Annex B Capacity

In addition to the summary list of the major measures planned by the ANSPs contributing to reach the capacity target (chapter 2.1(3)), the following more detailed list provides all measures, projects and significant events planned per year, including the effects, the measures do have on capacity increase.

ANSP	ACC	Capacity measures / Projects / Significant events		
		2012	2013	2014
Belgocontrol	ACC Brussels (EBBU)	Optimum use of sector configurations		
		Improved ATFCM Procedures		
		Improved route network On-going recruitment of controllers Improved FUA level 2		
		EBCI project	FABEC West project	
		Olympic Games London		
	Capacity Increase p.a.	+2%	+3%	+2%
DFS Deutsche Flugsicherung GmbH (DFS)	ACC Bremen (EDWW)	Airspace/Procedures BBI 31/05/2012, New BBI Airport 3/06/2012	Implementation of PAM BBI Sep. 2013	FABEC IP Central West/CBA Land (2014 – 2015)
		New division level (FL315) between EDUU and EDWW (End of 2012)		Development of new airspace structure ACC Bremen
		Opening of BBI, Closure of EDDT, ILA BBI		ILA BBI
	Capacity Increase p.a.		+2%[13]	
	UAC KARLSRUHE (EDUU)	New division level (FL315) between EDDU and EDDW (End of 2012)		
		Shift of upper airspace Munich to Karlsruhe (VoLMuK) Nov.-Feb. 2013		
		Positive effects of new ATS system (P1/VAFORIT)		
		Mitigation of Staffing Problems		
		Olympic Games London	3rd RWY Munich airport	
	Capacity Increase p.a.	+7%	+7% (+12%[13])	+9%
	C MUN ICH	Shift of upper airspace Munich to Karlsruhe (VoLMuK) Nov.-Feb. 2013	Split of sectors ALB in Low und High, INN in East and West,	Split of sector SAS in High and Upper

		Implementation of PSS Munich, sector families East & APP 04.-17/04/2011 Implementation of „SATELLITE“ Position APP MUC	Implementation of High sectors above RDG/EGG	Implementation of PAM MUC (2014-2015)
		Training for relocation of upper airspace control	3rd RWY Munich airport	
	Capacity Increase p.a.		-26%[13]	+2%
	ACC LANGEN (EDGG)		Upgrade of P1/ATCAS system (PSS) EBG02/08	Upgrade of P1/ATCAS system (PSS) EBG03/04 &05/10
		Increased staff levels		
	Capacity Increase p.a.		+4%	+3%
Direction des services de la navigation aérienne (DSNA)	ACC Bordeaux (LFBB)	Optimise Airspace Management and ATFCM Procedures Optimisation of sector configuration management		
			ESSO Project	
			Change of DFL between upper and lower airspace	
	Capacity Increase p.a.	+4%	+3%	+1%
	ACC Brest (LFRR)	Optimise Airspace Management and ATFCM Procedures Optimisation of sector configuration management		
			TSA 68 (more dynamic ASM)	Manche + evolution project
		Reorganisation of lower airspace and delegation of ATS to APP units below FL145 (for relevant airspace)	Reorganisation airspace below FL145 (2nd & final step)	Change DFL UIR/FIR
		Olympic Games London		
	Capacity Increase p.a.	+5%	+4%	+2%
	Marseille (LFMM	Optimise Airspace Management and ATFCM Procedures Optimisation of sector configuration management		
		Reorganisation of interface with LECB (LUMAS)		

[13] Due to the relocation of upper airspace control there will be a capacity reduction in Munich of 26%. This correlates with a capacity increase of 15% in Karlsruhe.
Due to the new division level in Bremen Karlsruhe indicates a capacity decrease of 3% in Karlsruhe and a capacity increase of 2% in Bremen.

		Reorganisation of lower airspace and delegation of ATS to APP units below FL145		
		Full Provence project		
	Capacity Increase p.a.	+5%	+6%	+3%
	ACC Paris (LFFF)	Optimise Airspace Management and ATFCM Procedures Optimisation of sector configuration management		
			Re-organisation of lower airspace and delegation of ATS to APP units below FL145 (for relevant airspace)	Manche + evolution project
			IRP 2013 preparation (re-sectorisation UJ/AR/SU)	
		FABEC route network improvement (tbd)	IRP 2013 (transfer) SWAP interface	IRP 2013 follow-up: Paris SE arrivals optimisation
		DVR I step 1 (delegation ATC beside TP)	DVR I step 2 (TP) Manche update (tbc)	
			PMS-TE NW (TP)	PMS-TE NW refinement (tbd)
			PMS-TE NE [IP Lux] (TB/TE)	PMS-TE NE refinement (tbd) [IP Lux]
		Grenelle - Change of transition altitude		PMS-TE SW
		Olympic Games London		
	Capacity Increase p.a.	+3%	+4%	+3%
	ACC Reims (LFEE)	Optimise Airspace Management and ATFCM Procedures Optimisation of sector configuration management		
		Re-sectorisation (additional layer over KH and new DFL between KR and HR)	Swap UN852/UN853 1st step (FABEC)	Swap UN852/UN853 2nd step (FABEC)
		Re-sectorisation UY (tbd)	Re-organisation of lower airspace: ELLX interface	
			DOVER II (FABEC)	
			IRP 2013 (transfer) SWAP interface	
		DVR I step 1 (FABEC)	DVR I step 2	
		Olympic Games London		
	Capacity Increase p.a.	+2%	+3%	+2%

