

2

Winter '05



# OUTPUT by EGATS

The Eurocontrol Guild's publication of Air Traffic Control

**In this issue you read about ...**

- ... the 2005 IFATCA Regional Meeting in Rhodes,
- ... the EGATS Photo Competition 2005,
- ... The Gambia - a country to discover,
- ... the ECC Football Tournament,
- ... MANTAS,
- ... BOEING and their plans vs. the AIRBUS 380,
- ... and many other interesting subjects.

## FEEES for 2006!

Your membership fees are due in January 2006 again.  
Please make sure you have your bank transfers or  
"machtiging" forms arranged.

For more information, - please consult our website  
(FAQs) or email to  
[treasurer@egats.org](mailto:treasurer@egats.org).

For membership issues - contact:  
[membership@egats.org](mailto:membership@egats.org)



### Publishing Statement

EGATS OUTPUT ©

2005 EGATS

Volume 10/Issue 2

December 2005

Editor - [editor@egats.org](mailto:editor@egats.org):

Patrik Peters - President of EGATS - [president@egats.org](mailto:president@egats.org)

 [pdtp peters desktop publishing](http://pdtp.petersdesktoppublishing.com)

### Contributions by:

Members of the Executive Board of EGATS, Eric Ong,  
Gabriel Bangiu, Peter Finn and others.

Many thanks for your help!

### Printing:

The EUROCONTROL printing office -

Thank You!

EGATS OUTPUT is published twice per year during summer and winter. It is solely for our members. No part of the information contained in this issue is of any business to the outside world, unless otherwise dedicated by the Executive Board of EGATS. Anybody who forwards this information outside the EGATS membership without the express, written approval of the EGATS Executive Board will be proposed for expulsion at the next AGM for acting against the interests of the EUROCONTROL GUILD OF AIR TRAFFIC SERVICES. The articles, letters, opinions etc. contained in OUTPUT are those of the writers who are solely responsible for their content. They do not necessarily reflect the opinion of the EUROCONTROL Guild.

The EGATS name and logo are our trademarks and are not to be used without permission.

2





Dear members,

On behalf of the Executive Board  
I wish you all a Merry Christmas  
and a Happy, Healthy and Safe  
New Year!

Professionally yours

Patrik Peters  
EGATS President



# IFATCA European Region - Meeting Rhodes/Greece 14<sup>th</sup> - 16<sup>th</sup> October 2005



It was again that period of the year, when European Controllers meet at the IFATCA ERM to discuss, to voice their hopes and concerns, and their views about the future of ATC. A future that could be intriguing, if all parts work as one, and that primarily leads us all to a higher degree of safety. But the future for ATC is full of unknowns, variables and ATCOs are rightfully reluctant to change too quickly or without proper proof of improvement.

**Why change something that works without being sure that the new will definitely be better than the old?**

This is one of the main reasons why changes in ATM take a notoriously long time. We are dealing with safety issues, and we need to be careful in the way we move. Someone said that if aviation people were really concerned about safety, we wouldn't allow planes to fly. But reality is that the aviation community and the ATCOs in particular are dedicated to safety, and in enforcing it, they always try to give the best service.

With all this in mind, Patrik and myself set off to Rhodes, Greece, where this year's ERM was held from October 14 and October 16. Arriving in Rhodes on a late afternoon on October 13, we can already appreciate the beauty of this island which lies in the Aegean Sea. A fine temperature welcomes us, together with the typical sights and sounds of this corner of the world, a place where

over thousands of years different civilizations found a natural haven to develop and prosper. At night, a refreshing walkthrough the ancient city and fortress prepares us at best for the busy days ahead.

The next morning, at 9am sharp, the "Airport Operation Workshop" unofficially opens the 3 days meeting. This workshop highlights one of the main bottlenecks we nowadays encounter. Airline Operators

and ANSPs and thus pilots and controllers are suffering to a big extent from lack of space, runways and insufficient equipment or procedures - often impaired by environmental regulations. The Milano Linate runway incursion is being discussed as an example for these insufficiencies. After this extensive workshop, it's time for Patrik to stand up and take the floor to illustrate the progress and the way forward for the SES and SESAME - now known as SESAR - programs.

Fragmentation in Europe is being identified as the major limiting factor to a more efficient use of airspace. Different rules in neighbouring countries as well





as limitations due to military airspace users and incompatible ATM systems are some of the reasons for this. The costs of de-fragmentation however seem to be neglected - ANSPs and Airline Operators are thrilled by a possible efficient system and - blinded by that light - strive for an ideal, but unrealistic European ATM system. IFATCA once again raises concerns to give economics the priority over safety. Unifying European airspace should be based upon operational requirements rather than economical or political interests.

Mr. Aguado, Director General of Eurocontrol stated that 'We need cooperation more than competition'. Marc Baumgartner, CEO of IFATCA compared the idea of Functional Airspace Blocks (FABs) with a Trojan Horse, fearing that airlines could use this concept to influence and decide on the level of service they require and they are willing to pay for, which would open the door to a purely revenue driven Air Traffic Control service.

The next morning, the official opening ceremony takes place in the presence of the Greek Minister for the Aegean Sea, the Greek Minister

for Tourism, the Eurocontrol DG Dr Aguado and the President of the Greek Civil Aviation Authority, amongst others. The first one to take the floor is the current EVP EUR Nicolas Lyrakides. After greeting and

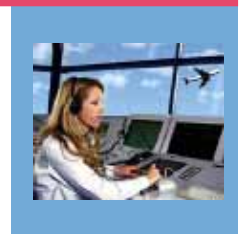
welcoming everyone, he expresses his sincere sadness for the loss of lives that occurred in the crash of the Helios flight on Greek soil. Given the fact that he is an ATCO, and a Cypriot too, he feels touched even more by this event, and although October 20 is the day of the

ATCO, he finds that in such an occasion there is really little to celebrate. Everytime we believe the system has reached an acceptable degree of safety, this kind of thing stands as a tough reminder that no one can afford to loosen the grip on safety, not even once. He then asks everyone present to stand up and pay respect to those victims with one minute of silence. Continuing with his speech, he also expresses no reason for celebrations as Europe, at this moment, is hit by a



wave of social unrest, trials involving ATCOs, deteriorating working conditions and unmotivated dismissals of colleagues in certain countries. Although we should look ahead, look to our future with special focus on traffic growth versus safety, and the SES, it's undeniable that there is a sense of unfairness surrounding us. After his speech, mainly centred on the conditions of ATCOs throughout Europe, he invites Dr. Aguado to take the floor.





