>> President Obama: TODAY I'D LIKE TO TALK ABOUT THE NEXT CHAPTER IN THE STORY.
WE WILL INCREASE EARTH-BASED OBSERVATIONS.
AND, WE WILL EXTEND THE LIFE OF THE INTERNATIONAL SPACE STATION.
WE WILL BUILD ON THE GOOD WORK ALREADY DONE ON THE ORION CREW CAPSULE.

>> President Obama: WE WILL INCREASE INVESTMENT RIGHT AWAY IN OTHER GROUNDBREAKING TECHNOLOGIES.

WE WANT TO LEAP INTO THE FUTURE. BY INVESTING IN GROUNDBREAKING RESEARCH AND INNOVATIVE COMPANIES.

WE ARE GOING TO MODERNIZE THE KENNEDY SPACE CENTER, CREATING JOBS AS WE UPGRADE LAUNCH FACILITIES.
WE WILL PARTNER WITH INDUSTRY, WE WILL INVEST IN CUTTING-EDGE RESEARCH AND TECHNOLOGY. THE SPACE PROGRAM HAS FUELED JOBS IN ENTIRE INDUSTRIES AND IN FULFILLING THIS TASK WE WILL NOT ONLY EXTEND HUMANITY'S REACH IN SPACE, WE WILL STRENGTHEN AMERICA'S LEADERSHIP HERE ON EARTH.

[APPLAUSE]

>> GOOD MORNING AND WELCOME TO THE CENTER FOR AMERICAN PROGRESS.

AS WE DISCUSS THE FUTURE OF HUMAN SPACE EXPLORATION WITH OUR SPECIAL GUEST, THE ADMINISTRATOR OF NASA.

THIS IS THE SECOND PROGRAM IN THE SERIES ON SPACE EXPLORATION HERE AT C.A.P. IN JUNE WE REMEMBERED ASTRONAUT ED WHITE ON THE 50th
ANNIVERSARY OF HIS HISTORIC WALK

IN SPACE AND ITS IMPACT ON OUR COUNTRY IN 1965.

AS WE NOTED THEN, OUR PRIME FOCUS IS LOOKING FORWARD INTO SPACE. WHERE WE WILL GO, HOW WE WILL GET THERE, WHO WILL COME WITH US, AND MAYBE WHO WE MIGHT MEET ALONG THE WAY.

THIS MORNING, THE C.A.P. WEBSITE HAS POSTED A COLUMN WRITTEN BY OUR COLLEAGUE, PETER JUUL, FORGING A NEW CONSENSUS ON AMERICA'S JOURNEY INTO SPACE.

NASA ISSUED ITS REPORT "JOURNEY TO MARS" PIONEERING NEXT STEPS IN SPACE EXPLORATION EARLIER THIS MONTH.

TO QUOTE THE REPORT, AS PIONEERS WE WORK TO BLAZE THE TRAIL FOR OTHERS. WE PIONEER SPACE TO DISCOVER
LIFE, IDENTIFY RESOURCES, FOSTER ECONOMIC GROWTH, INSPIRE AND EDUCATE, PROTECT OURSELVES FROM SPACE-BASED THREATS, AND, LEAVE A BETTER FUTURE FOR THE NEXT GENERATION.

THE REPORT ADDED -- WHILE FAR AWAY, MARS IS A GOAL WITHIN OUR REACH. MARS ALSO FEATURED IN ANOTHER REPORT PREPARED FOR THE PLANETARY SOCIETY THAT PRECEDED THIS NASA REPORT. TO QUOTE THAT REPORT -- THE HUMAN EXPLORATION OF MARS IS AFFORDABLE, MUCH OF THE NECESSARY TECHNOLOGY IS UNDER DEVELOPMENT, AND LESSONS LEARNED FROM THE ROBOTIC MARS EXPLORATION PROGRAM CAN BE APPLIED IN ORDER TO BUILD A CONSISTENT POLITICALLY STABLE
PROGRAM THAT SPANS DECADES.
TWO REPORTS, DIFFERENT PERSPECTIVES, BUT A COMMON CONCLUSION.

A HUMAN TRIP TO MARS IS WITHIN OUR GRASP.

WE ALSO BEGIN THIS PROGRAM TODAY WITH THE RAREST OF COMMODITIES IN WASHINGTON. A LITTLE BIT OF OPTIMISM.

IT APPEARS THERE MAY BE A TWO-YEAR BUDGET AGREEMENT THAT WILL MOVE THE CURRENT DEADLOCK OF SEQUESTRATION AND DEBT TO A GREATER UNDERSTANDING OF OPPORTUNITY AT LEAST FOR A PERIOD LONG ENOUGH TO CATCH OUR BREATH AND TO BE REMINDED THAT WHEN WE WORK TOGETHER, BIG ACCOMPLISHMENTS ARE POSSIBLE.

LET ME OPEN THE DOOR FOR

CONSENSUS, AN ELEMENT OF DEMOCRACY THAT IS AS IMPORTANT
AS OXYGEN IS FOR ASTRONAUTS. ON EDUCATION, WE WANT TO ENSURE THAT THE NEXT GENERATION HAS THE TOOLS TO PUSH THE BOUNDARY OF ACCOMPLISHMENT ON PLANET EARTH, AND ON A FLIGHT TO MARS.

AND, ON TECHNOLOGY AND INNOVATION, TO FOSTER JOBS,

OPPORTUNITY, AND LEADERSHIP ON REACHING THE STARS AND IN THE PROCESS, MAKING LIVES BETTER IN OUR CITIES AND TOWNS.