Luchtverkeers-leiding Nederland (LVNL)	ACC Amsterdam (EHAA)	Optimising the sector opening schemes		
		Optimise ATFCM procedures		
		Increased cooperation with military ANSP		
		Olympic Games London		
	Capacity Increase p.a.	+2%	+2%	+2%
Maastricht UAC	MUAC (EDYY)	Free Route Airspace MUAC (FRAM)	Free Route Airspace MUAC (FRAM)	MARS2
		NTCD	NTCD	LUX airspace re-design
		LARA	LARA	TMS
			TMS	
	Capacity Increase p.a.	+2,5%	+3%	+5%
Skyguide	ACC Geneva (LSAG)	Increased staff levels		
		EFD	New Stripless HMI (New Lower – Upgrade Upper) FASTI-SYSCO	
			FABEC - ATFCM / ASM	
			Datalink CPDLC	
			Mode S enhanced surveillance	
		Revised sector capacities following CAPAN study	Cross qualification of ATCOs (Upper/Lower)	
	Capacity Increase p.a.	+4%	+3%	+2%
	ACC Zurich (LSAZ)	Continuous recruitment to maintain staff level		
		Revised sector capacities following CAPAN study	Mode S enhanced Surveillance	
		FABEC ATFCM / ASM		
		EFD	Datalink CPDLC	
			Implementation of stripless system FASTI	
	Capacity Increase p.a.	+3%	+6%	+4%

Annex C Safety

PI #1: Effectiveness of Safety Management

Description

The Safety Maturity Survey methodology has been revised in 2010, therefore a set of targets can only be developed after the first baseline survey has been completed and a thorough analysis has taken place. Safety Maturity scores will be monitored for both ANSPs and ATM Regulators within FABEC Member-States.

Indicators shall reflect the scores obtained by any of the 7 ANSPs and the 6 states and identify maturity scores in the different study areas. ATM Regulators scores are subject to the revision of the methodology in 2011 and therefore will not be assessed before the implementation of the new questionnaires and results analysis.

For performance monitoring process, at the end of RP1, the values of this PI shall be linked with PI#2 and PI#3 to provide evidence of improvement of the whole safety performance associated with improvement in Safety Management Systems.

Data display for ANSPs

Aggregated results from the last survey shall be displayed in spider diagrams including minimum – average – maximum scores as derived from the methodology for each study areas.

This indicator consists in the annual measurement of the following studies areas and their distinct sub-objectives:

SA1 : Development of a positive and proactive safety culture

SA2 : Organizational and individual safety responsibilities

SA3 : Timely compliance with international obligations

SA4 : Safety standards and procedures

SA5 : Competency

SA6 : Risk management

SA7 : Safety interfaces

SA8 : Safety reporting, investigation and improvement

SA9 : Safety performance monitoring

For each query of these domains, it exits 5 levels of achievement (identified in the survey from A to E):

1) Initiating A
2) Planning/initial implementation B
3) Implementing C
4) Managing & measuring D
5) Continuous improvement E

Baseline and elaboration of the objectives

ANSPs Objective for RP1

Based on the FABEC ATM Safety Maturity Survey scores from the 7 ANSPs, a baseline shall be defined during 2012, and an objective shall be set for the 2013-2014 period, on the level to be achieved at the end of RP1.

Defining the baseline

The individual ASNP scores of the situation in 2011 will be used to define the baseline of the aggregated FABEC score [minimum, average and maximum score].

Setting the objective

Financial and Performance Committee and ANSPs will determine study areas for improvement-click(s) based on the minimum score. After agreement with FPC, the AFG/PMG will propose for every improvement click an action plan.

Monitoring

At the end of RP1, Financial and Performance Committee will verify that the action plan(s) have been successfully implemented. Together with the submission of the requested safety data in June every year, the AFG/PMG will provide a progress report to FPC.

