



| ICAO | UNITING AVIATION

Performance-Based Approach for ASBUs Implementation

Air Navigation Bureau

AN Implementation Section

Cairo/23-26 November 2015





2000

2002

2003

2005

2007

2008

2009

2012

2013

PERFORMANCE-BASED APPROACH AVIATION

2000:

- Global Air Navigation Plan for CNS/ATM Systems (1st Edition)

2008:

- Air Traffic Management System Requirements
- Doc 9882

2002:

- Global Air Navigation Plan for CNS/ATM Systems (2nd Edition)

2009:

- Global Performance of the Air Navigation System – Doc 9883

2003:

- AN-Conf/11 endorsed the Global ATM Operational Concept

2012:

- AN-Conf/12 endorsed the Aviation System Block Upgrades (ASBU)

2005:

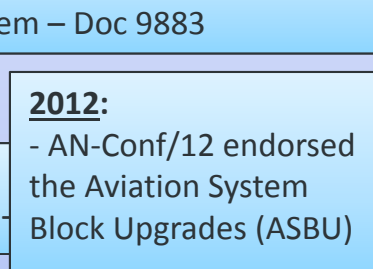
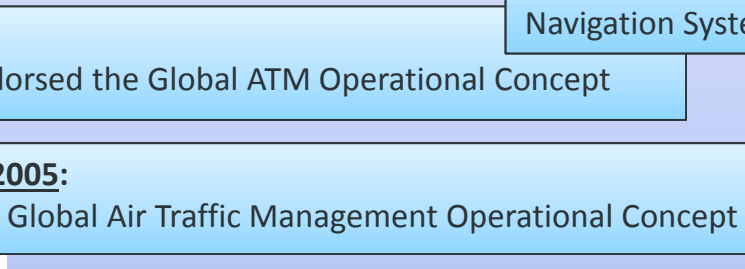
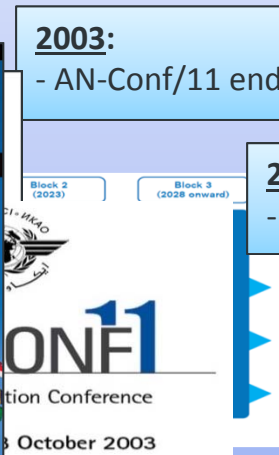
- Global Air Traffic Management Operational Concept

2007:

- Global Air Navigation Plan – **GANP** (3rd Edition)

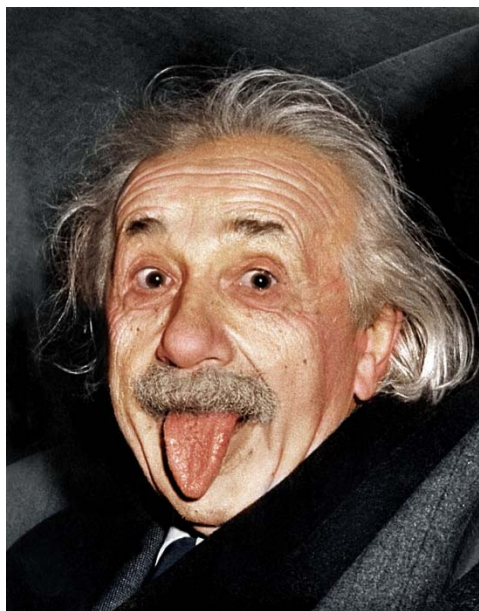
2013:

- **GANP**
(4th Edition)





