



PBN Implementation in Indonesia

DGCA INDONESIA

RRSS Workshop
Bali, 24 May 2012

PBN ROAD MAP



| | Short Term (2010-2013) | Medium Term (2013-2016) | Long Term (2016+) |
|-----------------|--|--|---|
| En-Route | <ul style="list-style-type: none"> - Application of RNAV5 on selected existing route(s). - Feasibility Study of RNAV2 Implementation. | <ul style="list-style-type: none"> - Implements RNAV5 airspace by 2015. - Implementation of RNAV 2 on selected Route(s). | Consider mandate better navigation specification in accordance with the ICAO regional roadmap. |
| Terminal | RNAV 1 STAR/SID on selected international airport(s) | <ul style="list-style-type: none"> - Expands RNAV1 STAR/SID on international airports - Introduce RNAV1 on domestic airport(s) | Completes the implementation for both international and domestic airport |
| Approach | <ul style="list-style-type: none"> - RNP APCH (baro-VNAV) at certain instrument runways - Trial base operation for RNP AR at certain airport(s) - Feasibility study of GBAS | <ul style="list-style-type: none"> - RNP APCH (Baro-VNAV or APV) at all instrument runways. - RNP AR operation - Trial for GBAS | <ul style="list-style-type: none"> - Expanded use of RNP APCH - Expanded use of GNSS based precision approach as a backup of the ILS. |



STAGES ARE CARRIED OUT IN ACCORDANCE WITH THE ROAD MAP

- Established PBN Task Force Team
- Amend CASR PART 91
- Wide Open the program initiatives comes from stake holder
- Increase the number of designer and tools

Challenges



- Operational Approval Process
- Training package for the flight crew and controller
- Flight Validation process

Evolution Approach Procedure in Indonesia



- 2002: GPS approach Overlay with conventional approach.
- 2006: stand alone GPS approach in airport where no navaid installed
- 2010: RNAV_(GNSS) at Pekanbaru airport
- 2011-2012: in progress
 - RNP APCH at 18 locations
 - RNP AR Approach at Ambon and Manado
 - RNAV-1 STAR at Soekarno-Hatta airport

Example implementation



- Performance Base Navigation
 - GPS Approach at Matak airport
 - RNP AR Approach at Ambon airport
- Benefits:
 - Stabilized Approach
 - Reduced CFIT
 - Accessibility to airport
 - Minimize Runway Excursion

