

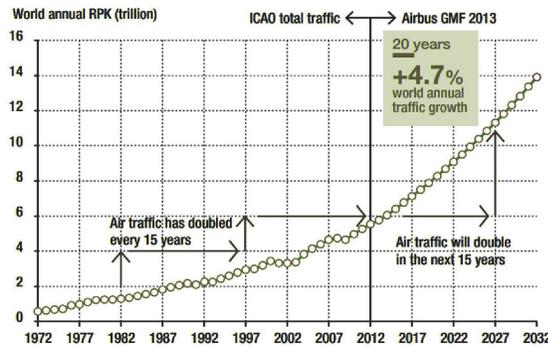


AIRSPACE OPERATIONS LAB

FUTURE AIR TRAFFIC CONCEPTS: RESEARCH ON HUMAN/AUTONOMY TEAMING

Future Air Traffic Concepts

Today's airspace often reaches its capacity limit because human air traffic controllers have to manually control each aircraft in the sky and they can only safely separate a finite number of aircraft. However, commercial air traffic demand is growing every year and many new entrants such as unmanned aerial systems and commercial space flight operations are being added to the airspace. In order to enable this growth in global airspace operations in the long term, we have to find new ways of separating many more aircraft than we can today.



How is NASA involved?

NASA is investigating how human operators might work within increasingly autonomous systems to maintain safe separation between three times as many aircraft as a current-day controller does. Pioneering the development of powerful separation assurance technologies, NASA is laying the ground work to determine how functions need to be allocated between

humans and increasingly autonomous systems.

What do we do?

The Airspace Operations Laboratory's air traffic control room exhibits a simulation that was used for a 2012 study on air traffic controller teaming with separation assurance automation. In the simulation, there are at times three times as many aircraft as in that airspace today. Experimental NASA technologies monitor and manage all air traffic control operations and highlight areas of concerns to the human operators.



Research simulations like this enable us to study critical issues of future operations many years before they become operational reality so that we understand the risks and benefits of the technology.

Check here for more information:
<http://humansystems.arc.nasa.gov/groups/AOL/>