ICAO | UNITING AVIATION





PBA temporal Scope

Compliance & Verification

if needed

Performance Analysis

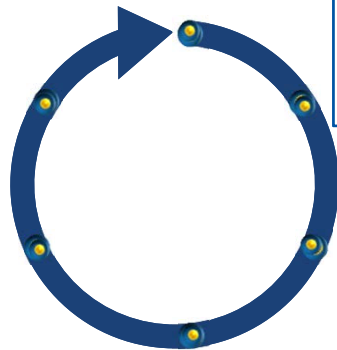
Planning

Monitoring

Operation

Implementation

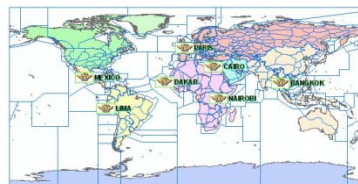
SSR Mode S Data Link
VHF
402.8
ADS / CPDLC via VHF Data Link
DSSS Signal





PBA Geographical Scope

- Operational Scenarios
- State
- Regional
- Global





PBA Stakeholders Scope





PBA Principles

- Focus on results
 - Performance targets
- Collaborative decision-making
- Reliance on facts and data for decision making



PBA Advantages

- Employs quantitative and qualitative methods
- Results-oriented
- Shift from prescribing solutions to specifying expected performance
- Helps decision makers to set priorities
- Supports optimum resource allocation
- Transparency
- Promotion of accountability
- Facilitates the determination of appropriate trade-offs





PBA Requirements

- Commitment
- Agreement on goals
- Collaboration and coordination
- Responsibility
- Human resources and know-how
- Data collection, processing, storage and reporting





PBA ASBU implementation

FRAMEWORK DEFINITION

LOCAL



PBA ASBU implementation

- **STEP 1: Definition framework**
 - 11 KEY PERFORMANCE AREAS (KPAs)
(Doc 9883)
 - Core Key Performance Indicators (KPIs)
 - Assumptions

