### European Air Transport Command

integrated innovative effective

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The accession of Spain and Italy to the EATC

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# Ready for free skies – integrated, innovative, effective!

Unsurprisingly, the European Air Transport Command is seen in the contemporary European debate on Pooling and Sharing as a lighthouse-example.

I think this is very much justified by the fact that for the first time ever several nations – Belgium, France, Germany, Italy, Luxembourg, the Netherlands and Spain – accepted the partial relinquishment of their sovereignty to enable the effective and efficient execution over assigned Air Transport, Airto-Air Refuelling as well as Aeromedical Evacuation assets under the operational control of the EATC.

Moreover, defined levels of authority were granted by the nations over all aspects of force generation – ranging from employment, training and exercise matters over to logistical regulations and airworthiness questions.

Finally the EATC plays a decisive role in the smooth introduction of the Airbus A400M, the upcoming backbone of military Air Transport in the heart of Europe. Operating from Dutch Eindhoven Airbase, the EATC is the first



multinational headquarters which is an integral part of every Participating Nation's military structure – and always aiming to benefit them.

After nearly five years of operations, I assess the achievements of the EATC team as: Convincing for the time being – and promising for the way ahead.





Lieutenant General Alexander Schnitger, Chairman of the Military Transport Committee (MATraC)





Deus Readers

As time progresses, so does the experience level at the EATC. The path towards becoming the Center of Excellence in all military Air Transportrelated matters, such as logistics, airto-air refueling and aeromedical evacuation looks quite promising.

To illustrate with numbers and statistics: in 2014 the EATC controlled over 7500 flights with a total of more than 45 000 flying hours; close to 280 000 passengers and 19 000 tons of cargo. Besides that, in 2014, the EATC expanded from five to seven Partner Nations.

From 2016 onwards, we will have gained operational control over more than 220 military transport aircraft, which means that out of more than 20 different aircraft types, the EATC air transport fleet in itself comprises about 75 percent of all military air transport assets in Europe.

Besides our own achievements, it is worthwhile mentioning that discussions in Europe about European Armed Forces or comparable multinational organizations are becoming more and more prominent. Here, the EATC is very often mentioned as a possible model for future cooperation.

From my perspective – based on firsthand experience thus far – I strongly support those thoughts and arguments. On a daily basis, the EATC proves its added value by the positive effects of sharing common ideas, reducing both bureaucracy and the logistical footprint within nations resulting in an overall decrease in infrastructural and traveling costs.

Because of the amount of trust and confidence displayed by all participants in this type of organization, future challenges can be dealt with more effectively and thus more efficiently.

As I outlined before, our focus will remain on becoming the Centre of Excellence for Military Air Transport in Europe. To achieve this, we will have to maintain momentum in increasing the



performance level of our nations' air transport capabilities by means of training, standardization and harmonization of procedures and regulations and the way of working of all key actors involved.

Furthermore, we will provide our stakeholders with concepts and ideas as to how to proceed in the future.

A recent example of our work is the key role we play with the employment of new aircraft types, such as the Airbus A400M. A variety of concepts for the A400M were written by the EATC for the benefit of and in close coordination with our A400M-user nations.

Another example is the hard work our people put in to overcome the tanker shortfall in Europe. An overall initiative from the European Defence Agency where the EATC is in the lead to optimize already existing Air-to-Air Refueling capabilities.

Overall, a variety of topics need tackling and I conclude by the saying "You cannot predict the future, but you can shape it" – so let's move on!



Major General Christian Badia, Commander of the EATC



# Deep integration into the national command structures

The Commander European Air Transport Command (COM EATC) is a Major General (NATO two stars). The Chief of Staff (COS) is a Brigadier General (NATO one star) who directs the staff and acts as the Deputy Commander (DCOM). The posts of Commanding General, DCOM and Division Heads are filled by EATC framework nations on a rotational basis.

The positions of the Commander EATC and Chief of Staff will for the time being rotate every two years between France and Germany and the Heads of Operational and Functional Division are changed at a threeyear interval between the Netherlands and Belgium. All the other permanent EATC staff positions are filled on a flag-to-post basis, whose tour of duty lasts on average three years.

Within the Command each nation is represented by a Senior National Representative (SNR), who is responsible for the administration of his or her nation's personnel assigned to the EATC. The SNRs hold regular posts in the Peacetime Establishment (PE) of the EATC and are therefore doublehatted.

So overall more than 220 people from seven different nations work day to day for a more efficient and effective use of AT assets. By design the EATC is an integral part of the Participating Nations' military command structures.

The EATC fits into national structures as a link between the Air Staff/Air Force

Command and the Wing/Squadron level. The Multinational Air Transport Committee (MATraC) is the EATC steering-board. It is constituted by representatives of the seven nations at the Air Chief level and meets once to twice a year, usually at the EATC in Eindhoven.

The MATraC gives guidance and directives to the Commander EATC and every six months at least, the COM EATC reports to the MATraC, exposes his visions for the future and explains the achievements and improvements done during the last months.



## The new structure of the EATC

The last five years the EATC has grown in numbers. The accession of Spain and Italy has amounted to an increase of personnel and tasks necessitating a restructuring of the internal organization. The positions and structure of the EATC are evaluated on a yearly basis. So far, this has led to minor adjustments at branch level. The last accession negotiations made it clear that the current structure was no longer to incorporate the tasks which come along with a fleet of over 200 aircraft.

Looking at the EATC organizational chart, the creation of a third division immediately stands out. Beside the Operational and Functional Division a third division, Policy and Support, has been created. However visible this may be, fact is that this will hardly change anything within the organization.

The Policy and Support Division combines all entities of the Command Group except the Public Affairs Office, and the General Support area.

Concretely, this means that General Support, including Finance and Administration, Policy and Legal Affairs and Quality and Safety Management form together the new third division. Similar to the other divisions, the Policy and Support Division has a Division head and a deputy, both of them at OF-5 level.

Within the EATC, the nations' interests are guarded by the Senior National Representatives (SNRs). Since the number of the EATC member nations has gone up from four to seven, it has resulted in a corresponding increase in the number of SNRs. With three divisions the EATC has now six positions (Head and Deputy Head) that can be filled by SNRs, thus guaranteeing their involvement at management level. The SNR of Luxemburg is positioned as the Head of the Public Affairs Office. Another organizational change concentrates on the operational side, namely the increase of flight controllers at Mission Control. To cope with the additional number of missions an extra position inside each on duty-shift is called for. Another change, though invisible on the organizational chart is the extra position of one supervisor inside the Operational Division.

The daily activity of the EATC already revealed that employing only two supervisors was tight. Hence, and along with an increased number of activity – read missions – the decision was made to employ one extra supervisor. Prior to this, the Operational Division already implemented minor changes by creating separate cells for Air-to-Air refuelling and Corporate flights. A developing and growing organization needs to adapt constantly and at the same time strive for stability.



# The assigned fleet



Falcon 20

McDonnell Douglas KDC-10



C-130 Hercules



Embraer 135/145



0

C-130 Hercules

.





Casa CN-235





Airbus A310



C-160 Transall



C-130 Hercules



Airbus A400M







Boeing B707



KC-130 Hercules



C-130 Hercules



## The Operational Division

The Operational Division manages all processes related to the execution of EATC Air Transport missions. This encompasses the complete process of planning, tasking, mission controlling and analyzing to meet the Participating Nations' needs. During the process, the most suitable air assets under the EATC's operational control are selected and tasked to execute AT missions while striving to fulfill the received requests as efficiently as possible.

The Operational Division in Eindhoven consists of different branches, each dealing with specific aspects of the Air Transport Mission cycle.

#### Long Term Plans Branch

The Long Term Plans Branch assesses and processes Air Transport (AT) and Air-to-Air refuelling (AAR) requests and standing requirements to produce AT plans accordingly.

A bi-yearly conference with the EATC Participating Nations (PNs) is held to predetermine future AT requirements and consider them as far in advance as possible to assure an efficient use of available assets. Possible shortfalls or overlapping requirements are identified and actions are taken to negotiate them. Incoming AT requests (ATRs) with an execution date of more than five weeks in advance are processed and checked for correctness and completeness by the personnel. When validated, the ATR receives the status "in planning" and the planning and tasking process starts.