Expressing his appreciation for having been invited to hold his speech before such audience, Dr Aguado, talking on the point of unfairness voiced by EVP EUR, doesn't waste any time in underlining the importance of the INREP project together with the need for proper safety legislations and regulations in the states and a well based safety management to restore confidence amongst ATCOs and ultimately serve safety in a better way. In his well pondered speech, ranging throughout the whole ATM spectrum, he points out that early next year there'll be an ICAO conference, together with all the directors of the ATM providers, to address a growing concern for aviation safety given the ever rising traffic figures, and because still much has to be done to meet the future needs and demands. He also illustrates all the fields where Eurocontrol has a leading role, from ESARRs to the "long standing European dream" of the SES, with its 60 million euros set aside for airspace design and the definition of the next generation systems, to the 8 Eurocontrol packages of implementing rules. As it stands now, European airspace is fragmented and uses a vast range of different systems, boosting the operational costs. The new airspace organization and its requirements should not be linked and limited by any political boundary. In this view, the FABs will strictly follow operational criteria, hopefully with more cooperation than competition between providers. But together with this, we will experience the possibility for more ATCO mobility, as the E.U. plan, and dream, is to have no more than 10-12 ATC centres in Europe, down from the 60+ of today. But human resources will play still a fundamental role, and the relevance of ATCOs will increase rather than decrease, because the success of this plan and the ability for this system to meet the objectives set for 2020 is

linked and relies on the abilities of its main players, the ATCOs. The reason for this lies in the capability of ATCOs to sustain every year a growth in their workload which doesn't really have a comparison in any other sectors of our society.



Marc Baumgartner, IFATCA president and CEO, underlines that despite our professionalism and our effort, a series of accidents this year led to a high number of casualties, and the recent crashes left us

totally exposed to the media and to the public opinion looking for a scapegoat, or someone to blame at all costs, with no way for us to efficiently reply, as most times what is reported is incorrect and/or incomplete. Air transport is the backbone of global society, and for this, society is expecting us to deliver the safest product we can. And indeed we do our outmost day in and day out. But when a press release from a low cost airline, for example, blamed the ATC system, marking it as inefficient, indicating it was the main cause for a reduced profit and higher fares, without even mentioning the most serious crisis oil price is facing in a long time, we really have no effective way





to answer. We are professional, but not heroes. Whereas the CEO of that low cost airline sometimes is indeed seen as “hero” by thousands of people, as he made flying accessible to everyone. So his words, although incorrect and unjust, have an immediate impact on how people perceive the job we perform. So we may appear inefficient to many, but reality is opposite. Taking into account military restrictions, limitations in procedures, difficult and unexpected situations, system shortcomings, weather, traffic growth, social issues and a proactive involvement in R and D, we do an awfully good job!! And despite all this, it seems not enough to meet future demands and it is feared that future could bring loss of income and reduction of personnel with the introduction of the FABs.

And if we think that things can't be worse, here is something to give a serious thought to:

- Last year a colleague in Belarus was unjustly fired due to his involvement in the local union. After more than a year, he still makes a living as a driver.

- This year in Guatemala about 50 colleagues were dismissed for seeking better overall conditions, and Mexico forced some of its ATCOs to replace their Guatemalan colleagues under the intimidation of the army, who physically escorted them to their new posts. Adding disregard for human rights to disregard for workers' rights, if you are wondering whether our Mexican colleagues received appropriate training for their “new job”, the answer is ‘NO’. IFATCA’s letter of complaint to the Mexican President was rejected but IFATCA endures to do more to support our colleagues.

- Some Moldovan colleagues were unjustly dismissed for voicing concerns, yet again, about poor working conditions. Some others were forced to sign undated resignation letters, just another “original method” to keep them quiet and under control.

This shows there is still a long way ahead of us but, where are we headed.

Finally one good example was given by DFS, which offered to assist our Greek and Cypriot colleagues involved in the crash of the Helios flight with their CISM program, and IFATCA is supporting our Italian colleague involved in the Linate crash, as on October 24 the appeal trial has begun.



After this hard overview on some ATCOs conditions, another valid speech was delivered by our HQ colleague Radu Cioponea, on the legal and cultural impediments to safety reporting. The widespread lack of trust between ATCOs and management, between management and legislators, and even amongst colleagues and the natural attitude of individuals to think that failure can only happen to others is a tough barrier to eradicate. There is a real need to look beyond this and establish a culture of support for a colleague who is involved in an incident/ accident rather than of isolation and blame. Furthermore, attempting to change the ATC relationship with the media could be of great benefit. As we need to deliver the message for a just culture and non-punitive reporting, we need to reach out to politicians, to the public, and to the media who could play an important role to make them aware of all this, as they may not understand our reasons. We have to try to work with the media and not against, and all



this takes time. To create a successful system takes time, but trust and a just culture are the key and a powerful means as the media can help us in delivering our message, if reported fairly and correctly.

Another important issue soon to be implemented was illustrated by our IANS colleague Adrain Enright. Being the ELPAC project leader, he is responsible for identifying the needs and creates a test to meet the ICAO language proficiency requirements, as specified in the SARPs. As in a number of high profile accidents language has been a contributory factor, ICAO has identified the need to reinforce standard phraseology and English knowledge. As result, a series of changes to Annexes 1, 6, 10 and 11 have been performed, and effective March 5, 2008, the ICAO language standard will be an ATCO/pilot license endorsement, with assessment every 3 years or 5 years, depending on the level reached. The importance of English knowledge and standards is paramount, particularly in Europe where over a relatively limited geographical area, more than 30 different languages are spoken. Language is as much a tool for an ATCO as radar is, and we need to master such tool. In simple terms, on top of standard phraseology, every ATCO will be required to be able to produce a message in plain English in all situations, resolve misunderstandings generated by noise, stress and other factors, and give timely and appropriate responses to pilots. The basic test requirements are to demonstrate proficiency in listening and speaking skills, it will be placed in a context appropriate to the working environment and it will check the ability to switch between phraseology and plain language to clarify and negotiate unusual situations. The immediate benefit of this testing is that the ANSPs will fulfil the requirements of ICAO Annex 11 and consequently ATCOs will

have a higher confidence in their own abilities, resulting in a direct contribution to safety. This test must meet ICAO standards but will also meet ATCO/pilots requirements. But as of now, nothing has been discussed to set up a remedial program should someone fail the test.