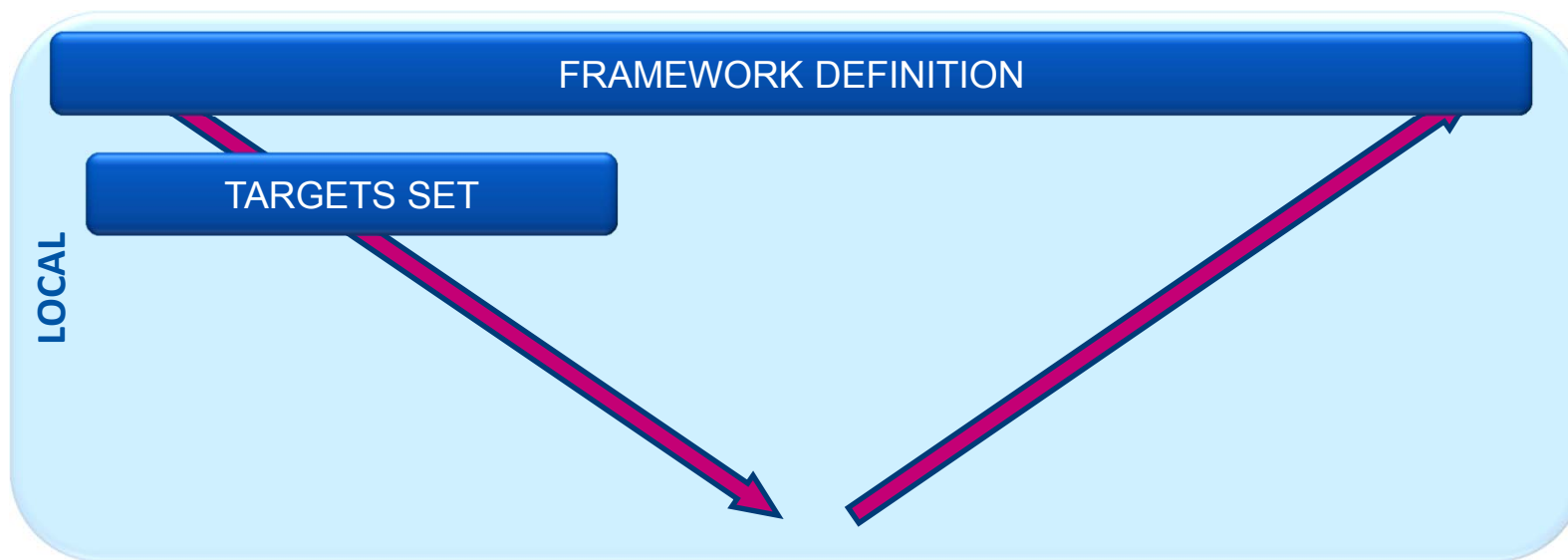


CORE KPIS

KPA	Efficiency		Capacity		Predictability	
Focus Area(s)	Additional flight time & distance	Additional fuel burn	Capacity, throughput & utilization	Capacity shortfall & associated delay	Punctuality	Variability
Core KPIS	KPIE1 Taxi-Out Additional Time KPIE2 Taxi-In Additional Time		KPIC1 Airport Peak Arrival Capacity KPIC2 Airport Peak Arrival Throughput		KPIP1 Departure punctuality KPIP2 Arrival Punctuality	KPIP4 Flight time variability
Additional KPIS	KPIE3 Filed Flight Plan en-Route Extension KPIE4 Actual en-Route Extension KPIE5 Additional time in terminal airspace	KPIE6 Additional fuel burn	KPIC3 En-route Airspace Capacity KPIC4 Airport Arrival Capacity Utilisation	KPIC5 En-route ATFM delay KPIC6 Airport/Terminal ATFM Delay	KPIP3 ATFM slot adherence	



