Ladies and Gentlemen,

a great event is in front of us.

It is a premiere to the world of ATM and we experienced this during our workshop.

Something very specific is been born.

**ICAO has put the civil-military issue onto its agenda because there is an ultimate need for a closer working-together of civil and military airspace users, planners and ATS operators.**

I thank ICAO very much for the invitation to this workshop. The reason is simple:

• the aviation world comes closer together; civil and military partners in the air aim for a common improvement of ATM

• A new age of aviation is about to start with the integration of UAS into the “normal” airspace

• It was all the time my dream that ICAO will sooner or later take the issues on board. The world’s first forum on that subject takes place in Montreal

• I belong to the organisation team for the Global Forum and as well to Drafting Committee to prepare some Guidance Material for Civil-Military Coordination.

In the IDC I represent CANSO.
Let me start with some of the most pressing aspects in the global development of air transport:

Aviation is a very important factor to world economy. It is, and most likely remains, the fastest growing sector and States economical development depend mainly on aviation.

The current global recession hits the ATM world again very hard. Before that, we were faced with 30% traffic growth within the last decade and a doubling of air traffic within the last 20 years.

**Conversely**, the economic pressure, the environmental and institutional impacts require drastic changes in airspace issues. The SESAR programs and NextGen aim for a seamless global ATM system.

And altogether, we should not forget that we run a system so fragile to other threats as well.

**In contrast**, national defence and security requirements will continue to exist, also to secure the growing business (example: maritime operations at the horn of Africa).

In the context of the downturns, we cannot lean back or come up with the same old solutions we ran since. Companies and as well organisations in ATM have to reallocate their plans and policies.

One of which is: **A close collaboration between civil and military in aviation, ATM and CNS.**
There are some very important organizations around the globe who have considerable impact in shaping ATM and air traffic.

The most prominent one is ICAO.

It is the global forum for civil aviation. Its prime strategic objects are:

- Global civil aviation safety and civil aviation security

Aside ICAO is the global platform for civil Air Navigation Services (ANS), the CANSO. CANSO puts its emphasis on safe, efficient and cost effective civil air navigation service.

Both organizations were founded in a civil aviation context leaving the military aviation and its urgent needs aside – at least until yesterday.

There will be no question that aviation safety or efficiency need to remain strategic objectives. But believe it, the civil and military synergies are huge, sometime identical.

Today, enhanced civil-military collaboration has the most productivity potential. Thanks, that this is now on the agenda of both organizations.
Next to these two is the IATA, the Air Transport Association. These are the IATA’s expectations about ATM. I will take it now as a good example to crosslink civil and military aviation needs. Although the IATA objectives are civil driven, don’t be surprised, the military can share it too. They just request an add-on, an honest consideration of State/security related operational aspects namely, to guarantee specific military requirements!

Based on the same fundamentals in aviation around the globe there is only one message that counts:

**COOPERATE, achieve HARMONISATION and INTEROPERABILITY and gain benefits for all**

On this heading I would like to stimulate you to follow me on my journey through revolution in civil-military ATM.
Coordination
the act of coordinating, making people work together for common goals

Cooperation
the process of working and acting together to make things work in harmony even at the patterns of aviation across the nations

Collaboration
a recursive process where people or organisations work together toward an intersection of common goals

As stated before, we need to have not only a common understanding of civil-military cooperation. What we need is a clear prospect of the potentials of a good cooperation.

In ATM we often talk about Cooperation and Coordination. The meaning of which is the basis of an effective relationship. These terms are the drivers for success and they are of immense importance.

Based on these two terms only a collaborative scheme (in its very positive meaning) will guarantee security and achieve safety, capacity, efficiency as needed.

However, should one focus too much on competition for airspace and aim too much on business, efficient operation for both Civil and Military can never be achieved!
The Wisdom of Change

ICAO Convention
Preamble
• ... the future development of international civil aviation can greatly help to create and preserve friendship and understanding among the nations ..., its abuse can become a threat to the general security;
• ... international civil aviation may be developed in a safe and orderly manner ... established on the basis of equality ... and operate soundly and economically

ICAO Global ATM Concept
... ATM should become a “dynamic, integrated management ... safely, economically, and efficiently – through the provision of facilities and seamless services in collaboration with all parties”

65 years ago the Chicago Convention was signed to set up a framework for an unconstrained and safe growth of civil aviation.

