TRM IMPLEMENTATION

SURVEY REPORT 2017

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EUROCONTROL

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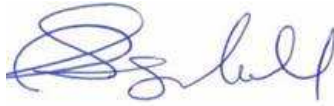| TLP STATUS	
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DOCUMENT APPROVAL

The following table identifies all management authorities who have successively approved the present issue of this document.

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1. Executive Summary

Surveys on TRM implementation are conducted every three years or so to study the evolution of TRM Implementation over the years.

The responses gathered from the 2017 survey indicate that around 70% of the ANSPs surveyed have implemented TRM, while it is expected that around 44% of the ANSPs who have not yet implemented TRM are planning to do so in the near future.

TRM is mostly applied to ATCOs with some ANSPs extending the programme to cover also ATSEPs, AIM/AIS personnel, FISOs and FMP staff although a few ANSPs hold joint sessions with other aviation professions.

The replies to the survey furthermore gave a snapshot of the 'typical TRM day' such as duration of session, number of participants and facilitators, length of preparation needed and finally the learning aids used during the TRM sessions.

Feedback about the sessions/campaign is usually collected by the facilitators from the participants. The information thus gathered is used for various purposes, the most common being to integrate new activities and topics in the sessions.

In most cases, participants indicated that they found TRM as effective with some ANSPs reporting that TRM is seen as highly effective.

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2. Introduction

2.1 Background and Purpose

Team Resource Management programmes are operational human performance enhancement programmes recognised by the European transport legislation as an acceptable means of compliance to Regulation EU 2015/340. A continuous TRM programme focusses on professionals as the ultimate ATM safety net and on the enhancement of safety critical thinking of the human in this complex system.

Surveys on TRM implementation are conducted every three years or so to study the evolution of TRM Implementation over the years. The purpose of the current survey is, therefore, to look into the progress of TRM Implementation since 2014, when the last survey was conducted. It will also check on how ANSPs have complied with the inclusion of Human Factors in ATCO Training as required by EU 2015/340. The 2017 survey consists of two parts – TRM Implementation and TRM Programme.

Some ANSPs run other Human Performance enhancement programmes and the survey also attempted to collect information on recurrent and/or one-off HP/HF programmes our member states are using.

Finally the respondents were encouraged to express any expectations, comments or suggestions that they had for the EUROCONTROL TRM Team to enable new/improved/enhanced EUROCONTROL support if required.

2.2 Survey Method and Size

A questionnaire highlighting key issues regarding this matter was prepared and distributed to members of the Safety Team, Safety Human Performance Sub-Group and TRM focal points. The Safety Team were also addressed because not all ANSPs have nominated a representative on the SHP-SG. Additionally, in quite a number of states the TRM focal point is different from SHP-SG representative.

The use of a questionnaire for a survey has the disadvantage that the wording of the questions can bias answers. Additionally when a list of answers is proposed in the questionnaire, such a list can constrain the reply and thus the response does not provide the full story. In view of these disadvantages, ample space was provided for free text in order that the respondents can clearly comment on their replies, explain the rationale and provide alternative/additional information to the survey.

It was planned to follow the questionnaire by an unstructured telephone interview where clarification was needed. However, as many of the respondents provided in the free-text area detailed answers to the questions posed, this was not necessary. There were several small queries but it was possible to address them through email correspondence.

All EUROCONTROL States were addressed in the request for information. Additionally, besides the civil ANSPs, a number of states are implementing TRM at their military providers. Where known, these military providers were also

addressed and asked to fill in the questionnaire. Maastricht Upper Area Centre was included too in the information gathering exercise.

One of the providers was also an airport operator. This organisation has now split into two independent entities, one purely an ANSP and another entity acting as a state-owned airport operator. Both entities submitted the filled-in questionnaire. The response of this airport operator was also included in the survey results even though it is not an ANSP.

Twenty-nine replies were received – from MUAC, 22 civilian ANSPs or combined civil-military ANSPs, the Airport operator and 5 military ANSPs, either via the questionnaire or via email exchange. This response represents 52% of the civil providers and 42% of the military providers. Although the sample size was not scientifically calculated the responses were considered to be quite representative of the present situation. Furthermore it was ascertained that the respondents were from different types of ANSPs (e.g. small vs. large, mature vs. developing, high vs. low traffic, geographical location) thereby further strengthening the validity of the responses.

3. Results and their Analysis

3.1 Response

	Civil	Military
Sent	46	12
Replies	24	5
Response rate	52.17%	41.67%

Table 1 Response Rate

Until 2012 Implementation of Team Resource Management was an ESSIP objective (HUM02.1). However all the HUM objectives were removed from the ESSIP monitoring. HUM02.1 was applicable to all EUROCONTROL States. Additionally, besides the civil ANSPs, a number of states declared that this objective was also to be met by their military providers.

In view of the changes in the organisational landscape since 2012, the 2017 TRM Implementation survey addressed besides the en-route ANSPs, also where known, Tower and Approach Service Providers. An airport operator was inadvertently included as well after one national ANSP split into two organisations, one being ANSP while the other acting as the National Airport Operator. This airport operator replied that the organisation had inherited TRM from the previous entity. The intention is to continue with TRM because it has proven highly effective. Furthermore it is planned to expand it to the whole organisation. The results from the airport operator were also included in the survey results.

The number of responses received this time was the highest ever although the rate was lower than the 2014 exercise. This is due to the higher number of providers contacted. Still the overall response rate was 50%, which was considered to be good giving a truly realistic picture of the current situation.
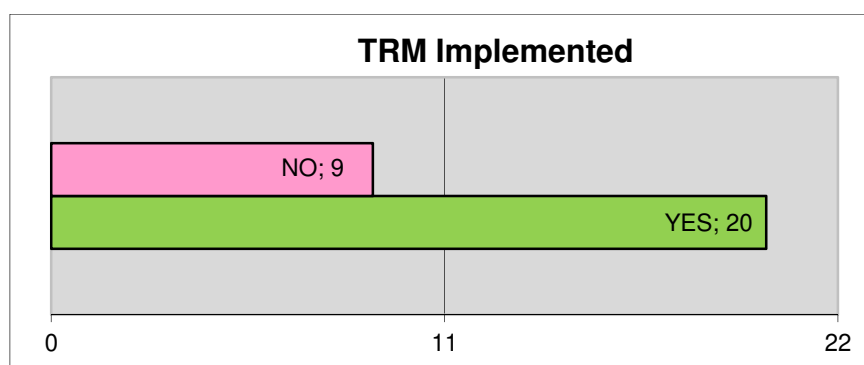
3.2 TRM Implementation

3.2.1 Application

Figure 1 TRM Implementation

The responses indicate that around 70% of the ANSPs have implemented TRM. The EUROCONTROL TRM Team, through their contacts, meetings, seminars and other TRM/HUM activities, are aware that at least six other providers, which have not replied to the survey, have implemented TRM, some of them for quite a number of years.

The positive responses were analysed further and the results are shown in following sections.

Out of the nine providers who replied that TRM is not implemented, four indicated that they plan to implement TRM in the near future. As in the case of the positive replies, the TRM team are aware of at least two other providers (which had not replied to the survey) which are actually working on TRM implementation. The reasons for implementing TRM are:

- In face of changes and implementation of new programmes and concepts, the ANSP is in need of new approaches to better use all available resources in order to increase safety and efficiency of air traffic services and handle the significantly increasing traffic.