PBA ASBU implementation



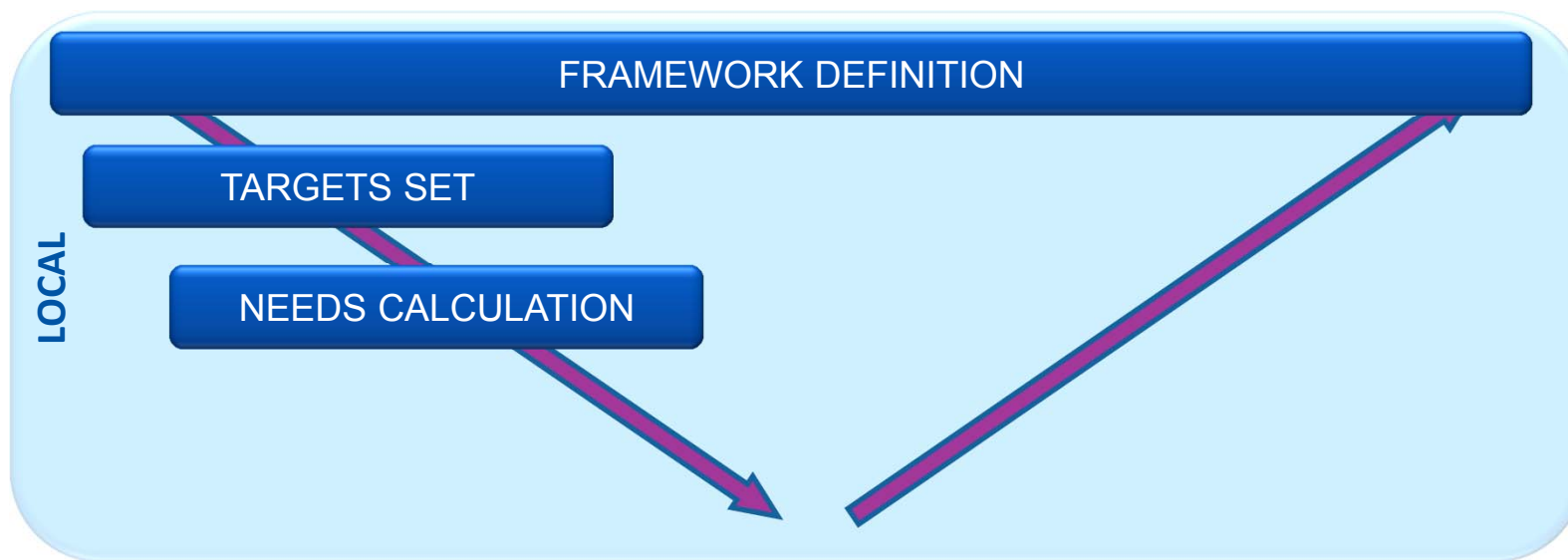


PBA ASBU implementation

- Step 2: Set targets
 - Local
 - Operational scenario
 - Regional
 - Interoperability
 - Maximize benefits
 - Global
 - Strategic objectives
 - Enhance interoperability (minimum path)



PBA ASBU implementation



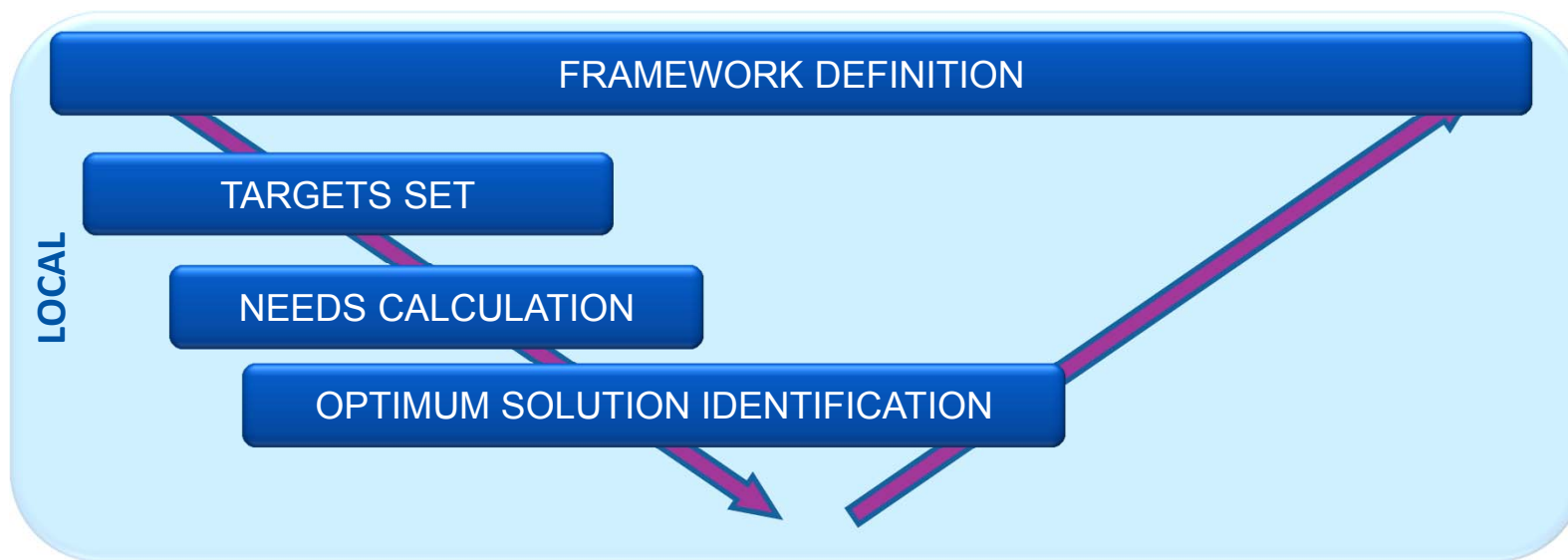


PBA ASBU implementation

- Step 3: Calculation Needs
 - Current and future
 - Gap between actual performance and targets
 - Data analysis
 - Local level
 - Prioritization



