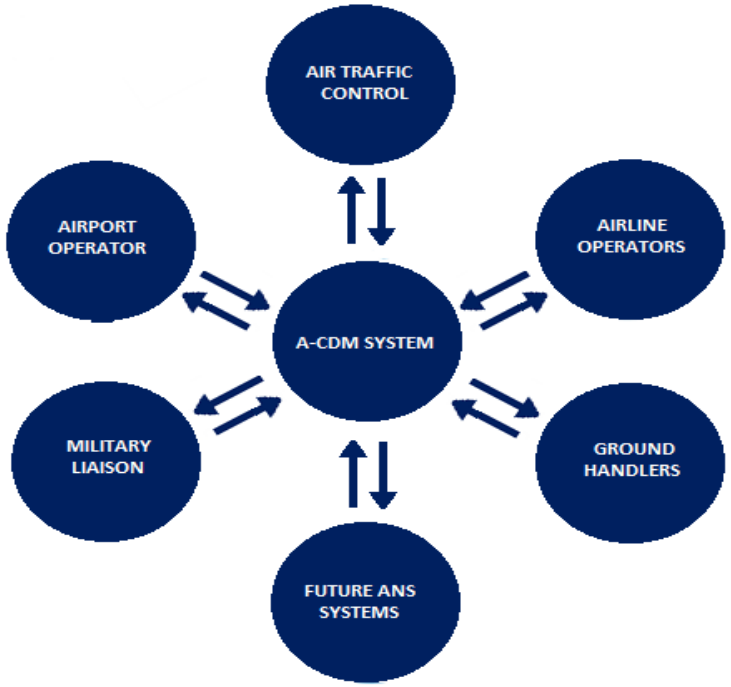
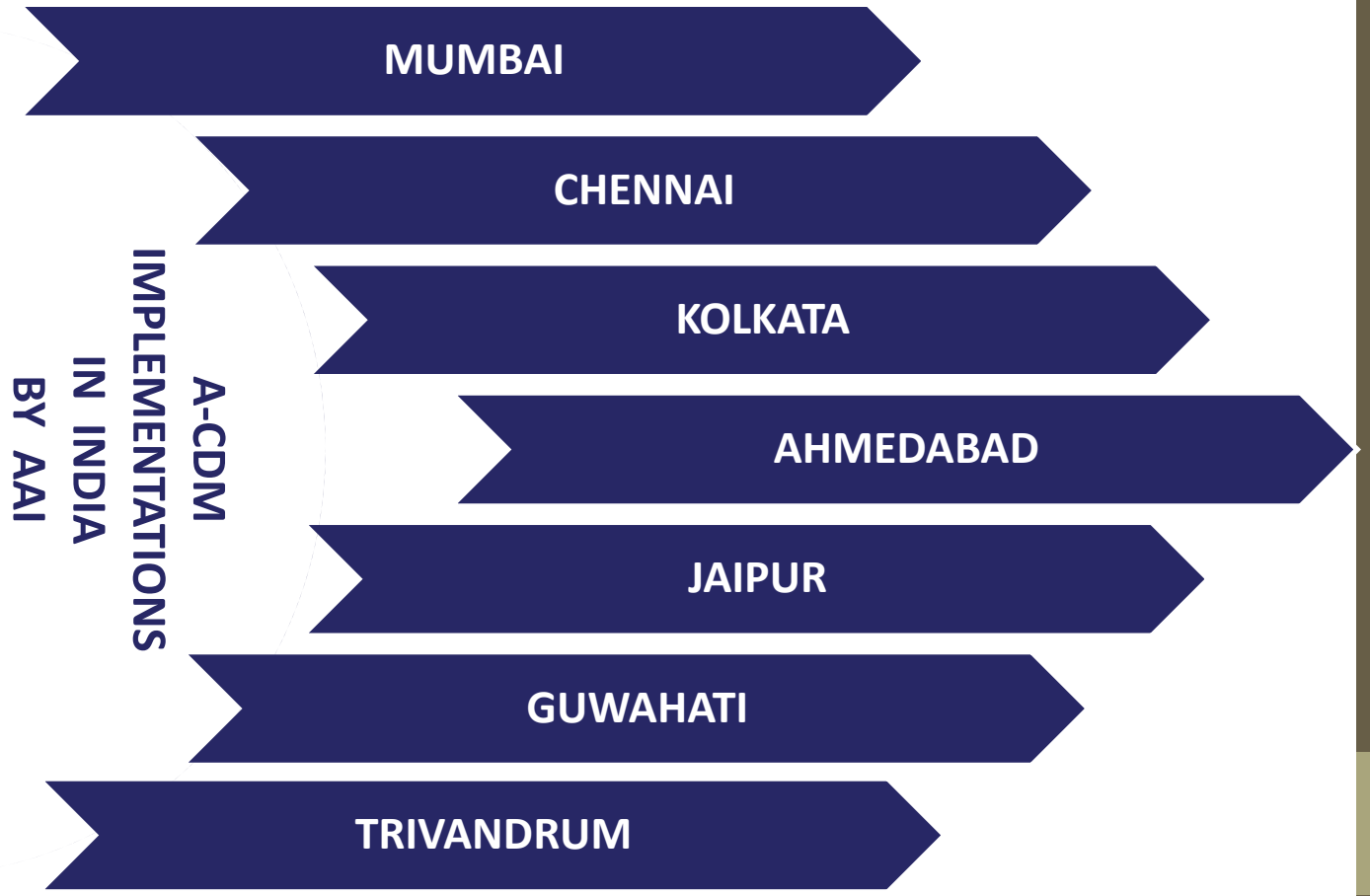
LESSONS LEARNT FROM IMPLEMENTING A-CDM AT MID-SIZED AIRPORTS