- There is need to learn more about work-as-done and to create actionable goals for personnel.

- Investigation reports had indicated, very often, that human performance was one of the factors which could have possible impact for occurrence/incident.

- The organisation is now considered mature enough to start implementing TRM.

On the other hand the primary reasons for not implementing TRM were resource constraints and that the service provider is not required to implement it (non-EU state).

Some of the providers who are not doing or implementing TRM have other HF training programmes, which include:

- Team-building exercises as part of the HF continuation training

- Stress and fatigue management as a part of continuation training.

3.2.2 Scope of TRM programme

The results indicate that most of the time the TRM programme usually addresses only ATCOs. As indicated in Figure 2 overleaf some ANSPs have already expanded the programme to include other ATM professionals and there are others ready to do so. The professions included in the 'Other' category were FISO, FISOs assistants, Flight Data and Flow Management assistants. Two ANSPs indicated that they plan to extend TRM to the ATSEPs while another ANSP is planning to include AIS/AIM personnel in the TRM programme.
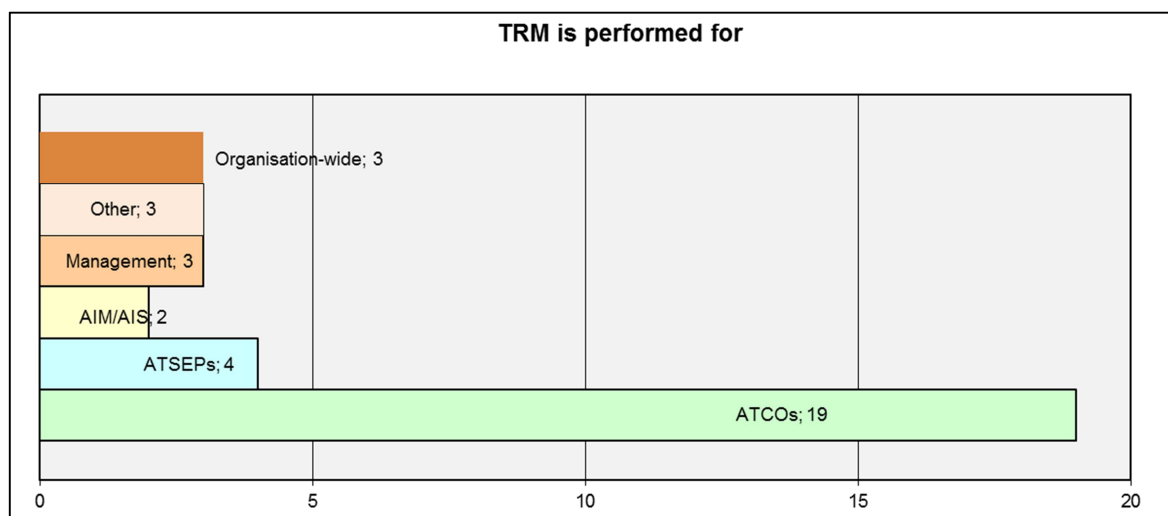
Figure 2 Scope of TRM programme

3.2.3 Joint sessions

A number of service providers also hold joint TRM sessions. Over the years it was noticed that service providers have a different interpretation of 'joint sessions'.
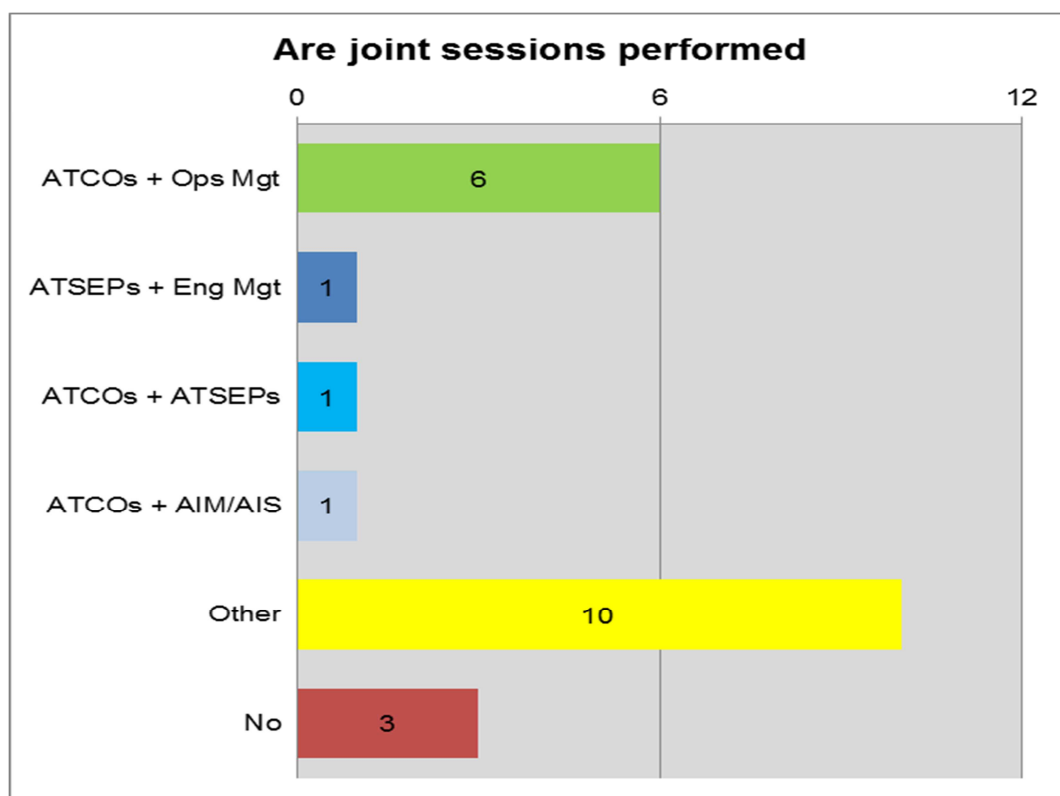

Figure 3 Joint Sessions

The most common type is that of ATCOs and their operational managers. On the other hand, from the survey it was seen that 'joint' could mean sessions between:

- ATCOs from different units,

- ATCOs with different ratings and/or endorsements,
- Civilian ATCOs and Military ATCOs,
- ATCOs and pilots (Civil, Airline and Military),
- ATCOs and FISOs,
- FISO and/or AIS, Flight Data and Flow Management,
- Non-technical and technical personnel.

The survey probed into the advantages and disadvantages of joint sessions. Not all the respondents replied to the questions but still it was possible to compile a long list of advantages. The general feeling was that the joint sessions were all very fruitful experiences. The list of advantages can be summarised as better awareness of the overall organisation as a coherent system, awareness of other areas activities and improvement of the coordination mechanisms.

A small number of disadvantages of joint sessions was mentioned. The important factor noted was to run joint sessions in a neutral environment. The primary disadvantages identified were:

- People can get uncomfortable and/or stop sharing,
- Planning problems.

A few respondents gave reasons why joint sessions are not held in their organisation. The main common response was the lack of resources to properly organise such sessions although the lack of support from management for such activities was mentioned a few times also.