PBA ASBU implementation



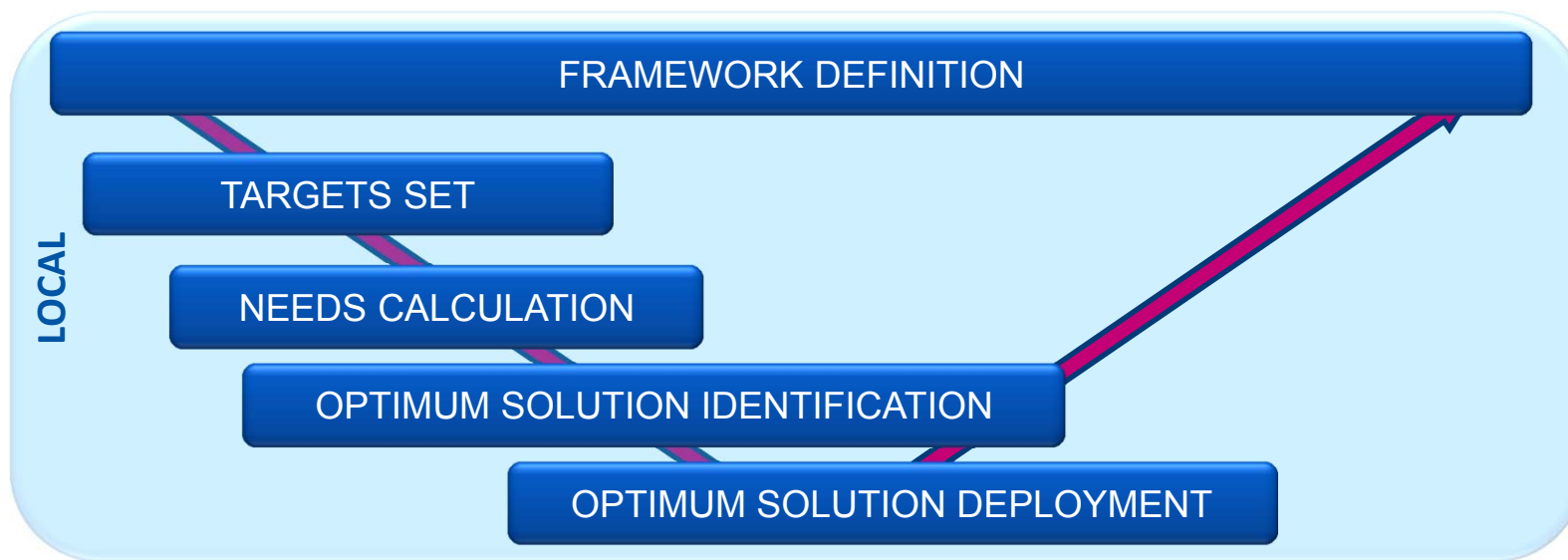


PBA ASBU implementation

- Step 4: Identification optimum solution
 - Identified needs
 - Performance Assessment
 - Business Case
 - Costs, benefits, incentives, funding and financing, available resources
 - Safety Analysis
 - Decision-making