Due to the large number of ATRs handled by the EATC it is also necessary to prioritize the incoming requests. Understandably, the whole process requires close links with the involved National Movement and Transportation Coordination Centres (NMTCCs).

In summary, the work done in the Long Term Plans Branch is the really first step to generate synergies and guarantee the best use of all the assigned resources in order to fulfill the important task given to the European Air Transport Command in Eindhoven by its – meanwhile – seven member nations.

#### **Tasking Branch**

Five weeks before the intended execution of an air transport mission the EATC Tasking Branch takes over further mission preparation.

Within the Tasking Branch the final Air Transport Mission Order (ATMO) is produced, specifying in detail timings, payload,





diplomatic clearances, routings, handling information etc. Then the ATMO is forwarded to the executing units. All the work put into the ATMO provides the basis for a successful mission execution.

In order not to waste precious and always critical planning time, ATRs received within five weeks before the desired execution date are directly handed over to the Tasking Branch after having gone through initial checks by the designated Long Term Plans personnel. The Tasking Branch is divided in two Sections: Mission Preparation and Tasking which consists of 4 Cells depending on the different assets/flights/missions type to manage: Tactical aircraft, Strategic aircraft, Corporate/VIP and Air to Air Refueling. While Tasking Supervisor are monitoring all ATRs coming in Tasking Section, that distribution provides about an equal share in the work load as well as maximizes the situational awareness of the planners to make the best use of assigned assets.

On the one hand, this distribution provides about an equal share in the work load and on the other hand, it maximizes the situational awareness of the planners to make the best use of assigned assets.

Finally 24 hours before the planned takeoff, all missions are handed over to Mission Controlling (MSCN) for execution.

#### **Mission Controlling Branch**

The Mission Controlling Branch is manned 24/7 around the year. Mission Control or MICON, as it is known through the EATC, monitors all flight activities under the responsibility of the EATC. Should a mission not run according to plan, which is quite frequently the case, Micon takes charge and troubleshoots and by doing so brings missions to a successful end.

Mission Control also plays a crucial part in handling unforeseen events or urgent ATRs reaching the EATC 24 hours before the intended execution. In a shortened cycle MICON is capable to plan flights and produce ATMOs to provide air transport on short notice whenever the need arises.

#### **Aeromedical Evacuation**

To plan transports or more urgent evacuations of injured or sick personnel by air assets, a team of Flight Surgeons is permanently available at the Aeromedical Evacuation Control Centre Branch (AECC) of the EATC.

Taking into account the specific requirements of aeromedical transports, the AECC Team assesses and approves possibilities to conduct aero medical flights. Then, in close coordination with the other EATC branches, our doctors match the medical requirements for the transport and treatment of patients with the specific airlift capabilities available. After that, aircraft are tasked and controlled to provide the best means of transport in regard to the support needed.

Beside the mostly urgent aeromedical evacuation missions, the branch also contributes on a wider spectrum to the development of standardized procedures and cross-national certifications in the aeromedical evacuation domain. The expertise assembled in the EATC in this field of work is widely recognized and respected.

#### Analysis and Reporting Section

The Analysis and Reporting (A&R) section is the tool of the division head to constantly improve the air transport processes conducted within the EATC.

It studies and analyses mission reports and produces statistics which are made available to the nations and the EATC commander. Shortfalls are indentified and critical indicators are established and monitored in order to increase the efficiency of the assets assigned to the EATC by its member nations.

On top of this, A&R is also responsible for the ATARES accountancy of exchanged flying hours and services between the EATC nations.

#### Intelligence Branch

The Intel Branch monitors the security sit-





uation around the world and more particularly in the areas EATC assets are employed or which are possible future destinations.

The Intelligence Branch already advices the planners during the planning phase. With a constant watch on the intelligence picture, the Intel Branch provides warnings to Mission Control over the often fast changing security situations and by doing so, they play a crucial role for a successful mission execution and the safe return of the crews. The Intel Branch works in close coordination with national air intelligence services and exploits a variety of secure communication and information systems at its disposal.

#### **MEAT Branch**

The MEAT Branch consists of a team of IT developers and application managers who develop and maintain a unique software that is at the heart of the EATC's AT process.

MEAT, as it is known or in long the "Management of European Air Transport" tool is constantly improved to adapt to the needs arising from the ever changing air transport world but also out of the ongoing enlargement process of the EATC. Deployed throughout all the EATC nations, MEAT is the tool to manage and support the whole air transport process – from ATR (Air Transport Request) to ATMO (Air Transport Mission Order) – to Analysis and Reporting.

This means that MEAT is not only used by the people working at the EATC, but also among others by the AT executing agencies and the NMTCCs in the nations.





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# The Challenges of Long Term Planning

The Long Term Plans Branch (LTP) assesses Air Transport (AT) requirements and produces AT-plans accordingly. EATC Planning Conferences help the EATC to predetermine future flight requirements and consider them early enough in their planning. Moreover, the goal of these bi-annual conferences is to establish and maintain links to AT/AAR planning points of contact within nations.

During EATC Planning Conferences, national experts discuss the planning updates by comparing and completing relevant planning information. They also implement any changes concerning national airlift and tanker fleet and precise future focal points in national and EATC plans.

Air Transport Requests (ATRs) received from EATC Partner Nations' National Movement and Transportation Coordination Centres (NMTCCs) are first registered before they can be processed. The correctness and completeness have to be confirmed. Changes to existing ATRs will be checked and EATC Partner Nations are automatically informed about the status of ATRs in MEAT (Management of European Air Transport).

Due to the large number of ATRs, it is also necessary to prioritize and to communicate closely with the NMTCCs. Together with these "clients", EATC LTP looks for and coordinates possibilities for synergies of AT-missions.

The Long Term Planners proceed with an initial route planning which takes alternative routes, route calculations, over flight allowances and assessments on the suitability of the airfields into account. A close internal coordination with other branches in the EATC OPS Division is an additional key to success.

#### Appropriate solutions

The EATC LTP branch has to cope with the overall ageing of the tactical military AT fleet. The A400M is going to fill this gap, but deliveries of this new asset will be spread over more than the next ten years.

On the other hand, the non-tactical AT fleet under the Operational Control of the EATC (OPCON) is much younger.

A total of e.g. eight large Airbus (Pax) aircraft offers a total capacity of 1620 seats. These figures have even increased since the Transfer of authority (TOA) of the Belgian white fleet, composed of four Embraer Regional Jets and two Falcon Jets. This took place early 2014 and added another 188 seats to the total capacity of the EATC.

Even with the progressive introduction of the A400M during the next few years the EATC still observes a decreasing number of aircraft under its control. Getting more and more A400M into service will increase the total airlift capacity of the EATC fleet and become finally larger as it is today.

The EATC fleet has changed again beginning of 2015 with the TOA of Spanish transport aircraft to EATC.

Moreover, the expected TOA of Italian transport aircraft in 2016 will have a profound influence on the given number of assigned aircraft. Those new airframes are going to present new challenges to the LTP branch, as this will imply even more optimization and cross-national use.

On the other hand, LTP has so far always been able to cope with similar situations in the past and will surely find appropriate solutions for future challenges as well.





### AECC: The EATC Aeromedical Evacuation Control Centre



Besides the operational "Planning", "Tasking" and "Mission Controlling Branch", a fourth essential part of the EATC's Operational Division is the Aeromedical Evacuation Control Centre (AECC). This centre, staffed by Aeromedical Evacuation specialists (five flight surgeons and three flight medics) coming from the different EATC Participating Nations (PNs), is responsible for the coordination and supervision of the medical evacuation of soldiers from anywhere in the world to their home country, or to a safe place where better medical care is available. This type of evacuation is called Strategic Aeromedical Evacuation (StratAE).

In 2014, the EATC AECC managed the transport of 1126 patients. Patients have been repatriated from 68 countries all over the world, proving that StratAE is a worldwide mission.

One of the major goals of AECC is to provide synergistic effects by repatriating patients in cross-national flights, meaning that a patient is transported by another nation's aircraft (e.g. a Belgian patient on a French aircraft). A good example of a crossnational mission occurred in March 2014: A French navy soldier with a sprain of his left knee was repatriated on board of a German A-310 from Dakar back to Cologne. He was escorted by a medical team consisting of a German paramedic and a French flight nurse. Later that day the patient had an additional flight with a French C-235 bringing him back to Paris.