The full list of advantages, disadvantages and the reason why joint sessions are not held is shown in Annex 1

3.2.4 Responsibility

The responses, as shown in Table 2, indicate that the responsibility for TRM rests mainly with the Training Unit. Often the responsibility is shared with other units.

Unit Manager	HR/HP/HF Unit	Training Unit	Safety Unit	Other
5	6	12	1	3

Table 2 Responsibility to ensure that TRM is performed

In three organisations it was indicated that responsibility is shared with one of the following:

- Aviation Safety Directorate,
- Safety Officers within Units,
- Air Navigations Services department/Licencing, Operations Programming and Planning department.

The 2017 responses to the question about responsibility contrast sharply with those of the previous surveys. In the past two surveys, the responses indicated

that it was the Unit Managers who were responsible for TRM. The following table presents a comparison between the replies received in the three surveys.

	Unit Manager	HR/HP/HF unit	Training Unit	Safety Unit	Senior Management	Other
2017	5	6	12	1		3
2014	7	5	4	1	2	
2011	8	4	2	1	1	

Table 3 Comparison between 2011, 2014 and 2011 responses re responsibility for TRM

The following was noted from the comparison of replies:

- A diminishing trend where responsibility for TRM laid with the Unit Manager;

- An increasing trend of HR/HP/HF unit and/or Training Unit having the responsibility for organising TRM;

- None of the 2017 respondents indicated that senior management is responsible for TRM;

- Three other units/entities sharing responsibility for TRM.

The following figure highlights these trends.
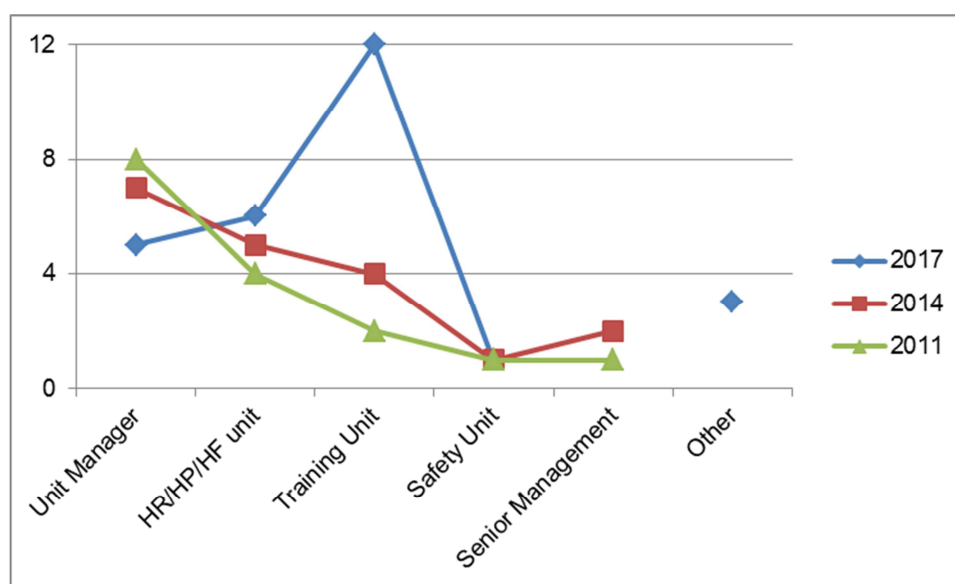
Figure 4 Trends re responsibility for TRM

In the past TRM was considered as a good practice and perhaps it was organised more at unit level. This happened particularly during the early implementation phase where TRM was 'experimented' in only a few units. Once the TRM programme matured the responsibility would be transferred to the training unit.

The transfer of responsibility from unit management to the training unit could be also due to the inclusion of TRM as an acceptable means of compliance (AMC) to HF training during unit and continuation training of ATCOs. When TRM was declared an AMC to EU 2015/340, this changed its status to a "soft" law and

perhaps the service providers felt a need to centralise the programme to harmonise/standardise it, as it became part of the ATCO training certification requirements. From personal knowledge of the situation in the providers, the TRM team are aware that the transfer of responsibility to the Training Unit happened in early during 2017 in at least three organisations. This change seems to indicate that the transfer of responsibility was due to the effect of the regulation (EU 2015/340).

From the replies, as mentioned earlier, it was noted that the responsibility is in many cases shared between various units of the organisation. This sharing of responsibility can be due to a number of factors, predominantly due to different units being responsible:

- for ATCO and ATSEP/AIS/AIM TRM,

- when TRM is conducted during unit training or continuation training.

Other changes noted when comparing the results of the present survey with those of past ones are the absence of the mention of senior management and the inclusion of three other units/departments of the service provision organisation. Again, maturity could be an explanation because once the TRM programme is ingrained in the organisation there is less need for senior management to be involved. The inclusion could also be due to maturity and/or due to the effect of regulation.

3.3 TRM Programme - Introduction

3.3.1 Pre-implementation Briefings

The survey indicated that many service providers did pre-implementation briefings to introduce the TRM programme to various levels of the organisation. The following figure summarises the responses to the question regarding the briefings.
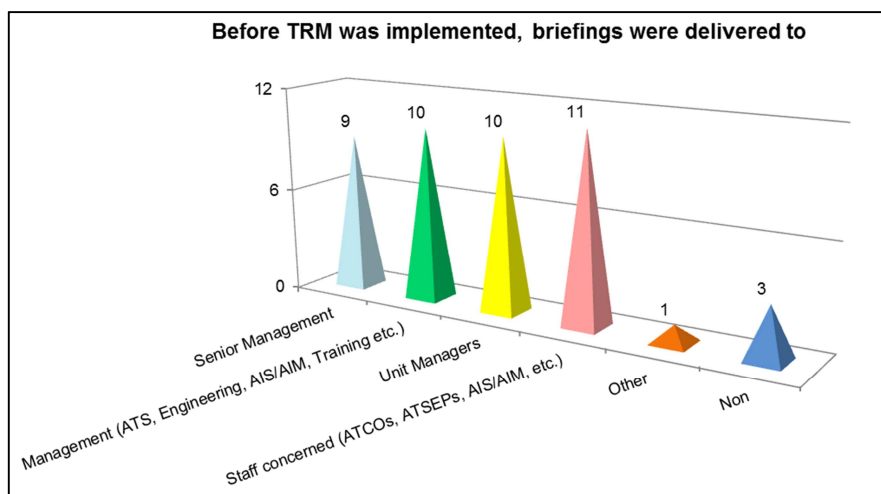

Figure 5 Pre-implementation Briefings

It was noted that different service providers had different approaches to whom to brief. Some did these briefings to various levels while others addressed only one particular level. When only one individual level was addressed, the most common

levels addressed were either the Senior Management or Staff. In a number of organisations where only the staff was briefed, often the briefing was delivered only to a selected number of persons. This was interpreted as being due to the size of the organisation and the large number of staff concerned. The personnel briefed were plausibly expected to further disseminate/share the information with their colleagues.

One ANSP also included in their briefings the national regulatory authority and the national aircraft accident investigation body.

3.3.2 Types of Briefings

Various methods, as shown below, were used to deliver the pre-implementation briefings.