PBA ASBU implementation



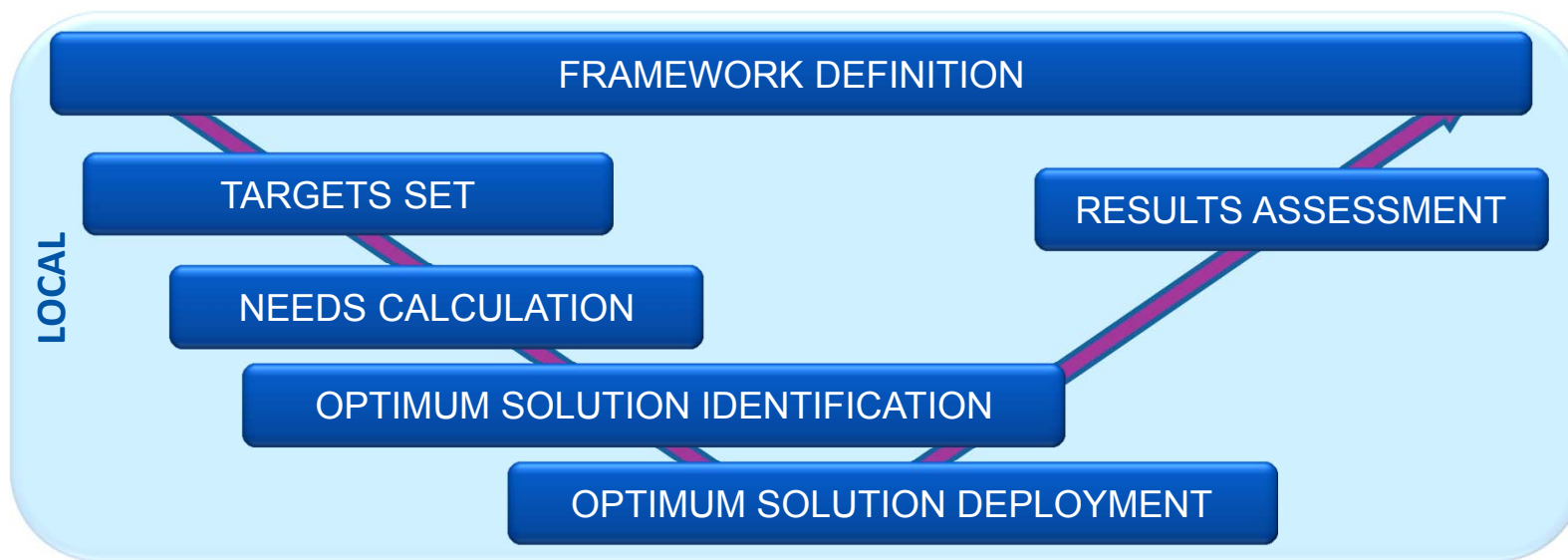


PBA ASBU implementation

- Step 5: Deployment optimum solution
 - Ensure deployment
 - Look for external support
 - Overcome high level political challenges



