

# SMS Cost Workshop

---

Cost Model for the Development,  
Maintenance and Day-to-day  
Operation of a SMS

COMPASS IS ®  
Vladimir Grigorov

# Cost model

Pilot validation

Part III

# Questions & Answers – Part I

---

- **How much does cost the development of my SMS?**
- **How much does it cost me per year to run the SMS?**
- **What are the costs of the different SMS components?**

# Pilot Validation – How Much?

- How much does cost the development of my SMS?



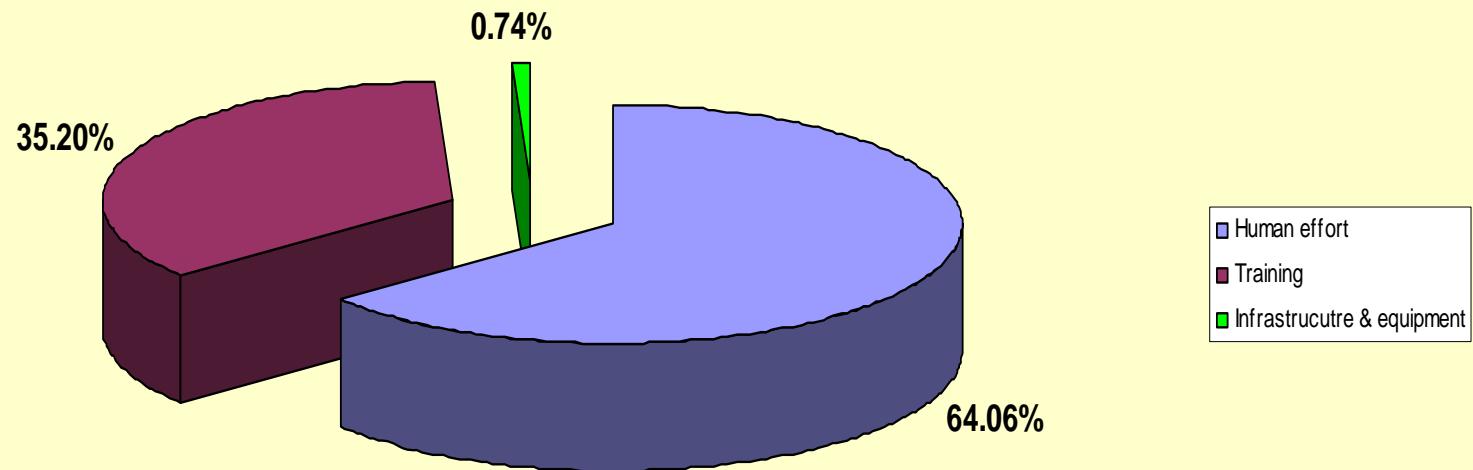
~ 1.04 %

- How much does it cost me annually to run the SMS?