The briefings were

Category	Value
Other	2
Electronic Bulletins	3
Printed Brochures	4
PowerPoint Presentations	11
Verbal	13
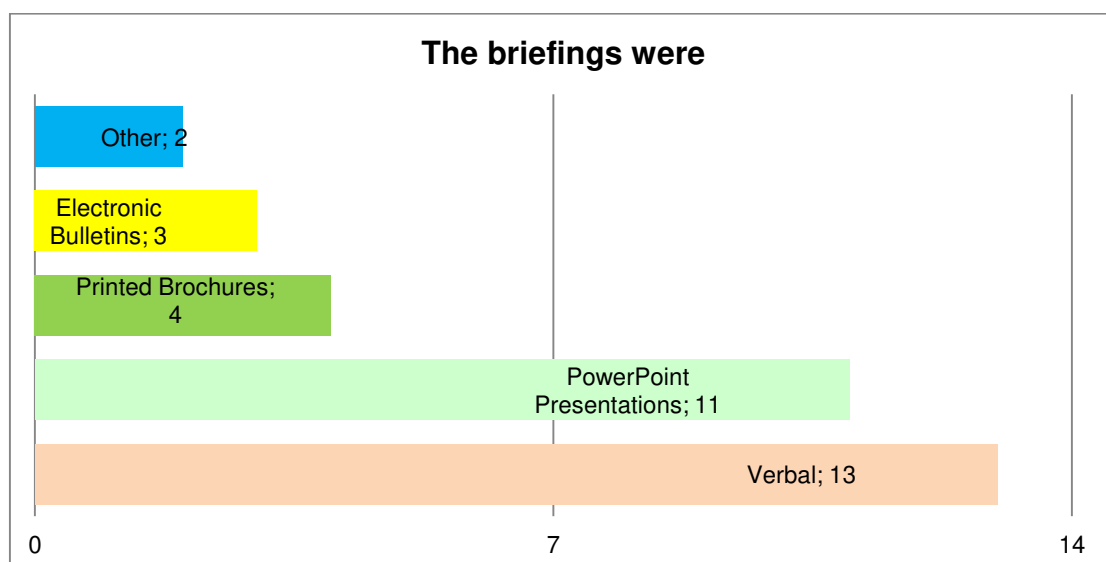
Figure 6 Methods of Pre-implementation Briefings

It is quite apparent that the preferred way of delivering the pre-implementation briefings was verbal with PowerPoint being a very close second. Two service providers used a different approach:

- one sent selected personnel (staff and managers) to TRM awareness courses,

- the other used official letters from LSSIP manager of HUM domain to general director.

One respondent replied that their organisation had also used mails and notifications as part of their briefings.

The replies showed that frequently the briefings were adapted to the type of audience addressed.

3.4 TRM Programme - Sessions

3.4.1 Topics for the sessions/campaigns

The sources for topics to be discussed during the TRM sessions or addressed by specific TRM campaigns were varied and these are shown in the figure below.

Figure 7 Sources for topics for TRM sessions/campaigns

The results to this query did not present any surprises because it was expected that identified causal/contributory/contextual factors from internal reports (investigation reports, safety survey reports, safety assessment reports) will be the main source of topics. It was also natural to expect that EUROCONTROL material, safety reports from other high-risk industries and regulatory requirements would drive the TRM programme. Additionally some providers have indicated that they also use information from:

- Emerging issues

- Training needs, detected in ops room through observation over the shoulders techniques, interviews and focus group, and during training sessions,

- Input from Unit/training manager of the specific unit, based on his daily impressions and identified potential issues,

- Changes (technology, team dynamics, adaptation to change, etc.)

- Internal Requirements such as:

    - Leadership and Managerial Skills,

    - Application of Leadership,

    - Teamwork Skills,

    - ATCO Assessor reports,

    - Happiness and Resilience campaigns.

The respondents indicated that when using the EUROCONTROL prototype material, the most common module is the one that addresses Teamwork. The table below shows how often the respondents have included the EUROCONTROL prototype modules.

Teamwork	Team-roles	Communication	Situational Awareness	Decision making	Stress
12	11	11	11	9	9

Table 4 EUROCONTROL prototype modules delivered

Some of the respondents replied that they used the prototype modules only partially. One respondent indicated that the stress module was delivered by a psychologist.

Many providers have delivered their own modules which dealt with a wide variety of topics as shown in the following list:

- Shorter version of the EUROCONTROL prototype material,

- Local issues,

- The human, Error management (Human errors),

- Drift into failure/bending the rules,

- Aging (getting older as an ATCO),

- Automation, Impact of New Automation, New Technology,

- Change of working style between planner and executive controller after switch to new system,

- Fatigue, Conflict Management, Leadership,

- Safety, Attitude and Communication,

- Transactional analysis, stress, communication, attitudes, behaviours, conflicts, CRM-TRM, feedback,

- Resilience, Supervisory Specifics, Adaptation to change, Workload dynamics.

The development of own modules is in line with the EUROCONTROL TRM philosophy; ANSPs are actually encouraged to do so. The EUROCONTROL prototype material, which is generic in nature, is meant to be used in the early days of TRM implementation thus providing a solid but neutral base from where the organisations can start to address HF problems. Once the TRM programme is well established and the participants have sufficient trust in the programme, then the ANSP can develop its own modules to address organisation-specific, or even unit-specific, problems and issues.

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3.4.2 Location for the sessions

The responses indicated that generally TRM sessions are held at the unit with outside locations coming a close second. Figure 8 shows the responses.
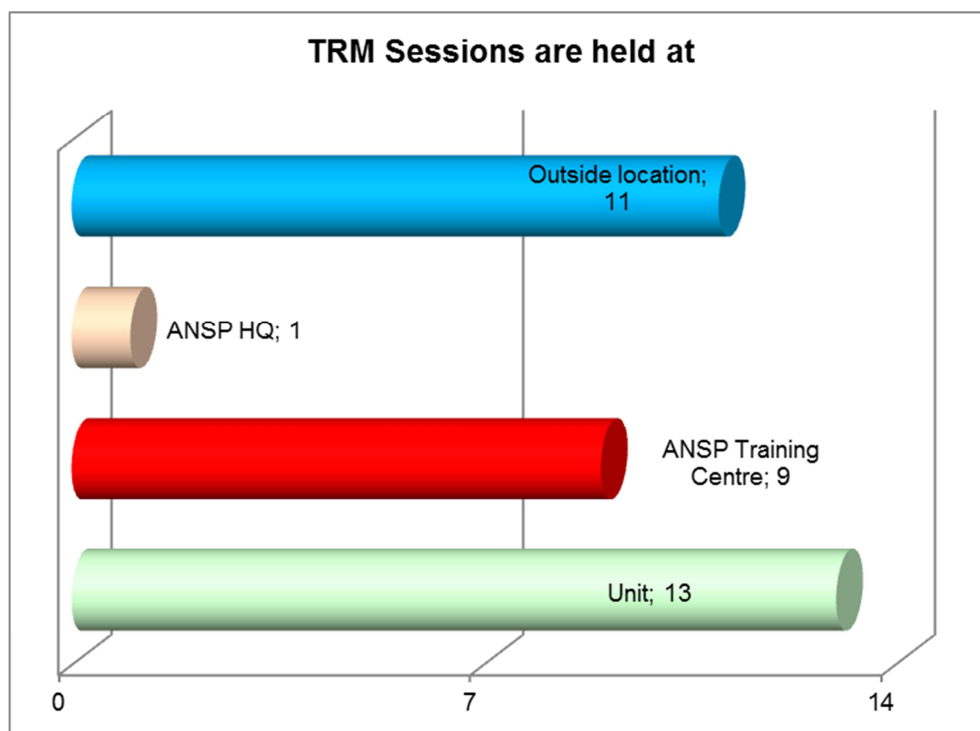
Figure 8 Location for TRM sessions

In some organisations the location varies depending on the type of session being conducted with TRM in unit training being conducted at the unit or training centre while TRM in continuation training done at an outside location. One respondent indicated that outside location is also used for joint sessions. Another respondent replied that only ATCO TRM sessions are held at outside locations. The replies showed that most of these outside locations were hotels.

