



Team Resource Management

A promising future!



TRM

A promising future



It is with pleasure that we offer you this brochure about Team Resource Management (TRM) as developed by the EUROCONTROL TRM User Group.

Over the last few years, several European ATM organisations have implemented Team Resource Management in their operational environment, whilst others are still in the process of implementing it.

As strong believers in the safety benefits and necessity of Team Resource Management we want to give you an impression of TRM and its current status in Europe, from an ATM professional perspective.

By providing this information, we hope you will be either convinced or re-convinced about what TRM can and will bring to your ATM organisation. As a result, we hope it will help you to implement, maintain or reinforce your TRM programme.

About us

The EUROCONTROL TRM User Group consists mainly of air traffic controllers who work as TRM-facilitators in a number of European ATM-organisations. The aim of the group is to promote the development of TRM in Europe; it is coordinated by EUROCONTROL's Human Factors Management Business Division.



TRM benefits

- Reduced teamwork-related incidents
- Enhanced task efficiency
- Improved use of staff resources
- Enhanced continuity and stability of teamwork in ATM
- Enhanced sense of working as a part of a larger and more efficient team
- Increased job satisfaction



A bit of History

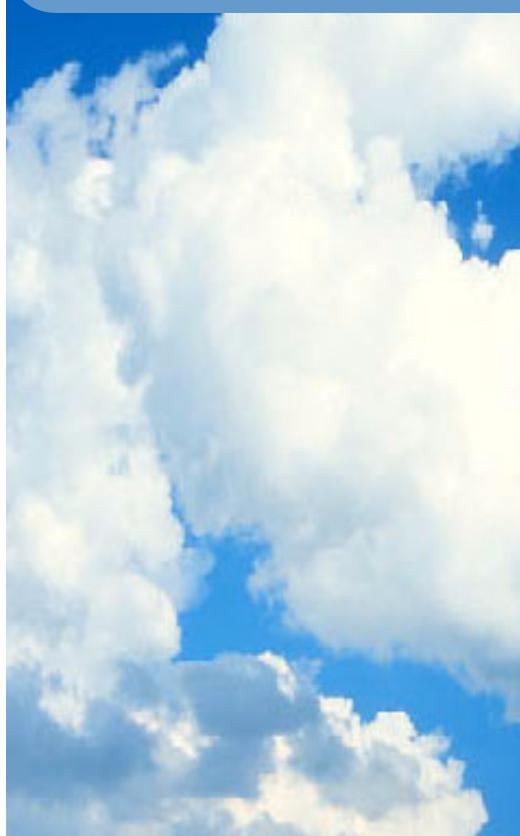


Origins

TRM has its origins in Cockpit Resource Management (CRM), which was developed in the United States almost 30 years ago. The main objectives of CRM were to increase aviation safety by improving cockpit teamwork, cockpit communications and cockpit management. At a later stage, CRM came to involve all crew members on board, not just the cockpit crew. In some companies, the CRM concept has even been extended to the entire company.

Common concern

It did not take long for ATM professionals to realise that ATM and aviation shared common concerns: poor communication, team performance and inadequate behaviour do not only occur in aircraft, but in ATM environments too. In both situations, incidents and accidents may be the tragic result. The development of TRM in the 1990s was a first logical step towards improving teamwork and reducing team related errors.