To conclude a very intense Saturday, reports about CEATS, the NUAC and the BUL-ROM FAB were presented. At this moment these 3 projects are facing different problems, as the NUAC is still in a phase where it's necessary to understand which countries have a real interest as Scandinavia, the Baltic states, Iceland, Finland, Poland and north east Germany could be involved to form a FAB, and basic introductory talks on the reduction of number of ACCs within this area have started. As for CEATS, things look a bit more complex, as the ANSPs involved are reconsidering their strategies. Following the decision of Italy not to ratify the CEATS project and to formally submit the request to withdraw the signed agreement, Slovenia and Croatia expressed their doubts on the project (and the re-financing of it, as it will be without the Italian economic contribution as planned originally) and the Czech Republic also distanced itself from it. The outcome is still unclear, and the least that this situation will create is unforeseen delays for the project. Lastly, the BUL-ROM FAB, as the E.U. has given mandate to create FABs without clear guidelines and







requirements, the Italian government has proposed the so called "Giustiniano project", for a cross-balkan FAB including Italy, Serbia, Albania, Bulgaria, Romania, Greece, FYROM, Malta and Cyprus, with its operational ACC situated in Brindisi. As fundamentally Bulgaria and Romania didn't like the idea to close down their centres and move to Italy, they came up with a project of their own, originally called BUL-ROM FAB. It is, at this moment in time, a reaction to the Italian project, as they prefer to be proactive for their future rather than have the future imposed on them. But as it is at an early stage, there are still many doubts on its feasibility, as the project calls for an ACC to be located in Bucharest and one in Sofia. As the E.U. would ideally like to see 10-12 centres throughout all of Europe, with the project as it stands now, this becomes difficult to achieve already, if each country claims a centre in their own territory and the operational needs for FABs are already disregarded in favour of political and geographical reasons. Several presentations from our very dedicated and motivated European IFATCA representatives followed.

We for example received an update on the recent developments of the NUAC project (Nordic UAC between nowadays only Sweden and Denmark - all others more or less bailed out) from Pernille Ladefoged, President of DATCA.

Also Patrik informed us - in his function as IFATCA Liaison Officer to Eurocontrol - about FASTI, First ATC Support Tools Implementation and EASC, the European ATM Staff Representatives Conference.

FASTI is a project intended to bridge the gap between DMEAN (short term capacity gains with flight-plannable CDRs) and SESAR (long term).

It shall free capacity by providing implementation support to harmonise and expedite the introduction of controller automated system support

and enable future implementation of automated support tools by establishing common performance levels. It is mainly aimed at the European corner states where these systems are not yet implemented and the traffic increase will be with an average of 6-7% per year higher than in the core area of Europe.



EASC is a high level initiative launched by the Director General of Eurocontrol to enhance communication and understanding and to promote and facilitate the sharing of information between Eurocontrol and European Staff Representatives thus ATCEUC, ETF, IFATSEA and IFTACA.

Following a very nice traditional dinner on Saturday night, with our Greek colleagues performing local songs and dances to the best of their abilities providing an unprecedented level of entertainment, we reconvened on Sunday morning for the MAs reports on a closed session. In this session, each MA has the chance to illustrate to the audience the achievements and the shortcomings they face in their situations.

Of particular relevance was the report from Cyprus, where once again ATCOs were facing hostile media, with names



of the people directly and indirectly involved (ATCOs, engineers...) in the Helios crash were leaked to the press and published. Apparently Eurocontrol is forcing local management to implement safety regulations on this matter.

A concern from Germany, as a whole, was expressed about the new contract negotiations, and also the long standing issue of TWR control, where at some airports TWR control is performed remotely from another TWR located on a different airfield.

In Georgia the trial in which ATCOs involved in an accident were found guilty has been re-opened based on some factual evidence that for some reason wasn't taken into account earlier on. EVP EUR is in contact with our colleagues there, giving IFATCA support and will keep the other MAs up to date with the development of this case.



Greece asked IFATCA to pressure all the parties concerned to have legislation in place to force the media to wait with assumptions and the releasing of names in case of accidents/incidents, at least until the investigations are complete. They also find it disgraceful that ATCOs that might have made a mistake while performing their demanding tasks are brought to justice and treated as common criminals. Greece asked also for financial support for an ATCO involved in an accident a few years ago.

He had given instructions based on pilot reports as radar wasn't available in that area, and at the subsequent trial found not guilty. On appeal, demanded also by the national press, he was found guilty and jailed for 4 years. Now, at a higher court, he is facing once again a battle for the right to clear his name but the costs involved are rather high. To conclude, Greece suggested that IFATCA should create a WP to give guidelines on how to handle the media in case of serious incidents/accidents.

The report of EGATS dealing with - amongst other items - the roster negotiations and the almost unbelievable traffic figures and delay reduction for the year of 2005 was discussed with big interest. The idea of working according 'occupancy' figures in such a busy environment was questioned as well as the proposals for enhanced working conditions.

The membership association of Moldova, which through the financial support of EGATS was able to attend the Regional Meeting expressed their gratitude for this gesture.

The day concluded with a fantastic farewell dinner in the pool area of the hotel. Live music and traditional Greek food gave the perfect ending to a very successful meeting. And as our Executive Vice President Nicolas Lyrakides was herewith chairing his last European Region IFATCA Meeting, he had the honours to enjoy a 'voluntary' dive in the pool!

Well, it is time to leave Greece. Looking back, it's been a very intense 3 days work. A lot of pressing issues have been discussed, it is clear now that our future is at stake, and there is still so much to do. It's our responsibility to work everyday to make sure that our skies are safer everyday, so that no one can



ever question us as professionals. Our strength is our dedication, a dedication that is reflected everyday successfully around the world. Our identity as controllers keeps us united and keeps us going, and thanks to everyone for their small or big support, we are still proud of what we do. ATCOs have the unique ability to adapt to every circumstance to better perform their tasks, and this is one of the main keys that enables us to work in a system that presently is stretched almost to its limits. For now, on my flight back to Athens to connect to Brussels, I just sit back and enjoy the magnificent view of the Greek islands laying peacefully in a pink Aegean sea, coloured by a setting sun. For a moment, it seems like time has stopped.... but despite all, there is still so much to do!! So see you all again at the next IFATCA ERM, next October in Sofia. In the mean time there is a year ahead of us full of expectations, maybe frustrations, but surely full of hard work. And also the appointment with the IFATCA AGM, in Kaohsiung, Taiwan next March.



And as a final thought for everyone, like someone said in Greece, let's all remember that ICAO always talks about safety, and never about profit!

So dear colleagues, let's keep up our good work!

