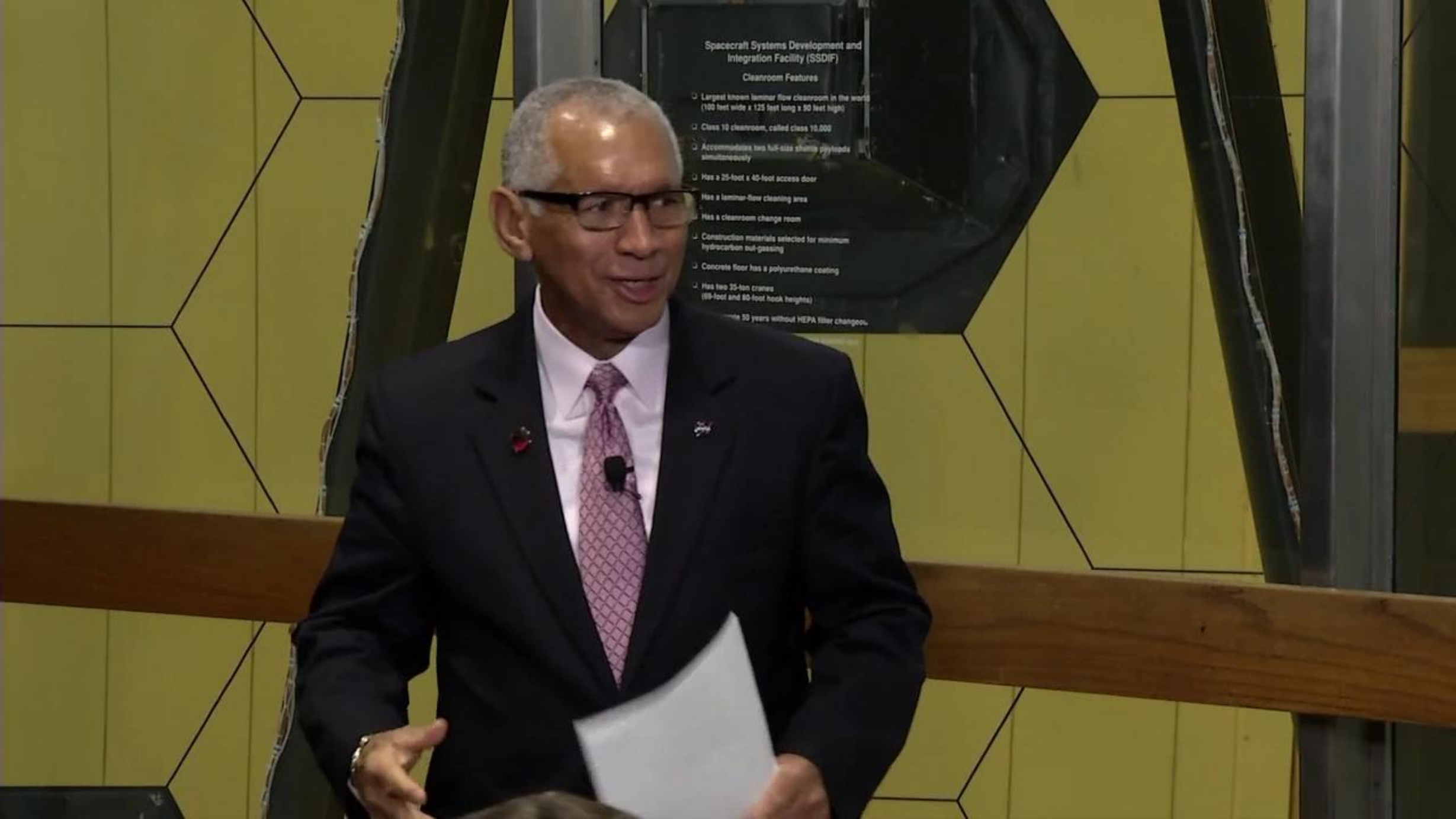
Spacecraft Systems Development and Integration Facility (SSDIF)
Cleanroom Features
Has a 35-foot x 40-foot access door
Has a laminar-flow cleaning area
Has a cleanroom change room
Construction materials selected for minimum hydrocarbon out-gassing
Concrete floor has a polyurethane coating
Has two 35-ton cranes (69-foot and 80-foot hook heights)

1
00:00:04,820 --> 00:00:12,030
GOOD MORNING I'M CHRIS
SCOLESE I'M IN BUILDING 29 WE'RE

2
00:00:12,030 --> 00:00:16,510
BUILDING THE JAMES WEBB SPACE
TELESCOPE.

3
00:00:16,510 --> 00:00:21,690
THE LARGEST ROOF ITS KIND WE OF
AWARE OF.

4
00:00:21,690 --> 00:00:24,360
AND AS YOU SEE BEHIND ME ARE THE
18 MIRRORS THAT FORM THE

5
00:00:24,360 --> 00:00:29,660
TELESCOPE.
THE LARGEST TELESCOPE WE'LL

6
00:00:29,660 --> 00:00:33,050
LAUNCH INTO SPACE.
BEHIND THAT TELESCOPE ARE THE

7
00:00:33,050 --> 00:00:37,539
INSTRUMENTS AND TODAY WHAT WE
ARE DOING IS CELEBRATING THE

8
00:00:37,539 --> 00:00:43,250
FACT THAT WE HAVE ACHIEVED THE
COMPLETION OF THE INTEGRATION OF

9
00:00:43,250 --> 00:00:45,250
TELESCOPE.
NOW BEGINNING THE PHASE OF DOING

10
00:00:45,250 --> 00:00:49,140
TO VERIFY THAT EVERYTHING IS
WORKING AND READY FOR LAUNCH.

