



Maximizing Civil Aviation's Economic Contribution by providing Safe, Secure, and Sustainable Air Transport in African Skies

Resource Mobilization: Project in Preparation Project Coordination

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**Heinrich C. Bofinger
Air Transport Consultant**

**Energy, Transport, and Water Department
The World Bank**





Topics of Discussion

- **Notes from Mission to Tanzania, Kenya, and Uganda**
- **Database for Project Coordination**





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**Notes from mission to Tanzania,
Kenya, and Uganda – ADS-B**





Notes from mission to Tanzania, Kenya, and Uganda – ADS-B

- Staffed by experts from the U.S. FAA, the French Civil Aviation Authority, ICAO, and IATA
 - Examined existing air traffic control facilities, radar infrastructure, communication networks, possible site locations on the ground, avionics on aircraft, and maintenance facilities
 - Also explored the institutional aspects of introducing a larger ADS-B deployment
- May be part of a proposed transport project for Tanzania
 - May also pose a regional opportunity





Notes from mission to Tanzania, Kenya, and Uganda – ADS-B

- Overall argument for ADS-B as technology
 - Accuracy, which applies to
 - situational awareness
 - air traffic management
 - search and rescue
 - Lower Cost Compared to Radar
 - cost of implementation
 - cost of maintenance





Notes from mission to Tanzania, Kenya, and Uganda – ADS-B

- Tanzania: US\$ 9.919 Million, 1-2 years
 - GBT Deployment: \$ 2.9 Million
 - Avionics Deployment: \$ 5.1 Million
- Kenya: US\$ 14.551 Million, 1-2 years
 - GBT Deployment: \$ 2.4 Million
 - Avionics Deployment: US\$ 10.3 Million
- Uganda: US\$ 3.450 Million, 1 year
 - GBT Deployment: \$1.2 Million
 - Avionics Deployment: US\$ 1.0 Million





Notes from mission to Tanzania, Kenya, and Uganda – ADS-B

- In all cases, dual standard proposed
 - Extended Squitter needed because of larger transport aircraft
 - UAT benefits small transport carriers and general aviation.
 - Included in these costs were additional avionics for to take advantage of UAT on board of 110 aircraft





Notes from mission to Tanzania, Kenya, and Uganda – ADS-B

- Cost of dual standard for Tanzania – ground infrastructure:
 - 18 GBTs proposed for best coverage
 - 8 UAT/1090
 - 10 UAT only
 - Cost difference between dual stations and single stations averages US\$ 44,000 (\$352,000 extended)





Notes from mission to Tanzania, Kenya, and Uganda – ADS-B

- Cost of dual standard for Tanzania – avionics
 - Difficult to measure since currently there is no inexpensive Mode S extended squitter transponder available for lighter aircraft.
 - From scratch installations figured at \$148,000 according of FAA report
 - Upgrade for already most recent equipped Mode S aircraft (transport category) at US\$ 30,000
 - These figures do not compare to the “entry ticket” cost of \$12,500 with a GDL-90 installed for general aviation, or \$ 23,000 for non-pressurized heavier small transport aircraft (including displays).
 - However...





Notes from mission to Tanzania, Kenya, and Uganda – ADS-B

- Cost of dual standard for Tanzania – avionics
 - If we assume a new Mode S transponder came to the market, with an installed cost of about US\$ 8,000, you could make the assumption that you could implement ADS-B without UAT for roughly US\$ 2 million
- This would place the overall cost of dual standard to US \$ 2.35 million





Notes from mission to Tanzania, Kenya, and Uganda – ADS-B

- Cost of dual standard for Tanzania – avionics
 - Included in the ADS-B UAT were a minimum of US\$ 1.21 million upgrades in display avionics
 - If we assumed the “transponder” (Garmin GDL-90) were part of the dual link infrastructure, with the display technology being a choice for the operator at their own expense, making the capacity for this technology available would raise the overall infrastructure cost to by only 1.14 million





Notes from mission to Tanzania, Kenya, and Uganda – ADS-B

- Cost of dual standard for Uganda
 - GBTs: US\$ 255,000
 - Avionics US\$ 94,000
 - Total US\$ 350,000





Notes from mission to Tanzania, Kenya, and Uganda – ADS-B

- These figure are hypothetical because
 - The inexpensive approved Mode S transponder is not yet available, and
 - UAT transponder prices are likely to drop as more get deployed





Notes from mission to Tanzania, Kenya, and Uganda – ADS-B

- So what is the benefit of dual standard?