PBA ASBU implementation



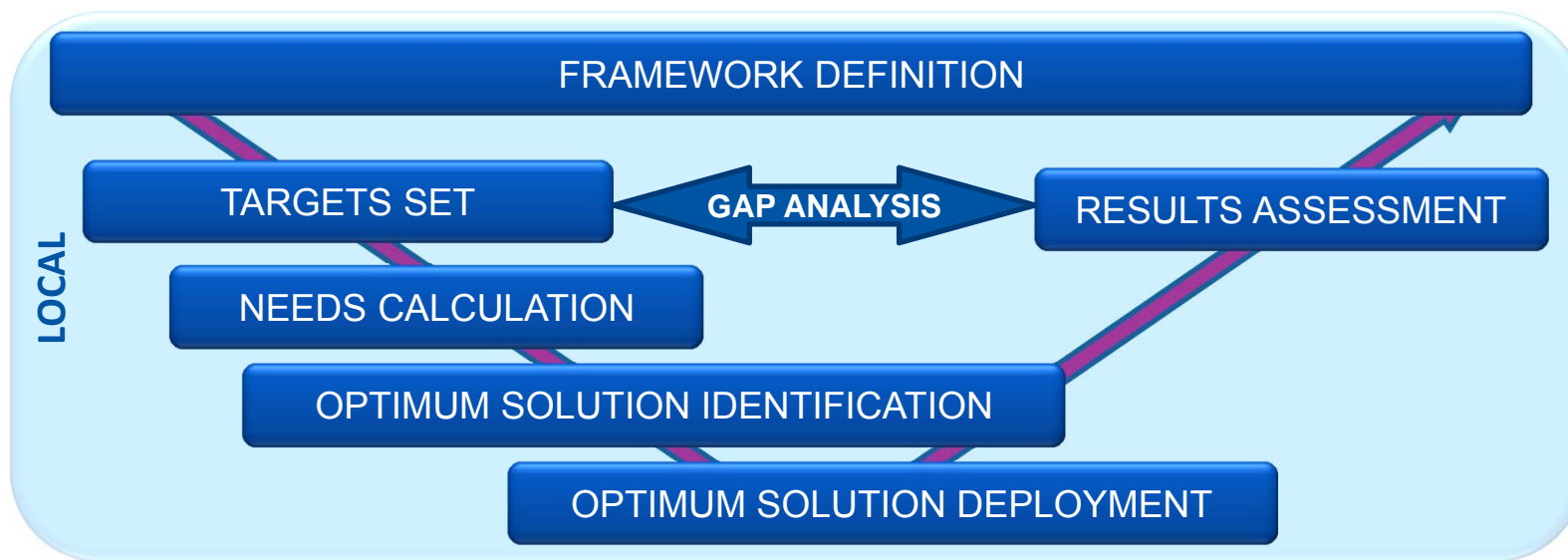


PBA ASBU implementation

- Step 6: Monitor results
 - Measure performance results
 - No assumptions
 - Double counting
 - Level of implementation
 - Targets achieved?



PBA ASBU implementation



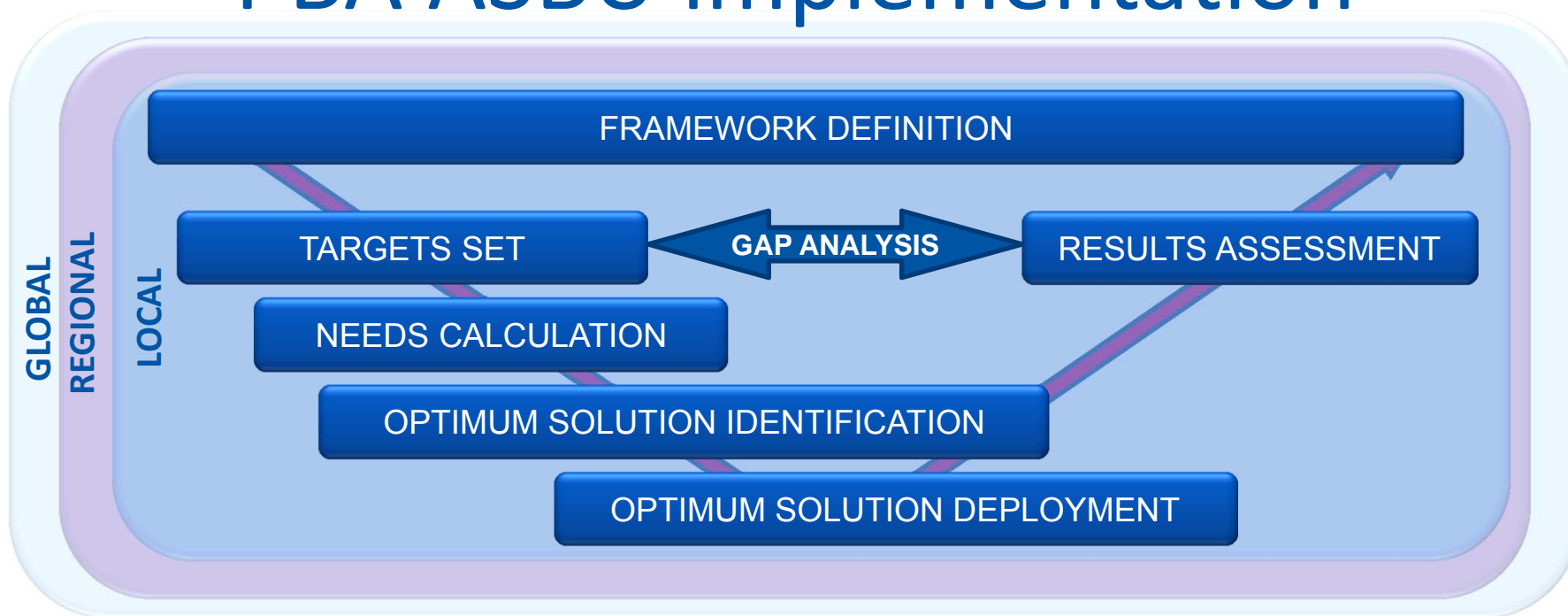


PBA ASBU implementation

- Step 7: Gap analysis
 - Needs meet?
 - Yes → Objective achieved
 - No → Corrective action