When the Convention was signed the world’s air transport was considerably influenced by the enormous military dominance in aviation.

Until today the Convention excludes formally the consideration of the State aircraft operations and services from the scope of applicability. But the Convention keeps already the wisdom for constructive dialogues.

Nowadays, as land frontiers disappear and ATM is been developed in a regional and even global context, there is a change required.

Some States, aggregates of organisations, agencies, airlines or ANSPs urge for more collaboration and coordination. More and more the military aviation has to act globally as well. This coexistence asks for more interchange in planning and development. Should the whole system aim for real benefits, a more progressive approach is required for further harmonisation and interoperability.

Subsequently, the ICAO Assembly has formulated the a resolution on “coordination of civil-military air traffic”.

The ICAO Global ATM Concept says:

ATM should become a “dynamic, integrated management of air traffic and airspace – safely, economically, and efficiently – through the provision of facilities and seamless services in collaboration with all parties.”
Despite this formal limitation …

… we have to overcome and cooperate

Back to a specific regulation, which can be discussed or reconsidered in that framework.

It is not the ICAO Convention as such, but a particular Article, the article 3 of the Convention. It deals with State aircraft.

Originally required to allow for an unrestrained growth of aviation, for good reasons at that time, I know. This article is carved in stone and is unchanged since more than 60 years. However, world has changed since then.

Today, this article factually excludes the early reflection of the military needs and issues in the processes of change. Moreover, it leaves any regulation about State aircraft up to the individual State. The consequence was: Individual regulations in accordance with what world-wide reference???

This strict course of action resulted in incompatible civil-military outcomes and as a consequence it require intensive discourses to overcome or solve inconsistencies.

Due to this reality, ICAO requires State’s input to promote the civil-military coordination and to start with the dialogue much earlier. Each organisation and any activity in the civil-military relationship should foster a change in thinking and acting, honest and trustworthy also under the roof of ICAO on the pillars of the States.

In spite of this, we need a paradigm shift, we need to take the military on board at the origin of new ideas. We need to act, we need to dialogue and to cooperate.
This material has been prepared to provide guidance to States officials ANSPs, civil and military users and services in order to show different provisions, best practices and experiences in civil/military cooperation.

The documents points certainly to FUA and airspace management. The focus on these two elements would be a very limited view.

The Guidance material clearly indicates how important different way of thinking is. It shows as well how far the real potentials reach.

Real safety and efficiency issues, potentials for fuel saving, reduction of CO2 emission lay in effective cooperation.

Military aviation is in the interest of the States. It will continue to exist as a “neighbour” in the air. Honest collaboration will generate more benefits for global ATM than most of the known projects.
This guidance material contains the following main items

Already in the foreword of this document the IDC clearly indicated the need for change under the roof of ICAO.

Everybody understood on the other hand that there is a “political” frame to indicate clearly the civil orientation. On the other hand a considerable amount of ICAO related activities show the sign and the need for a closer civil/military cooperation.

The chapters “Interoperability” on one side and “Future Opportunities” on the other side show the items for a much wider approach then FUA.

In Chapter “Best Practices” you will get a glance of what could be achieved with real FUA

Each of you shall understand that throughout the whole paper there is only one understanding:

Involvethemilitaryatthebeginning,generateconfidence
and dual partnership and collaborate

The results will be: innovative, collective and breakthrough results you might have never seen before.

ICAO will act as the new facilitator
Collaboration in:

- Specification of criteria for equipment, implementation and operating procedures
- Control- and co-ordination procedures, language used, training and licensing (ATM and Aviation)
- Mapping, publications and procedure design
- Flight data management, flight planning, data transfer, processing and distribution
- Interoperability in navigation, communication and surveillance

Take your people on board!
Aim for seamless operations and achieve benefits for all.

There are far more opportunities to go for:

- There is the wide field of common specification and operating procedures
- We can harmonise the flight data management and flight planning
- And we should aim for compatible and interoperable navigation, communication and surveillance infrastructure and systems

All of that is to be based upon a faithful and efficient civil-military cooperation and on the working principle:

**Start at the start.**

Because there is only one aim: the **over-all success for all.**
As an example, I would like to pin-point to one of the previously mentioned collaboration opportunities.

It is the past subject of the new ICAO FPL format.

The activities associated with it can be considered as a complete system-failure. Simply, because ICAO had not the required structures to identify the tremendous potentials behind a FLP and use the window of opportunity.

