

**AIRPORT PLANNING, MANAGEMENT
AND OPERATION
WORLD TRADE CENTER
NEW YORK**

**JOSEPH M. DEL BALZO
EXECUTIVE DIRECTOR FOR
SYSTEM DEVELOPMENT
FEDERAL AVIATION ADMINISTRATION**

MAY 1, 1990

I AM DELIGHTED TO JOIN YOU THIS AFTERNOON--AND TO WELCOME YOU TO THE UNITED STATES. I HAVE VISITED MANY OF THE COUNTRIES YOU REPRESENT AND AM IMPRESSED BY WHAT I HAVE SEEN IN YOUR RESPECTIVE AVIATION NETWORKS.

YOU COME FROM MANY REGIONS OF OUR WORLD. AS SUCH, YOU MUST CAREFULLY CONSIDER YOUR SPECIAL REGIONAL NEEDS AS YOU DEVELOP YOUR OWN AIRPORT AND AIRSPACE SYSTEMS.

WHEN WE TALK ABOUT "REGIONAL AVIATION" HERE IN THE UNITED STATES, WE TEND TO USE

THE TERM "REGIONAL" IN MANY DIFFERENT WAYS. SOMETIMES--OFTEN--WE MEAN A REGIONAL AIRPORT SERVING A SMALLER-SIZED COMMUNITY WHICH FEEDS TRAFFIC TO THE LARGEST CARRIERS IN THEIR MAJOR HUB CITIES. THIS WHOLE PHENOMENON HAS BEEN DRAMATICALLY RESHAPED IN OUR COUNTRY OVER THE PAST 10-12 YEARS BECAUSE OF DEREGULATION--A SUBJECT THAT YOU WILL HEAR REPEATEDLY OVER THE NEXT TWO WEEKS AND WHICH I WON'T DWELL ON TODAY.

ON THE OTHER HAND, THE TERM "REGIONAL AIRPORT" CAN ALSO REFER TO A MEGASIZED AIRPORT LIKE DALLAS/FORT WORTH--WHICH

SERVES TWO OR MORE MAJOR THRIVING CITIES
IN THE SAME GEOGRAPHIC REGION.

OR THE TERM "REGIONAL AVIATION" CAN BE
APPLIED TO A CERTAIN CATEGORY OF AIRCRAFT,
GENERALLY RANGING FROM 19-SEAT TURBOPROPS
TO 50-SEAT PASSENGER JETS. OR SOMETIMES
TO THE FINANCIAL CHARACTER OF AN AIRLINE,
SINCE WE GENERALLY BELIEVE U.S. REGIONAL
AIRLINES GRADUATE TO NATIONAL AIRLINE
STATUS BY VIRTUE OF THEIR REVENUES
EXCEEDING \$100 MILLION PER YEAR.

WITHOUT BELABORING THE POINT, I SUSPECT
THAT YOUR OWN INTERPRETATION OF "REGIONAL
AVIATION" TAKES ON A VARIETY OF

DEFINITIONS AS WELL--WHICH NEED SORTING OUT AND ADJUSTING TO YOUR INDIVIDUAL, TAILORED NEEDS. BUT I WOULD SUBMIT THAT HOWEVER DIFFERENTLY THE TERM "REGIONAL AVIATION" MIGHT BE APPLIED FROM CONTINENT TO CONTINENT, FROM COUNTRY TO COUNTRY, FROM COMMUNITY TO COMMUNITY, THERE CLEARLY IS A COMMON THREAD THAT TIES THE FABRIC TOGETHER. THAT THEME, I WOULD SUGGEST, IS THE GROWING INTERNATIONALIZATION OF AVIATION AND ITS IMPACT ON REGIONAL AVIATION DEVELOPMENT.

OUR ONCE ENORMOUS WORLD IS BECOMING A GLOBAL VILLAGE. THANKS TO AVIATION, PEOPLE HAVE BECOME NEIGHBORS IN EVERY

SENSE OF THE WORD. IN THE PAST SEVERAL MONTHS, WE HAVE WITNESSED CHANGES IN OUR WORLD THAT ARE BOTH STUNNING AND PROFOUND. AND THERE IS NO WAY TO OVERSTATE THE IMPORTANCE OF AVIATION IN THIS PROCESS.

