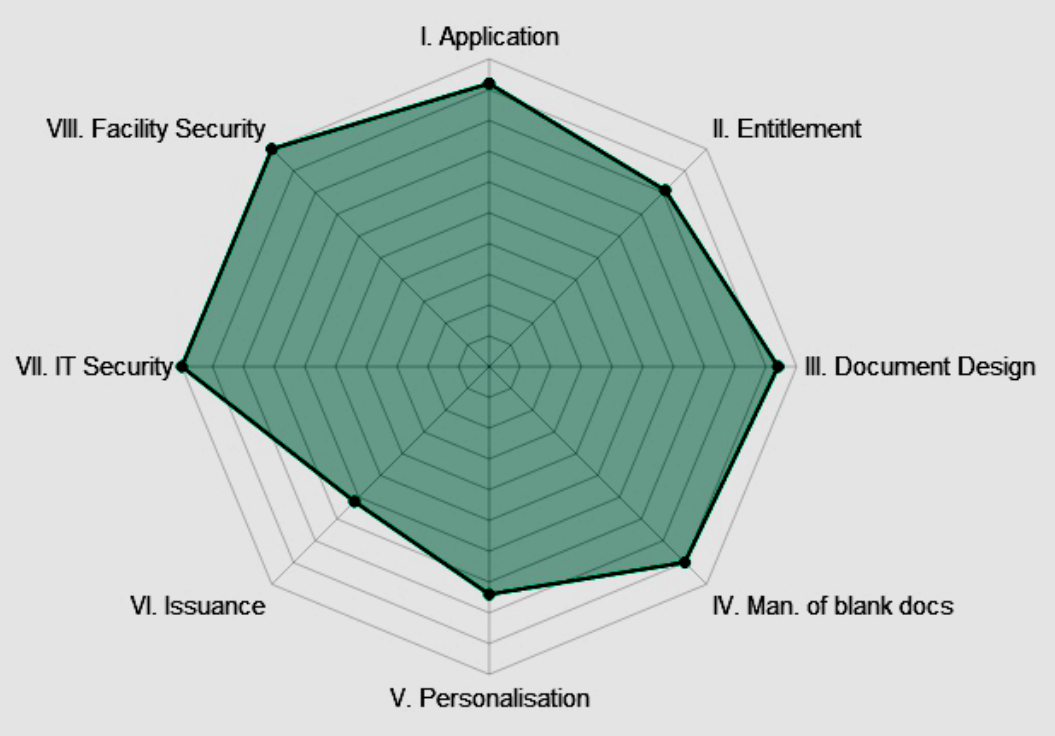
**Recommendations (if applicable) to improve security**

**Your scores for Security Awareness, Cost Effectiveness and Convenience against the maximum score**

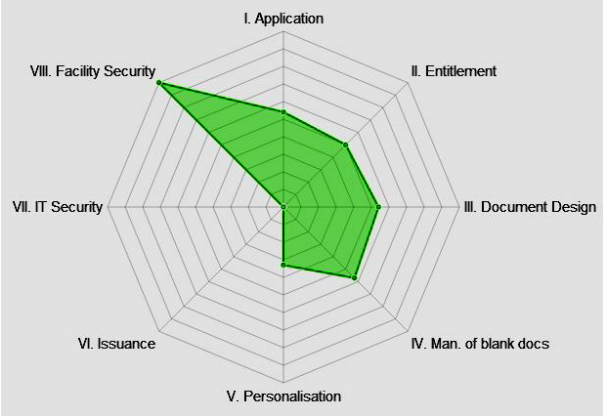


# eSAM Management report with scores

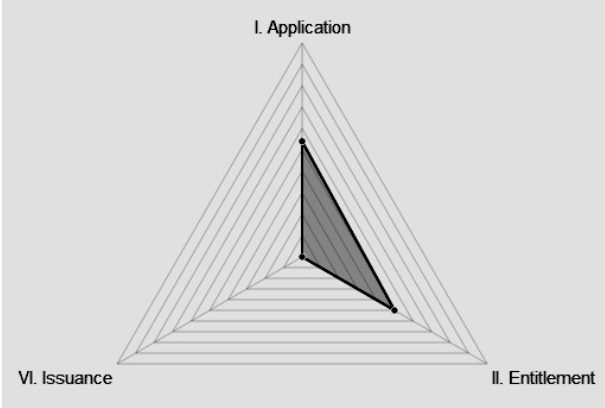
SECURITY AWARENESS




COST EFFECTIVENESS




CONVENIENCE




- **Security is not the only aspect you have to balance in your program**
- **Convenience (ease of use) score only for processes that interfere with citizens (end users)**


# 3.

## Examples

**Low-end and high-end security scenarios**

# Two scenario’s

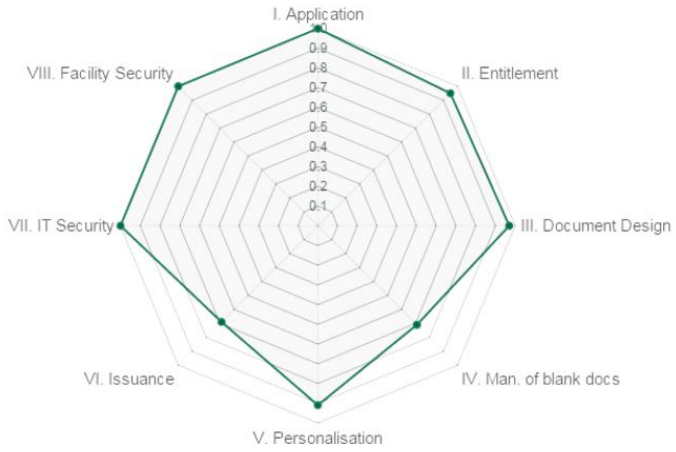
| Process | High security | Cost optimized |
|---|---|---|
| Type of Document | • Passport with PC e-data page | • PVC DL, no chip |
| Application | • Capturing biometrics<br>• Background check | • Application by mail or web<br>• Legitimation through previous documents or copy thereof |
| Issuance | • Pick-up in person | • Mailed to home address |
| Document design | • Design with security printing<br>• Portrait and data laser engraved<br>• Inspection conditions considered | • Basic design with CMYK printing<br>• Portrait and data applied with D2T2 and protected with clear patch |

