Motivation

• Future concepts are being proposed to meet the forecast increase in airspace demand and the need for increased operational and flight efficiency.

• Proposed concepts are often stand-alone and do not offer an integrated solution of human-automation systems.


Mid-Term: Trajectory Management

• Local flow adjustments that adapt to changing constraints can provide more efficient trajectories.

• New planning tools support flow-based trajectory modifications.

• Simulation results show shorter reroutes at all equipage levels for Data Comm. equipped aircraft providing service for equipage.

Mid-Term: Flexible Airspace Management

• Demand-capacity imbalances are initially handled by delays and reroutes.

• Airspace boundaries can be adjusted to better distribute traffic and workload.

• Simulation results show fewer required reroutes, more efficient paths, and increased capacity.

Far-Term Approach

• Greater support at the sector level has been tested through the ground-based automated separation assurance concept.

• Many routine administrative and separation tasks are performed by automation.

• Results show much higher levels of throughput without a related increase in workload.