



ICAO CAPACITY & EFFICIENCY

# Virtual Workshop on the implementation of an effective Civil – Military Cooperation

## Vincent FUTA TSHIBAMBA

*Deputy Director, Airports  
Régie des Voies Aériennes, DR Congo*

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## Civil-Military cooperation in DRC



This presentation is meant to share the experience of the DRC concerning Civil and Military cooperation in Aviation. Some of the areas concerned are :

- Strategic and Tactical Coordination.
- Airspace Review
- Flexible Use Airspace
- Integrated Civil-Military ATM Systems
- Common Civil-Military Training and Procedures



## KINSHASA FIR

### Consists of 3 sectors :

- Kinshasa : West part
- Kisangani : Northeast part
- Lubumbashi : Southeast part

### Vertical limits of the FIR:

- Lower airspace : GND/FL 245; Class G
- Higher airspace: FL 245/FL 460; Class A
- Higher airspace: FL460 and above; Class G

**Note :** *Kisangani sector is managed by Kinshasa due to ATC understaffing;*



## AIRPORTS AND AERODROMES

### International airports (5):

- Kinshasa Ndjili, Goma, Lubumbashi, Kisangani and Gbadolite. To be noted that Gbadolite is no longer up to the international standards.

### National airports (15):

- Mbuji-Mayi, Bukavu, Kananga, Ndolo, Mbandaka, Tshikapa, Bandundu, Bunia, Gemena, Isiro, Kalemie, Kindu, Kolwezi, Lodja, Mwanda.
- **Other Aerodromes (33)**



## TMA<sub>s</sub>

- **Kinshasa FIR has 7 TMA<sub>s</sub>, all class C**
- Kinshasa, 80Nm, Ground to FL245
- Mbandaka, 50 Nm, Ground to FL245
- Gbadolite, 80 Nm, Ground to FL245
- Kasai TMA: Ground to FL245
- Lubumbashi : 45 Nm; Ground to FL245
- Kisangani : 50 Nm; Ground to FL245
- Du Lac TMA : 45/65NM; Ground to FL245



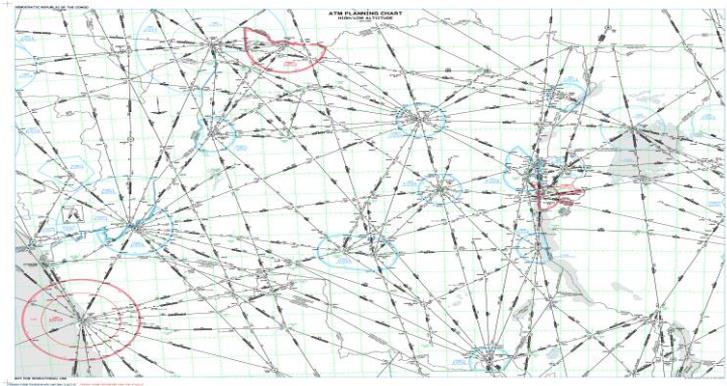
## SPECIAL AIRSPACE

### **21 special airspace areas :**

- 05 Prohibited areas (P)
- 03 Dangerous areas (D)
- 13 Restricted areas (R)



## DRC FIR and routes network



### Cooperation with Air Force

- Airspace management, flexible use airspace FZR4
- Training and qualification military ATC at the RVA training center ab initio, OJT, qualification, refresher, etc.
- ATC Team work under civilian supervision
- Joint management of military aircraft outside their exercise area
- Participation in national ATS coordination meetings
- SAR, Air Force is the Main partner, together with MONUSCO



## Simulator and OJT Training Facilities



## Cooperation with the United Nations Mission

- **Procedure design**
- WGS84 geodetic survey, design of RNAV GNSS procedures subcontracted to ATNS, production and multiplication of deliverables and end products, AIP supplement, AIP, IAC, SID, STARS of 10 airports
- WGS84 maintenance, extension of WGS84 survey to additional airports
- Recently designed CTR Beni, PBN procedures in Goma, and STARS