States Objective for RP1

Based on the FABEC ATM Safety Maturity Survey scores from the 6 states, a baseline shall be defined during 2012, and an objective shall be set for the 2013-2014 period, on the level to be achieved at the end of RP1.

Defining the baseline

The individual states' scores of the situation in 2011 will be used to define the baseline of the aggregated FABEC score [minimum, average and maximum score].

Setting the objective

Financial and Performance Committee and states will determine study areas for improvement-click(s) based on the minimum score. After agreement with FPC, the NSAC will propose for every improvement click an action plan.

Monitoring

At the end of RP1 the Financial and Performance Committee will verify that the action plan(s) have been successfully implemented. Together with the submission of the requested safety data in June every year, the NSAC will provide a progress report to FPC.

Data collection

Aggregation of the individual results shall be done at FABEC level in June each year together with the release of the results by ANSPs and states.

For ANSPs the Financial & Performance Committee will request the AFG/PMG to collect and provide the required data.

For states the Financial & Performance Committee will request the NSAC to collect and provide the required data[14].

PI #2: Application of the severity classification of the Risk Analysis Tool

Description

Risk is a factor that exists in every human endeavor, including operations involving aircraft whether in the air or on the ground. Each movement of aircraft involves some level of risk because the system, being human-based, is fallible. Identifying and mitigating risk is critical to increasing the level of safety.

The Risk Analysis Tool (RAT) provides a method for consistent and coherent identification of risk elements. It also allows users to effectively prioritize actions designed to reduce the effect of those elements. The RAT tool has evolved over time to be a sophisticated yet simple program for quantifying the level of risk present in any air incident. Requiring only a brief series of program inputs to produce a valid result, the tool expresses the relationship between actions and consequences and provides a quantifiable value to these relationships.

The RAT being in an early process of implementation, the use of the tool shall be encouraged at all level of safety monitoring, including ANSPs, Regulators and NSAs and AAIBs.

In order to collect the required data for performance monitoring this PI has been divided in 3 sub-PIs:

Separation Minima Infringement (SMI)

Runway Incursions (RI)

ATM Specific Technical Events (ATM-STE)

The SMI Sub-Indicator shall consist of:

- The total number of SMI reported by each FABEC ANSPs. This indicator shall include SMI between IFR/VFR-SVFR and OAT traffic for which an ATS separation provision was required.
- The total number of SMI reported involving an ATM ground contribution.
- For data relation purposes, the total number of IFR Flight handled and flight movements during the same monitoring period shall be collected, these figures will be those provided by EUROCONTROL.

The RI Sub-Indicator shall consist of:

- The total number of RI reported by each FABEC ANSPs. This indicator shall include all RI as described by ICAO involving: aircrafts, vehicles and pedestrians.
- The total number of RI reported involving an ATM ground contribution.
- For data relation purposes, the total number of the concerned airports movements handled during the same monitoring period shall be collected.

[14] It is expected, due to the works of the E3 Task Force, that the States Maturity questionnaire will change substantially, and due to the use of the term “NSA” instead of “Regulator” in the EC 691/2010, issues were raised for the completion of the 2011 questionnaire.

The ATM STE Sub-Indicator shall consist of indicators related to 4 categories of ATM technical services: Communication - Navigation - Surveillance (CNS) and Data Processing & Distribution:

- The total number of failures related to communication systems with a severity classification of AA to C according ESARR-2 classification.
- The total number of failures related to navigation systems with a severity classification of AA to C according ESARR-2 classification.
- The total number of failures related to surveillance systems with a severity classification of AA to C according ESARR-2 classification.
- The total number of failures related to Data processing and data distribution functions systems with a severity classification of AA to C according ESARR-2 classification

Data display

Aggregated results shall be displayed in tables including figures related to the 3 types of occurrences to be monitored with historical data (if available) and separate tables describing the use of the Risk Analysis Tool.

The total number of occurrences shall not be used as a solely mean to measure safety performances; it can even impair the whole process of safety improvement.

Safety Data related to occurrences will be collected and aggregated to monitor trends and identify positive and weak points. The assessment of the ATM ground contribution, as measured by the RAT, correlated with improvements in the 2 other monitored PIs will be used as evidence of safety improvements and safety performance.

The purpose of the FABEC Performance Plan is not to benchmark ANSPs on the compared safety occurrences figures, but to provide evidences that the safety level is maintained or improved.

According to the Regulation EC691/2010, the application of the severity classification of the RAT shall be taken under consideration, as required by ESARR2, this classification applies to the following occurrences:

Separation Minima Infringements

Runway incursion

ATM Specific Technical Events

ANSPs shall specify the types of the above occurrences for which the RAT is currently used or used on trial basis, including any limitations if applicable

NB: FABEC partners made the decision to apply the same severity scheme whatever is the number of commercial air transport movements handled in their Air traffic control centre (UAC, ACC, APP, TWR).