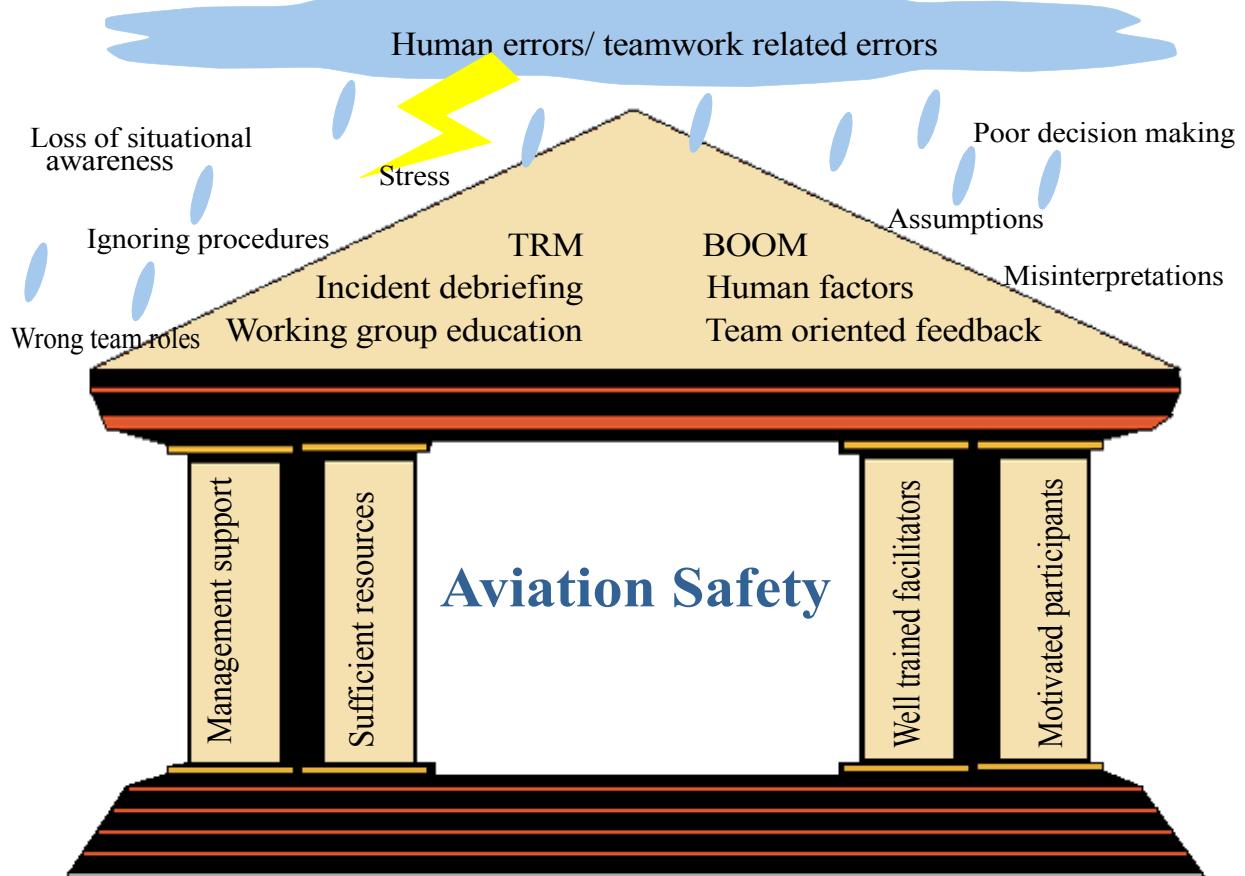
TRM today

We have come a long way since then. Today, teamwork is recognised as an essential element of safe and efficient air traffic management. Many ATM organisations throughout the world have adopted TRM as a useful and necessary tool for improving teamwork and safety.

Important news

Just like other ATM quality tools, TRM is directly linked to ATM safety and productivity. It not only reduces the consequences of team related errors, but also helps in preventing them. With the anticipated worldwide increase in air traffic movements and the increased workload this will generate, this is important news for everybody who works in ATM.

How do we keep operations Safe?



Error

In daily practice, aviation safety is constantly threatened by a dark cloud: error, both human and teamwork-related. To prevent aviation safety from drowning in error, we need some kind of protection, a roof to keep aviation safety dry.

Protection

What can we learn if we explore this idea of a roof a bit further?

- The roof should be made out of several components forming a watertight roof.
- The roof should be supported by pillars, otherwise it will come down.
- The more solidly the pillars are constructed, the more strongly the roof will be held in position. If components are missing, aviation safety will become endangered.

We can hope for more sunshine so the cloud disappears. We can hope for wind so the raindrops will blow away.

But the best way to protect aviation safety is to build solid pillars and a watertight roof.

BOOM

(Behaviour Oriented Observation Method)

BOOM is a complementary training package to TRM. The goal of BOOM is to teach instructors and TRM facilitators how to objectively observe the behaviour of their controller colleagues and provide feedback on the non-technical skills, during simulation sessions or in real work situations.

BOOM is a one day course of training provided by EURCONTROL during which attendees are provided with a CD containing all the supporting materials which may then be customised to local needs.



Facilitators—The heart of TRM

The facilitator is a crucial factor in the success of a TRM course. They are the ones who have to convince the participants – their peers – that TRM does matter.

German research shows that facilitators are better accepted if they are known for their safe and cooperative working style. It is very difficult for a facilitator to convincingly run a TRM-course if everyone knows that the facilitator's attitude during work differs from the TRM-idea which is presented during the course.