ICAO APAC A-CDM TF5, 15-17 JUNE 2020





PRESENTATION BY:
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WHY DO WE IMPLEMENT A-CDM ?

- COMPLY WITH THE ICAO RECOMMENDATIONS
- THE STATE OR THE REGULATOR HAS MANDATED / ENCOURAGED A-CDM IMPLEMENTATION.
- AIRPORTS HAVE BENEFITTED.

WHEN DO WE IMPLEMENT A-CDM ?

- AS THE AIRPORTS GROW THEY BECOME COMPLEX ORGANIZATIONS.
- WHEN WE START A-CDM AT SUCH MAJOR AIRPORT WE ALREADY REQUIRED IT LONG BEFORE.
- THE AVERAGE IMPLEMENTATION PERIOD AT A BUSY AIRPORT IS AROUND 2.5 YEARS.
- IT TAKES CONSIDERABLE TIME TO GET INTO THE CULTURAL TRANSITION.
- SHOULD WE NOT ACT EARLY.

INDIAN SCENARIO

- AIRPORTS AUTHORITY OF INDIA (AAI) HAD STARTED WORK ON DEVELOPING IN-HOUSE A-CDM SYSTEM FROM 2013.
- AAI HAS SO FAR DEPLOYED A-CDM SYSTEMS AT MUMBAI (2015), KOLKATA (2018), CHENNAI (2018), JAIPUR (2019), AHMEDABAD (2020), GUWAHATI (2020) AND TRIVANDRUM (2020).
- THE RECENT FOUR AIRPORTS IN THE LIST HAVE AIRCRAFT MOVEMENTS LESS THAN 100,000 PER ANNUM.
- THESE MID-SIZED AIRPORTS WERE PICKED DUE TO CONGESTION OBSERVED DURING CERTAIN HOURS AND PROJECTED HIGH GROWTH RATE.

LESSONS LEARNT – 1 [START EARLY]

- THE APAC SEAMLESS ANS PLAN, VERSION 3.0, NOVEMBER 2019, INCLUDED THE EXPECTATION THAT ALL INTERNATIONAL AERODROMES SHOULD OPERATE AN A-CDM SYSTEM.

- AS MOST OF THE HIGH DENSITY AIRPORTS HAVE IMPLEMENTED A-CDM OR ARE IN THE PROCESS, IT IS HIGH TIME WE LOOK AT MID-SIZED AIRPORTS.

- AT A HIGH-DENSITY AIRPORT, IT TAKES ALMOST FOUR YEARS FOR MANY OF THE A-CDM BENEFITS TO COME TO STAKEHOLDERS.

- WILL IT NOT BE PRUDENT TO START EARLY?