Raffaele Vigorita



Dear EGATS Member,

Every year IFATCA, the International Federation of Air Traffic Controllers' Associations, organizes an Annual Conference where controllers from the four corners of the world meet to discuss issues related to our job and set the path for the way forward.

And every year, EGATS gives the opportunity for a member to join the EGATS official delegation with the newcomer policy. If you have never been previously selected and you have been an EGATS member for at least 2 years, you are eligible for the ballot! If you are motivated and interested in attending, or you just want to know more, mail us at [board@egats.org](mailto:board@egats.org). Closing date for applications is **07<sup>th</sup> January 2006**, and the winner will be announced shortly thereafter. In case you are be selected to attend, EGATS will make all the necessary flight, accommodation and attendance reservations and will reimburse you upon returning, subject to your attendance at the working sessions. You will have to make sure you can take the time off with the Roster Office and subsequently will possibly be awarded Special Leave for the 5 days of meetings.

**The 45<sup>th</sup> IFATCA Annual Conference will be held in Kaohsiung, Taiwan, from 27 to 31 March 2006.**

For further information about the venue, visit [www.ifatca.org](http://www.ifatca.org) or [www.ifatca2006.com.tw](http://www.ifatca2006.com.tw).

**GOOD LUCK!**

Your Executive Board

# MANTAS

## A new concept?



### A few words from the MANTAS office....

*What started as a draft working paper in the year 2000 on possible capacity enhancements in Maastricht, turned into the "MANTAS project" in 2002.*

*MANTAS (Maastricht Atc New Tools And Systems) has been around for about five years now. So, what has happened in the meantime?*

### Need for extra capacity

Today's way of creating and managing extra capacity by splitting sectors into smaller units will very soon reach its limit. There is a clear need for a new concept for traffic and airspace management.

But, where can we create some extra capacity then?

In a few years time (end 2007), the N-FDPS will be in place. This new Flight Data Processing system will, amongst others, allow to dynamically change sector shapes and re-distribute traffic between sectors on a system level, due to its flexible sector sequence logic.

With support tools being able to predict and suggest solutions to bottleneck sectors and areas, we should be able to spread the workload more evenly between different sectors. That is, if there is an ATC concept supporting this.

### A new operational methodology

That is where MANTAS comes in. Over the last few years, we (The MANTAS project team) have been developing a new operational methodology, intended

to increase both safety and controller productivity.

The aim of MANTAS is to move as much ATC work as possible from the Reactive to the Strategic/Adaptive phases, shifting workload from the Executive controller to Co-ordinator and Planner roles. More standardisation of controller tasks, and the possibility of detecting and reducing traffic complexity are a few of the key ingredients.

*(MANTAS OPS Manual available on intranet: Operations/MANTAS)*

### MANTAS Basic Operational Concept

Over the last two years, three different real-time simulations have been conducted. The aim was to validate the basic MANTAS concept with respect to airspace design with the help of GATES and FENCES, Mixed Route airspace with direct routing and various forms of OAT/GAT integration, and revised ATC methodologies. Also, the concept of dynamic re-sectorisation and re-distribution of traffic has been simulated. The MANTAS project team has analysed all simulation results and come to the conclusion that the MANTAS basic operational concept is valid. Two elements, Departure Gateways and Quadrantal Flight Level Allocation Scheme, were found not adequate and will be taken out of the MANTAS Operational Concept.

### What's next?

With the conclusion that the basic MANTAS concept is valid, we will now start looking into the benefits of tools. How can we make best use of tools and ideas like MTCD, MultiSector Planner, complexity predictions and workload monitoring?

We aim for a next real-time MANTAS simulation early 2007, which should preferably take place in a simulator platform based on N-FDPS. This platform will give us the chance to focus on the tools and ideas mentioned above. We will





look more into the role of the MultiSector Planner and the processes of dynamically changing airspace configurations and complexity/workload management.

**In the meantime**

Some of the ideas of MANTAS appear in a number of different areas now already. Controller licensing, airspace design methods and civil/military studies are areas where we are busy with different sub-studies.

Also, we are involved in a Cost/Benefit Analysis for the basic MANTAS concept and a PSSA (preliminary system safety assessment), both with the help of external companies.

Eurocontrol Headquarters is also showing great interest in MANTAS, supporting us in areas like Human Factors, Fast Time Simulations and Safety.



**Resources**

Even if we have a MANTAS Core Team, most of our activities are only possible because of the support we have received from the OPS room. To this day, we have had more than 50 volunteers helping with different sub-projects or studies. Big **thank you** to all of you!

To the ones that have not been approached yet, you know what's up when I come around the next time!

Peter Finn  
MANTAS Core Team Leader

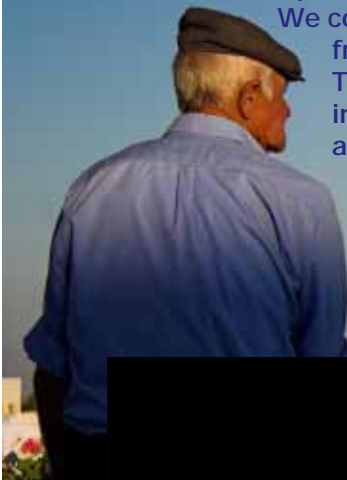


**EGATS  
Photo Competition  
2005**

The 2005 Photo competition was a real success!

We counted a total of 59 photos from as many as 20 entrants. The staff at Photo Rembrandt in Maastricht judged all photos and selected the winners.

The standard was very high and the photos deserve your attention. This is why we are currently discussing with internal services on how and where to display these photos at the MAS UAC. They will also be published on the EGATS website.



**13**

The winners are: Robert Klos, Claudia d'Amico, Jan Vesters, Milena Dobрева & Stephen Mohammed.



## The Gambia

### Hidden treasure of Africa



To be honest with you, when my wife proposed that our annual autumn holiday would take us to The Gambia, I had my reservations. When I think of Africa, my first thoughts are those of hunger, civil war etc... Of course, there are a few exceptions like Egypt, Tunisia, Kenya or South Africa. And to those, you can now add another country: The Gambia.



goods, and also one of the few places where one can cross the river. The biggest city is Serekunda with almost 275000 people. It is located about 15km south of Banjul. The population of The Gambia consists of a mixture of different tribes, about 15 in total. Although these speak 30 different languages between them, English is the official language. Even in smaller villages far inland, one can always expect people to speak English. French is also spoken, especially among the many Senegalese working in the Tourist industry. 90% of the population is Muslim, and this is evidenced by the many mosques you can see all over the country. However they practise a very liberal style of Islam, especially towards women.