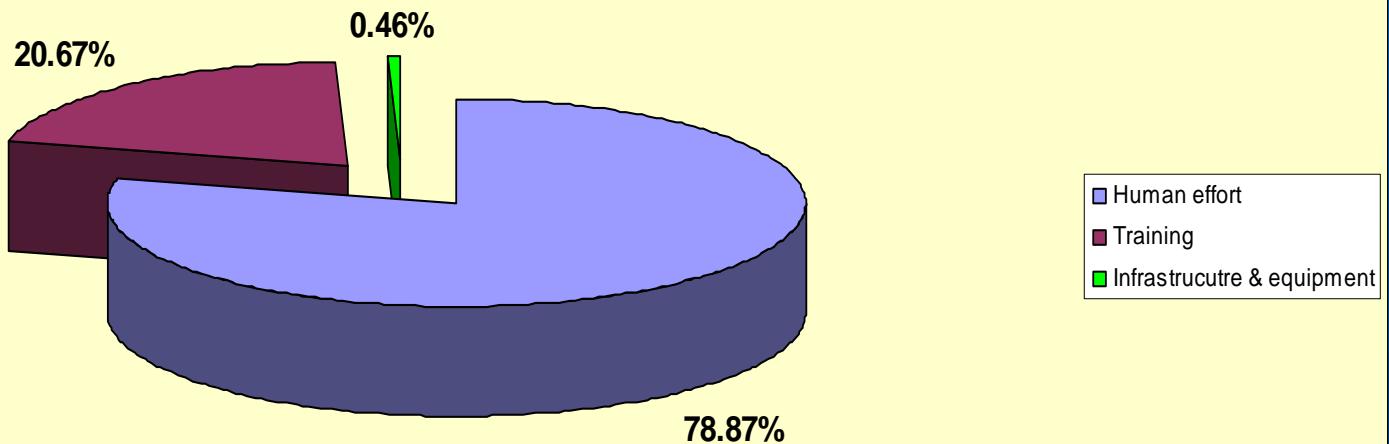


~ 1.0 %

# Pilot Validation – Implementation



# Pilot Validation – Operation



# Questions & Answers – Part II

---

- **What is the effort spent by the different entities (units) for developing/operating SMS?**
- **How much will it cost me to develop, implement and run a new procedure?**

# Pilot Validation – Share by staff category

- What is the effort spent by the different entities for developing the SMS?

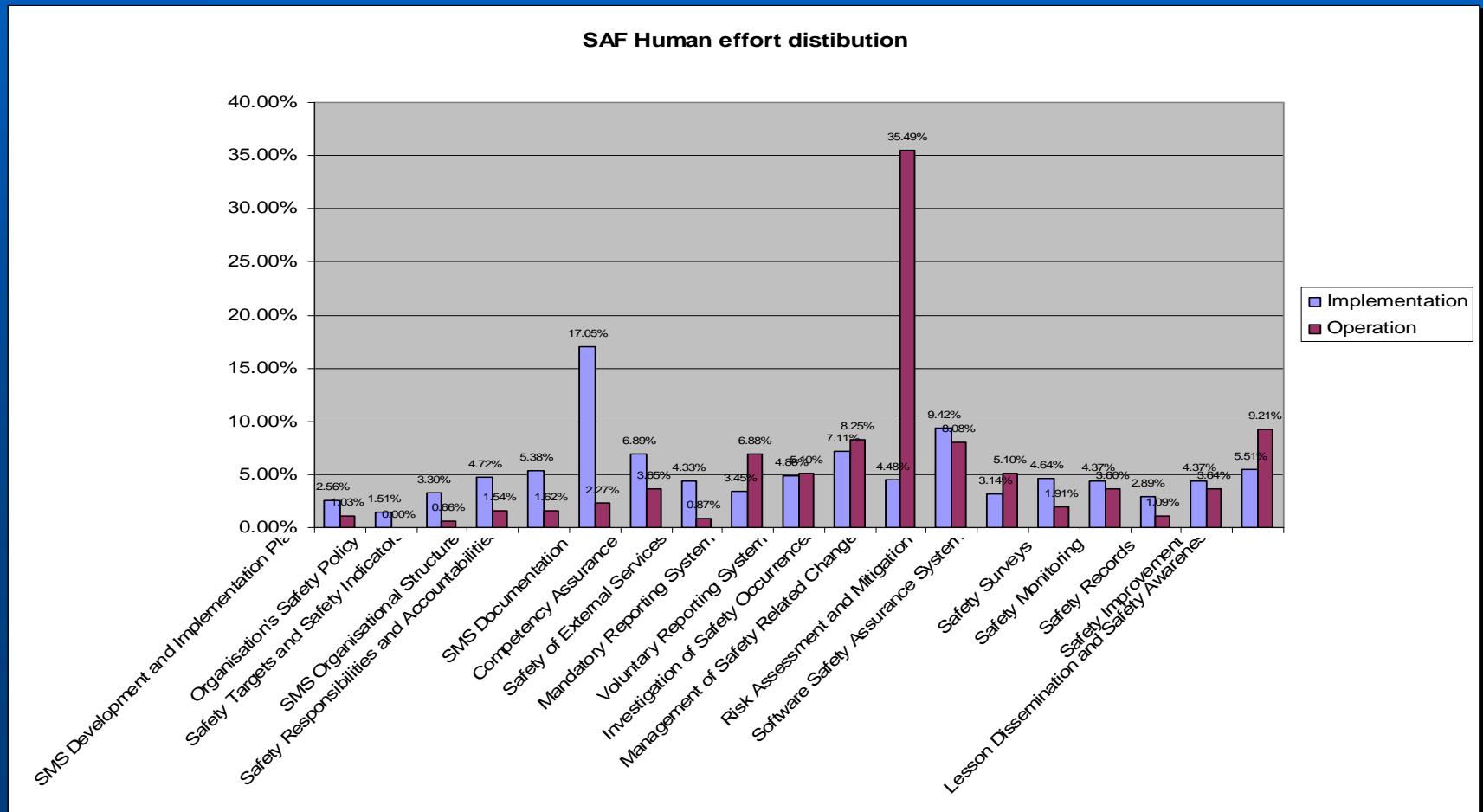
SAF	OPS	ENG	MAN	ANC	ADM	Ext
47 %	17 %	17 %	7 %	5 %	3 %	5 %