The current amendment 1 to the PANS-ATM tackled the civil change requirements.

However:

• Fundamental military or State aircraft needs are not considered
• No military expertise was excepted in the coordination process
• The rational of the proactive military approaches was not understood
• Operational and interoperability benefit for the whole ATM could not be identified

The results are sobering:

• Enormous extra costs
• Next change is possible earliest around the year 2020
Even in Europe the last decade showed some independent developments in civil aviation which simply lead to inconsistencies rather than to urgently needed interoperability.

In **area navigation**, for example, the definition of the required equipment was finalized without considering the very precise military navigation (performance based navigation). Even being able to navigate down to the accuracy of some meters, military aviation was forced into exemptions, thus hampering the interoperability even until now.

Very similar was the development of **data-link**, were existing military experience and technology was not take into account as required. Or take the “Clean Sheet” approaches in airspace definition: **First draw civil needs and see what is left for the military. The result will be: you simply fail !!**

Today, new challenges are in front of us.

Will we make the same mistakes again ?  NO !

Do everything in common and in a fruitful dialogue !!

One of the good examples we work on in Germany is the common approach to integrate UAS-operations into the controlled airspace. Right from the beginning we commonly discussed and set up the procedures as required. At present, we have almost finished our common “Safety Case Study”. It shows the seriousness, the willingness and the transparency of a military issue so important to the civil aviation as well.
In our European arena, two main players found a work-together and started a new area of co-operation.

In May 2003 NATO Secretary General Lord Robertson and the Director General of EUROCONTROL signed the Memorandum of Co-operation. It was identified that effective civil-military cooperation in ATM and in CNS is indispensable to meet today’s demand in air traffic.

For Dieter Kaden, Chief Executive Officer of the DFS, said: **Successful cooperation it is the core value for future ATM.**

LT GEN Stieglitz, Chief of Staff of the Luftwaffe sees the cooperation and integration as the **guarantee for military operation in the demanding structure and traffic streams without infringing military requirements**
Neither military aviation nor airlines and ANSPs can afford to continue funding the proliferation of standards, local technology solutions and equipage requirements or projects that fail to realize the full potential of advanced technologies. ICAO is the only global facilitator who needs to consider the military impact and the outcomes accordingly.

For a beneficial civil-military ATM-environment it is imperative that individual and collective requirements have to be considered in order to match the future demand in ATM.

Co-ordination and co-operation in its unmistakable meaning is vital not only for service providers but in particular for manufactures and organisations, who specify the criteria for aviation and infrastructure.

In Germany and due to our integrated system we have reached a very high degree of collaboration between the various parties concerned. The DFS has full evidence about its quality of military service provision.

In Europe we have established a successful civil-military work structure under the roof of EUROCONTROL. This model should serve as a good example for future ICAO activities, coordination and State’s contribution.

Honest collaboration between the diverse parties is the key of success in regional and global aviation and ATM.

That is how we find our way towards an interoperable, safe and beneficial global civil-military aviation system.
Military Flight Operations within GE Civil ATM Environment
This slide should give you an example of how military activity takes place in an integrated environment by taking due account of the available resources including the air defence centers CRCs.

I will explain the various phases of a military mission of two fighter aircraft departing in the south of Germany.

What are the different activities in an integrated environment according to either IFR or VFR:

- **Airspace planning** takes place according to specific mission requirement in coordination with the Air Space Management Cell (AMC). These coordination details and the mission profile will be spread out to the involved units via an AFTN, ICAO compliant flight plan.

- The takeoff and departure takes place with the military Tower and local military Radar Approach Unit after close coordination with the DFS center.

- Thereafter hand-over to the DFS for the first enroute phase.

- The planned air-to-air refuelling takes place in a military training airspace under the control of DFS or Air Defence.

- The second enroute phase is subject to DFS, including the descent to a night low flying activity.

- This night-low-flying can be monitored and supported either by DFS or Air Defence. After passing an air-to-ground range the climb to medium level is in the hands of the DFS.

- A tactical electronic combat scenario might follow and finally the mission is heading for the airbase.

- Approach and landing will be controlled by local military services.
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**OTHER INFORMATION**

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- RMK/V RQ AT NIGHT STAYINFO1/AAR TR208 SAXON STAYINFO2/ VFR NLL
- STAYINFO3/RQ DLA IN POLYGON EET/TR208/0100 MILGI0200 IDAR0/0240
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