AS PHYSICAL AND POLITICAL WALLS COME DOWN, AIR TRAVEL WILL PLAY AN INCREASINGLY CRITICAL ROLE. AIRPLANES WILL HELP SPAN GEOPOLITICS. THEY WILL HELP BRIDGE ECONOMIC DISPARITIES. THEY WILL BRING PEOPLE TOGETHER FOR TRADE AND COMMERCE. AND THEY WILL UNITE PEOPLE IN FRIENDSHIP.

BUT IF WE ARE GOING TO GAIN FULL ADVANTAGE OF INTERNATIONAL AIR TRAFFIC,

THEN WE MUST BE PREPARED TO INCREASE THE CAPACITY OF OUR OVERSEAS ROUTES.

IF WE ARE TO MAKE INTERNATIONAL FLYING SAFER AND MORE CONVENIENT, THEN WE MUST SHARE IDEAS ABOUT THE TECHNOLOGY AND HUMAN ABILITIES THAT WILL MAKE THESE GLOBAL SYSTEMS WORK.

AND IF WE ARE TO ENCOURAGE EMERGING COUNTRIES TO TAKE THEIR RIGHTFUL PLACE IN THE INTERNATIONAL MARKETPLACE, THEN WE MUST HELP THEM ESTABLISH TRULY EFFICIENT AIR TRANSPORTATION SYSTEMS.

ALL OF THIS DICTATES THE NEED FOR A TRULY GLOBAL AVIATION SYSTEM AND AT THE FEDERAL AVIATION ADMINISTRATION, WE HAVE ADOPTED SUCH A GLOBAL CONCEPT AS OUR VISION OF THE FUTURE. THE FUTURE AIR TRAFFIC CONTROL SYSTEM. THE FUTURE NAVIGATION SYSTEM. THE FUTURE COMMUNICATIONS NETWORK. A FUTURE OF SATELLITES...OF ADVANCED AUTOMATION...OF SOPHISTICATED TELECOMMUNICATIONS...OF MORE FLEXIBLE LANDING SYSTEMS...OF MORE EFFICIENT VEHICLES...OF MORE RELIABLE AVIONICS.

TOMORROW'S AIRSPACE SYSTEM HAS MANY PIECES AND EACH PIECE MUST BE CONSIDERED IN A GLOBAL CONTEXT.

WHAT DOES THIS MEAN TO EACH OF US IN THIS ROOM? IT MEANS THAT AS AVIATION REPRESENTATIVES OF DIFFERENT COUNTRIES, WE NO LONGER CAN CONTINUE TO DESIGN AND OPERATE INDEPENDENT NATIONAL SYSTEMS.

SIMPLY STATED, IT MEANS THAT THE FUTURE AIRSPACE SYSTEM MUST BE DESIGNED COOPERATIVELY--THROUGH ICAO, THROUGH JOINT BILATERAL AND MULTILATERAL RESEARCH AND DEVELOPMENT PROGRAMS, AND THROUGH VARIOUS OTHER FORUMS FOR THE TRANSFER AND SHARING OF INFORMATION, SUCH AS THIS PROGRAM. ALTHOUGH OUR COUNTRIES MIGHT COMPETE VIGOROUSLY FOR AERONAUTICAL SERVICES AND SALES, WE CAN ILL-AFFORD TO FORGET THAT

WHAT BRINGS US TOGETHER IS FAR MORE
IMPORTANT THAN WHAT DIVIDES US.

THAT BOND, IF YOU WILL, IS PASSENGER
DEMAND: DEMAND FOR FASTER, MORE PRECISE
"REAL TIME" INFORMATION IN THE COCKPIT
ABOUT LOCATION, WEATHER, WIND CONDITIONS,
PROXIMITY OF OTHER AIRCRAFT AND OTHER
CRITICAL FACTORS. THAT BOND, IF YOU WILL,
IS CONTROLLER DEMAND: DEMAND FOR HIGHER
LEVELS OF AUTOMATION AND MORE INSTANT
COMMUNICATIONS--BOTH BETWEEN FACILITIES
AND BETWEEN THE AIR AND THE GROUND. THAT
BOND, IF YOU WILL, IS AIRLINE DEMAND:
DEMAND FOR MORE CAPACITY, FEWER DELAYS,
AND LOWER OPERATING COSTS.

THE FORECASTERS TELL US THAT IN THE NEXT TEN, TWENTY, AND THIRTY YEARS, WE'LL BE SEEING A DOUBLING, A TRIPLING, OR EVEN A QUADRUPLING OF AVIATION ACTIVITY.