The Republic of The Gambia is situated at the far Western point of the African continent, at the Atlantic Ocean. It is only 320km long and between 20 and 50 km wide, and as such is the smallest country on the African continent. With 11000km<sup>2</sup> it is about 1/3 of the size of Belgium. It is surrounded on 3 sides by Senegal, and just like Holland, it is very flat. The highest point is only 40 meters above sea. From East to West the country is divided in two by the River Gambia.



Rarely one will see a veiled woman, they are allowed to drive cars, and have jobs, and polygamy is becoming rare.

Total population of The Gambia is less than 1.5 million. About 43000 people live in the capital Banjul. The city is located on an island in the river delta, and therefore has reached its maximum size. It is the main port for import of



So, why go to The Gambia on Holiday? Well for starters, the weather is very nice most of the year. Average year round temperature is 26 C. From November to June is the dry season, with very little rain and peak temperatures around 40 C. From July to October is the rainy season with a chance of thunderstorms and showers, mostly in the evening or at night. We went in October and had 5 days of blue skies and 3 days of cloudy skies, with two nights of rain. Not too bad if you ask me.



Most of the hotels are located on the Atlantic coast, in Kololi, Fajara and Kotu, and feature beautiful sand beaches lined with palm trees. The temperature of the ocean water varies between 20 and 28 C, and in most places some kind of lifeguard service is provided. Most hotels have nice swimming pools as well.

Due to the small size of the country, it is ideal to go and explore. Most travel organisations offer trips and tours as part of their local service. It is also very easy to take a taxi, and for a little extra the driver will explain you all about his country. We went on an organised tour to the 3 biggest cities: In Banjul we visited the National Museum, as well as the huge Albert

species on the many bird safaris. We decided to visit the Bijilo Nature Forest park, as well as the Makasutu Palm Forest. Both parks offer guided tours with explanation about the trees and animals you encounter along the way. There is also a good chance of meeting monkeys while walking through the parks and we saw Green-Velvet monkeys on one trip, and Baboons on the other.

Even if you are more into culture and history, The Gambia has something to offer to you. Several nations used to have slave trading posts in the country and the remnants of this can be seen in places like Georgetown and Albreda. It is also in this country, in the small village of Juffureh, that lived Kunta Kinteh, the main character of the book "Roots" by Alex Haley.

All in all I really enjoyed my trip. The people are friendly and welcoming, it is safe to move around and the weather was great. What else can you wish for? And at 6 hours flying form Amsterdam (Transavia flies once a week) it is not too far away. In my opinion a good alternative if you are looking for a relaxing time.

Ive van Weddingen



Market. This was quite an interesting experience, unlike any other market I had ever seen. In Serekunda we visited a craft market. The day ended in Bakau were we visited a Crocodile farm. Crocodiles are considered holy animals in the ancient beliefs of the Gambian people, and therefore are well taken care of.

The Gambia is well known for its nature. Although a lot of forestland has been lost in recent years, efforts are in place to conserve what is left.

In the various parks you can see Mahonie, Kolatrees, and Baobab as well as several Palm varieties. Unlike Kenya or Tanzania you will not find any big mammals here. Except for some hippopotamus they are all extinct. However their place has been taken by an abundance of birds. About 450 species have been identified, and new ones are still being discovered. There is ample opportunity to see some of these



# European Controllers Cup

## Hidden talents



Once again I am left with the unenviable task of writing an article on the annual European Controllers Cup (ECC). So if while reading this you have a feeling of déjà vu then that's because I have written a report for Output on the annual ECC for the last few years.

This year's tournament was different from most for a number of reasons. Firstly, it was being held at a beach resort with everyone staying in one hotel; normally it is held in a city with all the teams being placed into different hotels throughout the host city. Secondly, it was not held in the country of the host nation, although Team Moscow where the organising/host team, the tournament took place in Turkey and not in Russia. And finally, for once the Maastricht Team really felt as if they had a chance of doing well and finishing in the top ten places.

Due to the size of this year's team (30 people – players and supporters) we were unable to travel together to Turkey but instead were booked on five or six different flights out of Düsseldorf and Köln. I had the pleasure of a 3.30am alarm call for a 6:50am Condor departure from Düsseldorf with around fifteen others from the Maastricht Team. Both our flight to Antalya and subsequent transfer to the Hotel went without any problems. The check-in at the HotelA was a little less hassle free and took somewhere around 45minutes.....not what you want when you are keen to get to the pool to enjoy the sunshine and an ice cold beer. The Hotel that we were staying in for the duration of the tournament was an "all-inclusive" resort hotel call The Kremlin Palace, and although it was extremely

large, had lots of facilities and was right on the beach, it wasn't that great. It was however extremely "kitsch" as it was based on the Kremlin in Moscow with additional Red Square (with swimming pool) and a Saint Basil's Cathedral (with fast food restaurant and bar).



The first afternoon was spent acclimatising; getting used to the sun, the terrible beer in plastic glasses and the queues at the bars. We also made use of the water slides and the banana boat, but only after the beer had convinced us to do so. The first evening of the ECC is normally taken up with a welcome party, unfortunately this year nothing was really organised, which was a shame as this is always a good time to meet the other teams and to catch up with old friends!



As usual the tournament begins in earnest on the Tuesday morning and so it was that a group of highly trained, fit and motivated players lined up for Team Maastricht in our first game of the week against Team Zagreb. At the end of the game it seemed that all our optimism was well founded and that all the training we had put in over the last year had paid off. We crushed a strong Croatian team 3-0. Things were looking good.



Well for an hour or so anyway, as our second game saw us play out a goalless draw with a fairly average team from Padua. Things then continued to go down hill when we lost to Team Bucharest 2-1, after we dominated the game but couldn't put away our numerous chances. The game was not without incident though, a fluke goal from the Romanians and at the end of the game very nearly an assault on the referee by one of the Romanians who, to put it mildly, rather lost his head!!! So the end of the first day ended in disappointment, if we were going to make it through to last 16 then we had to beat the team from Rhein Radar on Wednesday morning.



Unfortunately this didn't happen, again we were the better side and dominated the game (I know I'm beginning to sound repetitive but it's the truth!!!!) but we could only manage a draw. Never mind, we said, we'll win the plate. But only if we could beat Team Shannon on the Wednesday afternoon....we couldn't, losing on penalties after a close, well fought game that ended nil-nil. With nothing left to play for, we won our last two games on Thursday beating Nice and Vilnius to finish the Tournament in 26<sup>th</sup> place. So overall the football hadn't gone as we had hoped, and although we had played well, we just weren't able to convert enough chances into goals.