LESSONS LEARNT – 2 [TRAINING]

- A-CDM DEPLOYMENT NEEDS EXTENSIVE TRAINING TO BE IMPARTED.
  - AWARENESS TRAINING TO AS MANY EMPLOYEES AS POSSIBLE.
  - TRAINING ON RELEVANT A-CDM MODULES TO STAKEHOLDERS, ESPECIALLY TO:
    - AIRLINES, GHA
    - AIR TRAFFIC CONTROL
    - AIRPORT OPERATOR
  - SYSTEM MAINTENANCE TRAINING
  - HANDS-ON PRACTICE

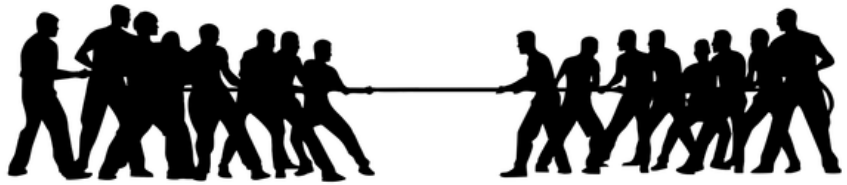
- BUSY AIRPORTS HAVE SIZEABLE NUMBER OF STAFF WITH STAKEHOLDERS THAT NEEDS TO BE TRAINED.
- AT MID-SIZED AIRPORTS, DUE TO LESS NUMBER OF STAFF, THE TIME REQUIRED FOR THIS TRAINING IS REDUCED CONSIDERABLY.
- AVAILABILITY OF TRAINED MANPOWER BEFORE AIRPORT BECOMES CONGESTED.

LESSONS LEARNT – 3 [SLOT ALLOCATION]

- A-CDM SYSTEM POINTS OUT AREAS OF IMPROVEMENT IN THE AIRPORT OPERATIONS.
- EARLY AND LONG-TERM A-CDM DATA ASSISTS IN OPTIMIZING SLOT-ALLOCATION
- ENHANCEMENT OF OPERATIONAL EFFICIENCY AT HIGH-DENSITY AIRPORTS
  - WITH EARLY A-CDM THE PROBLEM OF MIS-MANAGED SLOTS MAY NOT ARISE.
  - SCIENTIFIC MANAGEMENT OF SLOTS AS THE AIRPORT GROWS.

LESSONS LEARNT – 4 [OTP CHALLENGE]

- THE OTP MAY GET ADVERSELY IMPACTED AT A HIGHLY CONGESTED AIRPORT
- REDUCED OTP CHALLENGE WITH AN EARLY IMPLEMENTATION.
- IF THE AIRPORT GROWS WITH A-CDM, THE SLOT ALLOCATION WILL TAKE PLACE IN SUCH A MANNER THAT THE IMPACT ON OTP WILL BE WITHIN A REASONABLE LIMIT.



LESSONS LEARNT – 5 [SMOOTH TRANSITION]

AIRPORTS AUTHORITY OF INDIA

AT MID-SIZED AIRPORTS:

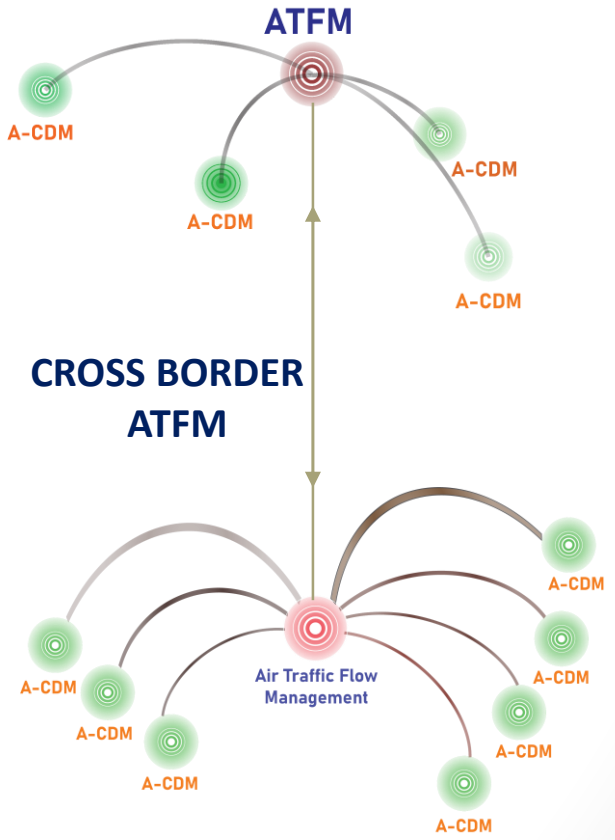
- CHANGE MANAGEMENT IS EASY DUE TO LESS INERTIA
- COMPARATIVELY EASY PLANNING AND PROJECT EXECUTION
- GREATER FLEXIBILITY IN OPERATIONS
- EASIER TO GET STAKEHOLDERS IN THE TRANSITION PROCESS