Another good example of a cross-national mission took place in July 2014: A Dutch corporal had an appendectomy in the French Role 2 in Gao, Mali. He was brought to Bamako with an intratheatre flight. From there he was flown to Brussels with a Belgium ERJ-135 on a stretcher and escorted by a Belgium medic and a Dutch flight nurse. Further repatriation back to the Netherlands was done by a Dutch ambulance.

#### AECC aims at cross-nationality

The EATC AECC also coordinates evacuations of patients from non-EATC nations: In March and September 2014, the MedEvac version of German Airbus A310 MRTT (located at the Special Air Mission Wing MoD in Cologne) took off towards Kiev (Ukraine), where injured Ukrainian soldiers had been gathered from several hospitals in



order to bring them to Germany to relieve the Ukrainian health care system and to provide additional high-standard medical care.

On the way from Kiev to Germany, the Airbus made stops in Berlin and Hamburg before finally reaching Cologne again. These stops were necessary to distribute the patients among nearly all German military hospitals. During the second mission in September, some of the patients were flown from Berlin to Stuttgart with a German MedEvac C-160 on the same day to facilitate the patient distribution and to avoid the excess of allowed crew duty time.

In order to execute cross-national StratAE missions the medical personnel has to be trained and certified on the different nations' aircraft to comply with national and multinational regulations. With the introduction of new courses to train AE personnel on other nations' MedEvac aircraft and equipment the opportunity for cross-national training and qualification was established.

In 2013 AECC was able to increase the percentage of cross-national Strategic AE from ongoing missions as new operational areas with single Strategic AE hubs (e.g. Bamako) created the opportunity for significant enhancements. This increased number of cross-national flights was obtained by mainly utilizing already preplanned routine flights.

Due to significant changes in the areas of operations (e.g. France is no longer using Bamako as hub) and the end of the ISAFmission, the percentage of cross-national Strategic AE has slightly decreased in 2014. Nevertheless – as proven by the examples below – cross-national Strategic AE is still one of the key goals of AECC.

The following two cross-national Strategic AE missions were performed with dedicated aircraft in full AE configuration.

First: On 25 May 2014 a German Airbus A310 took off from Cologne in the afternoon in order to pick up three French and three German casualties in Djibouti after a suicide bomber attack. The patients were escorted by a German medical team consisting of ten medical personnel: A flight surgeon functioning as Medical director (MD), a non-commissioned officer (NCO) as Medical crew chief (MCC), a Medical Equipment engineer, an anesthesiology team and four flight medics.

All patients were brought to Cologne. Then these French patients were flown back to Paris with a Falcon 900 escorted by a French



### StratAE for EATC nations in 2014







flight nurse and the German patients were distributed to different hospitals in the surroundings for urgent surgery.

Second: On 10 December 2014 the German MedEvac A-310 took off from Cologne again for a flight to Bamako. The German medical team was augmented with a Belgian Flight Surgeon, a flight nurse and three medics. Due to a delay in receiving diplomatic clearances and according to crew duty regulations, a remain over night (RON) in Bamako was necessary. The next morning the Belgian soldier was brought to Bamako from Koulikoro via a two-hour-lasting road transport. Finally the patient was enplaned on the MedEvac A310 on a litter and repatriated back to Brussels on that same day.

Both recently performed missions demonstrate the gain in flexibility and efficiency achieved by this cross-national cooperation. Besides, mutual trust and confidence is increased in the involved medical personnel and responsible military commands.

#### Worldwide engagement

In order to provide the best possible medical care to patients, the EATC AECC can task several assets from the different PNs. Depending on the type of injury or disease, a PTU (patient transport unit equipped with monitoring, respirator, medication etc. for intensive care) or a basic stretcher can be used for the evacuation.

PTUs are available in the Belgian Embraer ERJ-135 and ERJ-145, or the German Airbus A310, A319, A340 and C-160 Transall. Belgium just acquired two pallet-based PTUs to be used on C-130 and future A400M.

PTUs (LSTAT, Life Support for Trauma and Transport) are also available in the Spanish CASA 295, C130 and B707. Basic stretchers can be installed in the Belgian, Dutch and French C130, the Belgian A321, the French and German Airbus A310, and the German and French Transall C-160 as well as in the French Casa CN-235. They can also be installed in the Spanish CASA 295, C130 and B707. Besides the medical equipment, the appropriately trained and qualified medical personnel escorting the patient is essential for a successful AE mission. Tailored to the mission, this personnel has to be assembled by AECC.

Keeping in mind the aim of cross-nationality in AE, AECC supports the process of standardization of common basic principles for training and education within the EATC partner nations.

Therefore it is important to provide adequate lessons learned of conducted AE missions to several boards dealing with the improvement of AE.

#### The new challenges

In the last months, since the outbreak of the so far largest Ebola epidemic in the world, there have been a lot of considerations about the transportation of passengers/patients out of EBOLA affected areas.

#### Present and future assets for Strategic Aeromedical Evacuation



Right now, AECC has no highly infectious patient transportation capability under its operational control (OPCON).

Nevertheless, Italy and Spain, as new member nations of EATC, do have such capabilities and offered them to be used on request. Germany and France are developing such capabilities as well, but further developments have to be awaited, particularly in the certification process, before potentially offering this capability to other EATC partners.

The EATC has the capability to advance in all areas of European Air Transport and especially in the field of Aeromedical Evacuation. With the accession of new EATC partner nations and the gathering of additional AE capacities, the need for functional work on common concepts and doctrines has increased.

Besides the already well-established procedures and excellent performance in the operational area of controlling European AE missions, AECC is ready to be more involved in the development of common standards for cross-national AE and interoperability. Nowhere else in Europe are as many AE specialists from different countries working together as a team on a daily basis as in AECC. This may lead to the midterm aim of a Centre of Excellence for AE within the EATC.

#### Service for the patients

AECC has access to a MedEvac fleet that is capable of managing nearly every emergency situation all over the world.

In the meantime, some of the aircraft used by AECC for MedEvac purposes are undergoing a – more or less – steady changing process: e.g. the aging C-160 Transall will be replaced in the future by the A400M, featuring more range, capacity and velocity. Other aircrafts like the German Airbus A310MRTT remain "state of the art" in Strategic Aeromedical Evacuation and will stay in service for at least another decade.





# ATARES

### Air Transport & Air-to-Air Refuelling and other Exchange of Services

At the beginning of this century, NATO and the EU identified a lack of assured strategic lift capacity and a lack of coordination of strategic lift assets. The European Air Group (EAG) studied this field and published the European Airlift Study which proposed more intense coordination and a cashless exchange system for air transport services. Willing nations worked together to resolve these shortfalls and established ATARES as the exchange system.

To improve coordination, willing nations established multinational coordination centres like the European Airlift Centre (EAC) and the Sealift Coordination Centre (SCC), which merged into the Movement Coordination Centre Europe (MCCE) in July 2007.

Some nations wanted to cooperate even more intensely and transferred their personnel from the EAC towards the EATC implementation team, which transferred the EATC concept into reality and the EATC was inaugurated three years later. The MCCE is stationed at Eindhoven Air Base – right next to the EATC.

ATARES (Air Transport & Air-to-Air Refuelling and other Exchange of Services) is an arrangement between nations to provide a multinational framework to facilitate mutual support through the exchange of services in the realm of air force activity.

The exchange of services is based on the Equivalent Flying Hour (EFH) of the nationally owned reference asset type. The reference is the cost price of one C-130/C-160 flying hour (EFH = 1).

Other nationally owned aircraft types are counted against the C-130/C-160 reference. The smart approach of ATARES is, that it is not based on bilateral reciprocity but on the fact that a participating nation is supposed to deliver to the ATARES community as many EFH as it receives.

So ATARES offers the possibility for the Dutch KDC-10 to fly for France and in

return France offers one of their C-160 to the Belgians while the Belgian Embraer flies the Dutch CHOD to his next meeting...

One of the objectives of the EATC is to improve the effectiveness and efficiency of the participants' military Air Transport efforts. ATARES enables a proficient selection of the best available and most suitable asset type (done in the Operational Division of the EATC). This leads to less outsourcing, less empty space and additional training opportunities.

In 2014, the EATC was able to organize the transport of 278.000 passengers and 18.400 tons of cargo while exchanging 3900 EFH between the EATC Participating Nations. These figures illustrate the importance of the ATARES-tool for the EATC.