FOR EXAMPLE, IN 1989, NEARLY 450 MILLION PASSENGERS FLEW IN OUR OWN UNITED STATES NATIONAL AIR TRANSPORTATION SYSTEM. THIS IS NEARLY TWICE OUR NATIONAL POPULATION. AS WE FLY INTO THE 21ST CENTURY, OVER 800 MILLION PASSENGERS WILL BE EXPECTED TO TRAVEL IN THIS COUNTRY EACH YEAR. WORLDWIDE, INTERNATIONAL AIR TRAVEL ON U.S. AIRLINES IS EXPECTED TO GROW AT A RATE OF MORE THAN 5.5 PERCENT A YEAR OVER

THE NEXT 12 YEARS AND THE MARKET IS EXPECTED TO DOUBLE BY THE YEAR 2000. LEADING THIS PROJECTED GROWTH WILL BE TRAFFIC TO ASIA FROM NORTH AMERICA AND EUROPE AT 9.1 PERCENT PER YEAR, AND WITHIN ASIA AT 7.1 PERCENT. BUT WE CAN'T MEASURE TOMORROW'S DEMANDS IN TERMS OF RAW NUMBERS ALONE. INSTEAD, WE WILL HAVE TO SATISFY THOSE DEMANDS IN TERMS OF QUALITY OF SERVICE, QUALITY OF PROCEDURES, AND QUALITY OF TRAINING. AND, TO RE-EMPHASIZE MY MAIN THEME POINT, WE WILL HAVE TO DO THIS TOGETHER, IN A COLLABORATIVE WAY, WITH A GLOBAL PERSPECTIVE.

CONGESTION AND DELAY REPRESENT THE MOST SIGNIFICANT LIMITING FACTORS IN MEETING DEMAND FOR AIR TRAVEL. IN SOME REGIONS, THE CONSTRAINING FACTOR MAY NOT BE AIRPORT CONGESTION CAUSED BY TOO MANY TAKEOFFS AND LANDINGS. IT MAY BE CAUSED INSTEAD BY THE INABILITY TO HANDLE DEMAND ADEQUATELY IN THE AIR TRAFFIC CONTROL SYSTEM. THE U.S. AVIATION INDUSTRY IS MAKING SIGNIFICANT TECHNOLOGICAL IMPROVEMENTS IN NAVIGATION, SURVEILLANCE AND COMMUNICATIONS, AND IN IMPROVING AIR TRAFFIC CONTROL IN A GLOBAL ENVIRONMENT TO ADDRESS THIS DEMAND.

FOR EXAMPLE, FAA, IN COOPERATION WITH JAPAN, HAS INTRODUCED THE DYNAMIC OCEANIC TRACK SYSTEM (DOTS), WHICH OPTIMIZES SCHEDULING OF AIRCRAFT ON OCEANIC ROUTES. DOTS PROVIDES FLIGHT PLANNING INFORMATION WHICH INCLUDES GREATER FLEXIBILITY IN BEING MORE RESPONSIVE TO AIRCRAFT OPERATOR NEEDS. IT ALLOWS USERS TO SELECT THE MOST FUEL AND TIME EFFICIENT ROUTINGS. COUPLED WITH RADIO REPORTS FROM RADIO TOKYO AND ARINC, AIRCRAFT POSITION INFORMATION IS DISPLAYED IN THE OCEANIC CENTER AT THE OAKLAND AIR ROUTE TRAFFIC CONTROL CENTER. OCEANIC CONTROLLERS RECEIVE A VISUAL

DEPICTION OF AIRCRAFT OPERATING ALONG THE FLIGHT TRACKS. DOTS HAS ALREADY PRODUCED A 5-6 PERCENT FUEL SAVINGS AND CORRESPONDING REDUCTION IN FLIGHT DELAYS.

ANOTHER PROGRAM, THE OCEANIC DISPLAY AND PROCESSING SYSTEM (ODAPS), TAKES SATELLITE-TRANSMITTED INFORMATION VIA A DATA LINK (GROUND-BASED COMPUTERS TALKING TO AIRBORNE COMPUTERS WITHOUT VOICE COMMUNICATION) WHICH CARRIES POSITION INFORMATION BACK TO A CENTRAL AIRCRAFT POSITION DISPLAY FOR TRAFFIC OPERATING OVER THE ATLANTIC. MOST NEW WIDEBODY

AIRCRAFT ARE BEING EQUIPPED WITH SATELLITE AND DATA LINK COMMUNICATIONS AND ADVANCED DISPLAY CAPABILITIES TO IMPROVE OCEANIC COMMUNICATIONS AND NAVIGATION. THE ODAPS IS CURRENTLY BEING TESTED BY FAA ALONG THE ATLANTIC FLIGHT TRACKS.