# Pilot Validation – Share by staff category

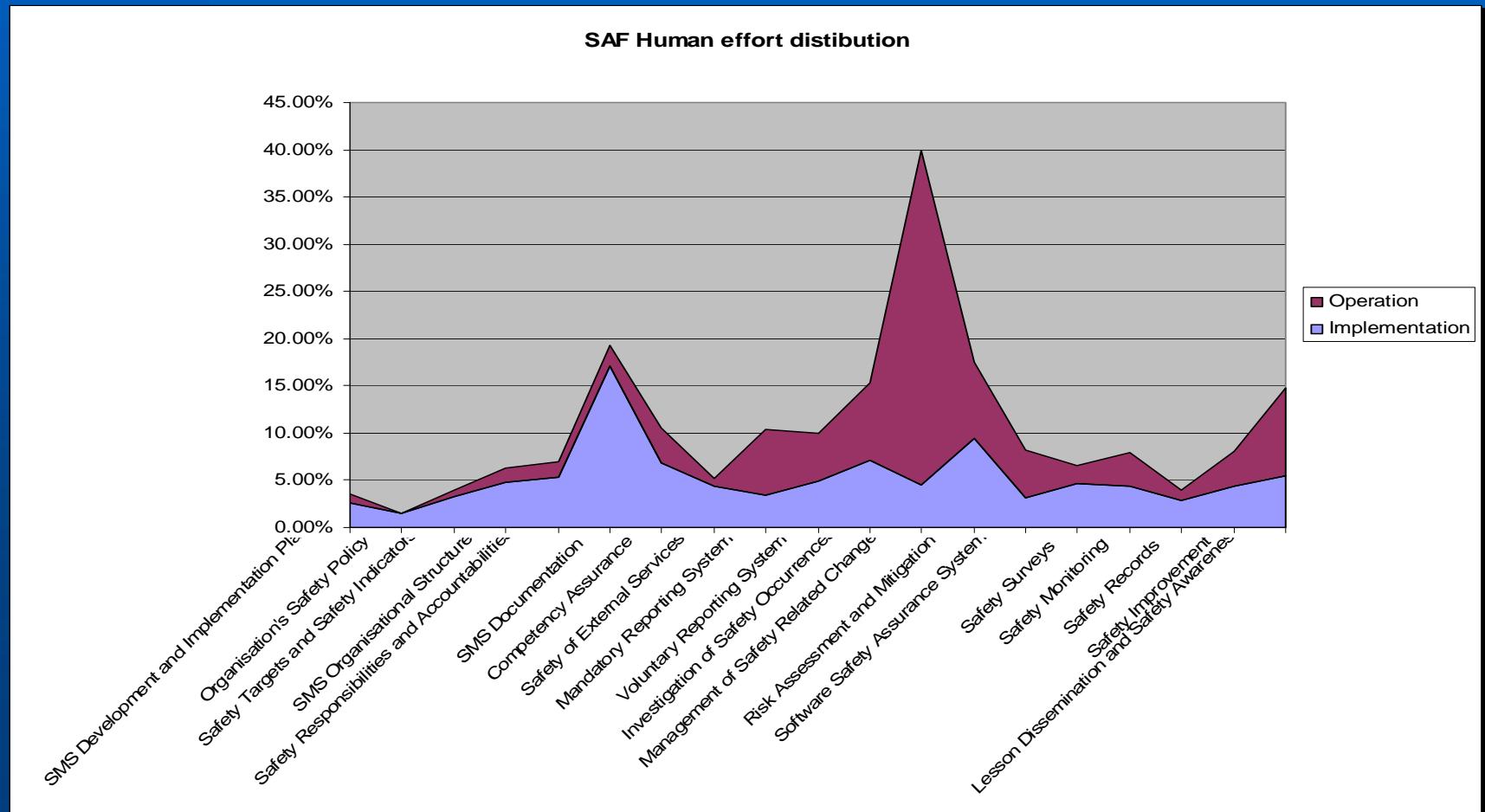
- What are the efforts spent by the different entities for operating of SMS?