An ideal facilitator identifies with the following statements:

- By facilitating the TRM courses, we actively contribute to improving the safety in our company.
- We are convinced that our training helps to develop and support safety related attitudes and behaviour.
- We see ourselves as good examples, not only during but also outside the TRM course, and we act according to what we teach.
- We approach all course participants on an equal level with esteem and trust.
- We create the general set-up for the course participants to reflect their safety-related behaviour and to discuss them within the group.

Can safety be taught? Learning TRM

How is TRM taught?

When people encounter TRM for the first time, they often wonder how TRM is taught. To answer the question right away: TRM cannot be taught. However, safety-related attitudes and behaviours can be learned. That is why TRM courses are focussed on helping participants learn by themselves, rather than delivering classroom-based teaching.

Involvement

Teaching TRM in a traditional way, with centrally delivered lectures is, in fact, contrary to the very essence of TRM. Sitting in a class room, listening to someone standing in front of the class, does not require a lot of involvement from the participants. It is this involvement, along with an open and critical view towards oneself and others, that is the core of TRM.

Facilitators

That is why TRM sessions are centered around a facilitator someone with operational ATC experience who is especially trained in helping participants to develop their own ideas and positive attitudes, and in creating an environment which stimulates learning. Instead of teaching a lecture, the facilitator acts as a guide in several exercises.

Exercises

In a typical TRM exercise, participants are challenged to take a stand and maintain their point of view by reasoning, even though others see things differently. This forces the participants to really think about their own opinion, in light of other views and ideas.

The most effective exercises are short and fun; practice shows that 20 minutes is enough to make a point. After each exercise, the facilitator provides room for discussion and reflection. The experiences that are shared during the discussion prove to be very valuable. Often, they keep surfacing throughout the rest of the TRM course.

A good discussion usually starts with a direct question, such as "How would you define 'professional'?" This question is likely to raise many different opinions, some of which may be conflicting. It is this difference that opens the door to constructive discussion; when participants realise that there is no single right answer to the question, that they are on their way to work as a proper team.

What's in a typical* TRM course ?



Teams, team roles and leadership

TRM is about teams. But what is a team? How does leadership affect teamwork? And how is teamwork related to safety? This module focuses on the importance of different individuals within teams and on developing strategies which will improve teamwork skills and performance.



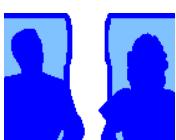
Stress

Ever felt stressed during work? In this module you can learn how to define job-related stress situations, how they affect your work, and how you can cope with stress related problems, both individually and within teams.



Decision making

Air traffic control requires decisions to be made in a split second. This module establishes the factors which contribute to effective decision making and discusses the basics of individual and group decision making.



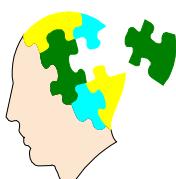
Communication

Effective communication is the key to safe operations. However, do you know how teams communicate? What makes communication effective? And what effect communication has on safety? These are some of the topics that are discussed in this module.



Safety and error management

Where humans work, errors are made. How can we minimise the negative impact of the errors that we make? How can a team manage errors and their consequences? This module helps you finding answers to these questions.



Situational awareness

Situational awareness, or the art of being able to see the big picture, can at times be seriously compromised, or even lost. This module explores what situational awareness is, how to prevent loss of situational awareness and how to recognise loss of situational awareness in others.