TODAY, A NEW GENERATION OF AMERICANS, SCIENTISTS, ENGINEERS, ASTRONAUT EXPLORERS, NASA AND PRIVATE-SECTOR LEADERS,

ARE LOOKING FOR THE CONSENSUS IN COMMON AGREEMENT THAT WILL BRING THAT TRIP TO MARS WITHIN REACH. THE TECHNICAL CHALLENGES INVOLVING GETTING ASTRONAUTS TO MARS ARE DAUNTING.
AND THE LONG-TERM PHYSICAL AND PSYCHOLOGICAL EFFECTS ON SUCH A JOURNEY REMAIN UNCERTAIN. BUT THE PROSPECTS FOR AMERICAN LEADERSHIP IN HUMAN EXPLORATION BEYOND LOW-EARTH ORBIT ARE BRIGHTER THAN THEY HAVE BEEN FOR DECADES. THE U.S. GOVERNMENT AND PRIVATE COMPANIES ARE SLOWLY, BUT SURELY, PUTTING INTO PLACE MANY OF THE CAPABILITIES NEEDED TO SEND HUMANS TO MARS. HOWEVER, MANY CRITICAL QUESTIONS ARE STILL TO BE FRAMED. TO DISCUSS THESE TOPICS THIS MORNING AT C.A.P., WE HAVE THE ADMINISTRATOR OF THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION, CHARLES BOLDEN JR. WE ARE GLAD TO HAVE YOU HERE THIS MORNING.
HE IS A LEADER OF PARTICULAR

81
00:05:59,889 --> 00:06:03,810
ACCOMPLISHMENT, NAVAL ACADEMY,
MASTER OF SCIENCE UNIVERSITY OF

82
00:06:03,810 --> 00:06:06,800
SOUTHERN CALIFORNIA, I HAD TO
PUT THAT IN BECAUSE MY DAUGHTER

83
00:06:06,800 --> 00:06:13,300
IS A TROJAN UNDERGRADUATE RIGHT
NOW -- SO FIGHT ON -- UM, HE IS

84
00:06:13,300 --> 00:06:17,220
AN ASTRONAUT, MAJOR GENERAL
RETIRED UNITED STATES MARINE

85
00:06:17,220 --> 00:06:20,979
CORPS, 100 COMBAT MISSIONS IN
VIETNAM.

86
00:06:20,978 --> 00:06:26,500
DEPUTY COMMANDER OF U.S. FORCES
IN JAPAN, PILOT OF TWO SPACE

87
00:06:26,500 --> 00:06:30,720
SHUTTLE MISSIONS INCLUDING THE
DEPLOYMENT OF THE HUBBLE SPACE

88
00:06:30,720 --> 00:06:35,660
TELESCOPE, AND, COMMANDER OF TWO
MORE SHUTTLE MISSIONS, INCLUDING

89
00:06:35,660 --> 00:06:39,569
THE FIRST JOINT U.S. RUSSIA
SPACE SHUTTLE MISSION.

90
00:06:39,569 --> 00:06:43,180
AS THE ADMINISTRATOR OF NASA,
CHARLIE BOLDEN HAS LED THE

91
00:06:43,180 --> 00:06:48,079
AGENCY ON THE SPACE LAUNCH
SYSTEM AND THE ORION SPACE CRAFT
FOR HUMAN DEEP-SPACE TRAVEL, NEW
APPROACHES ON ACQUISITIONS,

PROTOTYPES TO PROVIDE U.S.
ASTRONAUTS AMERICAN ACCESS TO

AND, HIS TENURE INCLUDES THE

CURiosity ROVER ROLLING ON MARS,
PROBES TO JUPITER, OUR FIRST

CLOSE-UP ENCOUNTER WITH THE
PLANET PLUTO, AND THE LAUNCHING

OF THE NEXT GENERATION WEB SPACE
TELESCOPE.

IT'S A CONSIDERABLE RECORD OF
PUBLIC SERVICE AND MILITARY

ACCOMPLISHMENT.

AND, SO PLEASE JOIN ME IN

WELCOMING NASA ADMINISTRATOR
CHARLIE BOLDEN TO C.A.P., IN HIS

TALK THIS MORNING.

[APPLAUSE]

Mr. Bolden: GOOD MORNING,
THANK YOU VERY MUCH, RUDY AND

THANK YOU VERY MUCH, RUDY AND
PETER AND A SPECIAL THANKS TO
EVERYONE HERE AT THE CENTER FOR

104
00:07:38.509 --> 00:07:42.870
AMERICAN PROGRESS FOR ALLOWING
ME TO COME IN AND SHARE WITH YOU

105
00:07:42.870 --> 00:07:45.370
MY PERSPECTIVES ON THE FUTURE OF
HUMAN EXPLORATION.

106
00:07:45.370 --> 00:07:50.249
AND, FIRST THING I WOULD TELL
EVERYBODY IS -- RELAX, SIT BACK,

107
00:07:50.249 --> 00:07:55.139
TAKE A DEEP BREATH, I PROMISE I
WILL TRY NOT TO BORE YOU.