Baseline and elaboration of the objectives

ANSPs Objectives for RP1

To allow the harmonization of the reporting of severity assessment, FABEC ANSPs are committed to implement the RAT[15] (Risk Analysis Tool) before the end of RP1.

[15] Other tools shall be subject to approval by the NSAC to establish compliance with the regulation(s) requirements (esp. with regards to the assessment of the severity classification of occurrences and the ATM ground contribution assessment.

In addition, FABEC ANSPs are requested to perform a Cost Based Analysis and an initial feasibility study for the implementation of automated reporting systems, at least for En-Route traffic. The added value[16] of those automated systems shall be assessed and the objectives of those tools shall be clearly identified and stated in Just Culture policies.

ANSPs and NSAs Objectives for RP1

ANSPs and NSAs shall work on the harmonization of definitions, working processes and historical data prior the end of RP1.

Defining the baseline

Data can only be compared if the assumptions and criteria are the same. This means that definitions shall be harmonized at first and working processes and historical data shall be harmonized accordingly.

The defined baseline is the current level of safety and use of the RAT based on the 2010 situation.

Setting the objectives

FPC and NSAC will verify the implementation of the RAT; the effective monitoring of safety levels and the completion and results of the cost benefits analysis and initial feasibility study on the implementation of automated reporting tools. FPC and NSAC will request additional actions if required.

Monitoring

At the end of RP1, FPC will verify the completion of the requested objectives.

Together with the submission of the requested safety data in June every year the AFG/PMG will provide a progress report tot FPC.

Data collection

Safety data shall be collected on a six-month basis, in June and December.

In June (year N) the monthly data from June to December (year N-1) and in December (year N) the monthly data from January to June (year N)

For ANSPs, FPC will request AFG/PMG to collect and provide the required data.

PI #3: Reporting Just Culture

This PI measurement is still under development but will be monitored and publish following the requirements of the amended Performance Regulation.

The following lines are based on the works of the E3 Task Force document issued on 01/06/2011 “Metrics for Safety Key Performance Indicators for the Performance Scheme” and associated presentations. This document and following updates will serve as the basis for developing an amendment to the Performance Regulation, which needs to be adopted by the Commission before RP1.

FABEC Performance Plan will be updated accordingly.

[16] The added value of automated reporting tools shall be based on an initial feasibility study including the assessment of the safety added value and including the impact and/or interactions with outside FABEC systems and with regards to third countries best practices and solutions.
Feasibility study shall be completed prior the end of RP1 and based on the results, the implementation phase should be considered for RP2.

Description

The third safety key performance indicator shall be the reporting of the “Just Culture”.

“Just Culture” means a culture in which front line operators or others are not punished for actions, omissions or decisions taken by them that are commensurate with their experience and training, but where gross negligence, willful violations and destructive acts are not tolerated.

Concept

The concept is based on measuring the level of presence and corresponding level of absence of Just Culture (JC) at State level and at ANSP level.

General principle for metrics

Just Culture KPI is defined through three main areas:

- Policy and its implementation – assessing the existence of JC policy within organizations
- Legal / Judiciary – assessing whether the national legal environment is supportive or not of JC
- Occurrence Reporting and investigation – assessing policies and practices of occurrence reporting

Mechanism for measurement

The Just Culture will be assessed by questionnaires for State and ANSP. Based on YES/NO values covering each of the three main areas. No weighting factors are foreseen for the questions and the evaluation is based on the number of positive and negative answers.

Mechanism for verification

Questionnaires are proposed to be dispatched together with those for the Safety Maturity Survey following the same validation and verification process.

Data display

To be determined, probably comparable to ATM Safety Maturity Survey Framework (PI1).

Data collection

Following the same process as for the other PI1, data collection should occur once a year, in June.

Baseline and elaboration of the objectives

Objectives for RP1

No targets or objective are set for RP1

Defining the baseline

The monitoring of the results from the questionnaires will be used to identify areas having a positive or a negative impact on Just Culture. RP2 will be used to address identified issues.

Setting the objective

No objective is set in RP1.

Monitoring

Together with the submission of the requested safety data in June every year the AFG/PMG will provide a progress report to FPC with the results of the ANSP dedicated questionnaires. For States, FPC will request the NSAC to provide the results of the “States” dedicated questionnaires.