GPS Approach at Matak airport

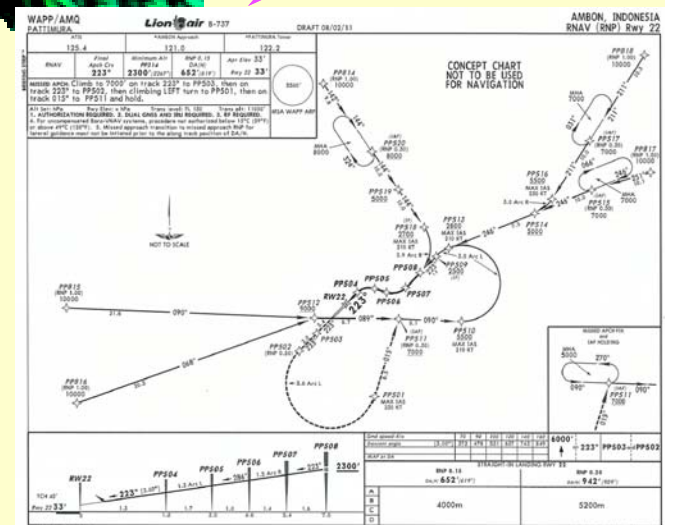
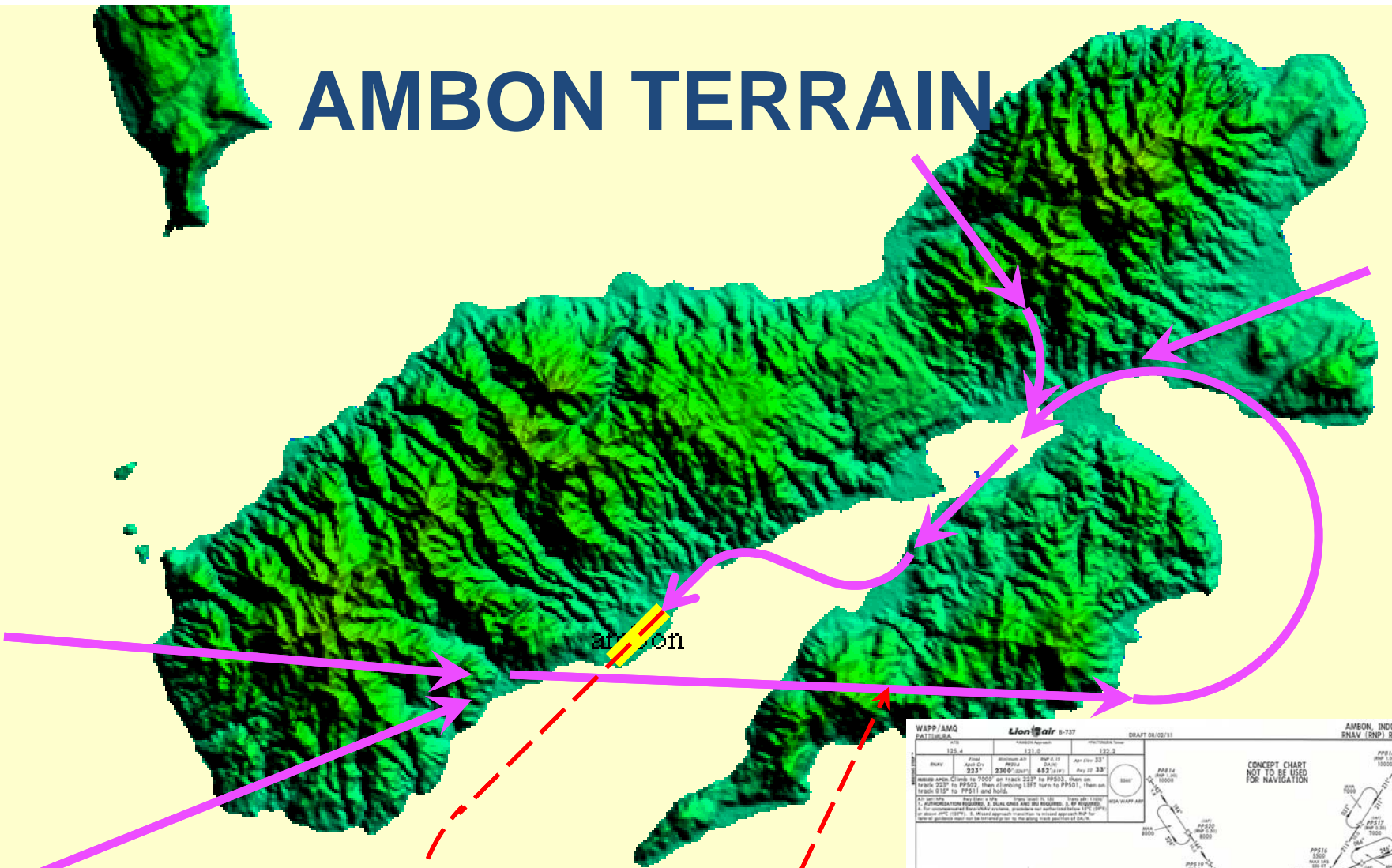


GPS Instrument Approach
Fokker 50 at Matak Airport

In cooperation with DGAC, General Phillips, IAT, & Derrisa

Natuna, September 23rd, 2006

AMBON TERRAIN



RNP AR Approach at Ambon airport



TOGETHER WE CAN !!!!



Thank You