3.4.3 Learning activities during TRM sessions

Various types of learning activities, often in combination with each other are carried out during TRM sessions.. The figure overleaf shows the distribution and types of activities done at TRM sessions.
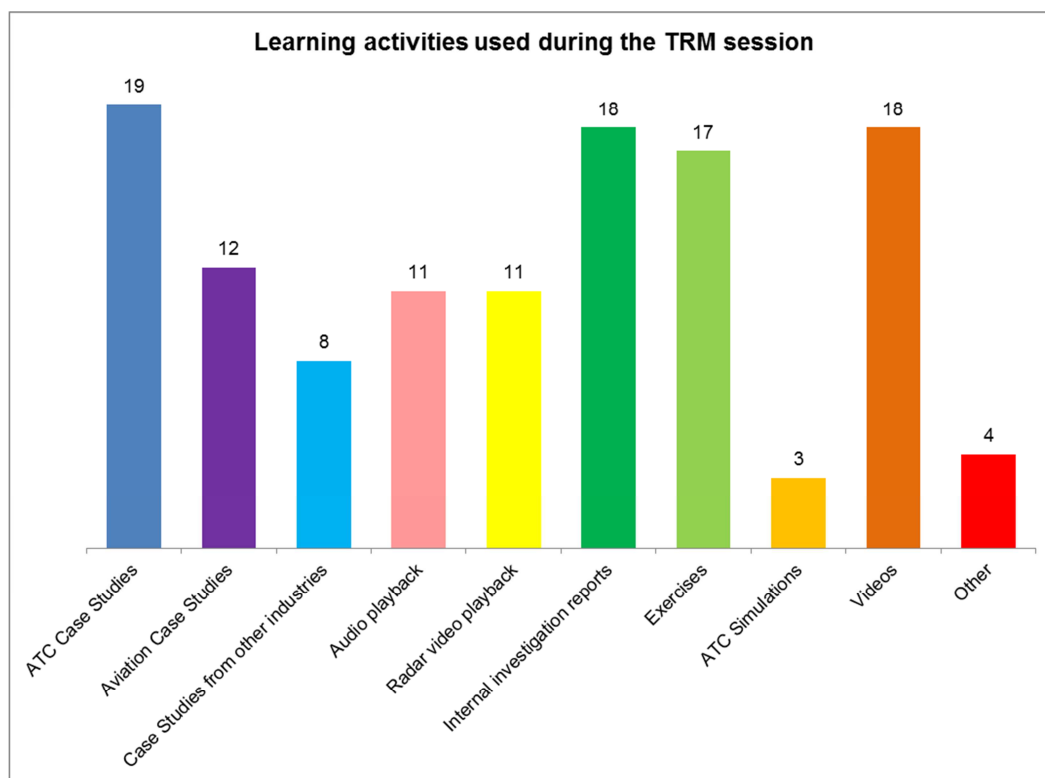
Figure 9 Learning activities during TRM sessions

ATC case studies are the most popular learning tool, followed closely by videos and issues identified in internal investigation reports. On the other hand, at the bottom of the scale was the use of ATC simulators in TRM sessions. The low use of ATC simulators supports the view expressed by various TRM practitioners who state that it is very difficult to do TRM in combination with simulations. Some providers indicated that they use also:

- Room escape exercise,
- Psychological techniques of self-development,
- Case studies in method of psychodrama,
- Lecture about psychological processes in human performance,
- Games.

3.4.4 Duration of TRM sessions

The results from the survey indicate that TRM sessions typically last one day. Figure 10 shows the distribution of the replies received. Some service providers replied that the duration varies depending whether the sessions are being held during unit or continuation training. Also the duration depends on the audience being addressed.

Duration of TRM sessions

More; 3
3 days; 6
2 days; 7
1.5 day; 1
1 day; 11
0.5 day; 3
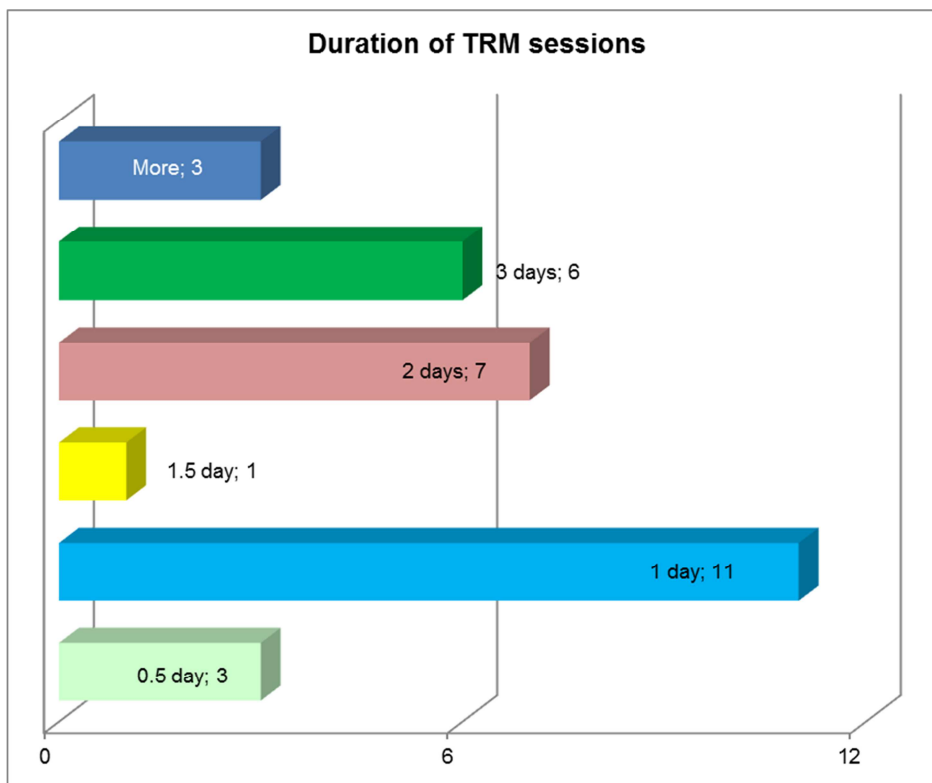
Figure 10 Duration of TRM sessions

One provider has indicated that it is impossible to determine the duration of TRM-sessions as these are integrated into other training activities. There are very few instances when a session is delivered under a heading of 'TRM'.

The following reasons were given when the respondents had indicated that the sessions are more than three days long:

- In each HF session (initial training, unit training and continuous training) ATCOs deal with TRM theme,

- Integrated with other training activities,

- 5 days during the initial training.