Annex D Military Mission Effectiveness and FUA

(1) *Measures planned at national level in order to improve the FUA process' efficiency.*

BELGIUM

Maastricht UAC (MUAC) and BELGOCONTROL have performed rather well in the capacity area, even if BEL is situated in the core of the core area, with dense and complex traffic. This was realized with the use of innovative ASM techniques, generating capacity in bottleneck areas, and supported by the data from the national Mil ASM tool, AMP II.
The EU wide target of improving ATFM delay so as to reach 0,5'/flight by 2014 is however very challenging, and requires further steps in optimizing the use of airspace. The BEL CAA, MUAC, BELGOCONTROL and the BEL Mil have agreed on several actions to improve capacity and the impact on the environment of civil aviation, while maintaining the high level of flexibility required to assure the Mil operations and training.

FUA Level 1

- BEL Mil strives for a formalized national decision making process in support of the national and FABEC ASM and Airspace Design work;
- BEL Mil will provide via PRISMIL and LARA complete transparency on airspace use data to EUROCONTROL (PRC, CFMU), FABEC Committees and relevant task forces, Civil Aviation Authorities and ANSP's, in order to improve performance. Similar transparency is requested from the BEL ANSP's, to allow informed, performance based decision making.
- The introduction of LARA as replacement of AMP II, will support the transparency, and facilitate real-time CDM between all involved partners.
- When redesigning the airspace (FABEC LUX project e.g.), BEL Mil wants that Military Mission Effectiveness (MME) KPI 1 and 3 improve, or at least remain the same.
- At present, MME KPI 2 is not measured by our AMP II tool, and is considered to be 100%. When transiting to LARA, it will be possible to measure all missions not flown due to civil military CDM.

FUA Level 2

- BEL AMC will issue daily a UUP at 1800L D-1, releasing all airspace above FL100 to civil use prior the first mission of the day. This will allow more planable capacity during the busy morning hours. The same will be done for the airspace between day- and night flight, alleviating the evening peaks.

FUA Level 3

- As soon as LARA is operational at all relevant partners, the improved level 3 arrangements, in place for the REMBA and LUX bottlenecks, will be extended to all other relevant airspace. This is an important enabler for the MUAC FRAM project, and should increase capacity, flight efficiency and safety.
- Civil ANSP's will be able to book airspace to alleviate peak traffic. Mil users will endeavour to avoid these reservations, Mil operations and training requirements permitting.

FRANCE

Since 1993, French Ministry of Transport and Ministry of Defence have commonly developed a national airspace strategy. A common Airspace Management Cell has been established in 1994, creating a strong cooperation between civil and military. Then, there was a huge evolution of the European ATM environment, implementing Single European Sky, and as a consequence, the FABEC.
Thus, French MoT and MoD have signed in December 2010, a new framework agreement for the period 2011-2015. This new strategy intends to contribute to the improvement of the performance throughout Europe, and especially for the FABEC area. The framework agreement takes due account of performance requirements on capacity, environment as well as military needs induced by new weapon systems.
Strategic axes of work have been commonly defined regarding FUA as followed :

FUA Level 1

- Evolution of existing military areas towards variable geometry areas, better fitted for new needs, enhancing the efficient use of airspace ("the just need") ;
- Conduct airspace design works in the context of FABEC including optimisation of route network ;
- Remove areas when not used due to airbases closure.

FUA Level 2

- Development of the pre-tactical planning of each area used by military taking into account the GAT traffic flow instead of planned sectors capacity, as it was experienced for TSA 200.

FUA Level 3

- Tactical coordination between military and civil will be enhanced by inserting military ATCOs within civil ACCs, by 2015. This will improve the efficiency of the real time ASM.
- The ASM tool, DIANE, is already deployed within operational squadrons and is already used for efficient SUA planning. Future DIANE developments will permit to update the airspace need, closer to the time of operation.

GERMANY

Following the EUROCONTROL Concept, "Flexible Use of Airspace (FUA)" was introduced in 1996 as a first step towards a more efficient civil/military airspace usage. Based on a formal civil/military strategic decision (Level 1) a joint Airspace Management Cell (AMC) was established in 1998 covering the pre-tactical planning process. This included the notification of available Conditional Routes (CDR) outside the actual usage times of Military Training Areas (MTA) for civil flight planning purposes. Additionally, first mechanisms were laid down to allow the claim of extraordinary civil and/or military demand for consideration.
With the start and the still ongoing evolution of the Military Variable Profile Area (MVPA) Project, providing military training airspace tailored to the mission needs while considering increasing civil air traffic demand, considerable effort was made to continuously develop the FUA principles. Moreover, the joint introduction of the CBA Sea 1 together with NLD was a first step towards the establishment of harmonised mil/mil and civ/mil coordination procedures in the framework of the implementation of a FAB allowing for even more efficient airspace usage.

