The Role of Data in ATFM

ICAO, Dubai, December 2016

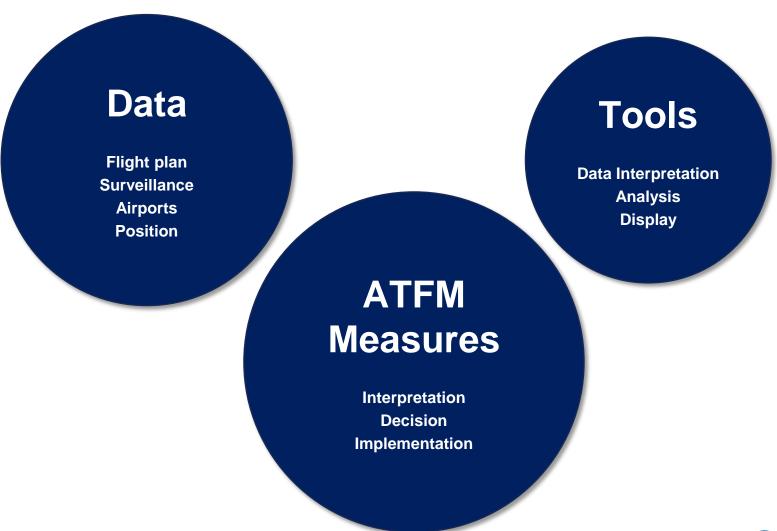
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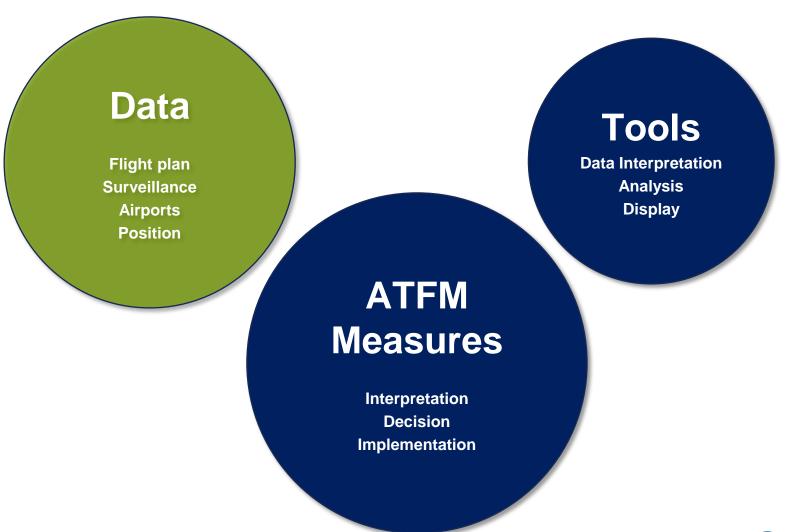


Main ATFM Components





Availability of Data for Optimal ATFM





ATFM Cycle

Strategic Phase



Collate information on airspace and airport capacity, demand, closures, meteorological forecasts



Collaborate with Air Navigation Service Providers (ANSPs), Airports, Aircraft Operators (AOs), Military and Meteorological services



Pre-Tactical Phase

Tactical Phase



Monitor network performance



Intervene if demand exceeds capacity



Final review of the daily plan and operational forecasts



Weeks and months before the operations

Day before the operations



Plan for Airborne/Ground Delay



Adjust route based on preagreed "playbook routes"

Day of operations



Slot Swapping



Rerouting



Ground Delay



Airborne Delay



Ground stop/Cancellation



ATFM Cycle

Strategic Phase



Collate information on airspace and airport capacity, demand, closures, meteorological forecasts



Collaborate with Air Navigation Service Providers (ANSPs), Airports, Aircraft Operators (AOs), Military and Meteorological services



Prepare a number of probable daily operational plans

Pre-Tactical Phase



Final review of the daily plan and operational forecasts

Day before the operations



Weeks and months before the operations

Plan for Airborne/Ground Delay



Adjust route based on preagreed "playbook routes"