OUR ULTIMATE GOAL, CERTAINLY BY THE TURN OF THE CENTURY, IS TO ACHIEVE AUTOMATED DEPENDENT SURVEILLANCE (ADS). ADS COMBINES INFORMATION FROM AIRCRAFT INERTIAL NAVIGATION SYSTEMS AND POSITIONING DATA PROVIDED BY SATELLITES AND AUTOMATICALLY TRANSMITS ACCURATE POSITIONING DATA TO AIR TRAFFIC CONTROL

AGENCIES. IT WOULD BE POSSIBLE, USING SATELLITE RELAYS, TO COMMUNICATE WITH AIRCRAFT AND PROVIDE POSITIVE AIRCRAFT SEPARATION, WITHOUT THE USE OF RADAR. THE OCEANIC AIRSPACE CAPACITY IMPLICATIONS ARE TREMENDOUS. MORE AIRCRAFT COULD BE CONTROLLED GLOBALLY, REDUCING DELAY ALONG THE CURRENT, RIGIDLY DEFINED FLIGHT TRACKS. THE NUMBER OF ROUTES COULD BE EXPANDED, OPTIMIZING FUEL EFFICIENCY AND REDUCING DELAY.

IN NOVEMBER AND DECEMBER OF 1989, AN AIR FORCE C-135 WAS TRACKED AROUND THE WORLD, FLYING FROM ANDREWS AIR FORCE BASE, MARYLAND, TO HONOLULU, HAWAII, ON TO

INDONESIA, AND INDIA, OVER THE MIDDLE EAST, ON TO MADRID, SPAIN, AND BACK TO ANDREWS AIR FORCE BASE. NINE DAYS, AND A TOTAL OF 54 HOURS OF FLIGHT TIME, OF BEING TRACKED AND MAINTAINING SATELLITE COMMUNICATIONS ALL THE WAY.

IMAGINE THE EN ROUTE CAPACITY BENEFIT IF AIRCRAFT COULD FLY AIRWAY ROUTES AT CLOSER INTERVALS WITH POSITIVE SEPARATION BEING PROVIDED BY GLOBAL AIR TRAFFIC CONTROLLERS. MORE AIRCRAFT COULD BE HANDLED, MEETING DEMAND WORLDWIDE. BECAUSE NATIONS COULD EASILY IDENTIFY AIRCRAFT WITHOUT DEPENDING ON RADAR,

NATIONAL AIRSPACE BOUNDARIES AND RESTRICTIONS COULD BE EASED, IMPROVING THE FLOW OF AIRCRAFT.

LET ME SHARE WITH YOU SOME OF THE OTHER TECHNOLOGICAL SPECIFICS OF OUR VISION FOR THE FUTURE SYSTEM.

VHF AIR/GROUND COMMUNICATIONS--EVEN HIGH FREQUENCY COMMUNICATIONS IN POLAR REGIONS--WILL REMAIN A PART OF THE SYSTEM FOR THE FORESEEABLE FUTURE. AS I SAID, HOWEVER, SATELLITE COMMUNICATIONS WILL EVOLVE INTO WIDE USE, BEGINNING WITH OPERATIONS OVER OCEANS AND LESS-DEVELOPED

LAND AREAS. WE EXPECT THAT BY THE YEAR 2000, THERE WILL BE A SUFFICIENT NUMBER OF POSITION-DETERMINING SATELLITES DEPLOYED THAT A PROPERLY EQUIPPED USER COULD FIX HIS LOCATION TO AN ACCURACY OF TEN METERS--ANYTIME AND ANYWHERE ON THE GLOBE.

A NEW SECONDARY RADAR SYSTEM, KNOWN AS MODE S WILL GREATLY IMPROVE BOTH AIRCRAFT SURVEILLANCE AND GROUND-TO-AIR COMMUNICATIONS. MODE S WILL BE THE PRIMARY SURVEILLANCE SYSTEM OVER LAND AND IN BUSY TERMINAL AIRSPACE. MODE S WILL PROVIDE AUTOMATIC AIR-GROUND DATA LINK

COMMUNICATIONS--WHICH IS SOMETHING LIKE ONE COMPUTER TALKING TO ANOTHER COMPUTER AND DISPLAYING MESSAGES FOR HUMANS TO READ.