FUA Level 1

- To continue the evolution of and to spread the MVPA initiative;
- To force the development of an electronic and interactive joint civ/mil airspace planning and booking application;
- To actively contribute to the harmonisation of the rules and procedures for the mil/mil and civ/mil coordination in the framework of the FABEC implementation process;
- Where feasible to further harmonise the airspace booking principles.

FUA Level 2

- To continue the evolution of the pre-tactical airspace planning process with allowing for CDM mechanisms based on agreed priority rules.

FUA Level 3

- To continue the contribution to and the intensive work on the implementation of a rolling UUP with a continuous update on available CDRs for civil flight planning to overcome the lacking flexibility after the AUP release. Additionally this will facilitate the tactical reaction on changes for the military airspace user on the day of operation.

NETHERLANDS

End 2011 the Dutch government will agree on its strategic airspace vision set up by the Ministry of Transport and the Ministry of Defence in order to provide political guidance on a national level to comply with national requirements and the international framework formed by SES and FABEC. The main objective of this policy document is to provide guidance regarding the future perspective and context of the way the Dutch airspace is designed, managed and used. This document must be in line with the FABEC development and the (inter)national initiatives regarding the utilisation of airspace and the respective rolls and tasks of the wide range of stakeholders, both civil and military. Within the Netherlands, the civil military cooperation is gaining momentum. The ongoing deployment and enhancement of the AFMU entity (as a centralised focal point in airspace management from a national perspective) and the corresponding processes and procedures is together with the issue of enhanced civil-military cooperation on the political agenda.

FUA Level 1

- Dutch Ministry of Defence strives for a formalized national decision making process in support of the national and FABEC ASM and Airspace Design work in which AFMU will play a vital role;
- Dutch Ministry of Defence plans to introduce PRISMIL and LARA as tools to provide the required data and analyses regarding performance data mainly focussed on MME and the complete transparency on airspace use data to EUROCONTROL (PRC, CFMU), FABEC Committees and relevant task forces. Similar transparency is requested from the civil ANSP's (MUAC and LVNL) to allow informed, performance based decision making.
- The introduction of LARA will support the transparency, enhance the military booking processes and is envisaged to facilitate real-time CDM between all parties involved. The introduction of LARA is expected before the end of 2011.
- At present there are no data available to perform and formal analysis data regarding airspace utilisation and booking performance. With the absence of data (K)PIs cannot be measured and targets cannot be set based on the described data. The introduction of PRISMIL should change this situation; but at least one year of reference data should be build up after the introduction of PRISMIL.

FUA Level 2

- For the activation of two major exercise area's (TRA 10(A) and 12(A)) enhanced FUA application is proving an increased efficiency. The short notice activation option of the TRA's provides the required flexibility on the military side and offers an optional offload on the effected CDR's. All major exercises, requiring a non standard airspace volume with an associated impact on civil capacity, are subject to a coordination processes involving civil and military stakeholders and CDM. If no consensus is reached, formal decision is requested form level 1.

FUA Level 3

- Additional CDR 2 utilisation is envisaged after the introduction of LARA. At present the introduction of new CDR's on the 10th of March involving the TRA 10(A) is expected to provide substantial benefits to civil ANSP's.

SWITZERLAND

Since 1996, Switzerland has implemented the FUA concept according to the EUROCONTROL Handbook. Since 2004, the requested airspace for all military missions (from all squadrons) is centralised in the Air Operation Center (AOC), where a de-confliction already takes place. There is no double booking or reserve booking of TSAs. Then, a weekly Air Tasking Order (ATO) is published to all Swiss aviation actors (ACC and military units) and is transmitted to the CFMU. The Swiss Air Force airspace requests are almost 100% planned a week in advance and correspond to the effective final usage. Switzerland has implemented CDR 1, 2 and 3 and operates them to a great extent, at the satisfaction of the civil and military aviation.

FUA Level 1

- The Federal Office for Civil Aviation (FOCA) is in charge for airspace at Level 1 and defines the airspace structure in Switzerland. The law states, that this airspace definition has to be done in accordance with the Air Force and after consultation of the national ANSP Skyguide. For that purpose an Airspace Regulation Team (ART) including these three parties is established. The National Airspace Management Advisory Committee (NAMAC) is the advisory body to the Airspace Regulation Team and consists of representatives from all areas of airspace users. The legal process established includes a formal consultation with all general aviation bodies concerned. The overhead body of the Airspace Regulation Team is the ANS Regulation Group (ARG) acting as Airspace High Level Body according to Switzerland's airspace policy.

FUA Level 2

- The national AMC (Skyguide) is an integrated and combined CIV + MIL Airspace Management Cell.