Tactical Phase



Monitor network performance



Intervene if demand exceeds capacity



Day of operations



Slot Swapping



Rerouting



Ground Delay



Airborne Delay



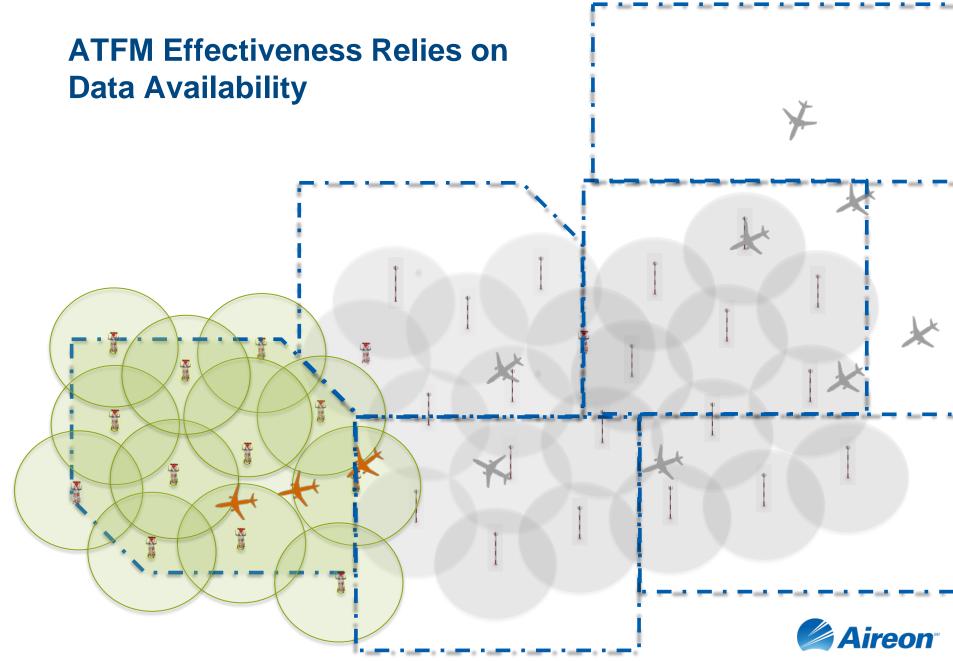
Ground stop/Cancellation

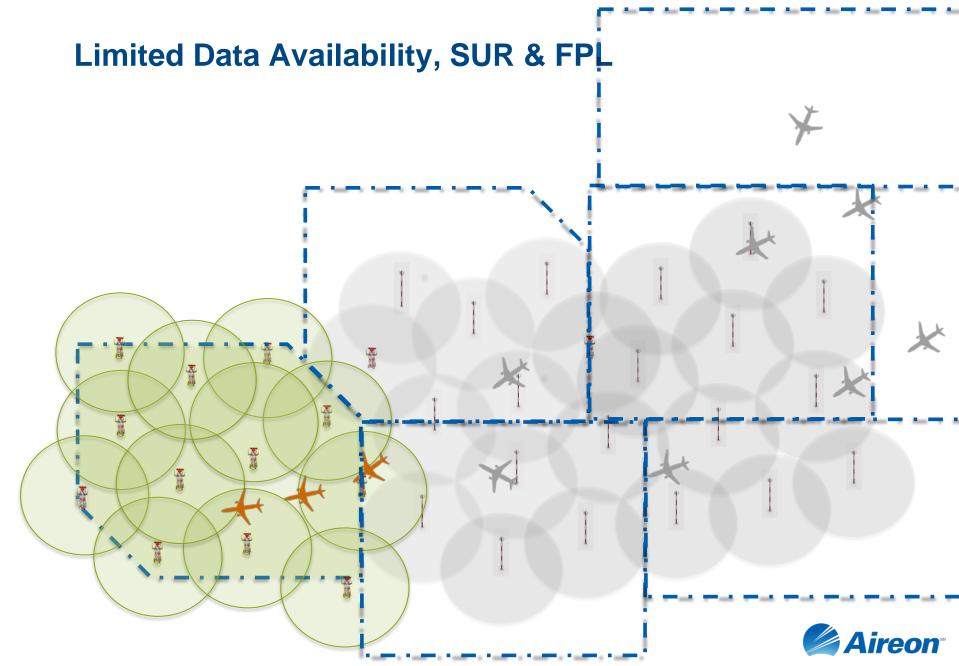


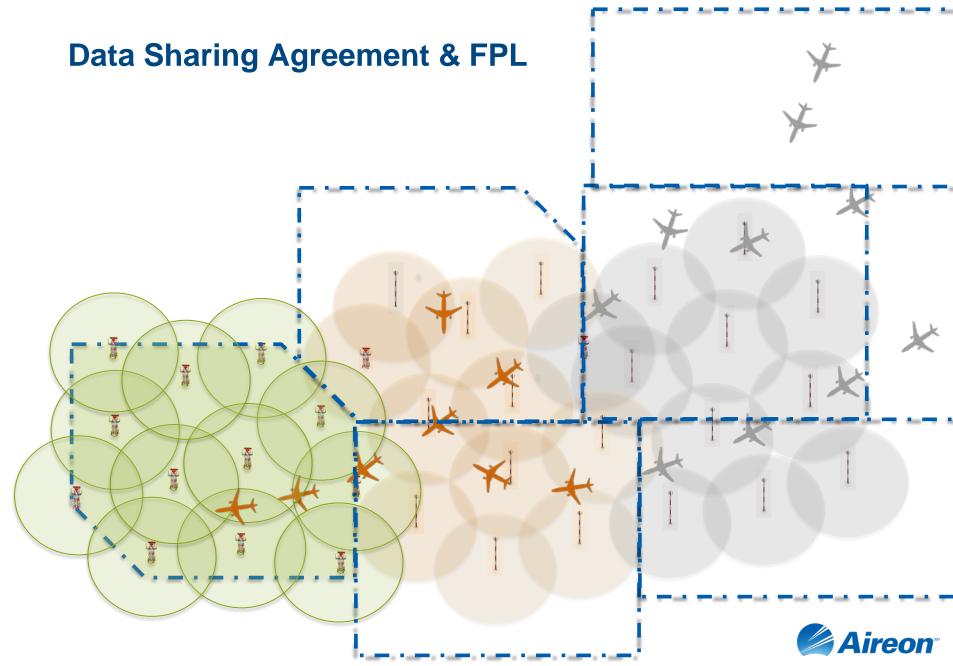
Data Availability

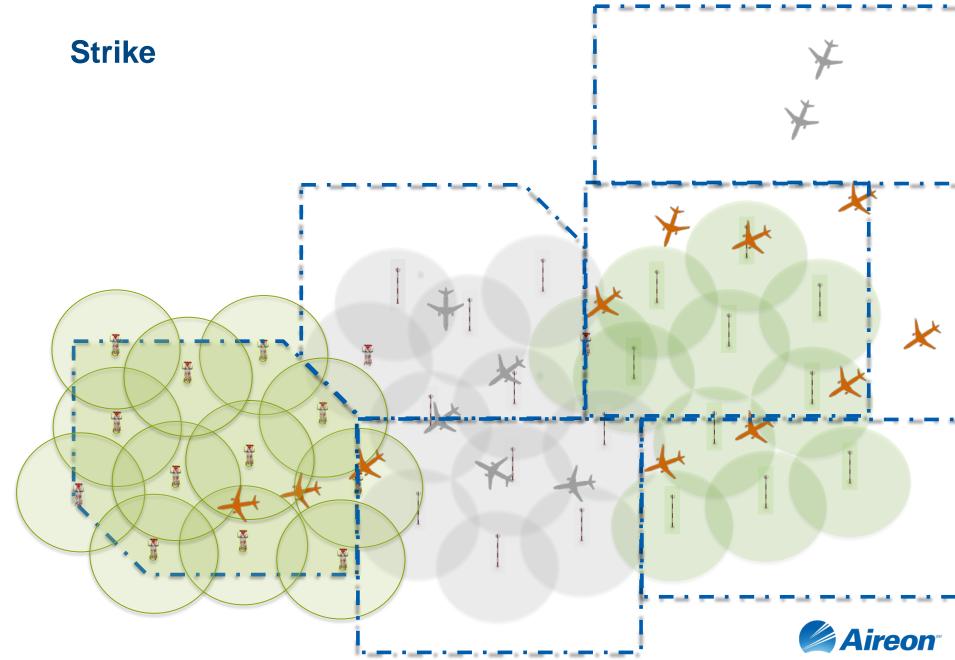
- Data is key to perform optimal Air Traffic Flow Management (ATFM)
- The completer the data, the more accurate prediction of demand
- More accurate demand prediction means better utilization of capacity
- Data availability is usually good to optimal within a single ANSP or a very coordinated / regulated group of ANSP's (such as core Europe)
- Data availability across borders introduced political and technical hurdles
 - Negotiation data sharing agreements
 - Solving data validity issues
 - Political / Military barriers
 - Involving one well equipped airline is an option, but often leads to disproportionate action
 - Data format / SWIM
 - Cost of data transmission (multiple agreements = multiple expensive COM lines)