### MEAT Management of European Air Transport

MEAT, short for "Management of European Air Transport", is a multi-user software dedicated to support the processes of military air transport activities and Air-to-Air Refuelling within the EATC staff and its Participating Nations.

MEAT was first designed and developed by the EATC implementation team (IMT EATC) according to the commonly approved operational requirements and procedures of the founding nations back in 2008. Since then, an in-house MEAT development team at the EATC is keeping the software up to date and conducts further developments.

The software is implemented mainly with Java coding and backed by a central database. The technical way of accessing MEAT differs for users in the different EATC Nations, but they all access MEAT via a web page to start the application, then log in and begin their work. Information entered and saved by one user is immediately accessible by all other authorized users. Roles and rights regulate the reading and writing access of the users according to their responsibilities in the process.

Currently the application is used by 4000 users in the EATC staff and the EATC Participating Nations. During the upcoming years this number is expected to rise in line with the expansion of the EATC.

The MEAT 2 software represents the second generation of MEAT. It gradually migrated from MEAT 1, with the main goal of obtaining a single system philosophy and a common look and feel through the complete application. The next generation (MEAT 3) is being implemented in 2015.

MEAT consists of seven main modules, which support a corresponding EATC process

within the military air transport cycle. The modules are:

- 1. AIR TRANSPORT REQUEST (ATR)
- 2. ASSET MANAGEMENT
- 3. PLANNING
- 4. TASKING
- 5. MISSION CONTROL
- 6. MISSION REPORT
- 7. USER MANAGEMENT

The MEAT modules are supported by catalogues containing additional data accessible through the software. These catalogues are used at every level in the air transport process e.g. airfields, aircraft types, transferred aircraft, airbase locations, flying units, call signs, possible status of assets, etc.

#### Way Ahead

Maintenance, upgrades and further development of MEAT will continue to be an EATC responsibility. To meet the task at hand the EATC has established a MEAT Branch within its Operational Division (OPSD).

The MEAT Branch head is the product manager. His branch consists of a Functional Application Management (FAM) section as well as a MEAT Development Team (DEV) both formed by dedicated multinational military and civil IT specialists. Technical support is mainly assured by a host nation IT-provider (JIVC) and is supplemented by national IT experts when and where needed.

FAM MEAT manages the requirement engineering and acceptance testing as well

as conducting software training for users, while the DEV team's task is the technical implementation and testing of any changes in the software. The following overview lines out the major changes to be implemented into MEAT in the upcoming years:

■ MEAT 3 – redesign of the software interface and the technical implementation needed to cater for the change requests in queue.

Generic Data Exchange Interface followed by specific interfaces to other IT Tools (p.e. flight planning tool, load management tool, crew management tool) as well as "National Instances" of MEAT.

Crew Qualification Module.

Access to MEAT via Electronic Flight Bag.

The Change Request System in place includes the participation of operators from the EATC as well as from the participating nations, so that the direction, the quantity and quality as well as the most needed prioritization of software changes are done ideally in agreement and the spirit of multinational cooperation.

The development of MEAT is an ongoing process and will continue to evolve together with the Air Transport Process it supports. It will continue to be the tool at the heart of the EATC work process.



## The Functional Division

Effective and efficient air transport and air-to-air refuelling operations in a multinational environment require nations to share concepts, doctrines and procedures. Enhancing harmonization and interoperability between EATC Participating Nations (PNs) is the main objective of the EATC Functional Division (FUND). The main benefits of this work are optimized utilization of available assets and efficiency in the planning and execution of air transport.

To achieve this overall objective, FUND is developing policies and common standards related to Air Transport (AT), Airdrops and Air-to-Air Refuelling (AAR) in the domains of employment, logistics and training. Due to the different national regulations on various topics, this is not an easy task. Close and interdependent coordination with OPSD and partner nations is paramount.

The entry into service of the A400M and the A330 MRTT in most of the EATC PNs are two lighthouse projects in which FUND is deeply involved in developing standardized procedures.

FUND is structured in three different branches: Employment, Training & Exercises and Technical & Logistical.

#### **Employment Branch**

The Employment Branch (EMPL) concentrates on the harmonization and interoperability aspects related to the execution of AT, Airdrop and AAR missions. Therefore, EMPL develops doctrines, concepts, policies and common standards related to Air-C2, flight procedures, on-board equipment and mission-support tools. It contributes to interoperability and certification activities related to mission execution.

#### **Training and Exercises Branch**

The Training and Exercises Branch (TREX) acts as a central point of expertise on AT, Airdrop and AAR training matters. In coordination with national AT and AAR authorities, TREX makes recommendations to participants, issues common directives and coordinates the harmonization and standardization of training syllabi concerning air crew and ground crew members.

Furthermore, TREX is actively engaged in initiatives related to combined training events such as EATT, an EDA initiative in the EATF project (European Air Transport Fleet). The development of Advanced Tactical Training Courses and the European Air-to-Air Refuelling Training is also in TREX's portfolio.

With TREX, the EATC shows that the unique pool of experts for tactics and tech-

niques in the tactical airlift domain has a great value for its Partner Nations.

#### **Technical and Logistical Branch**

The third branch, the Technical and Logistical Branch (TECHLOG), focuses on the harmonization and interoperability aspects related to the technical and logistical support of AT and AAR missions. The main objective is to share common standards in order to reduce the logistical footprint in future common operations.

Cross-national maintenance is an important step which might be achieved in the future with the entry into service of the A400M.

Ground handling operations is another key domain in the scope of interests of TECHLOG.A new EGOM (EATC Ground Operations Manual) has been published in January 2015 and is the major step towards interoperability between EATC PNs.

Furthermore, on behalf of EATC participating nations, TECHLOG is preparing the future with prospective studies and is deeply involved in the implementation of European Military Airworthiness Requirements (EMARs).

Besides that, within the Fleet Monitoring Section all kind of data on our PNs' fleets are assembled and evaluated and provided for further usage. This is e.g. an overview on the A/C status within our fleets, serviceability, maintenance planning, etc.



Apart from that, Fleet Monitoring produces a yearly Fleet Review to inform all PNs on the combined fleet, important evolutions and future developments.

#### FUND's main activities

To achieve the overall objective in regard to the optimized utilization of EATC assets, the Functional Division divided its work in three main tasks. Firstly, the work on new

procedures, concepts and doctrines is done in the EATC Study framework. The fostering of developed procedures and concepts but also tasks related to providing support to nations and the OPS division are our so-called recurrent work.

Last but certainly not least, the third activity encompasses the EATC's efforts in the multinational training and exercises environment which bring air and ground crews up to standard but also is an important laboratory to test and enhance newly developed concepts. Because of the strong interrelation between the operational, technical and training domains and the unique pool of expertise within the Functional Division, these three main tasks are most of the time fulfilled by personnel of the different branches.

The following chapters will describe the three main activities of the Functional Division in more detail.

#### EATC interoperability Studies

Within the Functional Division, the three branches Employment, Training & Exercises, and Techlog have in principle different tasks. But all three branches have one thing in common: they all are responsible for conducting studies on topics either requested by our PNs, arising out of daily operations or out of the EATC's internal initiative.

Before talking about studies and the way they are conducted, it is important to say a few words on the rationale behind the process. The EATC has to operate in the area of conflict between the needs of the national movement transport coordination centres, the capabilities of the executing agencies and the national and international regulations which have to be obeyed by the A/C operators.

Under these circumstances it is obvious that the transportation of passengers and cargo from seven different nations can be challenging. So the aim is to improve the



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#### efficiency of the usage of military air transport capacities by increasing interoperability amongst our PNs (Annotation: Although in the text only air transport is mentioned, our efforts include as well air-to-air refuelling and aero medical evacuation).

Regarding the process itself, before a study can be started some points have to be clarified in advance. This is what we call the "Preliminary Process".

The first thing to point out is: What is the expected benefit and for whom? In this first step it is important to evaluate the added value from the expected end product. An idea at HQ-level may sound attractive but might be impossible to implement at working level and vice versa.

The second step goes along with the first one: Is it feasible to conduct the study? Do we have the manpower and knowledge for it, can we afford the cost of conducting the study, but more important, of implementing the result? Additionally, which risks do we have to take in doing so (Annotation: Meaning financial implications, times with overlapping validity of rules, accidently left out parts which should have been regulated, etc.)?