108
00:07:55.139 --> 00:07:58.530
WE DO HAVE Q. AND A. COMING UP
LATER SO YOU CAN COME AT ME IN

109
00:07:58.529 --> 00:08:01.769
ANY WAY YOU WANT.
THERE'S A FAMOUS STORY ABOUT THE

110
00:08:01.769 --> 00:08:06.978
GREEK PHILOSOPHER THALES.
ONE DAY HE'S WALKING ALONG

111
00:08:06.978 --> 00:08:11.688
LOOKING UP AT THE SKY,
MESMERIZED AT THE STARS, AND

112
00:08:11.689 --> 00:08:16.970
HE'S SO EXCITED, SO AMAZED, SO
TAKEN BY WHAT HE SEES ABOVE HIM,

113
00:08:16.970 --> 00:08:22.960
THAT HE WALKS RIGHT INTO A WELL.
IN A SENSE, THAT'S THE OLD WAY

114
00:08:22.959 --> 00:08:25.959
OF THINKING ABOUT SPACE AND
SPACE EXPLORATION.
THAT SOMEHOW, GAZING UP AT THE
STARS OR THINKING ABOUT ALL THE
POSSIBILITIES THE FUTURE HAS IN
STORE FOR US, DISTRACTS OR TAKES
US AWAY FROM CARING ABOUT WHAT'S
GOING ON RIGHT HERE ON EARTH.

OF THE THINGS I ADMIRE MOST
ABOUT MY BOSS, PRESIDENT OBAMA,
IS THAT HE REJECTS THIS WAY OF
THINKING.

I LIKE TO TELL PEOPLE HE CAN
WALK AND CHEW GUM.

INSTEAD, HE BELIEVES THAT
STRONGLY THAT THE THINGS WE DO
IN SPACE IMPROVE OUR QUALITY OF
LIFE HERE ON EARTH.

MORE THAN FIVE YEARS AGO, APRIL
15, 2010, TO BE PRECISE, IN WHAT
I CONSIDER TO BE A MAJOR SPACE
POLICY ADDRESS, HE OFFERED A
PLATFORM FOR SPACE EXPLORATION
AT THE KENNEDY SPACE CENTER IN
CAPE CANAVERAL, FLORIDA.

THE PRESIDENT TALKED ABOUT THE DUAL PURPOSE OF EXTENDING HUMANITY'S PRESIDENT, FARuther

INTO THE UNIVERSE WHILE STRENGTHENING AT THE VERY SAME TIME OUR COUNTRY'S LEADERSHIP HERE ON EARTH.

HE EXPLAINED THAT THESE GOALS ARE REALLY ONE IN THE SAME.

IN A RELATIVELY SHORT PERIOD OF TIME, THE SPACE PROGRAM HAS REVOLUTIONIZED THE WAY WE PRACTICEd MEDICINE, INSULATE OUR HOUSES, PURIFY OUR WATER, WEAR OUR EYE GLASSES, OBTAIN TELEVISION AND RADIO SIGNALS, STAY SAFE ON OUR HIGHWAYS,

PROTECT OUR FIREFIGHTERS. FEED OUR BABIES, POWER OUR ELECTRICAL GRID, AND LIE DOWN FOR A NIGHT'S SLEEP.

THAT, OF COURSE, IS ONLY THE
SHORT LIST.

138
00:09:54,250 --> 00:09:58,940
BY THE WAY, DESPITE THE POPULAR
MISCONCEPTION, WE DON'T CLAIM

139
00:09:58,940 --> 00:10:05,100
ANY CREDIT FOR VELCRO OR TANG.
EXPLORATION HAS TAUGHT US MORE

140
00:10:05,100 --> 00:10:09,070
THAN WE HAVE EVER KNOWN ABOUT
OUR UNIVERSE AND OUR PLACE IN

141
00:10:09,070 --> 00:10:11,778
IT.
DATA AND IMAGERY FROM SATELLITES

142
00:10:11,778 --> 00:10:16,448
AND THE SPACE SCIENTIST WHO
INTERPRET THIS INFORMATION, HAVE

143
00:10:16,448 --> 00:10:20,419
EDUCATED US ABOUT OUR PLANET'S
CHANGING CLIMATE.

144
00:10:20,419 --> 00:10:23,189
THE INTERNATIONAL SPACE STATION,
WHICH I BELIEVE OUGHT TO BE

145
00:10:23,190 --> 00:10:27,480
CONSIDERED FOR A NOBEL PEACE
PRIZE, HAS ALREADY TAUGHT US

146
00:10:27,480 --> 00:10:32,659
ABOUT WHAT'S POSSIBLE WHEN TENS
OF THOUSANDS OF PEOPLE ACROSS 15

147
00:10:32,659 --> 00:10:35,250
COUNTRIES, COLLABORATE SO THAT
HUMAN BEINGS FROM DIFFERENT

148
00:10:35,250 --> 00:10:39,269
NATIONS CAN LIVE AND WORK IN
SPACE TOGETHER.
YET, FOR ALL THESE ACCOMPLISHMENTS, WHEN YOU CONSIDER THE POSSIBILITIES AHEAD OF US, THERE'S REALLY ONLY ONE CONCLUSION THAT CAN BE REACHED. WE ARE JUST GETTING STARTED.

WHEN I THINK ABOUT AMERICAN PROGRESS, I THINK, ACTUALLY, ABOUT MY THREE GRANDDAUGHTERS. YOU SEE, I HAVE BEEN BLESSED IN MY LIFE, RICHLY BLESSED. WHEN I GREW UP IN COLOMBIA, SOUTH CAROLINA, DURING THE DAYS OF LEGAL SEGREGATION, BECAUSE OF THE COLOR OF MY SKIN, I HAD TO FIGHT JUST TO BE CONSIDERED FOR APPOINTMENT TO THE UNITED STATES NAVAL ACADEMY.