PBA ASBU implementation





ICAO UNITING AVIATION

GLOBAL LEVEL FALL 2016

GANP Fourth



CAPACITY AND EFFICIENCY

NEW!

- Performance Improvement Areas
- Airport operations
- Globally interoperable systems and data
- Optimum capacity and flexible flights
- Efficient flight paths

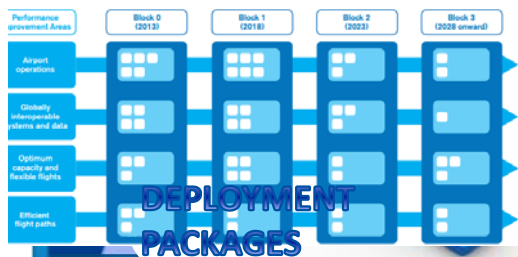
MD AIR NAVIGATION PLAN VOLUME III

A-PAINT
ASBUs Performance Assessment Interactive Tool

STATE LEVEL Global Air Navigation Plans (Current)

PERFORMANCE ANALYSIS: Do AMUll have a need?

INP Fourth Edition Aviation System Block Upgrade Methodology



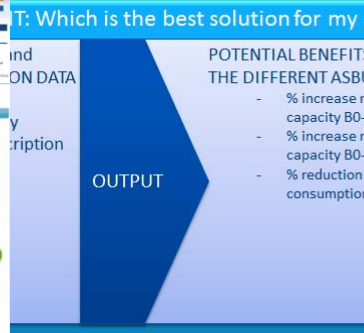
PERFORMANCE
capacity
efficiency
environment
flexibility
predictability



REGIONAL LEVEL

DEC 2015

Air Navigation Plans (Current)



ICAO

Workshops
Training Seminars
Workshops ...

COMMUNICATION



ICAO | UNITING AVIATION

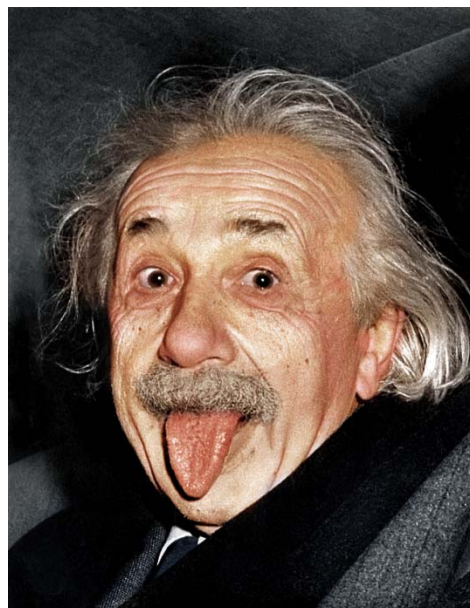




ICAO | UNITING AVIATION



**Make
it Fly!**

A small purple paper airplane icon positioned below the text.



ICAO | UNITING AVIATION



ICAO

North American
Central American
and Caribbean
(NACC) Office
Mexico City

South American
(SAM) Office
Lima

ICAO
Headquarters
Montréal

Western and
Central African
(WACAF) Office
Dakar

European and
North Atlantic
(EUR/NAT) Office
Paris

Middle East
(MID) Office
Cairo

Eastern and
Southern African
(ESAF) Office
Nairobi

Asia and Pacific
(APAC) Sub-office
Beijing

Asia and Pacific
(APAC) Office
Bangkok



THANK YOU