DATA LINK WILL BE A VALUABLE ELEMENT IN OVERCOMING THE ATC LANGUAGE PROBLEM, WHICH UNFORTUNATELY, IS SERIOUS IN MANY PART OF THE WORLD. BY EXTENDING THE BENEFITS OF AUTOMATION TO THE COCKPIT, DATA LINK WILL PERMIT SENSIBLE INFORMATION EXCHANGE BETWEEN THE FLIGHT CREW AND THE AIR TRAFFIC CONTROL SYSTEM.

THE MICROWAVE LANDING SYSTEM WILL PROVIDE A NEW DIMENSION IN PRECISION APPROACH AND LANDING GUIDANCE, AS WELL AS HIGH QUALITY DEPARTURE AND MISSED APPROACH GUIDANCE. MLS WILL COME INTO WIDE USE AND PRODUCE SIGNIFICANT AIRPORT CAPACITY GAINS AT MAJOR AIRPORTS, AS WELL AS REDUCING THE IMPACT OF AIRCRAFT NOISE.

COLLISION AVOIDANCE TECHNIQUES WILL COME INTO WIDE USE, BASED ON MODE S SURVEILLANCE, BUT PROBABLY TRANSITIONING TO GLOBAL NAVIGATION SATELLITE SERVICE OR GNSS, POSITION DATA AT AN APPROPRIATE TIME.

AREA NAVIGATION, USING FLIGHT
MANAGEMENT SYSTEMS TO PROVIDE 3-D AND A
TIME-BASED, OR 4-D CAPABILITY WILL BE
COMMONPLACE IN AIRLINE AIRCRAFT.

COCKPIT DISPLAYS OF TRAFFIC WILL BE IN
COMMON USE ON TRANSPORT AIRCRAFT, USING
TCAS TECHNOLOGY AT FIRST, AND GROWING WITH
TCAS INTO USING THE GNSS DATA SOURCE. THE
USE OF THIS TECHNOLOGY TO CREATE COCKPIT
DISPLAYS OF PERTINENT MULTI-PURPOSE AND
TRAFFIC INFORMATION, MAY LEAD, IN
ASSOCIATION WITH MODERN AIRCRAFT SYSTEMS
AND DATA LINK, TO MORE PRODUCTIVE, MORE
COOPERATIVE AIR TRAFFIC CONTROL SERVICES,

WHERE PILOTS COULD PLAY A MORE ACTIVE ROLE IN MAINTAINING AIRCRAFT SEPARATION.

WITH RESPECT TO AUTOMATION, WE HAVE LEARNED THAT THOSE AUTOMATION TOOLS MOST LIKELY TO WORK AND BE USEFUL ARE THOSE OFFERING ADVICE AND ASSISTANCE TO CONTROLLERS, WHICH THE CONTROLLER CAN THEN EVALUATE AND ACCEPT OR REJECT. EFFORTS WHICH HAVE ATTEMPTED TO AUTOMATE PROCESSES IN WAYS WHICH LEAVE THE CONTROLLER "OUT OF THE LOOP" HAVE NOT BEEN SUCCESSFUL.

SEVERAL EFFORTS ARE UNDER WAY TO INTRODUCE AUTOMATION INTO THE TERMINAL AIR TRAFFIC CONTROL PROCESS.

SUCH AUTOMATION, AND SIMILAR EFFORTS IN THE ENROUTE AND TRANSITION ENVIRONMENT, AS WELL AS EFFORTS FOR AIRPORT SURFACE AUTOMATION FOR THE BUSIEST AIRPORTS, WILL NECESSARILY BE INTEGRATED. IT IS ESSENTIAL THAT SUCH AUTOMATION BE RAPIDLY CARRIED TO OPERATIONAL USE SINCE AUTOMATION HELP FOR CONTROLLERS REPRESENTS THE KEY TO BENEFICIAL USE OF DIGITAL COMMUNICATIONS, COOPERATIVE ATC, AND HELP IN SAFELY HANDLING GROWING VOLUMES OF TRAFFIC.