ADS-B Readout (Additional Avionics - UAT)





Notes from mission to Tanzania, Kenya, and Uganda – ADS-B

- Small aircraft matter -
 - “General Aviation” is a misnomer – many of these aircraft are used either as small scheduled carriers (Cessna Caravans) or in charter operations
 - They provide access to areas difficult to reach
 - Small communities benefit from this
 - Tourism benefits
 - There are also more likely to be involved in mishaps and accidents than large carriers





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Database for Project Coordination

- Though there is much donor activity, a cohesive sense of who is doing what where has often been cited as a source of confusion and at times misplaced efforts
 - Fencing and runway extension in Dominica – part of a World Bank security project needed to be canceled because the runway was being extended at the same time with the help of other donors.
 - Often it has been mentioned that this happens already during project preparation.





Database for Project Coordination

- After the first ICAO/ATAG/World Bank workshop in Montreal in June 2005, a working group was established including representatives of Government entities, donors, and industry
 - Working group met in Washington, D.C. at World Bank headquarters on 19. October 2005
 - In this meeting the notion of a country air transport database was first discussed.
 - The first prototype has now been developed





Database for Project Coordination

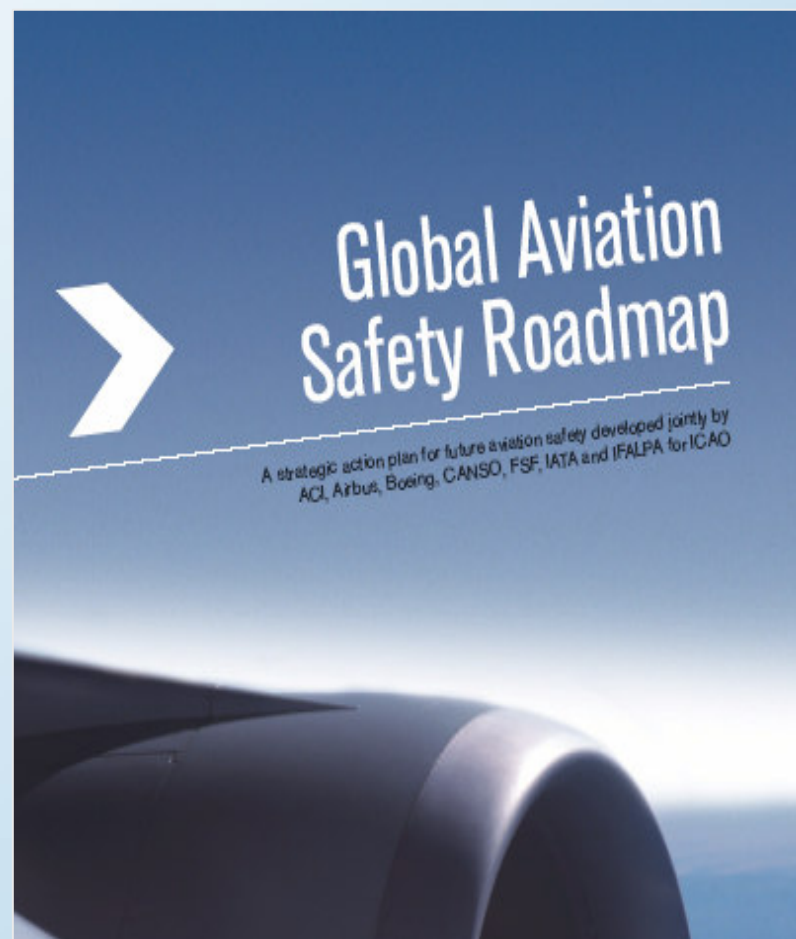
- The current version of the database is designed to provide a rapid lookup on air transport projects in a country
- Web-based interface with password access
- Submissions to the database will soon be solicited
 - Database is driven by submissions to the database administrator
 - Besides listings and descriptions of projects, comments are welcome to be submitted for posting alongside projects