I NEVER WOULD HAVE DREAMED THAT I WOULD BE TALKING TO YOU TODAY, NOT JUST AS A 34-YEAR VETERAN OF THE UNITED STATES MARINE CORPS,
AND AN ASTRONAUT, BUT ALSO, AS NASA ADMINISTRATOR SERVING UNDER

OUR FIRST BLACK PRESIDENT.
I HAVE BEEN BLESSED TO BE ABLE

TO TRAVEL TO NEARLY EVERY CORNER OF OUR WORLD AND I HAVE BEEN

BLESSED TO HAVE SEEN THE PLANET FROM SPACE OVER THE COURSE OF

FOUR SPACE SHUTTLE MISSIONS.
I CAN HONESTLY TELL YOU THAT OUT OF EVERYTHING I HAVE SEEN, HOWEVER, THERE IS NOTHING, NOT A SINGLE THING, QUITE AS AWE-INSPIRING AS BEING ABLE TO LOOK INTO THE EYES OF MY THREE BEAUTIFUL GRANDDAUGHTERS, MIKAYLE, KIERA AND TALA.
TO ME, AMERICAN PROGRESS IS ALL ABOUT THE WORLD IN WHICH THEY WILL GROW UP.

THE WORLD WHERE THEY WILL SOME DAY RAISE THEIR OWN CHILDREN AND GRANDCHILDREN.

WHEN WE TALK ABOUT OUR JOURNEY
TO MARS, AND WHEN WE TALK ABOUT THE NEXT GIANT LEAPS IN SPACE,

EXPLORATION, WE ARE TALKING ABOUT THEIR GENERATION.

I LIKE TO REFER TO THIS GENERATION AS THE SPACE GENERATION.

NOT ONLY BECAUSE OF THE PLACES THEY WILL GO BUT ALSO BECAUSE OF THE EXPANSIVE WAY THEY LOOK AT OUR WORLD, OUR UNIVERSE AND THE POSSIBILITIES THAT AWAIT THEM BEYOND LIFE HERE ON EARTH.

WHEN I HAVE TOLD MY GRANDDAUGHTERS WE ARE ON A JOURNEY TO MARS, THEY ALWAYS ASK ME -- WHY STOP THERE?

IN BROADER TERMS, THAT'S THEIR ATTITUDE TOWARD HUMANITY, TOWARD HUMAN POSSIBILITY, AND AMERICAN PROGRESS.
WHY STOP THERE?
EVERYTHING IS POSSIBLE.

WITH THIS IN MIND, I WANT TO TALK TO YOU JUST A LITTLE BIT TODAY ABOUT WHERE I BELIEVE WE CAN BE HEADED AS A COUNTRY WHEN IT COMES TO SPACE EXPLORATION AND TO EARTHLY BENEFITS THAT.

TO PUT THIS INTO CONTEXT, IT'S WORTH JUST VERY BRIEFLY TO THINK BACK TO THE EVENTS THAT BROUGHT.

US TO THIS PRESENT TIME. PRESIDENTS SINCE DWIGHT EISENHOWER THAT FLOATED THE IDEA OF GOING TO MARS.

BUT IN FEBRUARY, ON FEBRUARY 1, 2003, TRAGEDY STRUCK FOR THE SECOND TIME WHEN WE LOST A SPACE SHUTTLE COLOMBIA.

AFTER GIVING THINGS A LONG, HARD LOOK, THE COLOMBIA ACCIDENT INVESTIGATION BOARD MADE THE
RECOMMENDATION THAT THE SPACE

00:13:36,360 --> 00:13:39,370 SHUTTLE PROGRAM SHOULD BE PHASED OUT.

00:13:39,370 --> 00:13:42,810 THE SHUTTLE HAD ALREADY HAD A REMARKABLE THREE-DECADES-LONG

00:13:42,809 --> 00:13:46,369 RUN LIKE NO OTHER.
I TRAVELED TO SPACE FOUR TIMES

00:13:46,370 --> 00:13:50,519 ON THE SHUTTLE AND I CAN TELL YOU THAT I LOVE THE SPACECRAFT.

00:13:50,519 --> 00:13:52,549 THERE'S NEVER BEEN A VEHICLE QUITE LIKE IT.

00:13:52,549 --> 00:13:55,889 A RE-USEABLE SPACE CRAFT WITH THE BEAUTY OF AN AIRPLANE,

00:13:55,889 --> 00:13:58,970 ACTUALLY THE WORLD'S LARGEST GLIDER.

00:13:58,970 --> 00:14:03,050 AND THE CAPACITY TO CARRY EIGHT ASTRONAUTS TO SPACE WITH A

00:14:03,049 --> 00:14:06,828 60-FOOT PAYLOAD BAY.

00:14:06,828 --> 00:14:11,698 OVER TIME AND, ALTHOUGH THIS WAS A DECISION TO WHICH I DIDN'T

00:14:11,698 --> 00:14:15,708 ARRIVE LIGHTLY, I AGREED WITH THEIR RECOMMENDATION.
AS DID MANY IN THE SPACE COMMUNITY AT THE TIME.

PRESIDENT GEORGE W. BUSH AGREED, AS WELL, AND HE MADE WHAT I BELIEVE WAS THE RIGHT DECISION TO DIRECT THE PHASE-OUT OF THE SPACE SHUTTLE PROGRAM.

FAST FORWARD A FEW YEARS TO THE WINTER OF 2009. UPON TAKING OFFICE, PRESIDENT OBAMA ASKED AN INDEPENDENT COMMITTEE CHAIRED BY FORMER LOCKHEED C.E.O. NORM AUGUSTINE TO REVIEW THE PLANS FOR SPICE FLIGHT. THE COMMITTEE INCLUDED EDUCATORS, ENGINEERS, A RETIRED AIR FORCE GENERAL -- PEOPLE AS DISTINGUISHED AS THE LATE SALLY RIDE.