3.4.5 Number of participants in TRM sessions

The responses to the survey indicated that the usual number of participants in a TRM session is between 10 and 12. The responses are shown in figure 11.

The free text comments indicated that number of participants depends on ATCO availability or unit in which session was held. There was even a comment which said that in small units where TRM basic contents were 'taught' there were even single person sessions. Other comments made were:

- Some sessions with managers, pilots, military ATCOs were organised with a wide audience.

- Number of participants varied from 6 to 20 on the basis of unit size, local constraints.

- Most of units have organised sessions where the participants' number was ranging 8-12.
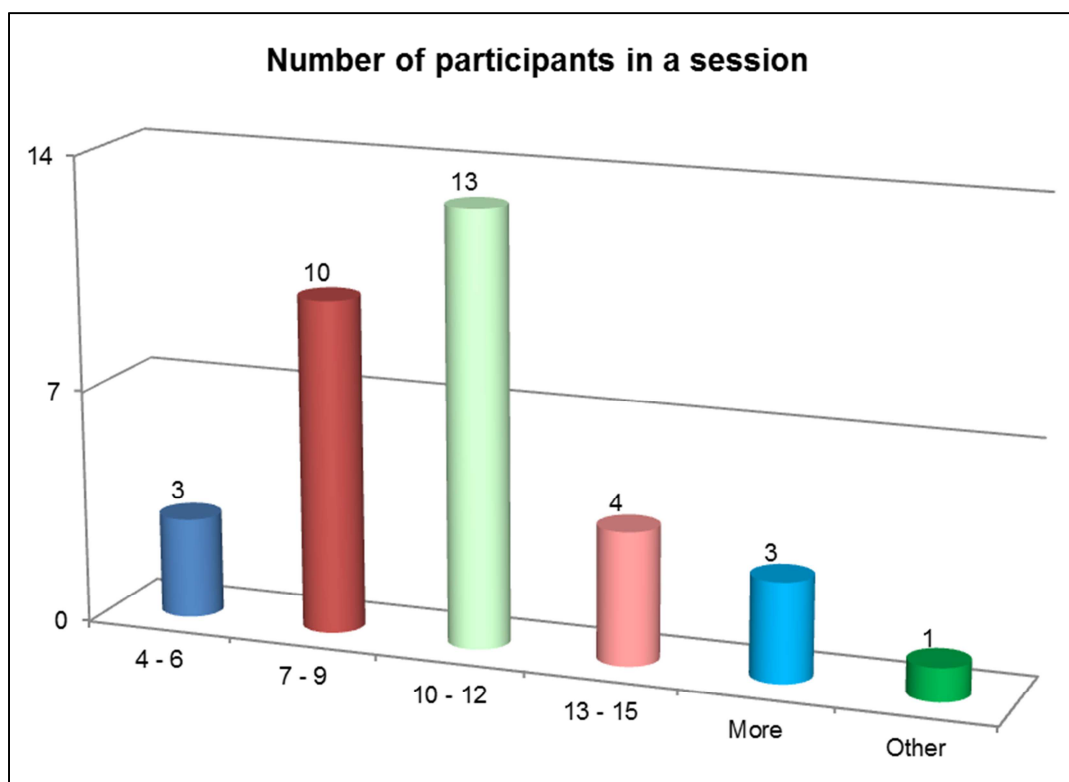
Figure 11 Number of participants in a TRM sessions

3.4.6 Number of facilitators in a TRM session

From the following table it is quite apparaent that normally there are two facilitators in a TRM session.

Number of facilitators at each TRM session	1	2	3	More
Responses	5	19	4	2
Free text comments		2 if combined session	Occasionally an additional facilitator participated on a voluntary basis	A specific event organised for pilots and ATCO had 4 facilitators: 2 pilots and 2 ATCOs
		2 for simulation	1 additional trainer for stress management techniques	From 1 to 4 on the basis of how many people attend each session

Table 5 Number of facilitators in a TRM session

3.4.7 Number of days of preparation

Facilitators have about two days to prepare for TRM sessions. Table 6 shows the providers' responses.

Number of days	0.5 day	1 day	1.5 day	2 days	2.5 days	3 days	More
Responses	3	5	1	7	1	5	5

Table 6 Number of days of preparation

The respondents who indicated that faciltators use more than 3 days for preparation gave the following reasons or number (of days):

- At least 5 days every year,
- 20 days,
- If new material is to be used,
- About 5 - 7 days for the TRM coordinator to build the campaign.

3.5 Feedback and Reporting

3.5.1 Feedback

Three types of means of feedback were identified with written feedback in a template being most common. Written feedback was also provided in open text manner. Often a combination of methods was used for feedback.
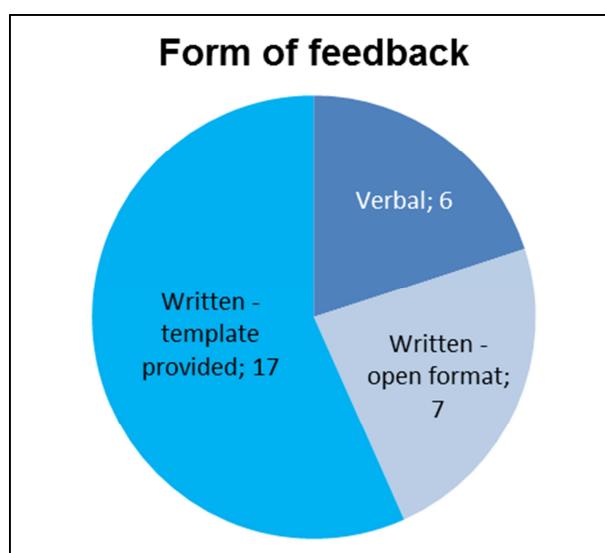
Figure 12 Form of feedback

The following table shows to whom the feedback is provided. Most of the time, the feedback is given to the facilitators.

Feedback provided to	Facilitators	Management	Facilitators + Management	Other
Responses	14	3	4	6

Table 7 Feedback provided

From the free text comments it was possible to compile the following list of which other entities received feedback about the TRM sessions:

- Training organisation,
- Chief Training Instructor,
- Head of Training,
- TRM Coordinator,
- Directorate of Safety,
- Human Factor specialists,
- Academy/Human Performance Unit.

3.5.2 Integration of Feedback

The feedback received is integrated in various ways in the TRM sessions/programme as shown in the following figure.