Procedures

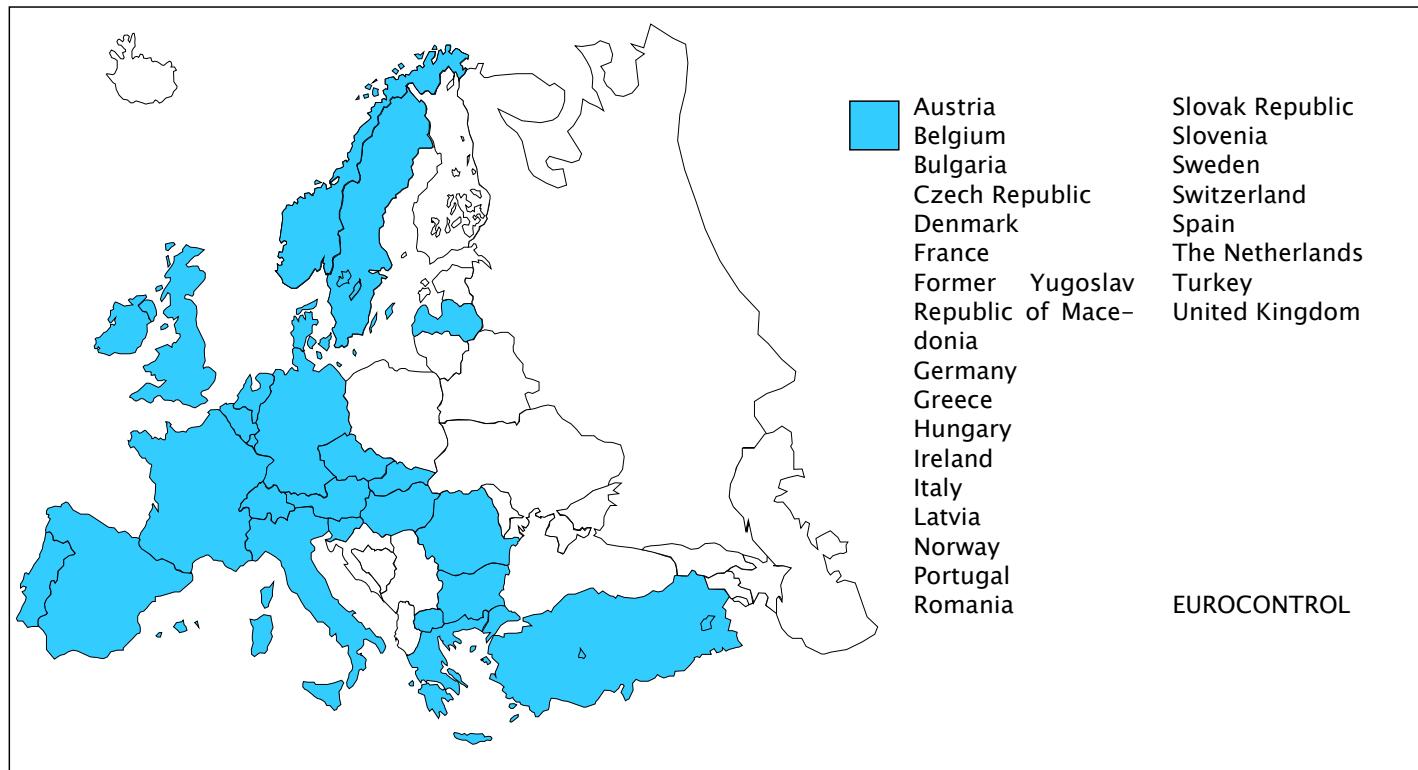
What is a procedure? How and why are procedures created? What are the characteristics, advantages and disadvantages of procedures? Do you work according to procedures? What happens if you do not? These are some of the questions discussed in the Procedures module.

* Modules and contents may vary from organisation to organisation.



TRM

In Europe



This map shows which European states have sent representatives to the TRM facilitator course. Even though TRM development has started fairly recently, a large number of countries have already realized the importance of TRM.

The EUROCONTROL Institute of Air Navigation Services (IANS) offers a Facilitator training for TRM, in which air traffic controllers are prepared for facilitating TRM courses at their own ATC centre.

If you want to know whether TRM is available at your organisation, please get in touch with your human factors expert, or contact EUROCONTROL (see details at the end of this brochure) to discuss your requirements.

What European controllers said about the TRM course:

We are more aware now of how important it is to work as a team.-*António Manuel de Sousa Braga Retorta, Portugal*

It is a good course to get to know more about yourself and others.- *Fredrik Edford, Sweden*

The real point to note is that TRM is trying to change a culture, make people aware of their own behaviour and the impact that this has on their colleagues.- *Kieran O'Connor, Ireland*

It is important to realize that each control unit has different cultures. But together, safety is more than just a word. - *Paulo Manuel Serpa Pires Mendonça, Portugal*

And what about your country?

Does TRM already have a place in your organisation?

TRM

An ECIP and SSAP objective



TRM is not only a dream of a group of people working in ATM in Europe. TRM has come into the European spotlight on two occasions recently, both stressing the need to improve operational teamwork for safety purposes.

1. TRM as ECIP objective

First, TRM has been accepted as a harmonisation objective in the European Convergence and Implementation Plan (ECIP) for the years 2005 to 2009.

The agreed objective (HUM02-ASP08) states that Team Resource Management concepts, methods and tools must be in use no later than December 2007. This objective is also applicable to the military.

2. TRM as SSAP objective

Secondly, the Action Group for Safety (AGAS) has taken note of TRM and introduced it as an objective into the Strategic Safety Action Plan for Enhanced ATM Safety (SSAP).