THEIR FINDINGS QUITE FRANKLY, WERE SOBERING.
I QUOTE -- THE U.S. HUMAN SPACE-FLIGHT PROGRAM APPEARS TO BE ON AN UNSUSTAINABLE TRAJECTORY.

A FEW MONTHS AFTER THE REPORT'S RELEASE IN APRIL 2010, PRESIDENT OBAMA CAME TO THE KENNEDY SPACE CENTER AND LAID OUT THE PLAN I MENTIONED EARLIER.

THIS PLAN THAT WOULD REPLACE THIS UNSUSTAINABLE TRAJECTORY WITH A CLEAR, AFFORDABLE FINANCIALLY SUSTAINABLE AND AMBITIOUS WAY FORWARD, A WAY FORWARD THAT WOULD EXPAND OUR PRESENCE DEEPER INTO THE UNIVERSE, WHILE STRENGTHENING OUR NATION'S LEADERSHIP HERE AT HOME.

THE PRESIDENT'S PLAN INCLUDED RAMPING UP ROBOTIC EXPLORATION OF THE SOLAR SYSTEM, COMMITMENT TO COMPLETING THE DEVELOPMENT OF
THE JAMES WEBB SPACE TELESCOPE TO BUILD ON HUBBLE'S LEGACY, AND AN INCREASE IN EARTH SCIENCE MISSIONS THAT TEACH US ABOUT CLIMATE CHANGE.

AND HOW TO POTENTIALLY REVERSE ITS IMPACTS.

THE CENTERPIECE OF THE PRESIDENT'S PLAN WAS, AND IS, A JOURNEY TO MARS THAT WILL CULMINATE WITH SENDING AMERICAN ASTRONAUTS TO AN ASTEROID IN THE 2020s AND THE RED PLANET IN THE 2030s.

TO COMPLETE THIS JOURNEY, THE PLAN CONCENTRATES BOTH ON GETTING TO DEEP SPACE, AND, ON EXTENDING THE LIFE OF THE INTERNATIONAL SPACE STATION IN LOWER ORBIT ENABLED BY A ROBUST AND DEPENDABLE COMMERCIAL LAUNCH SYSTEM FOR CARGO AND CREW.
AND, AS A REPLACEMENT FOR THE SPACE SHUTTLE.

THE REASON THAT KEEPING THE SPACE STATION OPERATIONAL IS SO IMPORTANT IS THAT IT ALLOWS OUR ASTRONAUTS TO TEST THE TECHNOLOGIES THAT DRIVE EXPLORATION.

IT ALSO ALLOWS NASA TO CONTINUE OUR STUDY OF THE EFFECTS OF LONG DURATIONS IN SPACE ON THE HUMAN BODY.

WHILE ALLOWING OUR ASTRONAUTS TO CONTINUE TO WORK OFF THE EARTH FOR THE BENEFIT OF EARTH.

MEANWHILE, THE PRESIDENT CALLED FOR DEEPER COLLABORATION WITH ENTREPRENEURS AND OTHER INDUSTRY PARTNERS ON DEVELOPING THE NEW TECHNOLOGIES THAT THE MAMMOTH UNDERTAKING LIKE MARS REQUIRES. THESE TECHNOLOGIES HAVE RESULTED IN MANY PLANNED AND UNEXPECTED
CAPABILITIES AND PRODUCTS.

252 00:17:13,150 --> 00:17:17,788 LIKE IMPROVED ARTIFICIAL LIMBS,
MEMORY FOAM, SOLAR PANELS AND SO

253 00:17:17,788 --> 00:17:20,650 MANY OTHER TECHNOLOGIES
ORIGINALLY DEVELOPED FOR THE

254 00:17:20,650 --> 00:17:25,449 SPACE PROGRAM THAT ALSO HAVE
INVALUABLE EARTHLY BENEFITS.

255 00:17:25,449 --> 00:17:30,130 OF COURSE, COLLABORATIONS SUCH
AS THESE ARE ALSO VALUABLE

256 00:17:30,130 --> 00:17:35,049 BECAUSE THEY CREATE JOBS AND
THEM FUEL OUR ECONOMY.

258 00:17:37,990 --> 00:17:41,319 ASTRONAUTS TO MARS IN THE
2030s, WE ARE CLOSER TO

259 00:17:41,319 --> 00:17:45,279 SENDING HUMAN BEINGS TO THE RED
PLANET THAN EVER BEFORE IN HUMAN

260 00:17:45,279 --> 00:17:48,889 HISTORY.
MEANWHILE, A NEW CONSENSUS IS

261 00:17:48,890 --> 00:17:52,580 EMERGING IN THE SCIENTIFIC AND
POLICY COMMUNITIES AROUND NASA'S

262 00:17:52,579 --> 00:17:56,799 ROAD MAP AND TIMETABLE FOR
MAKING THIS HAPPEN.
In 2010 at the Kennedy Space Center, the President stood in front of a test model of the Orion space craft, the technological foundation for future deep-space missions.

And he pledged it would be ready for flight.

Today, Orion has now flown farther into space than any space craft built for human passengers has flown in more than four decades.

Having completed its highly successful maiden voyage in December, on December 5 last year.

The Space Launch System rocket that will some day propel American astronauts to deep space, has moved from concept to development.
AND IT'S HITTING CRITICAL MILESTONES IN ITS CONSTRUCTION

Meanwhile, we are moving forward with an asteroid redirect mission that will test new capabilities like advanced propulsion systems that will be needed for future human expeditions to Mars.

