



Performance Based Navigation

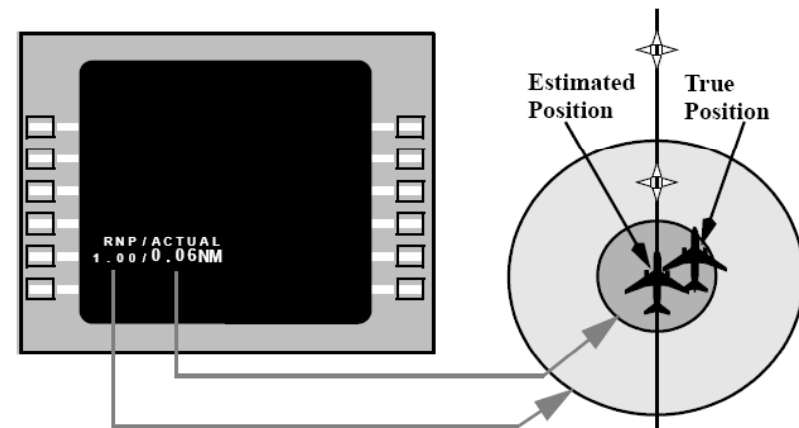
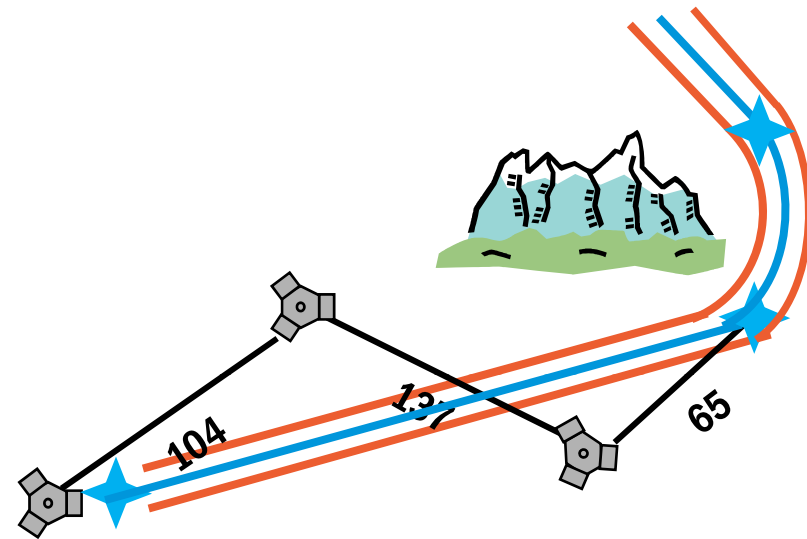
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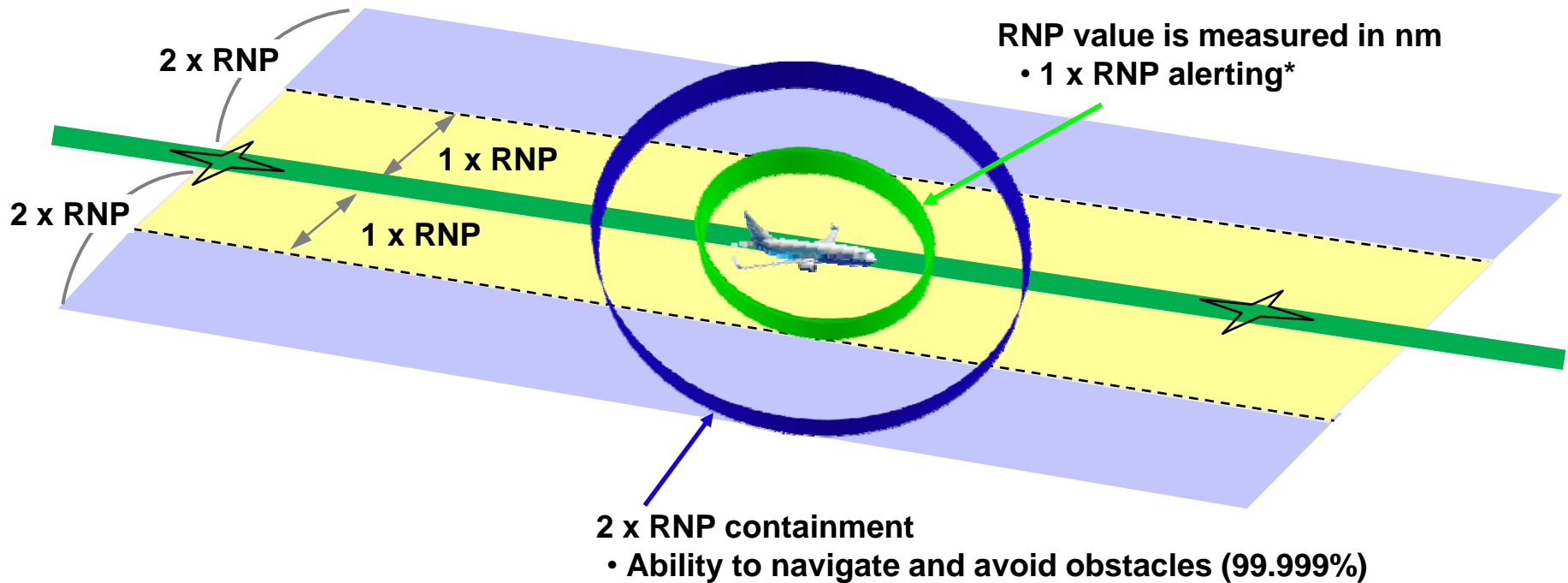
PBN and RNP