# Summary scenario's

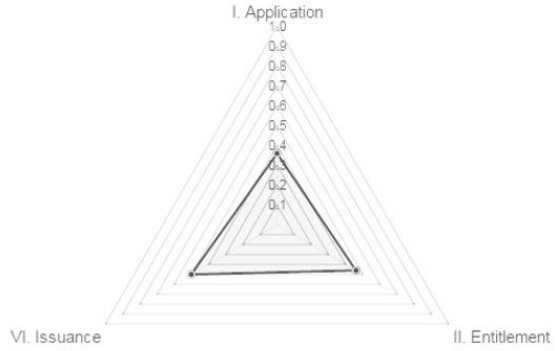
| Process | High security | Cost optimized |
|---|---|---|
| Security elements | • High security print (offset, PMS, OVI)<br>• Secondary portrait in MLI<br>• Security design based on integral security concept | • Basic security (digital, CMYK)<br>• Security design for minimum cost |
| Manufacturing process | • Production in high security zones<br>• Serial numbering for blank documents<br>• Secure transport | • Production in standard industrial environment<br>• Blank documents shipped by courier |
| Personalization | • Central personalization in high security zones with high quality laser equipment | • D2T2 desktop personalization with no special security measures |
| Security | • Production and personalization sites are certified | • No physical access system<br>• No systematic checks on staff<br>• Alarm system in place |

# Results High Security Scenario

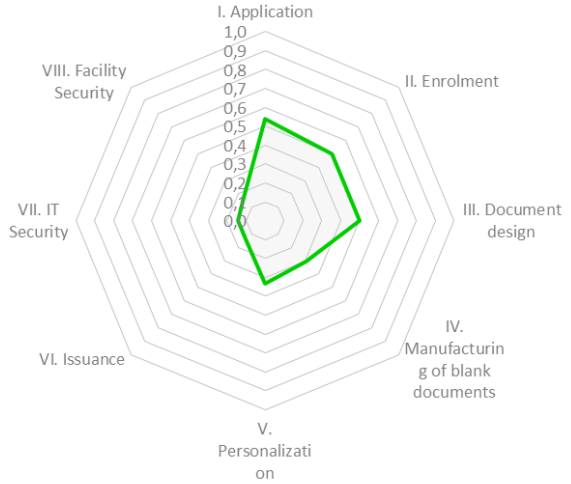
## Security Awareness




## Convenience



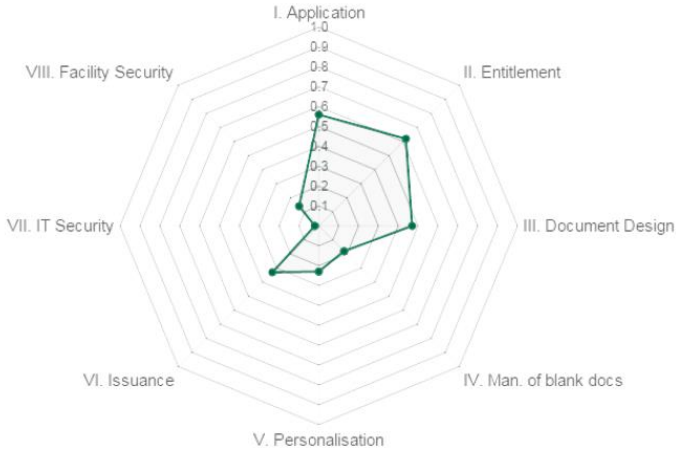

## Cost Effectiveness




- **HIGH ON SECURITY**
- **LESS COST EFFECTIVE**
- **LESS CONVENIENT**

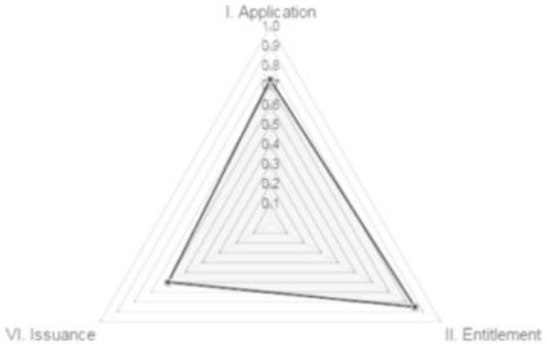
# Results Cost Optimized Scenario

## Security Awareness




## Cost Effectiveness


## Convenience




- **LOW ON SECURITY**
- **HIGH ON COST EFFECTIVENESS**
- **MORE CONVENIENT**

# Sources of information

## Main Sources

- ICAO Doc 9303 Part 1, Vol1
- ICAO Guide for Assessing Security of Handling and Issuance of Travel Documents
- Optical Document Security by Rudolf L. van Renesse
- Documents: the Developer's Toolkit by Diana Ombelli and Fons Knopjes

**Many more sources have been used and combined with the experience from multiple document programs by the SIA members.**

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