After pledging to extend the life of the International Space Station for five years, the president has now extended it for 10 to at least 2024.

American astronaut Scott Kelly is halfway through his year in space and will be able to study the effects of such long-duration missions and to benchmark them with his twin brother, Mark, who is back here home on Earth.
AND, IN CASE YOU DON'T FOLLOW US -- SCOTT IS CURRENTLY OUTSIDE THE INTERNATIONAL SPACE STATION CONDUCTING AN E.V.A. TO BRING IT UP TO SPEED AND MODERNIZE IT. WE RECENTLY ANNOUNCED THAT OUR MARS RECOGNIZANCE ORBITER CONFIRMED THE EXISTENCE OF FLOWING WATER ON MARS. AND WE ARE ON PACE TO SEND A NEW ROVER TO THE RED PLANET IN 2020 THAT WILL HELP US PREPARE FOR FOR THE FIRST TIME EVER, IT WILL CACHE A SAMPLE FOR LATER RETURN TO EARTH. MEANWHILE, OUR AMERICAN INDUSTRY PARTNERS ARE NOW LAUNCHING CARGO MISSIONS TO THE INTERNATIONAL SPACE STATION AND THEY ARE DOING IT FROM U.S. SOIL. TO ACCOMPLISH THE PRESIDENT'S
GOAL OF RETURNING THE LAUNCHES OF AMERICAN ASTRONAUTS TO AMERICAN SOIL, WE HAVE SELECTED OUR COMMERCIAL PARTNERS, BOEING AND SPACE-X, TO PRODUCE THEIR RESPECTIVE CREW VEHICLES.

THE C.S.T.-100 STAR LINER AND THE CREW DRAGON.

WE RECENTLY SELECTED OUR COMMERCIAL CREW ASTRONAUTS.

THE FIRST FOUR ASTRONAUTS TO TRAIN TO FLY TO SPACE ON COMMERCIAL CARRIERS.

ROBERT BOB BENKIN, SONITA SONY WILLIAMS, ERIC BOWE AND DOUGAS DOUG HURLEY.

ALL EXPERIENCED TEST PILOTS AND SHUTTLE ASTRONAUTS.

IN FACT, THEY MET WITH PRESIDENT OBAMA AT THE WHITE HOUSE JUST LAST WEEK.

WHAT WE HAVEN'T YET BEEN ABLE TO DO IS SECURE ALL THE NECESSARY
FUNDING TO COMPLETE THE COMMERCIAL CREW PROGRAM. HAD WE DONE SO WHEN THE PRESIDENT ORIGINALLY ASKED, WE WOULD LIKELY BE PREPARING THIS YEAR FOR THOSE FIRST COMMERCIAL LAUNCHES FROM CAPE CANAVERAL.

AS THINGS STAND, WE WILL CONTINUE TO BE IN A BIT OF A HOLDING PATTERN UNTIL WE GET THE ADDITIONAL FUNDING THE PRESIDENT HAS BEEN REQUESTING. BUT, I AM THE ETERNAL OPTIMIST.

AND, LIKE RUDY, I BELIEVE WE WILL COME TO TERMS WITH CONGRESS VERY SOON. MAYBE IT'S JUST ME BUT I BELIEVE THAT THE GREATEST COUNTRY ON EARTH SHOULDN'T BE SOLELY RELIANT ON OTHER COUNTRIES TO GET OUR OWN ASTRONAUTS TO SPACE.

I SHOULD NOTE THAT THERE ARE 350 COMPANIES WORKING ACROSS 35
STATES TOWARD THE GOAL OF BRINGING THESE LAUNCHES HOME.

SO, THERE'S A LOT AT STAKE, NOT ONLY IN TERMS OF DISCOVERY AND EXPLORATION, BUT ALSO IN TERMS OF JOB CREATION, GROWTH, AND OPPORTUNITY.

ACROSS THE BOARD, OUR COUNTRY'S NEW TECHNOLOGY ECONOMY IS DRIVING ECONOMIC GROWTH AND

NASA'S WORK IS PROVIDING SIGNIFICANT FUEL FOR THAT ENGINE.

WE ARE EXPLORING DEEP SPACE, BUT WE ARE ANCHORED RIGHT HERE ON EARTH WHERE WE ARE CREATING JOBS AND FUELING INNOVATION AND GROWTH.

RECOGNIZING THAT WITHOUT AMERICAN INGENUITY AND INNOVATION, WE WOULD BE RIGHT THERE IN THALES' WELL.
ASIDE FROM ALL THESE MEASURES OF ECONOMIC, SCIENTIFIC AND

TECHNICAL PROGRESS, WE HAVE ALSO BEEN ABLE TO START TO DO

SOMETHING ELSE AND THAT'S -- TO BREAK THROUGH TO THE PUBLIC'S

CONSCIOUSNESS. YOU PLAY A CRITICAL ROLE IN THAT

AND, FOR YOUR WORK TODAY, WE ARE INCREDIBLY GRATEFUL.

WHETHER IT'S THE PUBLICITY AND THE EXCITEMENT THAT SURROUNDED

THE NEW HORIZON'S ENCOUNTER WITH PLUTO THIS PAST SUMMER AND THE

PLUTO MANIA THAT FOLLOWED, OUR RECENT CONFIRMATION OF FLOWING

WATER ON MARS OR THE NEW MARS ENTHUSIASTS WHO FLOCKED TO THE

MOVIES, LIKE ME, TO SEE THE MARTIAN.