This all flows into the final aspect: What will be the buy in or commitment of our PNs in supporting us in conducting the study?

The interest in the topic and the originator of the initiative help us set the priority for studying the topic and the consequent allocation of manpower and setting of timelines. The model can be compared with the pyramid of Maslow, where the basic needs constitute the fundament (in our case everything essential for daily operations) and the top represent self-fulfillment (in our case the future concepts). The next step in our Study Process is to evaluate the complexity of the subject. Some topics can get quite complicated when the Air Forces of our PNs are not the only stakeholder but the other services of the armed forces have to be involved as well.

Last but not least, we try to find out as early as possible who will be the change agents, the persons or organizations who have to approve our results and to work with them. The earlier those groups are involved in the work, the higher the chances that they will accept what we provide.

Having finished this preliminary process, the "Definition of the Study" is drafted. This is a sum-up of the first part and leads directly to the start of the study: the executing phase. Here it is the responsibility of the study leader to assemble all relevant information, distill them and present the commonly agreed solution of the study team.

If the result is accepted by the involved management, implementation will follow. The responsibility here lies with the change agents but the EATC can support the PNs within the limits of its own resources.

To round it down, the last step is to check outcome and effects of what was delivered with the study and implemented as a constant process of enhancing our efforts for effective and efficient air transport solutions.

Apart from the theoretical explanation of that part of our work, the following three examples try to give you some insight of the work within the Functional Division on these interoperability studies:

#### Study no. 10 (TecLog Branch):

#### EATC Ground Operations Manual

The EATC Ground Operations Manual, or EGOM, is one of the biggest challenges

within the TecLog Branch. The aim, resulting from a French request, was to harmonize all PNs' national rules and regulations dealing with handling the A/C, preparing, loading and unloading cargo as well as checking, boarding and disembarking passengers. For the EGOM to be complete all relevant forms for reporting have to go along with the product.

Most of the procedures can be covered by civilian regulations. That is why as a basis we used the respective IATA document, the IGOM.

After that the interesting part started, in which military regulations and national specifics had to be integrated. To name only one: almost each nation has different standard weights for passengers.

After 18 months of preparation we were finally able to publish a test version of the document, on which basis a three-month test phase was conducted. Selected handling units from all PNs worked according to the new regulation and gave their feedback on usability and correctness.

After incorporating that feedback, we are again one step closer to the aim: the handling of A/C should be harmonized throughout all our PNs' handling units and subsequently, again from the mission point of view, the size of a ground crew should not be determined by the number of different A/C types and the quantity of nations involved but only by the amount of cargo and passengers to be handled.

### Study no. 26 (Training & Exercises Branch): A400M Air Crew Training Concept

Coming from a Franco-German tasker, the aim is to harmonize A400M air crew training concepts and to develop course contents and syllabi. Harmonized training is the fun-





damental cornerstone in building as much interoperability as possible.

Study no. 28 (Employment Branch):

#### **Cross-parachuting**

The aim is to establish and certify procedures which enable the Ops Division to task any PN's executing agency to drop paratroopers or conduct aerial deliveries from or for any other PN's military user. This also includes the certification of the equipment.

All EATC members want to hold an efficient airdrop capacity in the three main pillars that are the operations, the training and the sharing of a fleet. This study group manages a booklet taking up the different aspects of interoperability between the nations (certification of the parachutes, cargo crew composition during a static line drop, a matrix with the parachutes data, ...).

These data are very important to prepare all types of missions and the EATC has a very good experience in conducting exercises (EAATTC, EATT, ...).

The accession of Spain and Italy is a new challenge and their strong motivation to integrate the EATC structure opens up new possibilities. The second step of the study is the airdrop of material. It is already possible to exchange some containers and platforms between nations using the US procedures; we just need a document certifying that the load was inspected. It will be easier to standardize the procedures with the arrival of the Airbus A400M in several nations. The EATC sets up an interoperability week and two meetings each year. The goal is to gather the experts of each nation around a table and to certify or find a compromise about the parachutes and the procedures. Other nations and international organizations are very active in developing interoperability within NATO and the EATC will be one of the keystones of the project. Currently, UK is joining our effort.

#### **FUND's Recurrent Work**

When a study starts, a desired end-state is defined. This end-state can take many forms – but reaching this does not always put an end to the work related to the subject. Especially if the result of a study is a regulation or standing procedure, the work of the EATC and the nations continues and is referred to as a recurrent task.

For standing procedures, this work can be regular reports to be provided to the nations. This kind of work can be easily planned as the workload – and due dates – are clearly identified. A good example is the yearly fleet review performed by the TechLog Branch of the Functional Division.

As for other procedures, the responsible branch needs to react in a prescribed way to requests or actions by the nations. TREX Branch handles participation offers or requests by one nation to another nation's exercises in this way, as described in the SOP for cross-participation. All documents published by the EATC are subject to regular reviews. These reviews are based on changes of the source and driving documents or base assumptions for a regulation. The recurring work on the EATC Flight Duty Regulation clearly reflects this.

Linked to the review of regulations, the EATC is actively participating in groups that work on the source documents of existing EATC documents and procedures. Typical examples are the NATO Air Transport Working Group and different groups under the umbrella of, for example, EDA.

An active role in a group can also be expanded like it is the case for the Load Clearance Working Group of the EAG, where the EATC has recently taken over the role of chairman.

The examples of our recurrent work as exposed in the next paragraphs give an insight of what this work is about and are only a picture of the situation at the time of publication of this magazine (Annotation: More information can be found on the EATC website www.eatc-mil.com/recurrent).

#### Yearly Fleet Review

The EATC Fleet Review, which was published in 2014 for the first time, gives a detailed overview of the EATC fleet, statistics about its usage and the expected or forecasted development. The main goal is to share information between the PNs using the same type of A/C and to provide yearly data regarding their utilization. Each type of A/C is briefly described. In addition, information can be found about the main-

tenance organization, i.e. not only the maintenance units but also the different national maintenance plans with the possibility to identify the discrepancies. The most significant yearly technical events and the main modifications are also provided with a point of situation on airworthiness aspect. This can be helpful to the PNs who use the same type of A/C to stay up to date on the developments of the fleet in general.

Furthermore it can give advice on better cooperation and interoperability, or suggest some studies to identify ways to improve them. Thus the focus is put on the report of the yearly activity. Some statistics are provided in order to examine the operational aspects and to measure EATC's efficiency. In particular, the flying hours, the different types of missions performed and their partitioning, the cargo, passenger and average load factors are presented.

The following part describes the global EATC capacity for tactical, strategic air transport and air-to-air refuelling assets and its evolutions for the upcoming years in order to examine the expected capacity gaps and to propose solutions to minimize them. Other capacities, such as Medevac air transportation or paratroopers dropping, could also be examined in the future. The document is produced under the responsibility of the Logistics & Fleet Monitoring Section and involves other contributors within the EATC. It is based on information provided by subject matter experts (SME) of the PNs.

The workload to produce the first version has been quite significant. In the future, this could be less, as the basic document and its structure are established and the contents have "only" to be updated, except if PNs express the need to get further information or request a more thorough analysis.

#### **Cross-participation**

As of September 2010, when the EATC was created, it became obvious that nations had to trigger squadron exchange opportunities and not only focus on rare common exercises to develop a multinational mindset and learn how to work together. Beforehand, every EA used to prepare and perform its own training events.

While the German units were proposing weekly trainings mainly dedicated to CR aircrews, French squadrons were organizing training periods based on national operational requirements. As for Belgium, its wing still proposes the block-training concept, where aircrews perform a yearly tactical training during fixed periods away from their home base.

Nowadays, with the C-160 decommissioning in progress and the delayed Airbus A400M entry into service, EATC nations can hardly continue to perform complex tactical training events with their own assets.

Based on this assessment, the training and exercises (TREX) branch of EATC has settled the cross-participation concept. With the involvement of nations, the concept enables TREX to identify national exercises or training periods with a high tactical value and propose them to other nations.

As an example,VOLFA, which is a French Air Force exercise organized twice a year, is always offered to cross-participation. This exercise enables other nations' participants to fly formation or to be embedded in Composite Air Operations (COMAOs).