The entertainment during the week was rather limited due to the fact that the hotel was situated in the middle of nowhere. This meant that we were confined to the hotel and although we did have a lot of fun, getting drinks always proved difficult and time consuming as the bars were unable to cope with one thousand people all trying to get a drink at the same time. Nevertheless we were kept entertained by Paulie Cummins (The Editor has I'm afraid censored the photographs), Miles Macklin (who forgot to use suntan lotion....ouch) and by throwing each other into the swimming pools after midnight. The week finished, as it had begun, without a properly organised farewell party. So although this years Tournament was good fun and the weather was excellent, the location and the standard of the accommodation was not great. I have to say that I'm not sure holding such an event in an "all-inclusive" resort is really a good idea. There was nowhere else to go to in the evenings and the hotel itself was not really up to catering for such a large group of men who wanted to spend every night getting drunk. I have certainly enjoyed previous year's tournaments more.



This year we were lucky enough to receive sponsorship from a number of different sources. The Maastricht Team would like to thank:

**EGATS** who again provided us with an amount of money, which we used to buy sports bags for the team.

**KERAM BMW** (A2 Mobilport) who gave us a sum of money which we used to buy a new kit (see Team photo).

**ROVI Sport** in Meerssen who provided T-shirts for the Team.

Thanks again to them. I would also like to thank a few people who over the course of the year put a lot of time and effort into Team Maastricht. They are Eric Ong, Craig Howells, Marco Kuelgen and Chris Geelen. Thanks of course to all the players who played in Turkey, for all their efforts on the field and for creating a good team spirit off the pitch.

Lastly thanks to all those who went along to support.



Next years tournament will again be held at a holiday resort, this time in Albena on Bulgaria's Black Sea coast. Once more we will be going with high hopes as nearly all of the players from this year will be there. We are also taking our very own "Bulgarian Mafia" for protection! I shall of course be there.....I just hope its better than Turkey, and who knows the Team from Maastricht might just win something!!!!

Martin Norris



**Rovi Sport**

**Robert & Vivian Smeets**

**Bunderstraat 27**

**6231 EH Meerssen**

**Tel. 043-3647923**

**Email: [info@rovisport.nl](mailto:info@rovisport.nl)**



**Keram, your soccer sponsor!**

**Business car of the year 2005.**  
The new BMW 520d Business.

€ Price from € 24.950,-  
€ 340 Nm torque  
€ B energy label  
€ Diesel particle filter  
Average fuel usage 5,9 l/100 km

**Keram, Your BMW and MINI dealer**  
Sponsor of the Euro Control soccer team.  
Part of **A2 Mobilport**  
Australielaan 30  
6199 AA Maastricht-Airport  
Tel. (043) 361 85 55  
[www.keram.nl](http://www.keram.nl)





## Maastricht Aachen Airport 60 years

RWY 21-03 Opened

With WW2 drawing to an end the Allied Forces Europe in early 1945 set up a military airfield in Beek called Y-44. On 01 August 1945 this field was handed over to the Dutch authorities, and on 26 September 1945 the first civil flight took place from this field. These first flights were performed by the "Regeeringsvliegdiens" and were exclusive for the use by 'persons working for the government, civil servants and other persons pointed out by the government' At that time, the airfield disposed of a PSP (perforated steel plates) runway 22-04 of 40 meters wide and 1200 meters long. It marked the beginning of a turbulent history for this field. During the course of it's history the airport focussed both on passengers and cargo. While growing slowly, taking advantage of the growth opportunities was often frustrated by indecisiveness on the political front. The most recent of these frustrations coming with the cancellation

of the proposed east-west runway and subsequent closure of the "small" runway 25-07. As a result of this many chances for growth fell to neighbouring airports like Liège, where TNT set up shop, or Dusseldorf and Cologne. However with the privatisation, started in 2004 and completed by the beginning of this year, it seems that the chances are slowly turning for Maastricht Aachen Airport. Maastricht Aachen airport is now 100% in private hands and as such is the first full private airport in The Netherlands. An ambitious plan was set up by the new owners OmDV BV, a joint venture of Omniport plc and Dura Vermeer Deelnemingen, to develop Maastricht into a profitable regional gateway. Prime place in this plan is the moving of the terminal from it's current location along the A2 to the other side of the airport. These works are currently planned to start in 2006. In order to comply with the latest environmental and safety regulations it was decided to also renovate the runway at EHBK, as it had been 22 years since the last mayor renovation

As a result of only one runway being available and the field having to remain open for business, all the work on the runway had to be completed during the night. Every night after the last flight had landed, a carefully orchestrated process was started to scrape off and replace about 200meters of runway surfacing. In the meantime it was decided to widen the runway by about 10 meters, as in the old configuration the outboard engines of eg 747's would hang over the grass, increasing the chances of FOD damage. During the space of 3 moths the runway was not only completely renovated, but also provided with a new approach lighting system, as well as new displaced thresholds. All this was achieved with minimal disturbance to the operators at EHBK, the airport being only closed for normal operation on 2 occasions in that timespan.

Saturday 29 October 2005 the new runway, now designated 21-03 was officially opened by Mrs drs M. Schultz van Haegen, the Dutch Secretary of State of the Ministry of Transport and Public Works. In their respective speeches, both she and Mr J. Tindemans director of the Airport congratulated the constructors with a job well done, as well as expressing their hopes for a bright future for the airport. This was followed by a video diary of the work in progress as well as a spectacular laser show to mark the official reopening of the runway.

After 60 years, it is now time for MAA to stand on it's own feet and make true on all the promises from the past. The establishment in the last few month of new services, both in Cargo (Malaysian) and in passenger (Easyjet) traffic already makes for good prospects. Hopefully more airlines will follow in their steps in the near future, making Maastricht Aachen Airport THE gateway to the Euregio.

(with thanks to MAA for inviting EGATS to the opening of the runway 21-030)



# The Dream must go on

Since last time we had the opportunity to have a close look on the A380, the latest superjumbo, I think it would be fair now to have a deeper look on the one who has worn the crown of the biggest passenger aircraft ever built, until the arrival of the A380.

That is the **Jumbo Jet Boeing 747**...

Everything started at the end of the 50's, when the turboprop era started to fade out, making way for the new trend, the jet transport age, which was capable of offering faster, bigger and more economic air transport. In the 60s it became evident there was a boom in air travel and extra capacity was urgently needed. It is hard to believe, but the apparition of the 747 was a result of a failed project, initially meant for the US Air Force.

