SMS Cost Model &
link to Safety Maturity

Vladimir Grigorov & Ivan Kozhuharov

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Approach

- Cost Model Principles
- Regulatory Framework
- EUROCONTROL & ICAO Charging Principles
- SMS Model
Cost Model Principles

- Activity based model
- Two cost cards per procedure (I & O)
- Procedure broken down into four cost components
- Components decomposed by tasks (activities)
- Equipment cost calculated adhering to strict accounting principles
Cost Model Principles

- Two cost cards per procedure:

  - Implementation
  - Operation
Cost Model Principles

Four cost components in each procedure:

- Human effort
- Training
- Infrastructure & Equipment
- Non-effort
SMS Cost Model - Excel

- Spreadsheet version of SMS Cost Model
- Scope of SMS Model
- Scope of SMS Components
- 4 ANSPs & 1 Airline participated in validation
  - 1 Large ANSP
  - 2 Medium ANSPs
  - 1 Small ANSP
ANSP Implementation cost % from the total cost base:
- 1.7 %
- 0.7 %
- 0.8 %
- X

Average: 1.06 %

ANSP Operation cost % from the total cost base:
- 1.4 %
- 0.8 %
- 0.7 %
- X

Average: 0.96 %
## Validation Results - Excel

### Implementation – Human effort % from total SMS cost

<table>
<thead>
<tr>
<th>ANSP 1</th>
<th>ANSP 2</th>
<th>ANSP 3</th>
<th>ANSP 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>75 %</td>
<td>24 %</td>
<td>60 %</td>
<td>X</td>
</tr>
</tbody>
</table>

### Operation – Human effort % from total SMS cost

<table>
<thead>
<tr>
<th>ANSP 1</th>
<th>ANSP 2</th>
<th>ANSP 3</th>
<th>ANSP 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>84 %</td>
<td>78 %</td>
<td>63 %</td>
<td>X</td>
</tr>
</tbody>
</table>
### Validation Results - Excel

#### Implementation – Training % from total SMS cost

<table>
<thead>
<tr>
<th>ANSP 1</th>
<th>ANSP 2</th>
<th>ANSP 3</th>
<th>ANSP 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>22 %</td>
<td>52 %</td>
<td>34 %</td>
<td>X</td>
</tr>
</tbody>
</table>

#### Operation – Training % from total SMS cost

<table>
<thead>
<tr>
<th>ANSP 1</th>
<th>ANSP 2</th>
<th>ANSP 3</th>
<th>ANSP 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 %</td>
<td>2 %</td>
<td>32 %</td>
<td>X</td>
</tr>
</tbody>
</table>
The most expensive SMS procedures - Implementation:

**ANSP 1:**
- SMS documentation;
- Investigation of safety occurrences;
- SMS organisational structure;

**ANSP 2:**
- Management of Safety Related Changes;
- SMS Development and Implementation Plan;
- Investigation of Safety Occurrences;

**ANSP 3:**
- Investigation of Safety Occurrences;
- Competency Assurance;
- SMS Documentation;
The most expensive SMS procedures - operation:

**ANSP 1:**
- Lessons dissemination and safety awareness;
- Management of safety related changes;
- Mandatory reporting system;

**ANSP 2:**
- Competency Assurance;
- Mandatory Reporting System;
- Safety of External Services;

**ANSP 3:**
- Competency Assurance;
- Investigation of Safety Occurrences;
- Safety Monitoring;
Demo - ABC Tool

Administrative Burden Cost estimation Tool (ABC Tool) establishes the costs associated with the development and implementation, day-to-day operation and maintenance of different systems by Air Navigation Providers in Europe.

- New SMS scenario...
- Open SMS scenario...
- Delete SMS scenario...
- Load from file...
- SMS templates...
- Import scenario from Excel file...

ABC Tool
Version: 1.0

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www.cis.bg
Demo - ABC Tool

ABC Tool is available for download at:

http://extranet.eurocontrol.int/

One Sky Online
Safety Team
Folder ABC Tool
ABC Tool – Summary

- Templates
- New Scenario
- Open Scenario
- Delete Scenario
- Copy Scenario
- Import/Export Scenario
- Import Spreadsheet Cost Model
- Export Scenario to MS Excel
- Documents folder
- Help
ABC Tool – Training examples

Five different options to create Scenario:

- New Scenario
- Generic Scenario
- Copy Scenario
- Load Scenario
- Import from Excel Cost Model
Link to Safety Maturity

Safety Maturity (3 options)
- Safety Maturity Tasks
- Safety Maturity Tasks – unique
- Safety Maturity Tasks – unique – simplified

Safety Maturity Templates loaded – ABC Tool
- Level 3 → Level 4
- Level 4 → Level 5
Link to Safety Maturity - Simulation
Direct – Hidden – Variable costs

**Direct costs**
- SAF effort

**Hidden costs**
- Communication to and familiarisation of staff
- Involvement of other staff in SMS (OPS, ENG, ANC, MAN)
- Venue costs
- Investment costs (infrastructure, equipment, software, licenses)
- Overhead costs

**Variable costs**
Questions, you can answer!

- How much costs me each particular activity?
- What will be the cost of a new procedure?
- Optimise costs – do I have the right resources?
- Can I assess the feasibility to meet the safety targets?
- May I plan manpower for my SMS?
- Can I make a strategic planning?
- Can I make a plan for some years ahead?
- What will be the cost to move from one Safety Maturity level to the next one?
Thank you!

Contact us:
Antonio.licu@eurocontro.int
frederic.lieutaud@eurocontrol.int
office@cis.bg
www.cis.bg