To sum up, if a multinational training or exercise matches national training requirements, each EATC EA gets a high value feedback for its aircrews. Furthermore, the cross-participation concept is actually paramount, enabling each EA to get at least the same results as before with lesser involvement of their assets. Each year EATC TREX branch



offers an average of 15 cross-participation events to the nations. The recent accession of Spain and Italy will certainly pave the way for more cross-participations among EATC nations.

Finally, the cross-participation concept is one of the founding principles of the interoperability framework. Thanks to several exchanges done by EATC EAs, an international mindset and a better knowledge of each other are becoming a reality in the "EATC world".

#### Flight Duty Regulation review

The first version of the EATC Flight Duty Regulation was published in November 2011 and implemented for all missions starting on January 1st 2012.

This document was the result of an intensive study led by the EATC and with subject matter experts from the four founding EATC PNs (Belgium, Germany, France and the Netherlands). The study group decided to use the civilian EU-OPS subpart Q as a base for this military regulation. As from the beginning, it was decided that this document would be reviewed on a yearly basis and its updates published and implemented by the final quarter of the year.

The reviewing process is straightforward: nations are to send their comments to the Employment branch by the end of the second quarter, leaving about three months for the branch to collect the inputs, adapt them and look for an agreement with the nations. All this is mostly done via email.

In the beginning the changes where mainly related to clarifications and incomplete definitions. This year, it will be linked to the accession of Spain and Italy to the EATC – whereas new partner nations need to accept existing and approved documents, each nation comes with specific aircraft types and missions that might not be entirely covered by the regulation.

Beside the main body each nation publishes an annex, specifying small changes to the common regulation where they, in general, accept less strict regulations for specific missions or aircraft types. The nations themselves are responsible for these annexes and can update them every three months.

The work of the Employment Branch here is limited to ensuring the contents is coherent with the main body (for example, making sure no new definitions are introduced) and publishing the final version. Beside nations' inputs for changes, according



to the regulation paragraph 5:"EATC shall ensure that the Flight Duty Regulation is in line with the latest internationally accepted guidelines so they are believed to be sufficient to enable crew to overcome the effects of the previous duties and to be well rested by the start of the following Flight Duty Period."

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This also forces the Employment Branch to follow up on these regulations. For 2015 this will create a lot of extra work as the basis for the EATC regulation will be replaced by the new EU regulation on Flight Time Limits. Although as state operators we are not obliged to follow these regulations, they will be studied and their applicability for our way of operating reviewed. So even recurrent work could lead to new studies.

#### Load Clearance Working Group

Within the domain of Air Transport, a major obstacle in achieving interoperability between nations are the different standards that are in place when clearing load for air shipment. The adoption of common regulations and standards regarding load clearance will definitely improve the actual interoperability of the participants.

The framework for the development of these standards is created with the signature of the Technical Arrangement on Interoperable Load Clearance under the umbrella of the European Air Group. The provisions that are reflected in this Technical Arrangement will be managed by the Interoperable Load Clearance Committee, which assembles representatives of the participating nations. The chairmanship of this ILCC is provided by the European Air Group and will shift after a time of co-chairing with the EATC towards an EATC responsibility.

In order to foster closer cooperation and harmonization in the field of common load clearance, the ILCC takes a leading role in the drafting and formulation of formats and procedures for the implementation of the ILC TA. Therefore, the ILCC will analyse all aspects in relation to common load clearance and strive for their improvement. As a permanent body, the ILCC will regularly review the TA and its Annexes, forward recommendations and inform the Nations of the amendments to the agreement.

The ILCC members are nominated by the Participating Nations and may be supplemented with Subject Matter Experts when appropriate. The ILCC will meet at least twice a year, possibly in combination with SME Meetings. The following three



main products, among others, not mentioned here, are the result of the principles of the body text of the TA:

#### Annex A:

#### Load Clearance Procedures

Presently, a general part of Load Clearance is depicted in the annex and nation specific elements are reflected in the national appendices.

#### Annex B:

**International Load Summary Sheet** International Load Summary Sheet (ILSS) is the standard document to be used for the clearance of load.

#### Annex C:

#### Tie Down Notes/Tie Down Schemes

Tie Down Notes/Tie Down Schemes provides the detailed loading information, often complemented with a view of the equipment which is needed in order to guarantee safe loading and unloading.

#### **Exercises**

#### European Air Transport Training

Initiated by EDA, with a strong support of the EATC, the EATF program management aims at improving interoperability between

#### List of external Working Groups with EATC Participation

Body	Working Group	Role	Leading Branch
EDA/EATF	Ad-Hoc Working Group Operations and Training	Participant	TREX
NATO	Air Transport Working Group	Observer	Employment
	A400M Operational Users Group	Chairman and secretary	Ops Div/Employment
EDA	AAR Project Team/ Operational Employment WG	Member	Employment
NATO	AARWG	Member	Employment
MCCE	AAR & Air Space Management WG	Member	Employment/Ops Div
EDA/EATC	European Air-to-Air Refuelling Training	Member	TREX/Employment
Hercules C-130 Operators Council	European Maintenance Symposium C-130	Chairman and secretary	TechLog
EDA	Ad-Hoc Working Group Sharing of Spare Parts	Observer	TechLog
NATO	Transport of Dangerous Goods	Member	TechLog/TREX
EDA	Military Airworthiness Authority Forum	Observer	TechLog
EAG	Load Clearance Working Group	Co-chair	TechLog



European nations and offering better training opportunities.

Within the EATF framework, EATT is an "à la carte" training event, based on training objectives defined by all participating nations and dedicated to the whole transport community. The uniqueness of the EATT concept attracts an increasing number of nations that are looking for multinational training events that match their national requirements and focus on tactical training objectives.

The EATC plays a major role in EATT by providing a robust expertise and a strong manpower to each event.

The first two EATT events in 2012 and 2013 were organized in Zaragoza, Spain, while in 2014 EATT took place in Plovdiv, Bulgaria. In 2015, the training was settled in Beja, Portugal. As each EATT requires a lot of preparation work, two or three different locations should be identified in the future in order to decrease the preparation effort.

#### An incremental training approach

Six nations participated in the first EATT in 2012; this number increased during the following events with additional expectations in the training domain as well.

Furthermore, EATT 2012 only focused on aircrews, Intel and maintenance training. In 2013, the EATT Core Planning Team had to face more challenges due to the increased number of participants and the variety of requirements defined by the participating nations. A dedicated AE training was implemented and the first academics were introduced in the event.

In 2014, the training concept was consolidated: training objectives defined by nations increased and enabled nations to track and assess aircrews' requirements very precisely. Tactical AE training was performed by day and night with or without NVG.

Also a dedicated CATO training was part of the 2014 event. Last but not least, the academics part was extended and consolidated.

#### A concept to be consolidated

Based on lessons learned of former events and the Core Planning Team experience, EATT 2015 has enabled to consolidate the global training concept.

In the different areas of air transport, all participants have the opportunity to be trained together, learn from each other and work with common procedures, rules and regulations. The para panel implemented this year enabled aircrews to perform more realistic missions while the multinational panel coordinated all airborne activities and worked on interoperability issues.

#### EATC as the Centre of Expertise

For the EATC, EATT is more than a training dedicated to the transport community. As the laboratory of interoperability, EATT enables to assess common rules and regulations as well as common technics, tactics and procedures that have been developed by the EATC Functional Division's staff beforehand. By providing expertise and manpower into EATT, the EATC has gathered a European transport community around a unique concept that matches requirements of most of the European nations.

Finally, from the results reached so far and the strong willingness of European nations to consolidate the EATF outcomes, the EATC demonstrates every day that it has become the Centre of Expertise for air transport matters in Europe.

#### EATT/Maintenance

During EATT, the biggest challenge regarding maintenance is to guarantee A/C availability in compliance with the flight schedule. Hence a multinational Maintenance Operations Centre (MOC) was set up in 2014. This project came alongside with the creation of a multinational Aircraft Cross-Servicing training (ACS), in 2014 as well.

These initiatives also help to improve multinational cooperation, exchange technical knowledge and experience. In this respect, EATT is the ideal occasion to try out concepts developed during, for example, EATC interoperability studies.

#### **Maintenance Operations Centre**

The neuralgic spot of EATT's maintenance is the so-called MOC, Maintenance Operation Centre. Here, under the lead of experts from the EATC, maintenance representatives out of participating nations and host nation coordinate all maintenance activities, including aircraft cross-servicing, cross-maintenance, exchange of spare parts and pooling and sharing of ground support equipment.

