Collision Avoidance
- Ensure safe separation

Separation Management

Trajectory Management
- Manage trajectories within flows
- Negotiate trajectories
- Assign sequencing & spacing

Flow Contingency Management
- Apply Flow Contingency Management procedures and policy to ensure safe levels of traffic at resulting capacity levels
- Forecast demand/Capacity imbalances
- Identify high complexity air space
- Identify constrained airspaces

Capacity Management
- Design airspace
- Assign staffing
- Field infrastructure

If the C-ATM process does not identify an appropriate capacity management strategy

Demand/Capacity Imbalance forecast
Through C-ATM
Assess Range of Option to create Capacity
Select a Capacity Management Strategy

Short Term
- Apply known Procedures, Adjust airspace boundaries, or allocate personnel for Forecast Demand period

Long Term
- Develop new airspace designs, new tools, etc., to better accommodate demand
- Initiate activities to address changes in US or international regulations and guidelines
Aircraft Range = \frac{\text{Velocity}}{\text{TSFC}} \left( \frac{\text{Lift}}{\text{Drag}} \right) \ln \left( 1 + \frac{W_{\text{fuel}}}{W_{\text{PL}} + W_0} \right)

\text{Engine Fuel Consumption} \text{ Aerodynamics} \text{ Empty}
Avionics Functions

Nav
  - IRU
  - GPS/WAAS
    - Radio
      - DME
      - VOR
      - ADF
      - RA
  - Data Loading
  - FMS
  - Displays

Communication
  - CMF
    - SATCOM
      - VHF
        - VDR
        - VDL
      - HF
        - HF Radio
  - ADS-B

Surveillance
  - ACARS
  - CPDLC
  - ATN
  - TAWS
  - TCAS
  - WX RDR
  - Weather Link
  - From Ground

Landing
  - ILS
    - MLS
    - LAAS
  - Un equipped Airport

Aircraft Health Monitoring And Maintenance

IFE
  - EFB
    - Electronic Check list

Avionics Functional Architecture

*Technologies that need to be developed further