Figure 13 Integration of Feedback

From figure 13 it is quite apparent that the feedback leads primarily to new TRM activities and then to new topics addressed during the TRM sessions/campaigns.
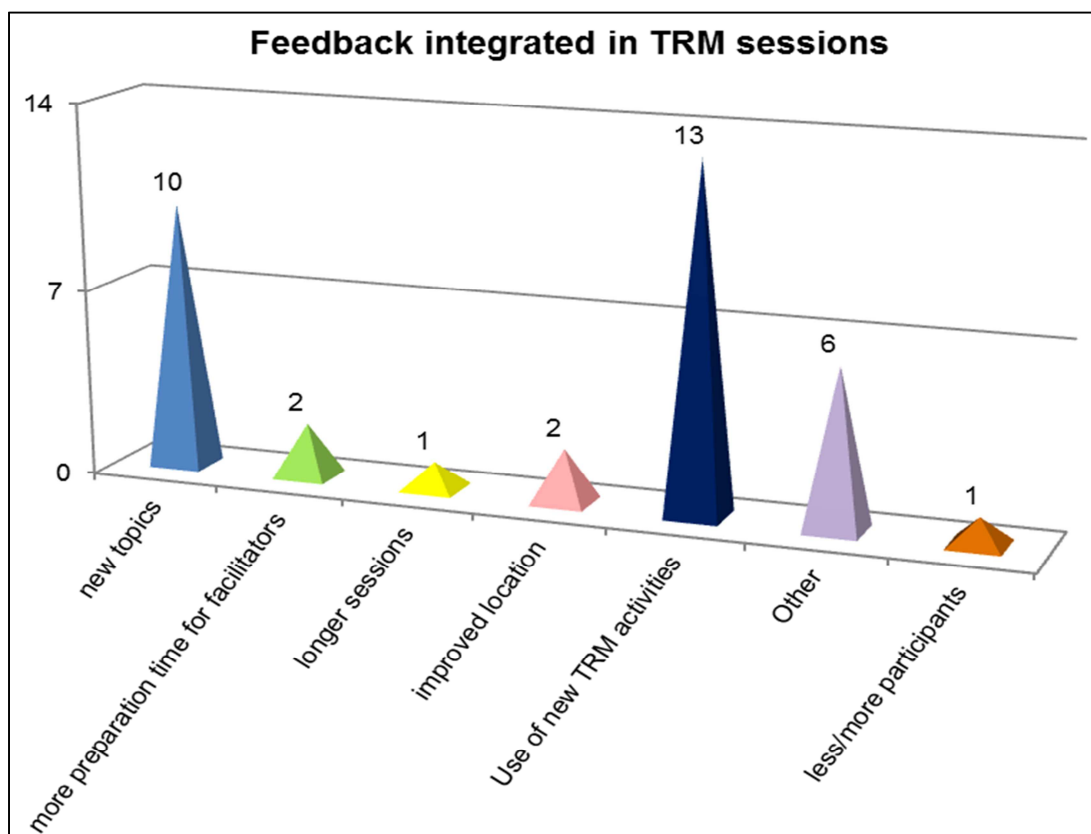
The following is a list of what type of other activities that were integrated in the programme:

- Non-controllers participating in workshops,

- Reducing the time spent discussing the theory and spending more time on professional side of each topic,

- Introducing another Cross Training Programme (ATCOs-ATCOs and ATCOs-Administration) to help everybody to understand their work,

- Modification of the case studies, change of the material use, feedback to the rest of the unit, decision for future cases.

3.5.3 Report

A report about the TRM sessions or programme is usually submitted to management, although there were three respondents who replied that such a report is not done. The following table shows the distribution of the responses.

A report to management is submitted	No	After every session	After each campaign	Periodically
Responses	3	3	10	9

Table 8 Report to management

The responses indicated that often reports are submitted annually. Again there was a combination of answers and below are two examples from the free-text comments:

- No for ATSEPS but after every campaign (every 3 years) for ATCOs;

- After each campaign for students (in basic training), otherwise annually.

The TRM report contains a number of points although most of the time it addresses the main points from the participants' feedback. Figure 14 shows the responses and the points addressed in the TRM report.
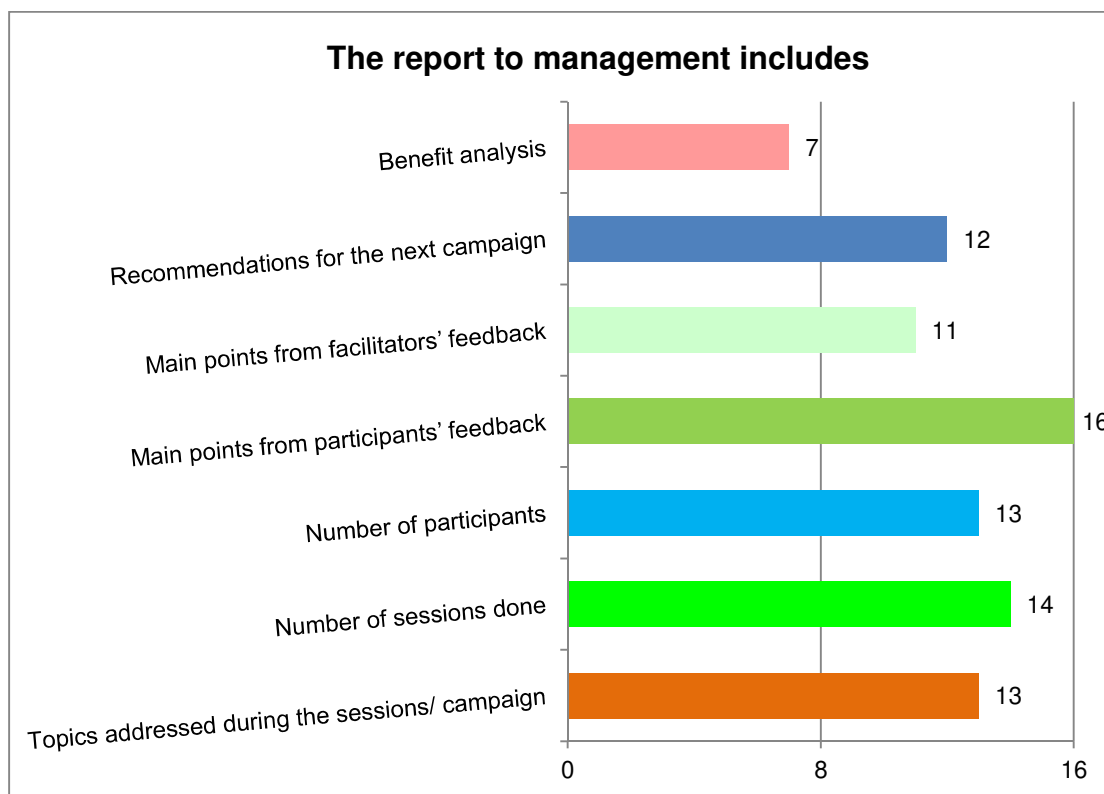
The report to management includes

Figure 14 Main points of TRM report

Benefit analysis was the point the least addressed in the TRM report. This reply was consistent with past surveys, thus it is surprising to note that ANSPs still do not support their TRM implementation with a benefit analysis.

With the evolving emphasis on performance based management, a survey of the benefits resulting from TRM could be a way forward to secure the much needed resources to improve and enhance the TRM programme.

Although one could argue that there is no legal mandate for motivated staff, everyday life easily shows the negative effects of unmotivated personnel. Empirical evidence indicates that TRM assists in staff motivation. This statement needs to be backed up by scientific study which may provide conclusive proof of the benefits of implementing TRM, safety being the priority but also in terms of cost-effectiveness.

3.5.4 Expectations and Comments

The survey respondents were also asked in the questionnaire to provide any expectations, comments or suggestions that they had for the EUROCONTROL TRM Team. Below are the main points from the comments and the expectations.

- Comments
  - Thank you for the questionnaire. It's a good opportunity to share experiences, perspectives and idea on Human Performance theme.
  - Over the years, TRM has increased in acceptance and is now seen as "normal" in the ops, although not always fully supported or understood.

- We are now delivering and planning both the systems integrated approach – controllers, assistants and pilots (as well as regulators, national bureau for accident investigation etc.).