FUA Level 3

The military Air Navigation Services are fully integrated with the civil services in one ANSP (Skyguide). Mil ATCO have the full civ-mil radar picture and also a civil license allowing them optimum airspace coordination and release.

With a view to FABEC-level

The FABEC Treaty states that contracting States shall implement a performance plan taking into account civil need as well as military mission effectiveness. Therefore, FABEC armed forces are already involved in the joint ATFCM/ASM "live trial" preparation. They also have great contributions in en route network improvements striving to create cross border training areas aiming to increase the fulfillment of civil and military needs.

Also, a FABEC Airspace Policy is under development for supporting a shared approach to enhance and harmonize the application of FUA, at all three levels (strategic, pre-tactical and tactical).

Hence, clear improvements of the FUA efficiency are expected from FABEC works over the first reference period, although specific figures are not yet available.

(2) *Additional information regarding assumptions for calculation and targets for each MME KPI at national level*

BELGIUM

Notes: A complete, detailed description and results for 2008, 2009 and 2010 of the MME KPI's can be found in the FABEC Military Performance Handbook.
The reference period for the KPI's is 2009.

KPI #1 – Published SUA structure vs Optimum SUA dimension

Description: The result demonstrates percentage-wise how closely the published SUA dimensions conforms to the Optimum SUA dimensions per mission type for the most penalizing mission in that SUA.
Target: To improve if smaller than 100%
KPI 1 for TRA/TSA South: 69,92%.(4 v 4 most penalizing mission).
KPI 1 for TRA/TSA North (BALEN + MEEUWEN): 101,38% (2 v 2 most penalizing mission)

KPI #2 – Percentage of SUA capacity Allocated

Description: This KPI indicates how much requested airspace was effectively allocated, after taking the civil constraints into account.
Target: 100%
Due to technical constraints, this KPI could not be measured for the reference period. The introduction of LARA will allow the measurement of this KPI.

KPI #3 – Total Training Time vs Total Airborne Time

Description: The result provides a measure of the time actually spent in the SUA compared to the total time airborne. Data based on a matrix with airfields and Trg areas, and effectively flown missions data.
Target: Minimum 85%
KPI #6 for BAF: 85,58%

FRANCE

KPI #1 – Published SUA structure vs Optimum SUA dimension

At least as a starting point, this KPI is calculated according to the following assumptions :

- Calculations are made considering the lower limit of the areas at or above FL195. Areas, or part thereof, situated bellow FL195, are not considered
- When areas are published as "unlimited", the higher limit is FL660

KPI #2 – Percentage of SUA capacity Allocated

At least as a starting point, this KPI is calculated according to the following assumptions :

- Request is considered at D-1, 11h30 loc
- Allocation is considered at D-1, 16h00 loc (AUP release)

KPI #3 – Total Training Time vs Total Airborne Time

At least as a starting point, this KPI is calculated according to the following assumptions :

- Distance considered is the direct line from airbase to the area's border concerned
- Speed considered is fixed, and equal to 7 Nm/mn

These indicators will be monitored, with a view that the military mission effectiveness shall not be degraded

GERMANY

KPI #1 – Published SUA structure vs Optimum SUA dimension

Description: There are various mission profiles and the type of aircraft to be considered. Furthermore, there is SUA (e.g. TRA 312) which is not bookable independently or specific missions require that SUA or SUA elements are booked together (e.g. MVPA NE Basic 1+2, TRA 205 A+B, TRA 207 + TRA 307 +Ext. N + Ext. S). Following this, the calculation is very complex and the result may be misleading. For making a comparison possible, two mission types are selected for measurement in a first step well knowing that the result doesn't correctly reflect the real situation with all its aspects.

Target: The current situation shall not be degraded.

KPI #2 – Percentage of SUA capacity Allocated

Description: The calculation comprises all pretactical (D-1 11:00 loc) and tactical (H-3) booking requests. Rejections are considered starting with the data collection for the year 2011. Consequently, the result is 100% so far.

Target: 100%

KPI #3 – Total Training Time vs Total Airborne Time

Description: The average transit time for each individual SUA based on the distance from the different airfields to the SUA is taken into consideration for the calculation.

Target: The current situation shall not be degraded

NETHERLANDS

Due to the absence of data no targets or alerting levels can be indentified for the majority of the (K)PI's.

SWITZERLAND

Note: Since 2006, the Swiss Air Force has it's own system wide, fully integrated and net-centric computer system for all operations planning and execution. This system has already all the necessary data needed for the computation of the KPIs, but not sorted out as requested below or not in the proper format. These data will be inserted in the FABEC Military Performance Handbook.