WEATHER DATA, BOTH NEAR TERMINALS AND ALOFT, WILL BE IMPROVED DRAMATICALLY. THE

SAFETY-RELATED PARTS -- WIND SHEAR, WAKE VORTICES, DOWNBURST PROTECTION, ETC., MUST COME FIRST, BUT EFFECTIVE TERMINAL AND ENROUTE AUTOMATION, AND SENSIBLE FLOW MANAGEMENT ALL REQUIRE THE BEST POSSIBLE WEATHER AND WIND INFORMATION IF WE ARE TO EFFICIENTLY MANAGE INCREASING TRAFFIC DEMAND.

AIRPORT CAPACITY TECHNOLOGY HOLDS NO MIRACLES, BUT MAJOR GAINS ARE ACHIEVABLE FROM A SERIES OF PROJECTS WHICH HAVE VIRTUALLY UNIVERSAL SUPPORT, AND ON WHICH WE ARE CURRENTLY HARD AT WORK.

THE CAPACITY GAINS ACHIEVABLE ARE LIMITED--PERHAPS 25% TO 30% ON THE AVERAGE IF ALL GOES WELL, RATHER THAN THE MUCH LARGER GAINS ULTIMATELY NEEDED. BUT SMALL GAINS ARE WORTH IT, ESPECIALLY SINCE AT CONGESTED AIRPORTS EVERY 1% OF CAPACITY GAIN EQUATES TO NEARLY A 5% REDUCTION IN DELAY COST TO THE AIRCRAFT OPERATOR.

IN A NUMBER OF COUNTRIES, THE FAA IS PROVIDING TECHNICAL ASSESSMENTS OF SPECIFIC SYSTEMS REQUIREMENTS THAT ARE NEEDED FOR AVIATION SYSTEM DEVELOPMENT. THIS PROVIDES THE DEFINITION AND FOCUS

THAT IS SO OFTEN NEEDED BEFORE ANY LARGE AVIATION PROJECT CAN BE UNDERTAKEN, ESPECIALLY IN DEVELOPING COUNTRIES.

WE ARE ALSO PROVIDING TRAINING FOR MORE THAN 400 FOREIGN STUDENTS A YEAR AT OUR ACADEMY IN OKLAHOMA CITY, IN SUBJECTS RANGING FROM COMPUTERS TO AIRPORT PLANNING.

AND, IN THE PAST TWO YEARS, WE HAVE STARTED A MAJOR OUTREACH PROGRAM, WHICH PROVIDES SEMINARS FOR TOP AVIATION OFFICIALS FROM OTHER COUNTRIES ON HOW U.S. AVIATION IS STRUCTURED, HOW IT IS

REGULATED, AND HOW IT OPERATES. THESE SEMINARS HELP ESTABLISH BETTER COMMUNICATIONS WITH THE TOP PEOPLE IN OTHER COUNTRIES, AND THEY GIVE US AN OPPORTUNITY TO SHARE AREAS OF MUTUAL INTEREST AND CONCERN.

AS WE LEARN TOGETHER, TRADITIONAL BARRIERS TO THE FREE FLOW OF AIRCRAFT WILL FALL AS NATIONS BEGIN TO TAKE ADVANTAGE OF NEW AIR TRAFFIC CONTROL NAVIGATION, SURVEILLANCE, AND COMMUNICATION TECHNOLOGIES. AIR TRANSPORTATION WILL BECOME INCREASINGLY GLOBAL, WITH IMPROVED ROUTINGS, REDUCED DELAYS, AND EXPANDED

CAPACITY. OUR PASSENGERS WILL BENEFIT THROUGH GREATER FLIGHT SCHEDULING FLEXIBILITY AND LOWER AIRLINE OPERATING COSTS.

THE OUTLOOK FOR AVIATION AND AVIATION TECHNOLOGY IS EXTREMELY BRIGHT, EXCITING, AND CHALLENGING. AVIATION IS TRULY SHRINKING THE WORLD, AS WE LOOK TO A NEW GENERATION OF ULTRA-LONG-RANGE AIRCRAFT THAT WILL BRING 80 PERCENT OF THE WORLD'S MARKETS WITHIN THE SPAN OF A SINGLE, NON-STOP FLIGHT.

I KNOW THAT, WORKING WITH YOU AND YOUR OTHER INTERNATIONAL NEIGHBORS, WE CAN HELP BUILD A GLOBAL AVIATION SYSTEM THAT WILL, TRULY, SERVE THE WORLD'S NEEDS WELL INTO THE 21ST CENTURY.

THANK YOU, AND I WISH YOU A PLEASURABLE AND PRODUCTIVE STAY IN OUR COUNTRY.

#