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The creation of an Aviation Safety Reporting Culture in Danish Air Traffic Control

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Introduction

Prerequisites for Reporting

- *The Legal Framework*
- *Company Commitment to Safety*
- *Clear directions for Reporting*
- *Proactive handling of Investigation and Lesson Dissemenation*
- *Feed-back and Knowledge-Sharing*

The time before….

- Punishing of Aviation Professionals
  (pilots/air traffic controllers)

- Disclosure to the Press of Aviation Safety matters

No knowledge was being gained

The Legislative Proces...

- Started from the ”bottom”
- Used the Window of Opportunity(proactive political climate)

The Law

- Non-Punitive(exceptions: Accidents/gross negligence/substance abuse)
- Confidential
- Punishable NOT to Report

- Information from the reports cannot be disclosed(exempted from the freedom of information act)
- Regulator will publish overview statistics two times annually

Subjects of the Law

- Pilots
- Air Traffic Controllers
- Certified Aircraft Mechanics
- Certified Airports
- Pilots holding General Aviation Pilots License

Each category of personnel/coorporation has their own description of mandatory reportable situations

Reportable situations in Air Traffic Control

Samples ***ESARR 2***

- Separation losses without avoiding action
- Inadequate separation between aircraft
- Runway incursions
- Deviation from standard operating procedures
- Failure in communication function
- Failure in dataprocessing and distribution function

The Implementation Process...

- Was undertaken by Incident Investigators(Air Traffic Controllers)
- Was fully supported by Management

Sufficient time and resources was allocated to the task

…. Implementation Process

- Written Statement from Management
- Briefing Campaign

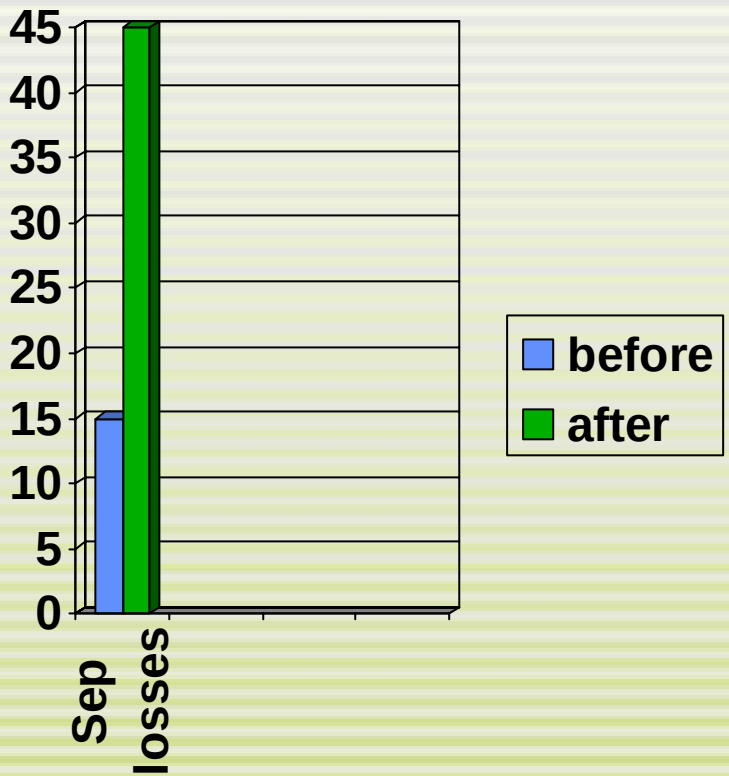
Questions like:

- *Why should we trust this?*
- *What will the information be used for?*
- *Why more non-productive paperwork?*