SAF	OPS	ENG	MAN	ANC	ADM	Ext
43 %	18 %	18 %	13 %	5 %	1 %	1%

# Pilot Validation – SAF Human effort



# Pilot Validation – SAF Human effort



# Pilot Validation – One procedure

## Implementation Procedure: Investigation of Safety Occurrences

Human effort man-days: (EXT - 6)

SAF	OPS	ENG	MAN	ANC	ADM
95	26	25	3.5	2.3	0.1

Training man-days:

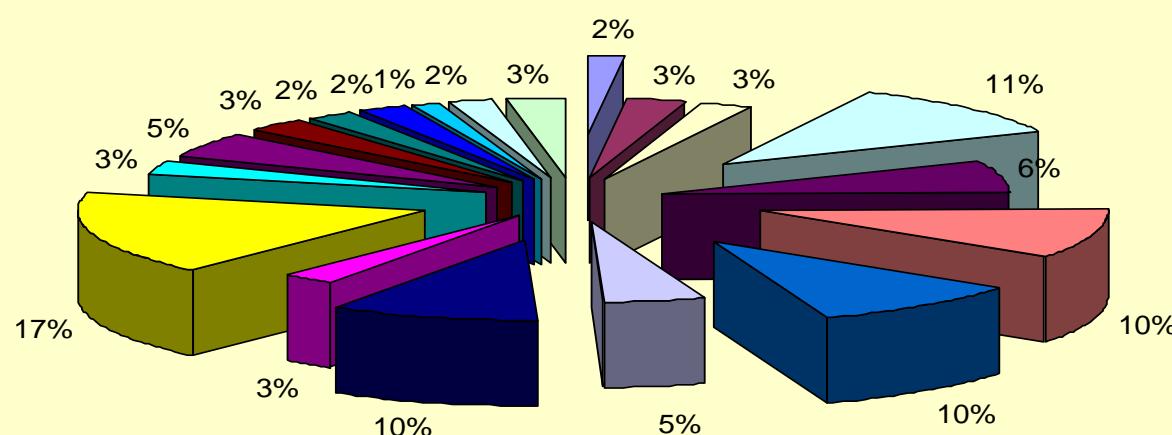
SAF	OPS	ENG	MAN	ANC	ADM
132	290	4	0	0	0

Infrastructure & equipment:

Standard Office Equipment – 45 000 EUR

# Pilot Validation – Implementation

Implementation costs [%]