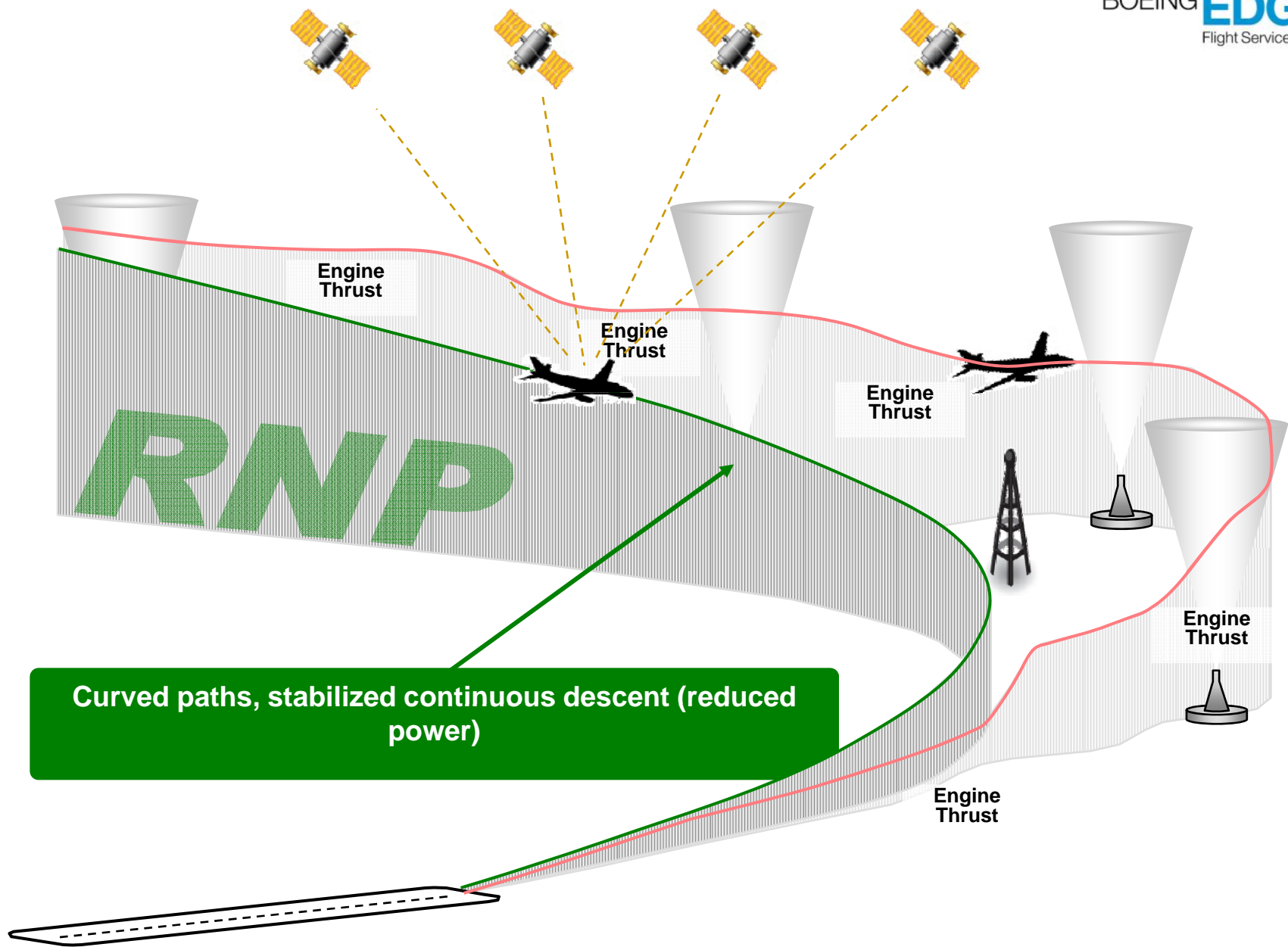
What is Performance Based Navigation

- PBN includes the shift from Sensor-based to performance-based navigation utilizing RNP and RNAV system
 - RNAV navigation enables aircraft to fly on any desired flight path within the coverage of NAVAIDS or within the limits of the capability of self-contained navigation systems
 - RNP is RNAV with on-board navigation monitoring and alerting

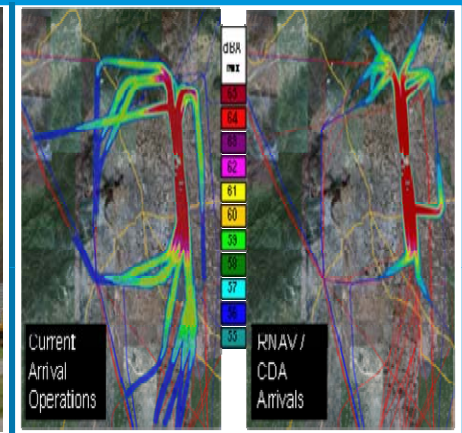
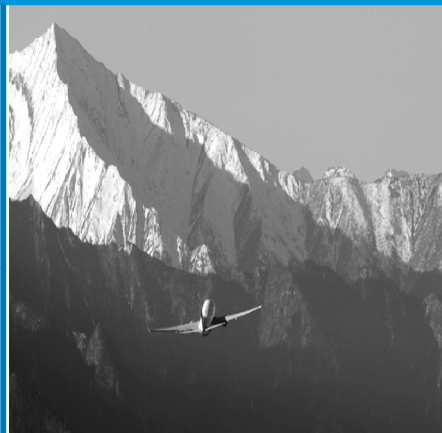


How Does RNP Work?





PBN/RNP Benefit and Value



Enhanced Safety

- Enhanced safety in terrain-challenged environments
- Reduced controlled-flight-into-terrain (CFIT) accident risk
- Efficient, repeatable arrival & departure paths including missed approach

Better Access

- Improved IFR access to airports with limited or no conventional approaches or ground nav aids
- Improved operation into terrain-challenged airports
- Lower minimums
- Reduced diversions

Increased Efficiency, Capacity

- Increased schedule integrity in all weather conditions
- Reducing track miles, and trip time
- Increased efficiency and payload
- Higher takeoff weight with obstacles, less obstacle limited
- Priority to best equipped aircraft

Reduced Environmental Impact

- Reduced fuel consumption, takeoff fuel requirement
- Reduced noise footprint
- Reduced emissions



Resources...

Boeingflightservicespbn@boeing.com

<http://www.boeing.com/commercial/aviationservices/flight-services/atm/performance-based.html>