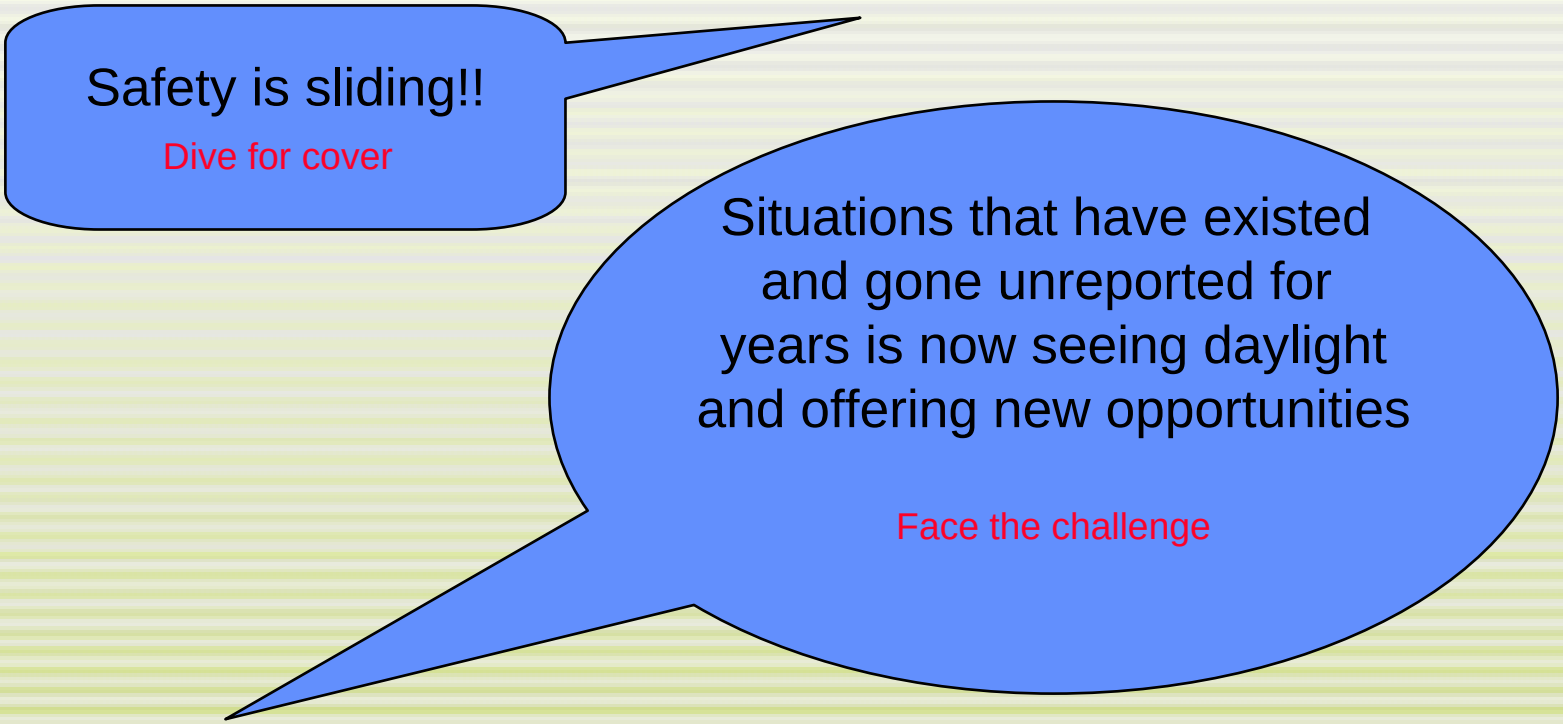
were being asked by the controllers.

What happened after Opening of the Reporting System (*15th august 2001)*

- *Massive increase in reports overall(>900 the first year. Today >1100)*
- *x3 increase in amount of reported separation losses*



New knowledge gained from Reports can be viewed from two angles..



Investigation

Where the learning starts

Priorities

- Separation Minima Infringement
- Runway Incursions where Avoiding action was necessary
- Inadequate Separation

Data gathering

- voicerecordings
- Radarrecordings
- Flight progress strips
- Other written documentation
- Interview
- Technical analysis if needed
- Simulation

The elements we assess during investigation

- Aircraft Proximity and Avoiding Manoeuvres
- Safety Nets - their impact on the outcome and relevance for the incident
- System aspects
- Human Factors
- Procedures
- Conclusion
- Recommendations

The Milan Accident

Runway incursion was the triggering factor of the accident

- Apprx. 40 Runway Incursions was reported in Denmark by the time of the Accident
- The reports was a valuable basis for starting a thorough anlaysis of the anatomy of Runway Incursions in Danish Aviation

Air Traffic Safety Reports close the Gap

- Human error cannot be prevented!
- Safety Assessments focus on imagined Conditions/Consequences
- Operator observations (Safety Reports) reveal actual Conditions/Consequences

Flight Safety Partnership

- Air Traffic Control is only a part of the Aviation System
- Things do not happen in a Vacuum
- Share your Knowledge

Flight safety Forum

- Biannual meetings with major Danish airline operators
- Shared knowledge in investigations

Prerequisites for reporting

- Trust/Confidentiality
- Non-Punitive Nature
- Ease of Reporting
- Feed-back to Reporters
- Safety Improvement

Trust/confidentiality

- Paramount importance
- Swedish example

- Safety reports known to few people
- Names will only be revealed in isolated circumstances

Non punitive nature

- Must be guaranteed in the Legislation
- Cannot be complete(Gross negligence/substance abuse exempted)

Ease of Reporting/Feedback

- Means must be easily accesible
- Feed-back for every Report to the Reporter
- Feed-back of Findings to Everybody

Lesson Dissemenation

- Briefing of every Controller(in groups) minimum two times per year(Backed by recordings etc.)
- Safety Letter 4 times per year
- Information as needed

Improvements

- Latent conditions revealed - Procedural changes
- Technical ”mysteries” - e.g. Enhanced Radar Performance
- Professional violations - Attitude change

Conclusion

- The Legislation must be in place
- Management must support
- Professional Organizations must be in the loop
- Do not neglect Communication aspect
- People will sometimes feel blamed, face them proactively