KPI #1 – Published SUA structure vs Optimum SUA dimension

The evolution of the airspace structure in the last 10 years has been taken into account in the way the Swiss Air Force organize its training. The diminishing airspace allocated to the Air Force has the consequence that the SAF needs to go more and more abroad to fulfill its training needs.
This situation has so far been accepted among the military community.
This KPI will be monitored and the current situation of MME shall not be degraded.

KPI #2 – Percentage of SUA capacity Allocated

As in Switzerland, the airspace structure is given at level 1, with clear priorities to the military in the described airspace from 0800 LT-1700LT, we can say that we more or less get 100 % of what is requested within the given level 1 priorities.
This KPI will be monitored and the current situation of MME shall not be degraded.

KPI #3 – Total Training Time vs Total Airborne Time

Due to the small size of Switzerland, the SUAs are often above the airbase or close to it offering rather short transit times thus giving, combined with our average airborne time, rather good figures for this KPI.
This KPI will be monitored and the current situation of MME shall not be degraded.

(3) *Additional information regarding assumptions for calculation and monitoring for each MME PI at national level PIs*

BELGIUM

Notes: A complete, detailed description and results for 2008, 2009 and 2010 of the MME PI's can be found in the FABEC Military Performance Handbook.

The reference period for the PI's is 2009.

PI 1 – Percentage of SUA Requested

Description: This PI shows how much a SUA is requested compared to the time the SUA is available for booking (Mil flying window = approximately 2600 Hrs/Yr.
Rationale: This PI gives an indication how saturated the airspace is for Mil use, and the potential for Civil use.
Average PI 2 for BEL SUA: 15%

PI 2 – Percentage of SUA capacity Used

Description: The result provides the percentage of the allocated airspace that has actually been used.
Rationale: This PI gives an indication of the degree of technical, metrological, etc. cancellations and overbooking of SUA's. Measured via AMP II.
Average PI for BEL SUA: 54,49%

PI 3 – SUA Time Allocated vs Time Requested

Description: The result indicates the percentage of time a SUA has been allocated compared to the time it has been requested, due to civil constraints.
Rationale: This PI gives an indication of the time a SUA was unavailable for Mil use, due to civil constraints.
Due to technical constraints, this PI could not be measured for the reference period. The introduction of LARA will allow the measurement of this PI.

PI 4 – Average Transit Time

Description: This PI provides the average transit time per aircraft to and from the SUA.
Rationale: All time spent on transit can not be used for training. This PI gives a good indication of the time lost per mission on transit, and should be considered in the Airspace Design phase. Data based on a matrix with airfields and Trg areas, and effectively flown missions data.
Average PI 7 for BAF: 10 minutes.

FRANCE

PI 1 – Percentage of SUA capacity Allocated

This PI is calculated according to the following assumptions :

- Time available is 24 hours a day
- 250 days a year (Saturdays, Sundays and public holidays are considered out of the scope)

PI 2 – Percentage of SUA capacity Used

This PI is calculated according to the following assumptions :

- Allocation is considered at D-1, 16h00 loc (AUP release)
- SUA used is the one actually used the day of operation

PI 3 – SUA Time Allocated vs Time Requested

This PI is calculated according to the following assumptions :

- Request is considered at D-1, 11h30 loc
- Allocation is considered at D-1, 16h00 loc (AUP release)

PI 4 – Average Transit Time

This PI is calculated according to the following assumptions :

- Distance considered is the direct line from airbase to the area's border concerned
- Speed considered is fixed, and equal to 7 Nm/mn

GERMANY

PI 1 – Percentage of SUA capacity Allocated

Currently an average value comparable to Belgium is used for the available SUA time. With the new release PRISMIL will be able to consider the real SUA opening times.

PI 2 – Percentage of SUA capacity Used

The calculation comprises all pretactical (D-1 11:00 loc) allocations so far. Starting with the data collection for the year 2011 tactical (H-3) allocations are considered as well.

PI 3 – SUA Time Allocated vs Time Requested

The calculation comprises all pretactical (D-1 11:00 loc) and tactical (H-3) booking requests. Rejections are considered starting with the data collection for the year 2011.

PI 4 – Average Transit Time

The calculation is based on the distance as a direct line from the airbase to the SUA border concerned and the speed according to aircraft categories.

NETHERLANDS

Note: in absence of PRISMIL and the required data no data provided. Data provision is foreseen in line with the deployment of PRISMIL foreseen in 2011.

SWITZERLAND

Since 2006, the Swiss Air Force has its own system wide, fully integrated and net-centric computer system for all operations planning and execution. This system has already all the necessary data needed for the computation of the 4 described PIs, but not sorted out yet or not in the proper format.