THERE'S A TANGIBLE SENSE I GETS A I TRAVEL AND MEET FOLKS THAT

NASA IS IN VOGUE RIGHT NOW. THERE'S A COOLNESS FACTOR.
AND, WHEN YOU ARE SEEKING TO CAPTURE THE PUBLIC'S HEARTS,

MINDS AND, ABOVE ALL, IMAGINATION, THOSE THINGS REALLY MAKE A DIFFERENCE.

NOW, WITH ALL THIS SAID, SOME OF YOU -- AND I ACTUALLY HOPE IT'S NOT TOO MANY OF YOU, JUST A FEW

YOU -- AND I ACTUALLY HOPE IT'S NOT TOO MANY OF YOU, JUST A FEW

OF YOU, BUT SOME OF YOU -- MIGHT BE ASKING, OK, BUT -- WHY DOES

ALL THIS MATTER? WHY GO TO MARS?

SO -- THIS BRINGS ME TO MY OPPORTUNITY TO DO A LITTLE

AUDIENCE PARTICIPATION. THIS IS THE AUDIENCE

PARTICIPATION PART OF MY PROGRAM.

WHEN I POINT TO YOU THE AUDIENCE I WANT YOU TO REPEAT AFTER ME

MARS MATTERS. OK?
WHEN I POINT TO YOU, JUST
REPEAT, IN WHATEVER VOICE YOU
WANT, MARS MATTERS.
SO GET THE GRUMPY LOOKS OFF SOME
OF YOUR FACES, SMILE AND SAY
MARS MATTERS.

YOU READY?
PRACTICE.

>> MARS MATTERS.
>> ALL RIGHT! BECAUSE ITS
FORMULATION AND EVOLUTION ARE
COMPARABLE TO EARTH -- MARS
MATTERS.
BECAUSE WE KNOW THAT AT ONE TIME
IT HAD CONDITIONS SUITABLE FOR
LIFE --

>> MARS MATTERS.
>> BECAUSE WHAT WE LEARN ABOUT
THE RED PLANET MAY TELL US MORE
ABOUT OUR OWN HOME PLANET'S
HISTORY AND FUTURE, AND BECAUSE
IT MIGHT JUST HELP US UNRAVEL
THE AGE-OLD MYSTERY ABOUT
WHETHER LIFE EXISTS BEYOND EARTH

00:24:16,039 --> 00:24:17,039
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>> MARS MATTERS.

00:24:17,039 --> 00:24:21,619
>> Y'ALL ARE GOOD.
I NEED TO TAKE YOU BACK WITH ME.

00:24:21,619 --> 00:24:24,298
WHEN I THINK THE WORLD IN WHICH
MY GRANDDAUGHTERS WILL BE

00:24:24,298 --> 00:24:28,668
RAISING THEIR OWN CHILDREN, I
SEE A WORLD WHERE THEIR KIDS

00:24:28,669 --> 00:24:32,640
VIEW HUMAN BEINGS LIVING AND
WORKING ON MARS, AS A FACT OF

00:24:32,640 --> 00:24:35,320
LIFE.
MUCH AS THEY VIEW LIVING AND

00:24:35,319 --> 00:24:38,519
WORKING ON THE INTERNATIONAL
SPACE STATION TODAY.

00:24:38,519 --> 00:24:41,990
A FUTURE WHERE NASA AND ITS
INTERNATIONAL PARTNERS ARE USING

00:24:41,990 --> 00:24:46,509
MARS AS A STEPPING STONE TO THE
REST OF THE SOLAR SYSTEM.

00:24:46,509 --> 00:24:50,329
I SEE A FUTURE WHERE A ROBUST
PRIVATE SPACE INDUSTRY IS

00:24:50,329 --> 00:24:54,490
LAUNCHING HUMAN BEINGS, CARGO,
AND SATELLITES OF ALL SIZES, TO
SPACE AT A SIGNIFICANTLY LOWER PRICE POINT.

THANKS TO THE WORK WE ARE DOING TODAY TO MAKE LAUNCHES MORE AFFORDABLE, AND TO ADVANCE EMERGING SMALL SATELLITE TECHNOLOGIES LIKE QUB SATES AND NANO SATES, WHERE COMPANIES UTILIZE TECHNOLOGIES DEVELOPED FOR SPACE TRAVEL TO DEVELOP A PRODUCT THAT IMPROVES OUR QUALITY OF LIFE RIGHT HERE ON EARTH. A FUTURE WHERE FLYING FROM WASHINGTON TO LOS ANGELES IS A BETTER EXPERIENCE BOTH FOR PEOPLE IN THE PLANE, AND ON THE GROUND.

BECAUSE, WE HAVE SUCCEEDED IN REIMAGINING AIR TRAFFIC MANAGEMENT, AND WE HAVE MADE FLIGHT CLEANER, GREENER, SAFER,
AND QUIETER.
AND, BY FLIGHT, I MEAN BOTH

I SEE A FUTURE WHERE OUR
GRANDCHILDREN'S CHILDREN ARE
DRINKING CLEANER WATER.

BREATHING CLEANER AIR.
AND MAKING USE OF CLEANER
ENERGY.