The AGAS group was established as a High Level Group by EUROCONTROL as a direct result of the runway incursion accident at Milan Linate airport (Italy) in 2001 and the mid-air collision near Überlingen (Germany) on 1 July 2002. The main goal of the AGAS group is to examine existing procedures and standards.

One of the AGAS findings is that TRM can play a significant role in enhancing ATM safety. That is why AGAS has included the need for TRM in the SSAP Implementation Plan and refers to the ECIP implementation objective HUM02-ASP08 with the same implementation date December 2007.

This second point is particularly positive, as it shows that TRM is regarded as a programme that can enhance ATM safety.

Are you TRM-aware?



After reading the information in this booklet, you might wonder to what extent you already are TRM-aware. Here is a chance to try and find out. On this page you can find a small selection of statements, derived from the ATC Safety Questionnaire. This questionnaire was used as part of a study aimed at understanding air traffic control operational safety.

Considering these statements (do you agree or disagree with each statement?) will give you a certain feeling about your own measure of TRM awareness. This is not a test; the statements are just meant to give you some food for thought.

When considering these statements, try to ask yourself:

- Can I relate to these statements?
- Do they make me think?
- Do I feel they are relevant for the safe execution of my work?

Statements	Agree	Disagree
I should be aware of and sensitive to the personal problems of other controllers.	<input type="checkbox"/>	<input type="checkbox"/>
Effective team coordination requires that controllers take the personalities of other controllers into account.	<input type="checkbox"/>	<input type="checkbox"/>
To resolve conflicts, controllers should openly discuss their strategies with each other.	<input type="checkbox"/>	<input type="checkbox"/>
If I perceive a problem with operations, I would speak up, regardless of who might be affected.	<input type="checkbox"/>	<input type="checkbox"/>
Good communication is as important as technical proficiency in the controlling environment.	<input type="checkbox"/>	<input type="checkbox"/>
Team members share responsibility for prioritising activities in high workload situations.	<input type="checkbox"/>	<input type="checkbox"/>
Discussing the traffic picture with other controllers helps to keep your own picture clearer.	<input type="checkbox"/>	<input type="checkbox"/>

Information

Contact and publications



About the TRM User Group

The EUROCONTROL TRM User Group consists mainly of air traffic controllers who work as TRM-facilitators in a number of European ATM-organisations. The aim of the group is to promote the development of TRM in Europe; it is coordinated by EUROCONTROL's Human Factors Management Business Division. If you want to know more about TRM, please visit the EUROCONTROL website:

www.eurocontrol.int/humanfactors/public/standard_page/TRM.html

TRM Publications

You can find more information about TRM in the following publications available at

www.eurocontrol.int/humanfactors/publ.html#trm

- HF 2-Guidelines for Developing and Implementing Team Resource Management
- HF 8-Human Factors Module: Interpersonal Communication
- HF 10-Proceedings of the Second EUROCONTROL Human Factors Workshop – Teamwork in Air Traffic Services
- HF 15-Team Resource Management Test and Evaluation
- HF 25-Proceedings of the Fourth EUROCONTROL Human Factors Workshop – Team Resource Management in European ATM

ECIP 2005 to 2009

EUROCONTROL (Ed.), European Convergence and Implementation Plan for the years 2005 to 2009 – detailed objective description, Ed. 1.0, 10 August 2004; available at www.eurocontrol.int/ecip.

SSAP Implementation Plan

Action Group for ATM Safety (AGAS), European Strategic Safety Action Plan, available at

www.eurocontrol.int/safety/public/standard_page/SSAP

Video material

The EUROCONTROL video unit offers videos that can accompany TRM courses: video.unit@eurocontrol.int

TRM facilitation training at the Institute of Air Navigation Services

TRM facilitation training and TRM materials (on CD-ROM) are available from the Institute of Air Navigation Services at www.eurocontrol.int/ians

Contact address

EUROCONTROL
DAS/HUM Secretariat
Rue de la Fusée, 96
B-1130 Brussels
Belgium

T. +32 2 729 33 98
F. +32 2 729 91 49
E. eatm.das.hum@eurocontrol.int

Credits



This publication has been authored under the supervision of the EUROCONTROL TRM User Group.

All rights reserved.

© EUROCONTROL, 2004

All illustrations

© EUROCONTROL, unless stated otherwise

Top right cover photo

© Air Traffic Control the Netherlands