TraFi Liikenteen turvallisuusvirasto

Safety Management ja Risk Management
Mistä puhutaan?

FHST Helicopter Instructor Safety day
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Vastuullinen liikenne.
Yhteinen asia.

SMS = Safety Management System

- Safety Management:
  - SMS is a proactive and integrated approach to safety.
  - It should be integrated into the management system of an organisation.
  - SMS is an organised approach to managing safety, including the necessary organisational structures, accountabilities, policies and procedures. It is more than a manual and a set of procedures and requires safety management to be integrated into the day to day activities of the organisation. It requires the development of an organisational culture that reflects the safety policy and objectives.

Safety Management

- **Objective:**

  The objective of safety management in the aviation industry is to prevent human injury or loss of life, and to avoid damage to the environment and to property.

- **Scope:**

  The primary focus of safety management in aviation is on safety of flights encompassing also all associated and support services, which can have an impact on safety, for example air navigation services, aerodrome operations management, etc.

SMS:n keskeiset osat 1/2

- **Safety Policy and Objectives**
  1. Management Commitment and Responsibility
  2. Safety Accountabilities
  3. Appointment of Key Safety Personnel
  4. Coordination of Emergency Response Planning
  5. SMS Documentation

- **Safety Risk Management**
  1. Hazard Identification
  2. Risk Assessment and Mitigation
  3. Internal Safety Investigations

SMS:n keskeiset osat 2/2

- **Safety Assurance**

1. Safety Performance Monitoring and Measurement
2. The Management of Change
3. Continuous Improvement of the SMS

- **Safety Promotion**

1. Training and Education
2. Safety Communication

Risk Management

- The Safety Risk Management component of a SMS can be divided into three areas:

a) Hazard identification processes;
b) Risk assessment and mitigation processes;
c) Internal safety investigation.

Risk Management

- The safety risk management process starts with identifying hazards affecting aviation safety and then assessing the risks associated with the hazards in terms of severity and likelihood.

Risk Matrix

Example Risk Tolerability Matrix

Severity						
Catastrophic	5	5 Review	10 Unacceptable	15 Unacceptable	20 Unacceptable	25 Unacceptable
Hazardous	4	4 Acceptable	8 Review	12 Unacceptable	16 Unacceptable	20 Unacceptable
Major	3	3 Acceptable	6 Review	9 Review	12 Unacceptable	12 Unacceptable
Minor	2	2 Acceptable	4 Acceptable	6 Review	8 Review	10 Unacceptable
Negligible	1	1 Acceptable	2 Acceptable	3 Acceptable	4 Acceptable	5 Review
		Extremely improbable	**Improbable**	**Remote**	**Occasional**	**Frequent**
		1	2	3	4	5

Likelihood

Risk Management

- Once the level of risk is identified, appropriate remedial action or mitigation measures can be implemented to reduce the level of risk to as low as reasonably practicable.
- The implemented mitigation measures should then be monitored to ensure that they have had the desired effect.

Organisaatioiden SMS-tulevaisuus, EASA Part-ORA/O implementointiaikataulu

Annex I	Definitions	as applicable to the annexes
Annex II	Part ARO	30 June 2013
Annex III	Part ORO [1)]	8 April 2014
Annex IV	Part CAT [2)]	”entire/max opt out”
Annex V	Part SPA	”entire/max opt out”