NOT ONLY BECAUSE NASA HAS HELPED

US BETTER UNDERSTAND CLIMATE
CHANGE, BUT BECAUSE OF THE WORK

OUR SCIENTISTS ARE DOING IN
AREAS LIKE GREEN AVIATION, AND

WATER PURIFICATION.
I SEE A FUTURE WHERE FEWER

AMERICANS ARE LOSING A SISTER OR
BROTHER OR A SON BECAUSE THE

MEDICAL TECHNOLOGIES WE PERFECT
TO PROTECT OUR ASTRONAUTS FROM

EXPOSURE TO RADIATION ON A
LONG-DURATION SPACE FLIGHT HELP

REVOLUTIONIZE MEDICINE IN THE
MEDICAL FIELD.
OR, BECAUSE THE TECHNOLOGIES WE
HAVE DEVELOPED TO DETECT SIGNS
OF LIFE ON OTHER PLANETS
CONTINUE TO HELP EMERGENCY
WORKERS LISTEN FOR BEATING
HEARTS IN THE RUBBLE AFTER A
DISASTER, AS WAS DONE WITH THE FINDER
DEVICE AFTER THIS PAST SUMMER’S
CATASTROPHIC EARTHQUAKE IN NEPAL.
I SEE A WORLD WHERE GIRLS AND
YOUNG PEOPLE OF COLOR ARE MORE
EXCITED ABOUT PURSUING EDUCATION
IN SCIENCE, TECHNOLOGY,
ENGINEERING, THE ARTS, AND MATH.
A WORLD WHERE UNLIKE TODAY,
THERE WILL NO LONGER BE ANY
STATES IN THE UNION WHERE NO
WOMAN TAKES THE ADVANCED
PLACEMENT A.P. COMPUTER SCIENCE
EXAM AS WE HAVE TODAY.
THANKS IN PART TO NASA'S WORK TO PROMOTE STEM EDUCATION AND CAREERS.
I SEE A FUTURE WHERE PEOPLE IN EVEN THE MOST REMOTE CORNERS OF OUR WORLD HAVE ACCESS TO WIFI.
AS DO ASTRONAUTS LIVING AND WORKING IN SPACE TODAY.
I SEE A WORLD WHERE THE STUNNING IMAGES BEING SENT HOME TO US FROM THE JAMES WEBB SPACE TELESCOPE TEACH MY GRANDDAUGHTERS AND THEIR KIDS MORE ABOUT OUR UNIVERSE THAN HAS EVER BEEN KNOWN BEFORE OR CONCEPTUALIZED.
I SEE A FUTURE WHERE MAYBE, JUST MAYBE, HUMANITY FINDS THE ANSWER TO THE AGE-OLD QUESTION, A QUESTION THAT PTHALES MUST HAVE THOUGHT TO HIMSELF AS HE STARED UP AT THE NIGHT SKY, OF WHETHER WE ARE ALONE IN THE UNIVERSE.
WHILE NONE OF US CAN KNOW FOR

SURE WHAT THE FUTURE HAS IN
STORE, THERE IS ONE THING THAT

WE CAN SAY WITH A GOOD DEGREE OF
CERTAINTY.

NONE OF THESE THINGS CAN HAPPEN
ON THEIR OWN.

THEY WILL REQUIRE FUTURE LEADERS
TO CONTINUE TO MAKE THE

DECISIONS THAT POINT US IN THIS
DIRECTION.

FUTURE PRESIDENTS, FUTURE
ADMINISTRATORS, AND FUTURE
CITIZENS LIKE YOU.

PRESIDENT OBAMA HAS SET US ON A
VISIONARY COURSE.
IT'S MY SINCERE HOPE THAT FUTURE

LEADERS FROM ALL SIDES OF THE
POLITICAL SPECTRUM SEE IT

THROUGH.
BECAUSE, I TRULY BELIEVE THE

SORT OF FUTURE I LAID OUT IS
WELL WITHIN OUR GRASP.
RIGHT NOW, THE ASTRONAUT WHO WILL TAKE THE FIRST HUMAN STEPS ON MARS AND THE SCIENTISTS WHO WILL DISCOVER THE NEXT GREAT BREAKTHROUGH THAT MAKES THAT STEP POSSIBLE, MIGHT VERY WELL BE SITTING IN A CLASSROOM RIGHT HERE IN WASHINGTON D.C. EVERY CHOICE THAT SHE OR HE MAKES TO SPEND THAT EXTRA HALF HOUR IN THE LIBRARY OR TO SIGN UP FOR THAT EXTRA ELECTIVE, OR FRANKLY, TO PICK UP A GUITAR OR A PAINT BRUSH FOR THE VERY FIRST TIME, ALL THESE CHOICES BRING US CLOSER TO THE FUTURE THAT WE ALL DREAM IT IS AND CAN BE POSSIBLE. YOU KNOW, I HAD A GOOD FRIEND WHO GAVE HER LIFE TO THE CAUSE OF HUMAN EXPLORATION. HER NAME WAS CHRISTA MCAULIFFE, AND SHE ONCE SAID AND I
APPRECIATE THIS AS THE SON OF TEACHERS, THAT TEACHING ALLOWED HER TO TOUCH THE FUTURE.

I BELIEVE THAT WE ARE AT A TEACHABLE MOMENT WHEN IT COMES TO THE FUTURE OF EXPLORATION.

THE QUESTION IS -- WHAT ARE WE GOING TO DO WITH IT?

WHAT ARE WE GOING TO DO WITH IT? ARE WE GOING TO SEIZE THIS MOMENT AND USE IT TO TOUCH THE FUTURE?

I HOPE THE ANSWER IS YES. AND, I WANT TO THANK EVERY ONE AT THE CENTER FOR AMERICAN PROGRESS FOR DOING YOUR PART TO MAKE US HELP, TO HELP US TO SEIZE THE MOMENT AND MAKE THE ANSWER -- YES. I LOOK FORWARD TO YOUR DISCUSSION AND THANK YOU SO VERY MUCH AGAIN FOR ALLOWING ME TO BE WITH YOU TODAY. THANK YOU.
[APPLAUSE]