#### Aircraft Cross-servicing training

ACS is the execution of services by the maintenance team from nation A on an aircraft from nation B. It aims at providing operational commanders with a flexible and rapid regeneration of aircraft through interoperability. During EATT14, this concept has been implemented by embedding one to two mechanics from one nation into another nation's maintenance organization.

This trainee would execute an "on the job training" (OJT) with his foreign colleagues. This OJT consists of marshalling the aircraft for arrival or departure, fitting or removing the safety pins, connecting the ground support equipment or even refuelling the aircraft. After the successful completion of this aircraft cross-servicing train-





ing, a certificate of attendance is handed out to the trainee.

Pooling and sharing Ground Support Equipment

Another proposal to improve multinational cooperation is the constitution of a common pool of ground support equipment (GSE). As some nations use the same type of aircraft, a pool (of GSE) enables a single nation not to ship all necessary equipment to the DOB.

This initiatives also increases interoperability and allows economies of scale when slightly reducing every participating nation's logistical footprint.

#### Sharing spare parts

What sounds simple in theory is very complicated in practice. Due to current national regulations, one given nation is not necessarily allowed to use a spare part from another because every single one has to be certified as original by a qualified maintenance authority.

Amongst the EATC nations, Belgium, the Netherlands and Germany already exchange parts together with other nations through the Mutual Emergency Supply Support (MESS) procedure signed in 1984.

Together with EDA, the EATC identified possibilities to exchange aircraft spare parts upon an update of the MESS procedure, called Project Arrangement Sharing of Spare parts (PA SoSP). The possibility to exchange spare parts between EATC Nations but also with other countries will improve the availability of the fleet and its operational readiness.

#### Cross-maintenance

Cross-maintenance is the execution of maintenance tasks by a technician from nation A on an aircraft from nation B. To stick to current airworthiness rules, the supervisor from nation B still has to certify the correct execution of that task.

#### Way ahead

EATT 2015 in Beja was an opportunity to try out the PA SoSP as regards exchange of spare parts. The promulgation of the A400M Common Ground Crew Training Concept shall lead to a complete interchange ability of the mechanics between the A400M user nations amongst the EATC in the mid-term.

All these initiatives, be it the multinational Maintenance Operations Centre, the aircraft cross-servicing or cross-maintenance, the pooling and sharing of GSE or the exchange of spare parts, make the EATC a very successful example of international cooperation.

#### New Air Transport Training Course

Under the umbrella of EDA, subject matter experts from the EATC led the planning and execution of the European Advanced Airlift Tactics Training Course (EAATTC) – first multinational course of its kind in Europe. This European course mirrors the wellknown AATTC – organized by the United States Air National Guard and U.S. Air Force



Reserve Command – and was run for the first time from 21 September to 3 October 2014, at Zaragoza (Spain) Air Base, with an intensive cooperation between the EATC and the Spanish Air Force.

#### Similar - but different: European and American approach

As the (US) Advanced Airlift Tactical Training Course (AATTC) was identified by the European participants as tailored to their needs, the European initiative presents strong similarities with it – a balanced compromise of American expertise and the European aim to keep up interoperable standards for all EAATTC Participating Nations (PNs).

#### **EATC** mindset

The European syllabus has been developed by the EATC together with instructors from Belgium, Germany, Spain, France, Italy and the Netherlands and is based on the experiences of previous EATTs (European Air Transport Training): Zaragoza/Spain in 2013, Plovdiv/Bulgaria in 2014 and Beja/Portugal in 2015.

One of the main objectives of EAATTC is to provide a robust airlift tactics training syllabus to allow aircrews to increase interoperability as well as survivability in nonpermissive environments.

As the main course centre, Zaragoza AB has proven its suitability for hosting the course in terms of available airspace and support, making a very good location to conduct a highly effective training on a permanent basis. In addition to the courses pro-

final check and flight Nr. 9 as graduation flight itself. At the end of the course, crews are awarded a graduation certificate, based on the number of flights and events fulfilled.

#### Way ahead

In total three EAATTCs will take place in 2015 starting at the end of March at Plovdiv AB in Bulgaria, and together with the host nation the EATC has filled a key position in the organization and execution of this course.

The second course is the initial multipleship course, EAATTC 2015-02.

It was conducted in Spring 2015 at Orleans Air Base in France and focused on the execution of even more complex missions, including formation flights and integration of Air Transport assets in COMAOs (Composite Air Operations).

The courses of 2015 will be concluded by the third and last course, focusing on singleship operations and NVG training, at Zaragoza AB again in late Summer of 2015. United States Forces are planning to deploy major parts of their AAR fleet out of Europe towards South East Asia, thus taking away a potential resource on AAR capacity on which the European Nations could always lean in the past.

At the same time only 30 percent of the EU member states (MSs) operate tanker aircraft (France, Germany, Italy, the Netherlands, Spain and the UK).

To minimise this capability gap, EDA has implemented an AAR project team to deal with outcomes of four different institutions on AAR matters.

One of those four pillars represents the Multi-Role Transport Tanker/Air-to-Air Refuelling Operational Employment Working Group (OEWG) – led by the EATC. The OEWG's general objective is to harmonize and – where necessary – to develop procedures and related processes to employ existing and future multi-role platforms in their dual AAR- and AT-role. But what would a



vided in Spain, EDA and the EATC will continue to be strongly involved in planning and executing further EATTs in different locations.

The first week of the course starts with academics spread over four half days. Some basic sorties are also flown during that first week. During the second week, the complexity of the missions increases, including low level flights, threat reaction and max effort/high performance landings.

A total of 9 flights were scheduled during the first course in Spain – with flight Nr. 8 as

#### European Air-to-Air Refuelling Training

While the fighter community has trained to operate together for years (e.g. Tactical Leadership Program (TLP), Flag exercises, large NATO exercises in European airspace, etc.), the same cannot be stated for Air-to-Air refuelling (AAR), without which a lot of fighter operations would not be possible.

The lessons learned from an "Unified Protector" over Libya in 2011 showed that for a smooth multinational operation we need to train together in advance. Moreover, the Tanker be good for, without a well-trained crew? This is where the European Air-to-Air Refuelling Training (EART) comes in, one important outcome of the cooperation between EDA and the EATC.

#### Background

The first EART was conducted in 2014. AAR assets from different EATC nations were already involved in the fighter exercise Frisian Flag (FF) in the years prior, but



purely in a supporting role. In 2013 the question was brought up if the framework of the existing exercise could not be used to also train tanker needs.

This led to two major changes in the tanker participation to FF: Firstly, all assets would be deployed to Eindhoven, thus simulating an operation in a location that cannot be supported from the respective home base; secondly, the tankers would not return to base as soon as the fighter did not require their support anymore, but stay in the area and train manoeuvres and procedures of their own.

Also in 2014 the Italian KC-767 was invited, Italy not yet being an EATC nation at that time.

#### Aims and objectives

The overall aim of EART is to train the participants (air and ground crews) to be able to run a tanker operation from a deployed operating base (DOB). This also includes training elements like multi-tanker formation or different rendezvous procedures, which is not possible in day-to-day operations.

During EART, the crews have the unique possibility to gain or regain their qualifications in a short amount of time and within a realistic scenario.

#### The 2015 edition

The 2015 edition of the European Air-to-Air Refuelling Training took place again at Eindhoven air base for two weeks in April and supported Frisian Flag.

The emphasis was again on working from a deployed operating base in a multinational environment. This was even more prominent in this year's training since additionally to last year's nations (Germany, Italy and the Netherlands), France participated and other nations sent observers to assess a future participation.

Participation in 2015:

- France with C-135;
- Germany with A310 MRTT;
- Italy with KC-767A;
- the Netherlands with KDC-10.

#### Way ahead

The intent is that, in the future, EART can be hosted by different nations multiple times a year to support different national and international fighter exercises, thus increasing the training opportunities for AAR units and, at the same time, providing a standardised support for the European and NATO fighter community. In case of future operations, the AAR community will be better prepared.

Another outcome of the EDA AAR Project is the recognition that in NATO there was no dedicated multinational training for AAR Planners. In 2014, the NATO CAOCs, together with AIRCOM and JAPCC, developed the Specialized Heavy Air Refuelling Course (SHARC).