SMS implementointisuunnitelma

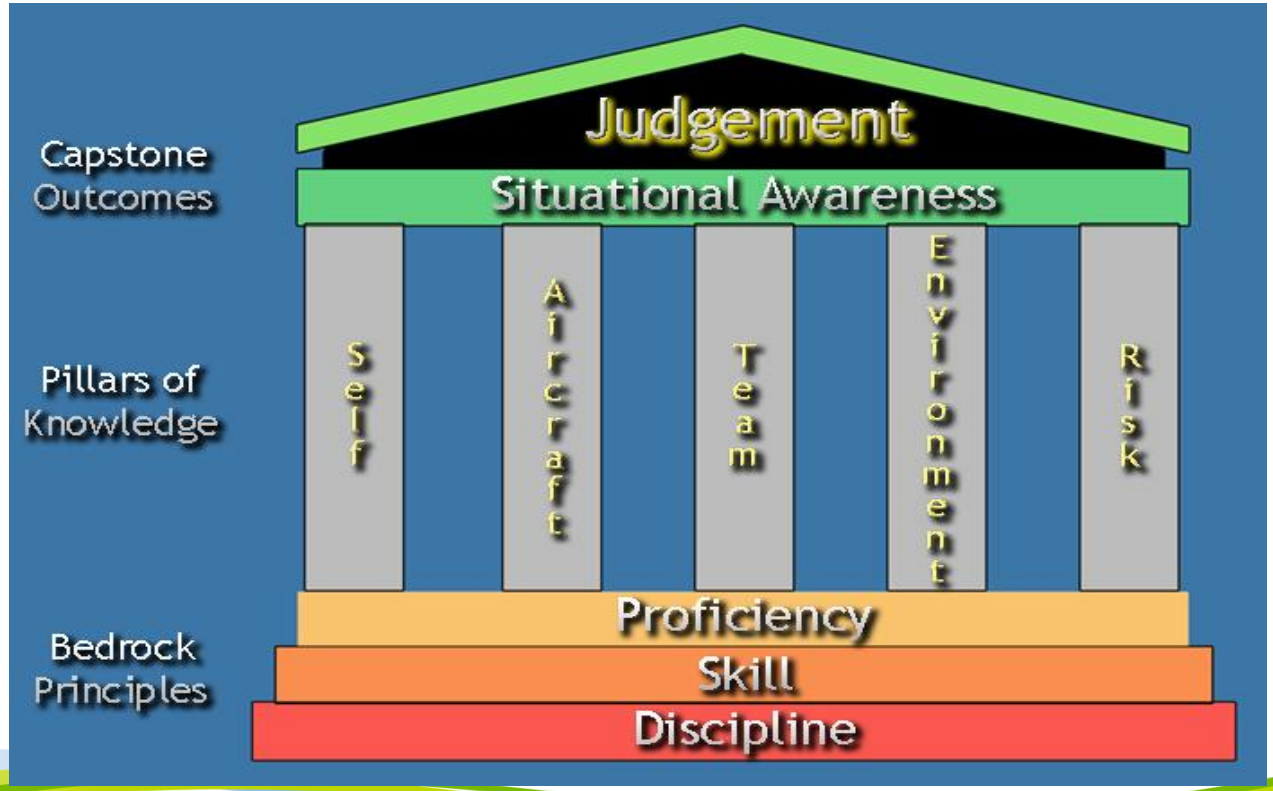
[1] For SMS:

Part-ORO	Trafi tasks to perform	Start – End dates	Organisations tasks to perform	Start – End dates	Organisations tasks to perform	Deadline
Management system ORO.GEN.200 (SMS)	Documentation and personnel training (basic SMS and SMS evaluation training)	28.10.2012 – 28.5.2013	Key elements of an SMS in place (passed a Trafi phase 1 SMS assessment). New applicants, after entry into force, need to have all the key elements of an SMS in place before an approval is issued.	28.10.2012 – 8.10.2013	Existing approved organisations implement and develop an SMS that is effective (passed a Trafi phase 2 SMS assessment). New applicants, after entry into force, need to have an effective SMS within one year of their approval being issued.	8.4.2014

[2] CAT operators of helicopters shall be converted into AOCs compliant with the new regulation in accordance with a conversion report (compliant with EASA template) established by 30 June 2013.

Pilot perspective: Safety and Risk Management = AIRMANSHIP

- Airmanship = Training + Experience + Attitude



Airmanship is:

- Founded on discipline (self, team, corporate)
- Continuously striving for self-improvement and optimal personal performance

Airmanship requires:

- A wide range of perceptual-motor skills
- A wide range of cognitive skills
- A wide range of knowledge (self, aircraft, environment, risk)
- Appropriate attitudes

Airmanship can be developed through training and refined through practice and experience.