- The main goal is to learn more about work-as-done and to create actionable goals for personnel.

- Expectations

  - Competency scheme for TRM Facilitators would be appreciated.

  - Maybe it would be worth creating a common platform on which facilitators could exchange materials used during the session - films, case studies, exercises.

  - More activities in field of sharing TRM expertise between ANPS.

  - Cooperation in the subject TRM-CRM/Joint sessions with CRM personnel.

  - Support in defining how to couple TRM and OJTI activities.

  - Improvement and clarification of HF facilitator roles or similar figure/training of OJTI HF expert.

  - Further support on fostering the recurrent periodic implementation of TRM.

  - Fostering the usage of facilitation techniques, wherever possible.

  - Identify the method to measure the increase and improvement of operational performance (in terms of safety and efficiency) as results of HF training and the application of all HF principles.

  - Whenever practicable, the compliance-based approach concerning TRM training may be substituted by a competency-based approach such as evidence-based training. In this context TRM/HF training should be characterised by a performance orientation, with emphasis on standards of performance and their measurement.

  - Ideas on new topics.

It is worth noting that the service providers' expectations regarding the future EUROCONTROL support/activities are similar to what has been expressed in the past. The table shows the main points from the recommendations received in 2014 Survey.

Develop a facilitator refresher course.
We would appreciate more activities in field of sharing of TRM expertise between ANSPs and cases of support by the Management, as well be informed about the actions initiated by the organisations leading in the aviation Safety and HF developments/initiatives.
The TRM structure should align closer to the NOTECHS or CRM soft skills training that have proven effective for the aircraft operators.

Table 9 Main points from the 2014 Survey recommendations

4. Conclusions

1. The responses indicate that around 70% of the ANSPs surveyed have implemented TRM. The EUROCONTROL TRM Team, are aware that at least six other providers, which have not replied to the survey, have implemented TRM.

2. It is expected that around 44% of the ANSPs who have not yet implemented TRM are planning to do so in the near future. As in the case of the positive replies, the TRM team are aware of at least two other providers (which had not replied to the survey) which are actually working on TRM implementation.

3. TRM is mostly applied to ATCOs, with some ANSPs extending the programme to cover also ATSEPs, AIM/AIS personnel, FISOs and FMP staff.

4. A number of ANSPs hold joint sessions where the other professions participating hale from management, adjacent units, and/or pilots.

5. The Training Unit is often responsible for the organisation of the TRM programme and sessions. In some cases, this responsibility is shared with other units, particularly when the TRM programme addresses different ATM professionals.

6. In many cases a pre-implementation briefing, mainly either verbal or via PowerPoint presentations, was delivered to staff and management.

7. The topics for the TRM sessions are mostly taken from internal reports although a substantial number of ANSPs use EUROCONTROL TRM Prototype Material.

8. TRM sessions are often held at the unit but outside locations (mostly hotels) are a popular alternative

9. TRM is delivered using various learning tools, the most common being ATC case studies, internal investigation reports and videos.

10. TRM sessions typically last one day, have 10-12 participants with two facilitators alternating between leading the facilitation and supporting their fellow-facilitator. Facilitators usually have about two days of preparation prior to the session.

11. Feedback about the sessions/campaign is collected from the participants, mostly in written form using templates ("Fill-in-the-blank" forms). These documents are usually given to the facilitators, who use the information gathered for various purposes, the most common being to integrate new activities and topics in the sessions. In most cases, participants indicated that they found TRM as effective with some ANSPs reporting that TRM is seen as highly effective.

12. The participants' feedback together with the facilitators' feedback is used to draw up reports either after each campaign or periodically, typically annually.

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Annex 1 Advantages and Disadvantages of Joint TRM Sessions

The survey respondents, in the free-text comments, gave their views on the advantages and disadvantages of joint TRM sessions. A few also gave the reasons why their organisation does not hold joint sessions. These comments have been collated and reproduced in the following paragraphs.

A1.1   Advantages

- Opportunity to meet colleagues from different units, connecting a face to a name.

- Sharing of experiences.

- Address and resolve misunderstandings quickly and achieve understanding for things that bother people during work.

- Easier team work, strengthens the team and working towards a common goal.

- Better understanding about the work, workload.

- Improved communication.

- Increasing tolerance.

- More cooperation, which resulted in lower workload and less frustration.

- Different perspectives from different workgroups add to the dynamic in the group.

- Incidents discussed during the sessions help to give a much better understanding of the actions taken at the moment of the incident.

- The advantages are better awareness of the overall organisation as a coherent system, awareness of other areas activities and improvement of the coordination mechanisms.

- Improve the efficiency of the Inside Human Performance Improvement programme/Non-Technical Skills/TRM programme.

- A better understanding that the problems normally lay within the areas interfaces, not in the areas themselves.

- Better coordination, better relationships and further demand for TRM sessions and/or use of facilitation techniques to manage specific technical/ops issues.

- Better knowledge of the others' operational environment.

- Clarification of issues between ATCOs and management, reduce the gap between ops personnel and management, specifically concerning expectations.

- Management can see all points of ATCOs' opinions, develop common strategies of teamwork and interaction and finally ATCOs can understand the reasons for management's requirements.

A1.2   Disadvantages

- Joint session with management:

    - participants might be very careful of what they are going to say;

    - managers might tend to express their point of view like it is the only possible and right opinion that could exist,

    - if the group of non-management is very strong (self-confidence-wise), management might get pushed into the corner and has to justify his/her decisions for the whole duration of the session.

- Joint session with other units: the material for the session has to be carefully selected as one part might not be feeling addressed and becomes bored by the topic

- Difficult and very particular questions - People can get uncomfortable and/or stop sharing.

- Planning problems - mixing the whole company randomly does not provide much added value and results is poorer quality

- Higher demands on the facilitators.

- Need to run them in a neutral environment and with facilitators from both professions.

A1.3   Reasons why joint sessions are not held

- Very recent TRM implementation.

- Lack of resources and programming constraints.

- Need to establish TRM in the units before going for joint sessions.

- Poor support from top management.

- Difficulty to spend time on it for managers.

- Organisational issues (plan for a meeting or a TRM session affecting rostering, agendas matching… etc.).

- Time constraints.

- The ATCO population is larger than other (professional) populations in the organisation so it is difficult to properly roster the sessions.

- ATSEPs course was implemented later than ATCOs, therefore waiting when ATSEPs cover basic course.

- There is still some reluctance by some people, who do not understand yet the importance of TRM, to attend and their resistance to participate, which increases the difficulty for facilitators.

ABBREVIATIONS

AIM	Aeronautical Information Management
AIS	Aeronautical Information Service
AMC	Acceptable Means of Compliance
ANSP	Air Navigation Service Provider
ATCO	Air Traffic Controller
ATM	Air Traffic Management
ATS	Air Traffic Services
ATSEP	Air Traffic Safety Electronics Personnel
CRM	Crew Resource Management
FISO	Flight Information Service Officer
FMP	Flight Management Position
HF	Human Factors
HP	Human Performance
HQ	Headquarters
HR	Human Resources
MUAC	Maastricht Upper Area Control Centre
OJTI	On-the-Job Training Instructor
SHP SG	(EUROCONTROL) Safety Human Performance Sub-Group
TRM	Team Resource Management

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