LESSONS LEARNT – 6 [EASY INTEGRATION]

- A-CDM JOURNEY NEEDS INTEGRATION OF:
  - DATA SOURCES,
  - STAKEHOLDERS (HUMAN RESOURCE),
  - PROCESSES
- INPUTS FROM MANY SOURCES ARE REQUIRED TO BE PROCESSED IN REAL TIME.
- IDENTIFYING SUPPORTING APPLICATIONS IS EASY
- INTEGRATION PROCESS BECOMES SMOOTH

LESSONS LEARNT – 7 [IMPROVE ATFM]

- ATFM SYSTEM NEEDS INPUT IN REAL TIME FROM DIFFERENT AIRPORTS TO GENERATE DESIRED OUTPUT.
- CTOT AND ELDT INFORMATION FOR MULTIPLE AIRPORTS
- A-CDM SYSTEM ENRICHES ATFM
- CONNECT MORE AIRPORTS TO ATFM THROUGH A-CDM AS EARLY AS POSSIBLE.
- BENEFITS CROSS BORDER ATFM.



LESSONS LEARNT – 8 [SAVE TIME]

- IMPLEMENTATION ACTIVITIES AT A MID-SIZED AIRPORT TAKES SIGNIFICANTLY LESS TIME.
- IT TOOK 10 MONTHS FOR AAI TO COMPLETE ALL THE A-CDM IMPLEMENTATION RELATED ACTIVITIES AT 4 MID-SIZED AIRPORTS IN INDIA.
- LESSER TIME REQUIREMENT DUE TO SHORTER PROJECT PHASES
- REAP THE BENEFITS EARLY.

LESSONS LEARNT – 9 [SAVE MONEY]

SAVE MONEY :

- SHORTER TRAINING SCHEDULES
- LESS HARDWARE AND REDUCED MAINTENANCE
- SHORTER TRIAL PHASES

- REDUCED SCALE OF OPERATIONS ALL AROUND WILL SIGNIFICANTLY LOWER THE PROJECT COST.

- SYSTEM CAN BE MADE SCALABLE TO REDUCE FUTURE COSTS

- PROJECT TEAM WILL BE ENGAGED FOR LESS PERIOD, SAVING COSTS.

- MINIMAL HARDWARE UPGRADE REQUIREMENTS

LESSONS LEARNT – 10 [BENEFIT EARLY]

ALL BENEFITS ATTRIBUTABLE TO A-CDM CAN BE EXPERIENCED EARLY:

- SAVING ON FUEL, CARBON EMISSIONS, TAXI-TIMES
- "**NO-BLAME**" CULTURE.
- CONTROLLERS' COGNITIVE WORKLOAD
- INCREASED SAFETY
- ENHANCED ORDERLY AND EFFICIENT FLOW OF DEPARTURES
- TRANSPARENCY
- SHARING OF INFORMATION
- LARGE DATA REPOSITORY
- DISSEMINATE NOTAM, ATIS AND WEATHER INFORMATION.
- OPTIMIZE RESOURCE UTILIZATION

IMPLEMENTATION ROADMAP FOR MID-SIZED AIRPORTS

- AWARENESS MEETINGS
- STEERING COMMITTEE AND NODAL TEAM
- OPERATIONAL DETAILS FROM STAKEHOLDERS
- DATA AVAILABILITY AND INTEGRATION REQUIREMENTS
- NETWORK DESIGN
- HARDWARE COMPONENTS
- NETWORK, HARDWARE AND FIREWALLS SETUP
- SOFTWARE DEVELOPMENT / CUSTOMISATION
- INSTALLATION OF SOFTWARE MODULES
- TESTING AND TRIALS
- TRAINING

DEFINE MID-SIZED AIRPORTS

- THE HIGH-DENSITY AIRPORTS IN A-PAC REGION HAVE EITHER ALREADY IMPLEMENTED A-CDM SYSTEM OR ARE IN THE PROCESS.
- THERE IS A NEED TO DEFINE MID-SIZED AIRPORT FOR THE PURPOSE OF A-CDM IMPLEMENTATION.
- THIS WILL TAKE THE A-CDM SYSTEM TO MORE AIRPORTS TO GET THE INTENDED BENEFITS.
- A WORKSHOP NEEDS TO BE CONDUCTED TO ASSIST IMPLEMENTATION OF A-CDM AT MID-SIZED AIRPORTS.

THANK YOU

AIRPORTS AUTHORITY OF INDIA

TEAM ACDM, AAI