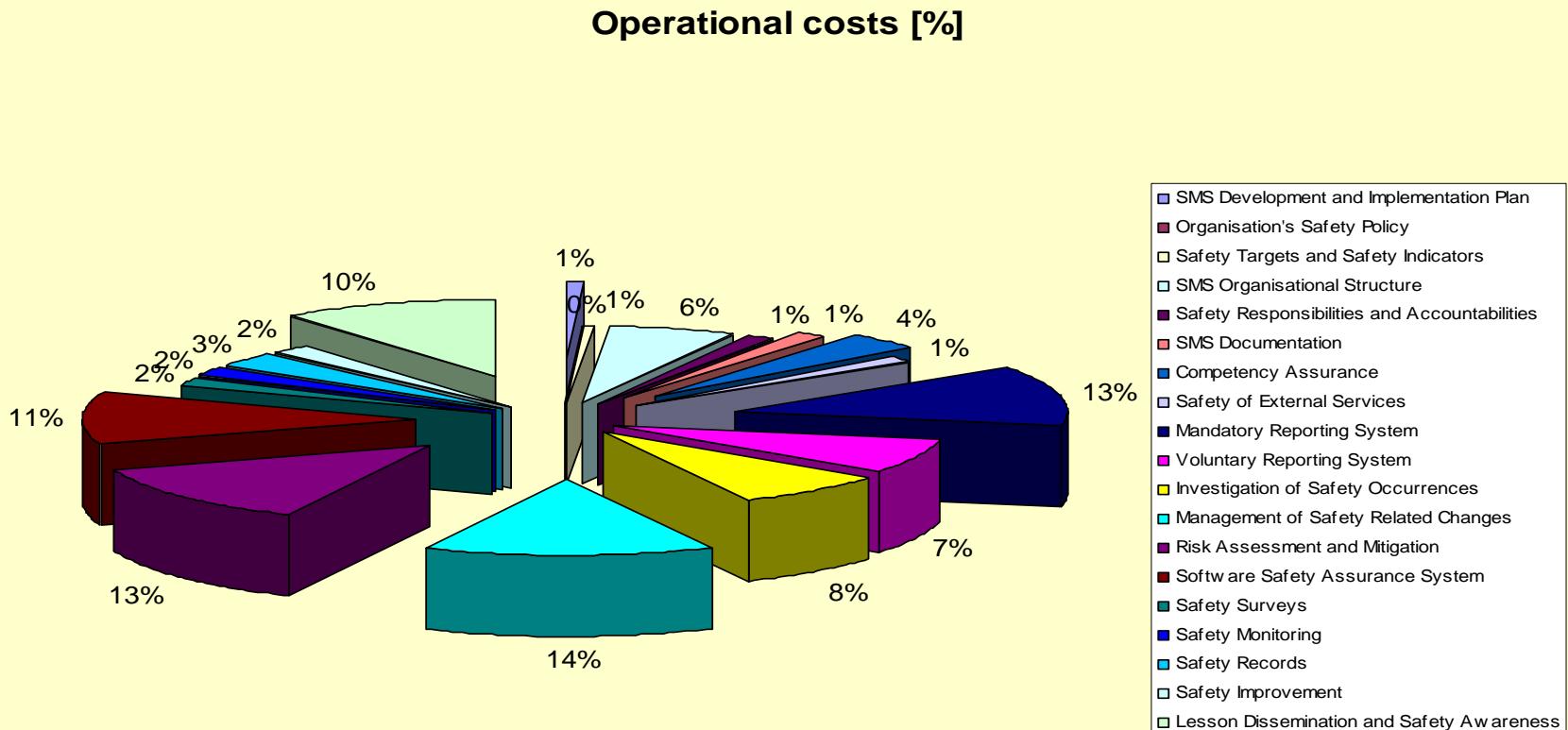
- SMS Development and Implementation Plan
- Organisation's Safety Policy
- Safety Targets and Safety Indicators
- SMS Organisational Structure
- Safety Responsibilities and Accountabilities
- SMS Documentation
- Competency Assurance
- Safety of External Services
- Mandatory Reporting System
- Voluntary Reporting System
- Investigation of Safety Occurrences
- Management of Safety Related Changes
- Risk Assessment and Mitigation
- Software Safety Assurance System
- Safety Surveys
- Safety Monitoring
- Safety Records
- Safety Improvement
- Lesson Dissemination and Safety Awareness