In the early 60s, USAF required a large strategic airlifter, capable of carrying 750 troops or 125000 lb of cargo for up to 8000 miles. In the end the competition was between Boeing, with its 747, and Lockheed, with its also huge C5 Galaxy. The USAF decided in favour of the C5 and Boeing had found itself on the brink of bankruptcy, having invested a huge amount of money in a project which, eventually, was heading to history before being realised. When the 747 project was just about to be abandoned, two great opportunities showed up.

The first was represented by Pan American Airways and its boss, Juan Trippe, who has anticipated the growth of the air travel and asked Boeing to come up with an aircraft designed to carry up to 400 passengers over intercontinental distances.

On the other hand, there was another segment of air transport that was about to boom and that was air cargo. Boeing quickly realised that the failed project of the 747 was perfectly suitable for the needs of both passenger and freight transport. And it was the cargo requirement that had the biggest influence on the final shape of the 747.



Because a single-deck wide-body fuselage was foreseen for that, to accommodate two rows of 8 ft wide standard cargo containers side-by-side, the solution for the upload was through an upward-hinging nose door. Therefore, the cockpit had to be raised and a second deck was added in the front of the aircraft and that's how the most famous feature of the 747, its hump, appeared.

The production of the Jumbo was started following a huge order for 25 aircraft, coming from PanAm, worth \$ 550 million, the largest airliner order at that time.

The first issue that the designers of the 747 faced was the one concerning safety. Because the Jumbo was supposed to carry so many passengers, it meant it had to be as safe as possible. Therefore, the design team had to imagine new safety standards. The 747 was the first aircraft with quadruple redundancy, in other words four hydraulic systems each driven by a different engine, three wing spars for increased strength, split control surfaces, meaning that a back-up was always available and an emergency landing gear extension system.

So everything was ready to go ahead when another problem was encountered.

All the production sites of Boeing were too small to accommodate the whole assembling process of the new flying giant. The time was short, the first flight being originally planned for December 17, 1968, so the



work started for realising one of the most daring projects of our times: the construction of a brand new plant, near Everett, about 30 miles north of Seattle, able to host the assembly line of the 747. The work started in 1966 and the result was stunning: a building containing 34000 tons of steel in its frame, with the roof standing at an impressive height of 35 m, with the outside walls stretching for almost 3.5 km and having underneath the floor about 3.7 km of pedestrian tunnels. The building offers around 13.3 million cubic metres of space and inside it could hold 2142 average size American homes.

Interesting also to notice that walking from one end of the building to another equals the crossing of 75 American football fields! To bring in materials, a 8 km long railway was built, having the steepest standard gauge in America (5.6 %). Under the roof there are 50 km of overhead cranes and 26 other cranes.

The production of the 747 started while the plant was not finished yet, in order to stay within the project schedule.

The next challenge for the design team came from powering the giant. Given the proposed size of the 747, it was evident that a very powerful engine was needed for that. The high by-pass ratio engines were still in their beginnings with the usual teething problems about to be passed. The initial idea was to use the new General Electric TF-39 turbofans, already equipping the C5 Galaxy. The TF-39 was rated at 184 kN of thrust but this was not enough for the 747, because it was designed to operate at Mach 0.84, while the C5 was operating at a lower Mach 0.78. Because GE was unable to come up with an enhanced thrust engine, Pratt & Whitney stepped in with the brand new JT9D engine. The inlet diameter of the engine was 2.4 m and the variant that had powered the prototype of the 747 produced 187 kN. For the first aircraft from the series production, an enhanced thrust variant was proposed, offering 193.5 kN. The main issue for the powerplant manufacturer was

reliability. During the flight test programme, there were 87 engine breakdowns which needed 55 engine changes. Gradually, these problems were overcome and the final version of the engine offered an unattended degree of reliability.



With all these problems solved and having a quite close deadline for the first customer delivery, planned in 1969, Boeing started a race against time to make the 747 project operational.

And they managed to achieve that, the first flight of the 747 prototype taking place on the 9th of February 1969.

Then there was another tough task to undertake, represented by the test and certification programme which, eventually, ended by December 1969 and the 747 was cleared for passenger service, following FAA approval, on December 31, 1969.

Pan Am, though, had had received its first 747 on December 12, 1969.

The first revenue service of the 747 took place on the January 22, 1970, from Washington Dulles Int Airport, bound for London Heathrow but it wasn't a flight without problems. Initially, the flight was supposed to be carried out on the January 21, by N733PA, "Clipper Young America", which was the first 747 of Pan Am. As the aircraft was loaded, some technical problems with the doors and then a failure of a barometric fuel-control system had made the aircraft unsuitable for the inaugural flight. To avoid a commercial disaster, Pan Am decided quickly to replace the aircraft and the passengers were disembarked and reboarded on N736PA, "Clipper Victor", the second 747 in the fleet, which had



only been delivered the previous day and was intended to be used for crew training. The flight eventually left Washington at 01:50, on January 22 and, six hours and 16 minutes later, it touched down, without incidents, at Heathrow Airport. During its career, the 747 has gone through a series of variants and could still see further developments of the programme. Actually, at the moment of writing this article, it was just announced that the freight carrier Cargolux will be the launch customer of the proposed 747 Advanced, which will lead the 747 well into 21st century.

The first variant of the Jumbo was the 747-100 and 205 aircraft of that series were built.

The -100 series had a length of 70.5 m, a wingspan of almost 60 m, a MTOW (Maximum Take-Off Weight) of 333 tons and it could carry up to 490 passengers on distances up to 5500 nm, at a speed of Mach 0.84 and a maximum ceiling of 45000 ft.



Another breakdown in the 747 manufacturing was made in 1977, with the 747-100B, which could be equipped with engines from other manufacturers like General Electric, with the CF6-50 series and Rolls Royce, with its revolutionary RB211-500 series.

On October 30, 1972, Japan Air Lines placed an order for 4 Jumbo with special requirements, suitable for the fast-growing domestic Japanese market. Those 747s had to accommodate more passengers in a high-density layout.

That's how the 747SR (Short Range) was born. The new aircraft was designed for

short-range, high-cycle operations and with an strengthened airframe, specially around the wings and flying control surfaces and the undercarriage. The seat capacity was 528, achieved by reducing the seat pitch. The first SR was delivered to JAL on September 26, 1973 and it was introduced in service on October 7, 1973, on the Tokyo-Okinawa route.

The SR had introduced a feature which eventually became the main visible difference between the -100 series and the next -200 series and that was the upper deck design. While on the -100 series it featured only 3 windows, the SR had 10 windows, a configuration which was later chosen also for the 747-200.