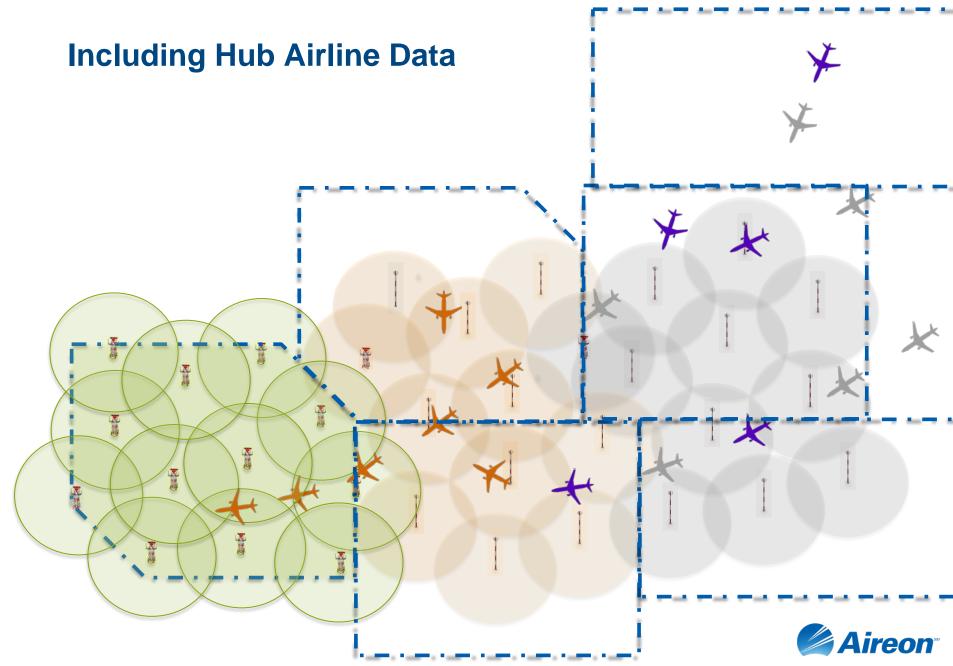


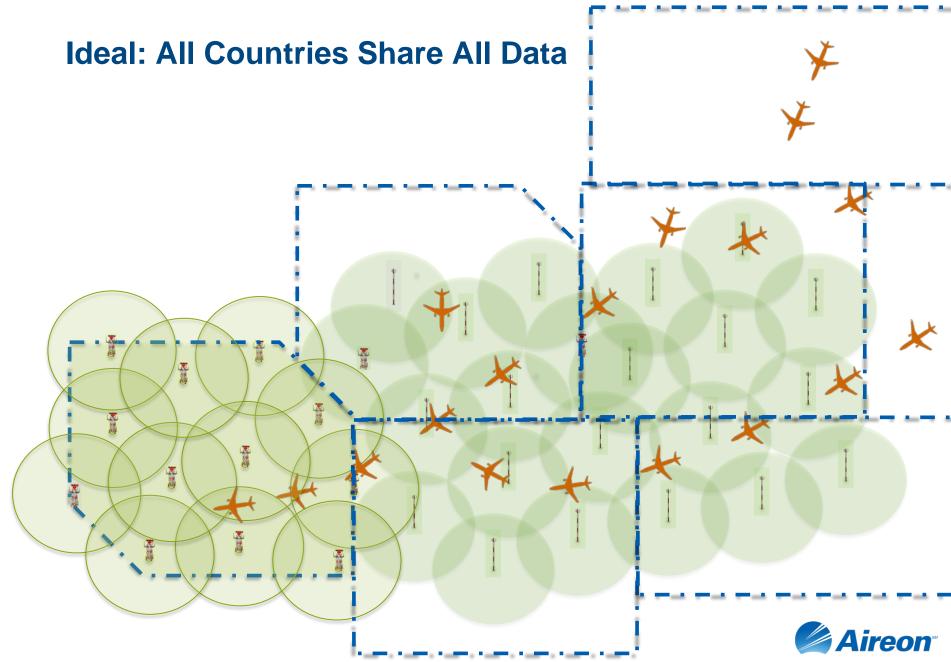












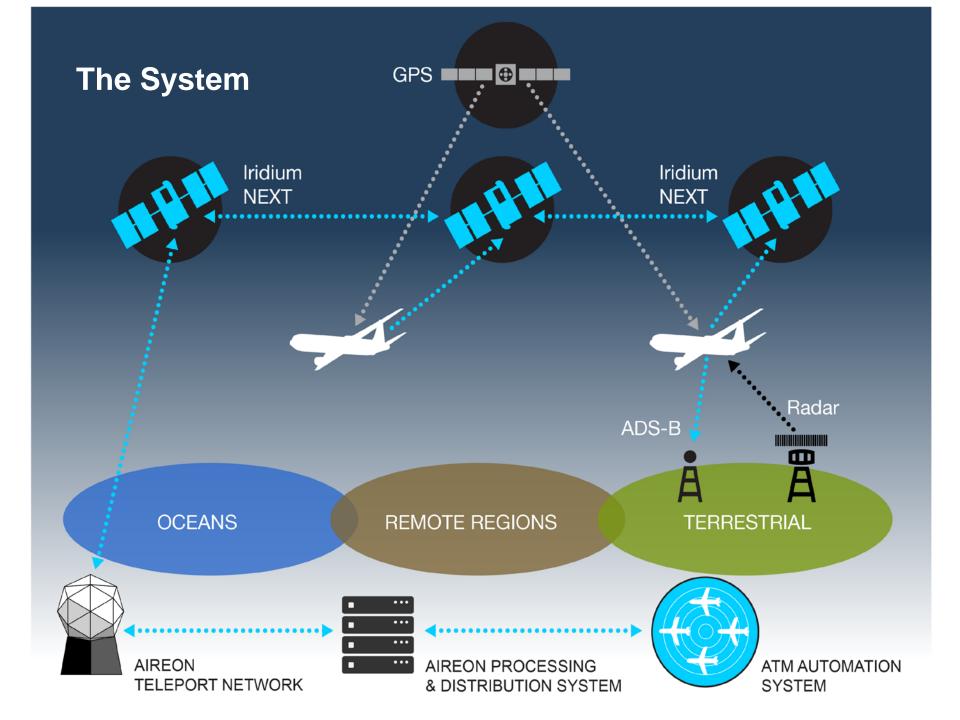


- End World Hunger
- Solve Climate Change



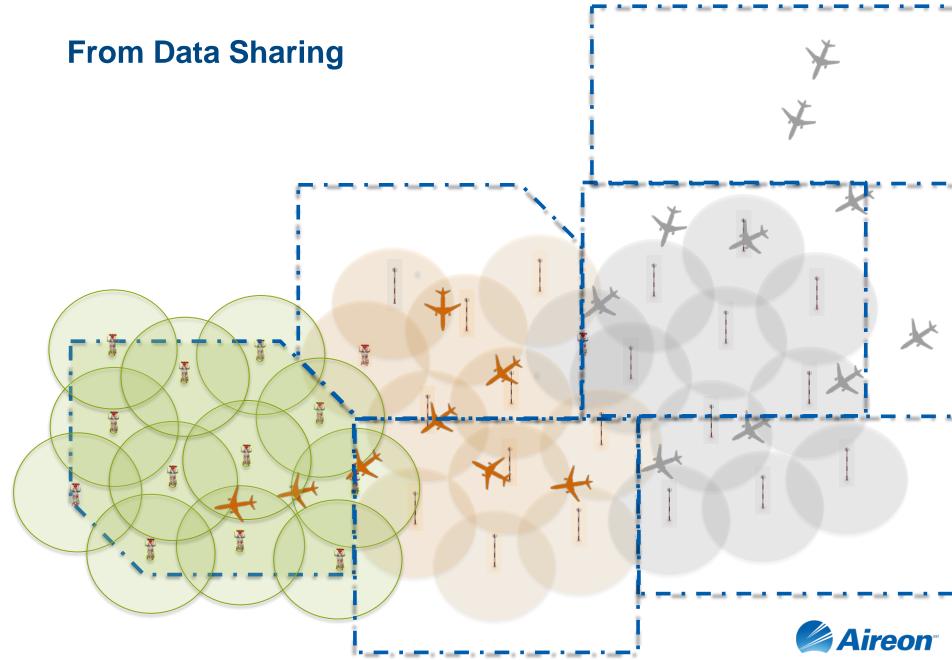


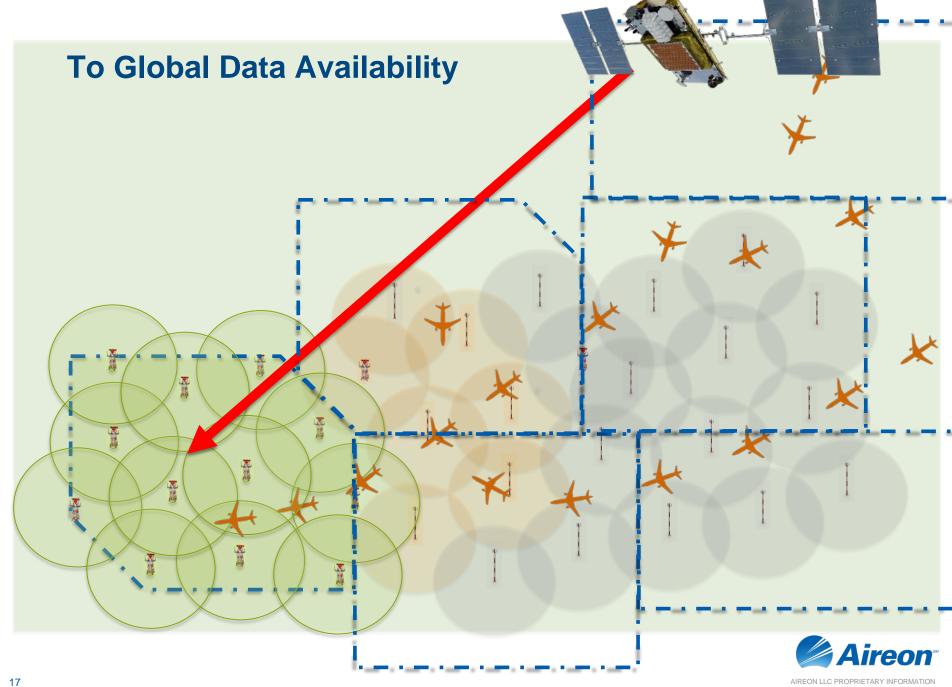




Globally Available in Q1 2018







Regional Applicability





Who is Aireon?















Status of Development:

- Connections implemented to NATS, NAV CANADA, IAA, ENAV and NAVIAIR
- Connections being established with: FAA, Thales, Harris, Curacao, Singapore, ATNS
- Ground systems fully built and tested by Harris Corporation
- Test and validation of on-orbit data to commence in Q1 of 2017 with launch customers:























Nav Canada-Aireon Payload Testing – March 2016