# Pilot Validation – Implementation costs

- SMS organisational structure – 11 %
- SMS Documentation – 10 %
- Competency assurance – 10 %
- Mandatory reporting system – 10 %
- Investigation of safety occurrences – 17 %

**Five procedures make up 58 %.**

# Pilot Validation – Operation costs

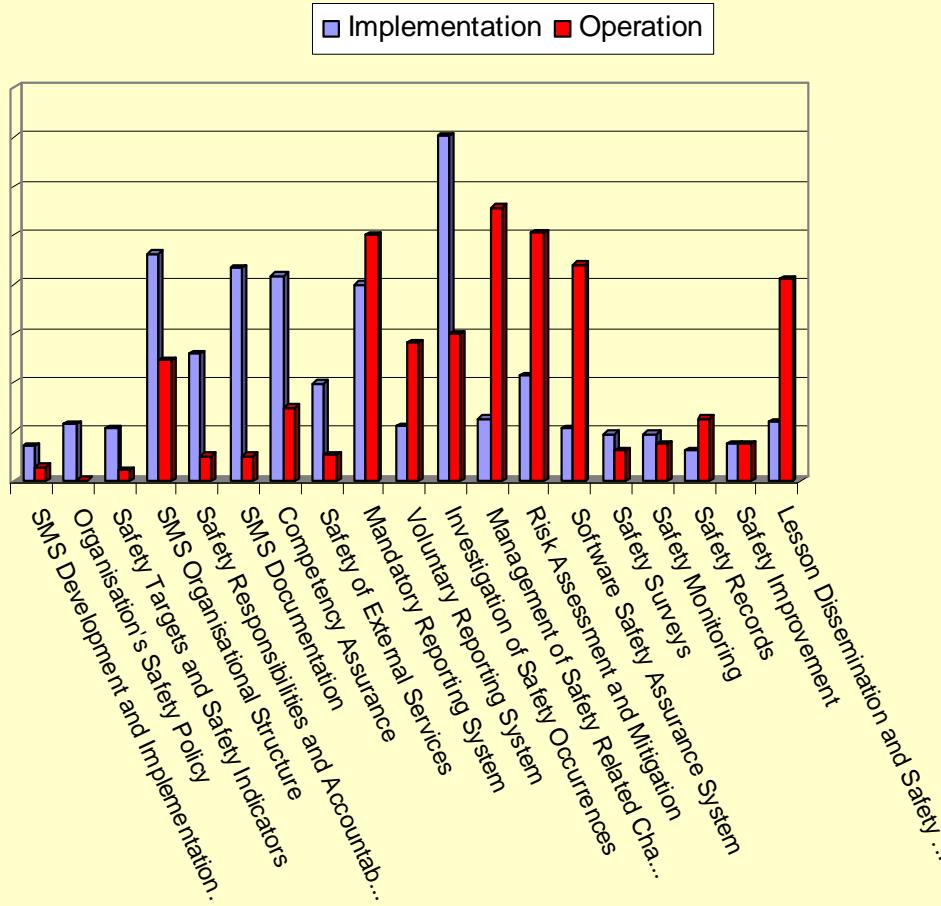


# Pilot Validation – Operation costs

- Mandatory reporting system – 13 %
- Management of safety related changes – 14 %
- Risk assessment & mitigation – 13 %
- Software assurance plan – 11 %
- Lesson dissemination & safety awareness – 10 %

Five procedures make up 61 %.

# Pilot Validation - Comparison



# Pilot Validation – Summary

- **Total man-days implementation:**
  - human effort: ~ 2840
  - training: ~ 1150

**Total: ~ 3990**
- **Total man-days operation:**
  - human effort: ~ 3170
  - training: ~ 520

**Total: 3690**

# Pilot Validation – Who?

---

- Time to collect data: 10 working days
- Who should participate?
  - Safety manager & expert
  - Financial expert
  - HR expert
  - Training centre expert
  - ATM expert

# Thank you!

