



**OPERATIONAL DATA LINK SEMINAR
8-12 AUGUST 2016
ACCRA-GHANA**

**Implementation issues, challenges,
lessons learnt and solutions**

PRESENTATION BY GHANA

Safety and Security, Our Priority



PRESENTATION OVERVIEW

- INTRODUCTION
- IMPLEMENTATION ISSUES
- CHALLENGES
- LESSONS LEARNT
- SOLUTIONS
- CONCLUSION



INTRODUCTION

- Ghana implemented ADS-C/CPDLC in Dec. 2011 following the establishment of SOUTH ATLANTIC OCEAN RNAV RANDOM ROUTING AREA(AORRA) in accordance with SAT conclusion.
- Prior to AORRA the then ACCRA FIS with airspace classification of F and G had its own challenges with regards to communication and surveillance



COND`T. INTRODUCTION

- Establishment of AORRA brought a relief to Ghana but little did we know that implementation of the necessary facilities such ADS-C/CPDLC that goes with the AORRA airspace which has been reclassified as class A would pose a challenge.
- I am therefore going to share Ghana`s experience from a very practical point of view.



IMPLEMENTATION ISSUES

- Embarked on fact-finding missions to some selected countries such as South Africa, Angola who are SAT members and had earlier on established AORRA.
- Developed a plan/strategy.
- Communicated plan or strategy to top management, board .stakeholders.
- Prepared them as necessary as possible.
- Identification /allocation of resources



IMPLEMENTATION CHALLENGES

NON-TECHNICAL RELATED CHALLENGES

- Organizational structure(CAA/ ANSP as one entity)
- Government priority project(CAA) as against ANSP priority(ICAO resolutions, AFI conclusions, SAT conclusions etc.
- Allocation of resources..



COND`T IMPLEMENTATION CHALLENGES

TECHNICAL RELATED CHALLENGES:

- Absence/inadequate knowledge on equipment before procurement process begins.
- Absence of ANSPs system requirement .
- No official training or inadequate training
- Manufacturer`s training on new system only limited to technical specification as against the operational capability.



COND`T IMPLEMENTATION CHALLENGES

- Fragmented flight plan data base (AFTN, FDP, AMHS, ADS-CPDLC)
- Aircraft equipage/unwillingness of acft. to log-on.
- Type of airspace/Service (Continental/Oceanic)
- Limited ATO with ADS-CPDLC training facility in AFI(No recurrent training, continuous training etc.)
- Absence of regulatory requirement/guidance from the CAA.
- Absence of training facility in the procurement process for the maintenance personnel(No recurrent training, no continuous training etc.



SITA ADS-C/CPDLC SYSTEM





ACCRA CENTRE OPERATIONAL STATUS FOR JUNE 2016

| AIRLINE | JUNE-16 | 12-MONTH AVERAGE | PERCENTAGE TOTAL |
|-----------------------|---------------|---------------------|---------------------|
| SAA | 10,428 | 9,612 | 37.2% |
| UAE | 4,864 | 4,599 | 17.35% |
| ETD | 2,557 | 2,834 | 9.12% |
| QTR | 2,072 | 2,595 | 7.39% |
| BAW | 1,867 | 2,484 | 6.66% |
| DAL | 1,179 | 1,353 | 4.21% |
| GTI | 1,090 | 910 | 3.89% |
| BEL | 807 | 810 | 2.88% |
| AFR | 704 | 856 | 2.51% |
| OTHER | 2,461 | 4,229 | 8.78% |
| Total Airlines | 28,029 | 29,939 | 100% |



| ATS Provider | Ground Traffic in Messages (Uplink + Downlink) | | | Air-Ground Traffic in Blocks (Uplink + Downlink) | | |
|--------------|---|---------------------|-------------|---|---------------------|-------------|
| | Jun-16 | 12-month average | UP/DN ratio | Jun-16 | 12-month average | UP/DN ratio |
| ATS Provider | 28,029 | 29,939 | 46.24% | 12,342 | | 53.99% |
| AFN (Log-On) | 3,797 | 4,163 | 49.84% | 1,499 | | 69.95% |
| CPDLC | 6,118 | 6,253 | 77.95% | 2,906 | | 78.39% |
| ADS | 18,114 | 19,523 | 37.29% | 7,937 | | 44.20% |