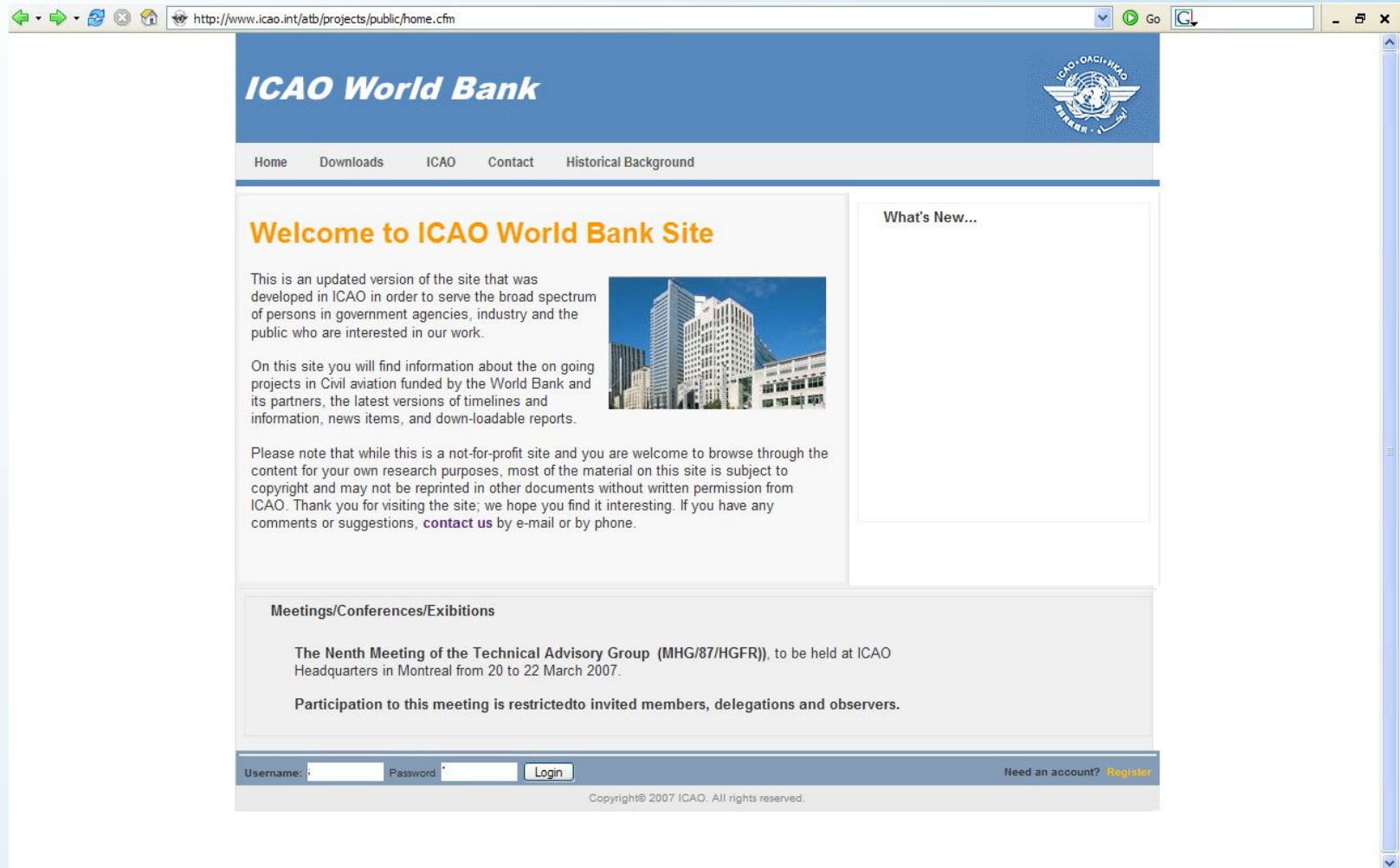


Database for Project Coordination

- It is planned to provide a facility in the database to map projects to the Global Aviation Safety Roadmap.



Screenshot – Home Page (still to be “branded”)



Screenshot – Data page

ICAO - World Bank - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://www.icao.int/atb/projects/secure/project_view.cfm?pgnbr=2&srch=

ICAO World Bank

Home Downloads ICAO Contact Historical Background View Projects Administration

Project name	Project ID	State	Lending Cost (in US\$ millions)	Project Status	Date of approval	Closing date	Contact	Obs.
Northern Corridor Transport Improvement Project	P082015	KENYA	275	Active	17/JUN/2004	31/DEC/2009	Bhandari, Anil S.	OBS???
Liberia Infrastructure Rehabilitation Project	P101456	LIBERIA	8.5	Borrower: GOVERNMENT OF KENYA (MINISTRY OF ROADS, PUBLIC WORKS AND HOUSING)		/SEP/2010	Palsson, Gylfi	OBS???
Post-Cyclone Emergency Supplemental to SAC 2	P070556	MADAGASCAR	20.1	Closed	20/JUL/2000		Hentschel, Jesko S.	OBS???
Transport Sector Reform and Rehabilitation Project	P062208	MADAGASCAR	66	Closed	01/JUN/2000	31/JUL/2005	Rabefaniraka, Noranisoa	OBS???
Oil Supplemental Credit	P073340	MADAGASCAR	30.4	Closed	22/DEC/2000		van Eeghen, M. Willem	OBS???
SAC - IDA REFLOW	P050562	MADAGASCAR	.8	Closed	14/MAR/1997		Mansoor, Ali M.	OBS???

Number of projects found: 33

all projects Page: 1 <2> 3 4 5 6

Search: GO

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Thank You!