Good airmanship based on sound judgment involves the following order of priorities:

- **Fly the aircraft** — Check attitude, speed, altitude, instruments and automation
- **Navigate** — Know where the aircraft is and where it is going
- **Communicate** — Discuss and review the issues, share tasks, back up each other
- **Manage** — Take follow-up action and use appropriate levels of automation
- **Monitor** — Check to see what has changed and take control

These are the "Golden Rules" of flying.

A pilot with good Airmanship is aware of what is going on around him in all respects: the environment, the aircraft, the team and himself. He possesses a clear idea of potential hazards, and has given thought to 'what-if' scenarios. Finally, he takes into account all of the factors listed above when making decisions.

Are You SAFE? I.M.S.A.F.E.

- **I = Illnesses.** Do you have any illnesses, a cold, or severe allergies that would inhibit your decision-making capabilities or motor skills? If you do, you probably should not be flying.
- **M = Medications.** Are you taking any medication? Medication needs to be cleared by your Aviation Medical Examiner (AME).
- **S = Stress.** Are you under any kind of stress?
- **A = Alcohol.** How long has it been since you had your last drink? And I don't know about you, but I don't even want to *walk* with a hangover let alone do something like fly.
- **F = Fatigue.** Were you up early and worked all day and now you're planning a flight? Are you really as sharp as you could be?
- **E = Emotions/Eating.** Are you mad because you just had a fight with your boss? When was the last time you ate? The combination of being low on hydration and having low blood-sugar levels can set you up for extremely poor performance.

PAVE Your Way

- **P = Pilot.** Use the **I.M.S.A.F.E.** checklist above. Are you familiar with the aircraft? Are you current and proficient? You may be legally current but not proficient. Are you IFR current? When was the last time you flew in actual IMC? Are you up to the challenge?
- **A = Aircraft.** Are you familiar with the aircraft performance and limitations and have you checked them? What about weight and balance? Will it carry the required payload as well as fuel? Does all the required equipment and instrumentation work?
- **V = Vironment,** Environment. Weather forecast? Ceiling and vis? Actual weather compared to the forecast? Icing conditions, freezing level? Winds aloft and winds at your destination. En route and destination NOTAMs. Survival gear and appropriate clothing for the type of terrain you will be flying over. Many times one survives the crash only to be killed from exposure to the elements.
- **E = External Pressures.** Why are you making this trip? External pressures can place a huge demand on us to make the trip. Pilots are typically goal-oriented. Knowing this, plan ahead and leave yourself an out.
- No one thing causes an accident; it usually takes a chain of events. The more things that are stacking up against you, the higher the odds are that you will have a bad experience. Don't let it happen to you!

Take CARE In Flight

- **C = Consequences.** During flight things are constantly changing. Evaluate these changes and decide what consequences they are going to have on the safe outcome of this flight. For all of the changes, ask yourself what the consequences would be if you took no action and just continued. Ignoring any one of them and deciding to just press on could have disastrous results.
- **A = Alternatives.** As the flight progresses, think of alternatives in case something unexpected occurs. As your flight progresses towards your destination, your available options decrease: You have less fuel and less range and are more fatigued. The bottom line here is to try to think of all possibilities and suitable alternatives before you depart.
- **R = Reality.** Don't deny that things are starting to go south. Recognize the situation, accept it and then develop an alternative plan. If things are starting to change, things aren't going as planned or you are developing aircraft mechanical problems, accept the reality, develop a plan, implement the plan and then evaluate again to see if the plan is working. If the plan is not working then develop another alternative plan. Implement it and re-evaluate and continue the process. Don't just sit there and do nothing and accept a bad outcome.
- **E = External Pressures.** Again, external pressures play an important role in the successful outcome of a flight. In fact, external pressure is one of the most significant of all risk factors. External pressures make pilots ignore all other risk factors -- the "I just have to get there" mentality
- Use the **P.A.V.E.** checklist prior to flight and then use the **C.A.R.E.** checklist while in flight.

To rememeber

THE NUMBER-ONE JOB AS A PILOT IS RISK MANAGEMENT

Kiitos!

Kysymyksiä tai kommentteja?