The first official course was held in February 2015. The course incorporates challenges replicating scenarios that the student will see in a large scale exercise or operation. It ensures standardization and continuous improvement within the NATO AAR community.

In 2015, EART integrated "hands on" training for graduates of SHARC, which can be considered as a logical follow-up of this course as it keeps them proficient and prepares them for "real world" operations. This was the first time that SHARC graduates participated in a live flying exercise.

#### Multinational Aircraft Recovery Training

Since 2012, all EATC participating nations have shown deep interest in MART, enabling them to improve national aircraft recovery capabilities, exchange knowledge and experience different equipment. The first event took place in May 2012 at Orleans Air Base (FR) under real life-conditions with a rainy and muddy environment, which has made this training event a demanding but very valuable exercise. The numerous decommissioned C-160s of the French Air Force have led to a big advantage, allowing to set up various working stations and experiment on different recovery solutions.

While in the year 2013 MART didn't take place, all participating nations highly welcomed MART 2014.

Upon British suggestion, MART 2014 took place at the Defense Fire Training and Development Centre (DFTDC) in Manston (UK) in September 2014. It was co-organized by Joint Aircraft Recovery & Transportation Squadron (JARTS) and the EATC. Indeed JARTS has the largest aircraft recovery experience and expertise within the European Union and was willing to share its skills throughout a multinational training.

It was also an opportunity to try out a brand new type of recovery equipment dedicated to large aircraft. The demonstration took place on the Nimrod aircraft which had the left main undercarriage sunk into the ground. This trial aimed at proving the capability to recover certain types of aircraft like C-130, C-17 and A400M.

The goals of MART, building a multinational mindset and a common approach in aircraft recovery technical management, were then achieved in 2014.

#### Challenges

Aircraft recovery capability differs a lot from nation to nation.

It is considered as crucial in such countries as the UK (with the dedicated unit already mentioned above, JARTS) or Germany, who operates a dedicated full set of equipment available in each C-160 wing and



organizes a yearly recovery exercise for all maintenance units (air transport and fighters and helicopters), known as Elephant Recovery.

#### A400M Atlas introduction

In Greek mythology "Atlas" was the name of a Titan who was condemned by Zeus, father of the gods, to carry the weight of the world on his shoulders. With such a name, the new European military transport aircraft is causing quite some attraction – while it will not have to carry the weight of the world, the A400M will fly around the world and constitute the backbone of European military Air Transport (AT) for many years to come.

#### Key roles in A400M employment

The EATC is increasingly involved in A400M issues. After the handover of the first "Atlas" to France, the EATC – as biggest future user of the A400M and acting as "think tank" of many military air transport issues in the heart of Europe – has invested a lot of time and work into the A400M doctrine and concepts.

"But it's worth it", underlines the Commander of the European Air Transport Command (EATC): "Those opportunities only happen every 30 or 40 years in transport aircraft fleets", reflects Major General Christian Badia, underlining the importance of any single step within the A400M introduction.

Here comes an overview of those opportunities the Commander EATC is pointing at:

#### The interoperability framework

The A400M Operational User Group (A400M OUG) has already proved to be an excellent A400M networking opportunity and has been designed to give access to A400M national projects, also providing the opportunity to communicate and negoti-







ate on the different topics with non-EATC A400M nations (e.g. the United Kingdom). Since 2011 the EATC has provided the chairmanship of the OUG.

This group will become even more important after the entry into service of the Atlas, as operators will have gathered experience and faced actual interoperability issues in cross-national training and routine operations.

#### Employment concepts for the A400M

A lot of efforts were engaged to write the common A400M doctrine and employment concepts.

The common A400M concept intends to standardize the principles of use of the new asset. Based on the FR-DE technical arrangement addressing training, both ground and air crew training concepts intend to standardize the training types and principles.

The achieved compromises will make future work easier, when breaking down this concept into common or national followon documents.

#### Aeromedical evacuation solutions

In order to find a common approach and solutions for the best way to perform Aeromedical Evacuation with the A400M, the EATC coordinates the development of "Highand Low care" solutions for the evacuation of patients. This as an addition to the palletized stretcher support solution that is being developed and can also be used on other aircraft than the A400M. The EATC provides the floor for the exchange of information and experiences concerning these future configuration items.

#### **Airworthiness Harmonization**

European Military Airworthiness regulations (EMAR) will be the basic framework for multinational cooperation and the EATC is already involved in this process alongside with EDA.

With the entry into service of the different PNs' A400M, EMAR implementation is needed for spare parts exchange between the nations, common ground crew training and cross-maintenance.



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### The accession of Spain and Italy to the EATC

In 2014 two nations joined the EATC; Spain signed the Note of Participation on the 3rd of July 2014 and Italy on the 4th of December 2014. This brings the total number of EATC Nations to 7. The consequences of the accession of Spain and Italy and the process are described in this article.

The accession process starts with a formal letter of the nation requesting accession to the EATC. The request is brought to the attention of the Multinational Air Transport Committee (MATraC), which forms the highest level of the EATC governance structure, in which nations are represented at Air Chief level.

Upon this request the MATraC establishes an assessment working group. All relevant information is gathered from the nation concerned to assess the consequences of the accession. The main principle in this process is to safeguard the core business of the EATC; to improve effectiveness and efficiency of the Participating Nations' military Air Transport efforts. The final assessment report is presented to the MATraC.

The next step, after a positive MATraC decision, is the establishment of the accession working group. This working group consists of representatives of all seven nations, EATC personnel, and a chairman appointed by the MATraC.

In the case of Spain and Italy the chairman was the EATC Chief of Staff. In the accession working group the terms of accession are discussed. An important item in these negotiations is the Peacetime Establishment (PE). The percentage of the share of the budget entitles the nation to the same percentage of the total of the EATC positions.

The balance within the organisation's PE, where all nations feel appropriately represented, is a delicate matter. When all nations agree to the proposed PE, the final steps in the accession process can be taken, i.e. the note of participation is drafted by the nations' legal departments and the date for the signing is decided by the MATraC.

#### More of everything

The signing of the Note of Participation finalises the formal accession process. The true joining of the EATC, on the other hand, has just started. Getting connected to MEAT is one of the first concerns.

MEAT is the main IT tool inside and outside the EATC to request, plan, task and execute air transport missions. Aircraft can only be brought under the operational control of the EATC if MEAT is successfully implemented in the nations.

After the test phase of MEAT and the training of a sufficient number of people on

the MEAT application, the new member nation's Air Transport Requests and aircraft can be transferred to the EATC.

The signature also obliges the new member nation to comply with all existing EATC procedures and regulations e.g. Flight Duty cedures, people have to move to Eindhoven to take up the positions selected during the PE negotiations.

The consequences of the accession of Spain and Italy in general means more of everything: more aircraft, more types of aircraft, more Air Transport Requests, more EATC personnel, more cross-national possibilities and therefore more efficiency, more EATC Diplomatic Clearance nations thus



Regulations. This means that the people involved (crews, handling personnel, movement and coordination centre personnel and even headquarters personnel) have to be educated in these procedures. Besides the incorporation of technical features and proan enlargement of the geographical area where the common diplomatic clearance number for all EATC flights can be used, more MATraC members but also more



complexity. To be more precise, the accession of Spain in numbers meant 25 extra aircraft and 30 EATC positions filled by Spain. With the accession of Italy, however, the number of personnel for Spain went from 30 to 27 in relation to the sharing key.

The Spanish fleet complements the EATC pool and adds valuable benefit with its small tactical aircraft (CASA 295) and with the new A400M and A330 MRTT in the future.

Besides, Spain's geographical situation and its regular routes provide interesting synergy opportunities.

The accession of Italy has similar positive effects (a larger pool of assets, increase of interoperability, reduction of budget and PE). But, especially in a period when tactical resources are declining, the Italian relatively new fleet is very valuable for the European Air Transport Command.

Italy will transfer the operational control of 37 aircraft to the EATC at the beginning

of 2016. To cope with the additional workload Italy contributes with 35 military personnel to be posted to the EATC.

The accession of Spain and Italy is a positive development for the EATC. The expansion of activities means a focus, for the next period, on improvement and synchronisation of internal and external Air Transport processes within the 7 nations, to truly become one EATC organisation to the highest extent possible.



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