ADJACENT FIRs ADS-C/CPDLC STATUS

| ADJACENT FIRs | ADS-C/CPDLC | STATUS |
|---------------|-------------|-------------|
| ABIDJAN | IMPLEMENTED | OPERATIONAL |
| LUANDA | IMPLEMENTED | OPERATIONAL |



LESSONS LEARNT/ SOLUTIONS

- When you are faced with a situation whereby the CAA is both the regulator & ANSP and sharing the same limited resources, then there is the need to constantly engage the decision makers adequately with facts backed by relevant ICAO resolutions, AFI conclusions, etc as well as business case to clearly identify the benefits.
- Try to engage some of the stakeholders who may be direct beneficiary to assist and other ANSPs who are sympathetic to your challenges. (EMIRATES, AIRWAYS NEW ZEALAND).



COND`T LESSONS LEARNT/SOLUTION

- Official training leading to adequate knowledge on any future ATM/CNS system must be given first to technical personnel who may be involved in the procurement/training process before the acquisition of the system.
- ANSPs system requirements must be spelt out and ensure that it is fully covered in the procurement process.



COND`T LESSONS LEARNT/SOLUTION

- Adequate finances must be allocated for the training of both the operational/technical personnel on the new system without over-relying on the limited manufacturer`s training included in the contract.
- ADS-CPDLC and any modern ATM/CNS facilities depend on efficient flight plan system. There must be one flight plan data base that can automatically distribute the flight plans to the ATS units without human intervention.
- Survey of aircraft equipment must be carried out over a period of time to enable you forecast percentage of usage before the system is implemented.
- Inadequate training facility of ADS-C/CPDLC in AFI.



COND'T LESSONS LEARNT/SOLUTION

- Adequate involvement of the regulator(CAA) in the procurement process before the acquisition of the system will enhance the development of guidance materials, policies and any other regulatory requirements from the CAA on ADS-C/CPDLC system for the ANSP.
- Lastly laboratory(training facility) for the maintenance personnel as well as facility training simulator for ATCOS must be included in the procurement of the equipment to enable continuous, recurrent and other training of personnel.



BENEFITS OF ADS-C/CPDLC

- ATC user comfort over the noisy HF system
- Accuracy provided in terms of emergency situation
- Adequate surveillance and communication coverage over the oceanic airspace
- Improved safety and efficiency of air traffic management.



SOLUTION

GCAA has learnt a lot from our current organizational structure whereby the regulator(CAA) and the ANSP are under the same entity sharing the limited resources. Decoupling the ANSP from the CAA is the **solution** so this is the highest priority on GCAA 2016 calendar and is being pursued vigorously.



CONCLUSION

- **No one can go back and change a bad beginning but anyone can start now and create a successful ending.**
- **Mistakes are painful when they happen but years later collection of mistakes is called EXPERIENCE which leads to success.**

GHANA HAS SHARED HER EXPERIENCE WITH YOU.



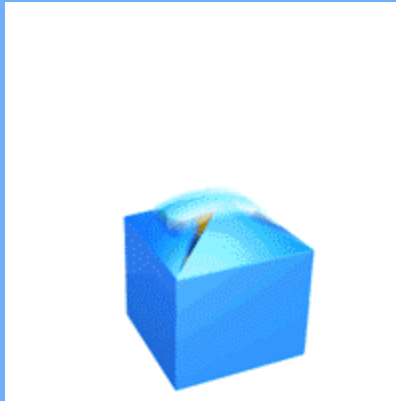


THANK YOU





QUESTIONS?





Military Aircraft