### Further areas of cooperation

- Several ATC trainings on PBN, GNSS, TCAS,
- Training and deployment of AFIS between 2003 and 2008 on some airfields where ATC was missing,
- Provision of control in Bunia to aircraft by Bangladeshi military ATC from to until civilians were ready to take control
- Production of en-route charts, national ATC procedures manual in English and French



### Further areas of cooperation

- Joint operation and ARFF training, staffing in several airports
- Provision of weather forecasting in certain fields where there was a shortage until the takeover by civilians
- Reporting, analysis and joint implementation of safety recommendations resulting from ATS incidents
- Calibration of navigation aids, etc.
- UAS system coordination

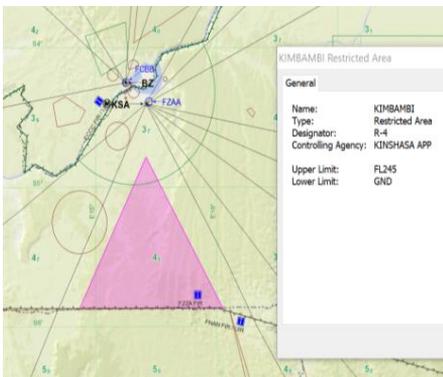


## Case study FZR4

- **Restricted area:** An airspace of defined dimensions, above the land areas or territorial waters of a State, within which the flight of aircraft is restricted in accordance with certain specified conditions.



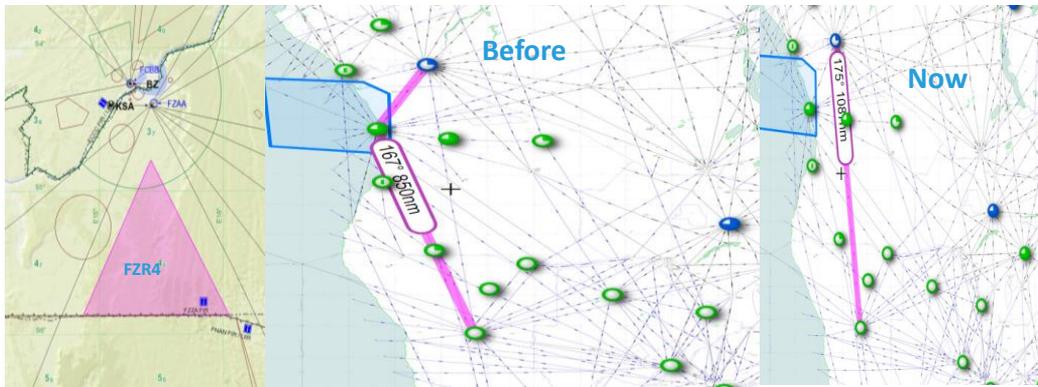
## Case study FZR4



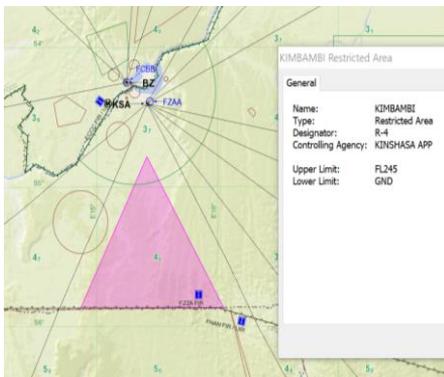
- Airspace users were requesting a direct route from Kinshasa to Whindock (UT943)
- Was not feasible due to restricted Area FZR4
- Civil Military coordination initiated



## Case study FZR4



## Case study FZR4



- Flexible Use of Airspace was agreed upon
- Total distance via Luanda : 1147.8NM
- Direct route : 1087.4 Nm
- Total distance saved : 60.4 Nm with positive impact on economy (fuel) and environment (CO2)
- AIP was amended accordingly
- Now FZR4 activation by NOTAM



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