The SR concept was revived with the 747-300, again for the Japanese market, and it was continued successfully with the 747-400D, in the 90's.

Even before the first flight of the 747, Boeing was studying an increased range variant of the 747, known initially as the 747B. This variant became the 747-200, whose main differences from its predecessor were barely visible. The only important difference was, as mentioned before, the number of the windows of the upper deck. But, while maintaining the dimensions of the -100 series, the new -200 series had an increased fuel capacity, a further strengthening of the wings and fuselage, an improved landing gear which, eventually, lead to a higher MTOW, of 351 tons.

Another improvement was that the -200 series could be equipped from the very beginning with the new engines from General Electric and Rolls Royce. While testing the RR RB 211-524 engine, a 747-200 established a new weight record (for that time...) of 381.250 kg, on November 1, 1976. A beneficial competition between the three big engine manufacturers had lead eventually to a MTOW well over 363 tons, with a large amount of extra fuel and a 1000 nm longer range for the later variants, compared with the initial P&W powered 747-200.



With the arrival of the -200 series, airlines gave up to the lounge area on the upper deck and, realising the potential of adding more seats there, that's how the Business Class was moved there.

A total of 393 aircraft of the 747-200 series were built.

The final version of what is known as the "classic" 747 was the -300 series, which was a result of a continuous demand for more range and passenger capacity. Actually, the -300 series is a derivative of the -200B, offered with Stretched Upper Deck, able to accommodate up to 91 passengers or 38 Business Class seats. It also features more powerful engine derivatives, an increased MTOW up to 378 tons, a range of up to 6500 nm and an increased cruising speed of Mach 0.85.

The launch customer for the -300 series was Swissair, which took over its first aircraft on March 19, 1983. Only 81 aircraft from the -300 series were built, excluding here the conversions made for KLM, Japan Air Lines and UTA, for stretching the upper deck of some old -100 and -200 series.

By the mid 80's, the 747 was approaching its 20th "anniversary" and the competition with the newly established European manufacturer Airbus became tougher than ever. The low number in which the -300 series was sold was an alarm signal for Boeing which, in May 1985, announced the launch of the 747-400 series, which although kept the shape of the old types of 747, was a complete new aircraft.

The first "revolution" was made in the cockpit, where the flight engineer position disappeared and replaced by EFIS (Electronic Flight Instrumentation System). The new two-crew cockpit had a reduced number of gauges and switches of 365, compared

to 971 for the older variants. Other advanced equipment included a datalink system, windshear warning, Full Authority Digital Engine Control (FADEC) and 4D navigation system.

On the exterior, the use of lightweight materials improved the strength of the frame and the fatigue life. The wingspan was increased to 64.5 m and fuel saving graphite winglets were added at the end of the wings. That gives up to 8 % fuel economy on long-range flights.

There is, though, a type of 747-400 without winglets and that's the 747-400D, designed for high-density Japanese routes and since they are used on short-haul flights, there is no benefit of winglets.

The -400D can accommodate up to 568 passengers in 1-class configuration, the largest number available on any current airliner.

The increased thrust of the engines, which reached 270 kN, had led to a MTOW of up to 395 tons. The larger amount of fuel taken aboard, including an additional tank of 3300 US gal, situated in the horizontal tail, meant that the range went up to 8400 nm.

As for the previous series, there is also a freighter version (747-400F), whose most noticeable difference from the passenger version is the shorter upper deck of the -200 series, a stretched upper deck being considered useless. The 747-400F can carry up to 124 tons of freight, 26 more tons than the -200F. The first customer of the -400 series was Northwest Airlines, whose N661US took on the air on January 26, 1988, with first revenue flight taking place on April 29, the same year.

An interesting thing to notice is that, at the time of the roll out of the first aircraft, the number of orders for the 747-400 was already 117.

By end of 2002, the total number of -400 delivered reached 569, the aircraft continuing to be produced up to this moment, although there is a serious fall of orders nowadays, which eventually lead



Boeing announce (as mentioned before...) the launch of the 747 Advance programme, with commitments from Cargolux, Cathay Pacific and Qantas.

There was also a variant of the -400 series, the -400ER (Extended Range), with increased range (as the name shows...), more economic engines and improved avionics, but the sales were quite poor, especially for the passenger version, which had only 6 aircraft delivered to Qantas.

We cannot overlook also the 747SP (Special Performance), initially designed to meet competition from L-1011 Tristar and DC-10. To create a longer range and a more performant aircraft, saving in the same time some huge design costs, Boeing chose to go for a shortened version of the 747. The result was a 14.7 m shorter 747, with a MTOW of 313 tons, 45000 ft max ceiling, 305 seats and an impressive 10222 nm maximum range!

The programme was launched in September 1973, following a commitment from (again...) Pan Am and the first SP flew on July 4, 1975. But, despite sales predictions for as many as 215 aircraft for the following 10 years, only 44 SP's were built and delivered. The 45th and final SP was built about 5 years after normal production was ceased, following a special order from the United Arab Air Lines.

An interesting demonstration was made on November 12, 1975, for Japan Air Lines, when a 747SP went non-stop from New York to Tokyo, a distance of 6927 nm, in 13 hours 33 minutes, cruising at up to 46000 ft and Mach 0.86. At its arrival in Tokyo, it still had around 30000 lb of fuel remaining !

Ironically (considering the origins of the 747...), the Jumbo managed to build also a successful career in military area.



The US Air Force operates now six -200 variant aircraft, four of them as E-4 A/B airborne command posts and two as VC-25A Presidential transport, the so called Air Force One, a "sweet victory" of the Jumbo over its former rival, C-5, which never went beyond military use.

There were also, during the time of 747-200, some proposals for other military versions of the 747, as an air-to-air refuelling tanker, as an air-launched cruise missile (ALCM) platform or as inter-continental ballistic missile (ICBM) launch platform, none of them being materialised.

This is only a brief story of the giant aircraft, which was about to be shelved out before being built but ended up revolutionising the world air transport and, up to our days, it still dominates the sky all over the world.

The arrival of the new SuperJumbo, the A380, doesn't mean the end of the 747, but it could, as well, mean a new beginning, a point from which the battle between the two giant aircraft manufacturers is becoming fiercer and it could, eventually, bring only benefits to all customers around the world.

Gabriel Bangiu



## AGM 2006-Invitation

You are invited to the Annual General Meeting 2006  
of EGATS  
the EUROCONTROL GUILD of AIR TRAFFIC SERVICES

It will be held in the  
MASUAC Canteen  
on the  
07<sup>th</sup> March 2006 @ 19:30 hrs.