11
00:00:49,140 --> 00:00:53,230
TODAY, I'M PLEASED HAVE
EVERYBODY HERE AND I WANT TO

12
00:00:53,230 --> 00:00:57,100
INTRODUCE SOME OF OUR GUESTS
FROM NASA HEADQUARTERS THE NEW

13
00:00:57,100 --> 00:01:03,300
AA DOCTOR THOMAS AND WE HAVE
DOCTOR ERIC SMITH THE PROGRAM

14
00:01:03,300 --> 00:01:08,140
DIRECTOR FOR THE SPACE TELESCOPE
AND BILL OWES FROM GODDARD IS

15
00:01:08,140 --> 00:01:12,060
THE PROGRAM MANAGER FOR THE
JAMES WEBB MISSION.

16
00:01:12,060 --> 00:01:14,689
WILL BE HERE TODAY AND THEY WILL
BE AVAILABLE LATER ON TO ANSWER

17
00:01:14,689 --> 00:01:18,340
QUESTIONS.
ALSO I'M PLEASED TO HAVE THE ADD

18
00:01:18,340 --> 00:01:21,920
ADMINISTRATOR CHARLIE BOLDEN
HERE TODAY WITHHOLD BE SPEAKING

19
00:01:21,920 --> 00:01:28,450
IN A FEW MINUTES AND DOCTOR JOHN
MATHER WHO IS OUR SENIOR ASTRO

20
00:01:28,450 --> 00:01:34,009
PHYSICS SCIENTISTS HERE AND
SENIOR PROJECT SCIENTIST FOR THE

21
00:01:34,009 --> 00:01:39,401
JAMES WEBB TELESCOPE.
NOW I WANT TO INTRODUCE JOHN

22
00:01:39,401 --> 00:01:42,200
MATHER.
JOHN HAS BEEN A GODDARD FOR A

23
00:01:42,200 --> 00:01:46,880
LONG TIME.
HE IS OUR ONLY AND FIRST NOBLE

24
00:01:46,880 --> 00:01:49,880
PRIZE WINNER.
WITH THE JAMES WEBB SPACE

25
00:01:49,880 --> 00:01:54,829
TELESCOPE SINCE ITS INCEPTION
AND HAS ALL THE INFORMATION WHAT

26
00:01:54,829 --> 00:02:03,280
IT CAN AND WILL DO IN ORBIT.
JOHN?

27
00:02:03,280 --> 00:02:07,240
[APPLAUSE].
>> WELCOME TO OUR SCIENCE PARTY

28
00:02:07,240 --> 00:02:10,509
TODAY.
I THINK IT IS A WONDERFUL DAY TO

29
00:02:10,509 --> 00:02:16,470
CELEBRATE AND I WANT TO TELL YOU
ABOUT WHAT WE ARE DOING IT FOR.

30
00:02:16,470 --> 00:02:18,610
SO, BY THE WAY, CHARLIE, THANK
YOU FOR YOUR ADVOCACY.

31
00:02:18,610 --> 00:02:22,030
THIS PROJECT HAS TAKEN MANY TO
COMPLETE.

32
00:02:22,030 --> 00:02:27,240
WE HAVE BEEN DOING THIS FOR OVER
20 YEARS AND WE'RE ALMOST DONE.

33
00:02:27,240 --> 00:02:31,520
TWO MORE YEARS TO LAUNCH.
TODAY WE ARE CELEBRATING THE

34
00:02:31,520 --> 00:02:34,140
FACT THAT OUR TELESCOPE IS
FINISHED AND WE ARE ABOUT TO

35
00:02:34,140 --> 00:02:37,570
PROVE IT WORKS.
THAT'S IMPORTANT MILE STONE FOR

36
00:02:37,570 --> 00:02:39,890
TODAY.
AND JUST AS A REMINDER SAID THIS

37
00:02:39,890 --> 00:02:43,290
IS NOT A SCIENCE PROJECT THIS IS
AN ENGINEERING PROJECT THERE

38
00:02:43,290 --> 00:02:49,670
WERE MORE ENGINEERS TECHNICIANS
THAN SCIENTISTS AND TECHNICIANS

39
00:02:49,670 --> 00:02:53,510
MAKE IT POSSIBLE FOR SCIENTISTS
TO DISCOVER THINGS.

40
00:02:53,510 --> 00:02:58,570
WEE HAVE DONE TWO DECADES OF
HARD WORK AND THIS IS THE

41
00:02:58,570 --> 00:03:01,950
RESULT.
WE HAVE A NEW TERRITORY OF

42
00:03:01,950 --> 00:03:07,780
ASTRONOMY.
WE WILL SEE THINGS WE HAVE NOT

43
00:03:07,780 --> 00:03:13,650
SEEN BEFORE.
>> NUMBER ONE HUGE.

44
00:03:13,650 --> 00:03:17,780
YOU SEE THIS BEAUTIFUL TELESCOPE
OF THE HUBBLE TELESCOPE.

45
00:03:17,780 --> 00:03:22,660
THAT IS THE BEGINNING.
THE SECOND THING THE DESIGN TO

46
00:03:22,660 --> 00:03:28,930
COLLECT INFRARED SOMETHING YOU
CANNOT SEE WITH YOUR ICE.

47
00:03:28,930 --> 00:03:31,100
THE HUBBLE TELESCOPE CAN SEE AN
A LITTLE OF IT.

48
00:03:31,100 --> 00:03:35,200
IT IS NOT COLD THE HUBBLE
TELESCOPE GLOWS AND IT IS THE

49
00:03:35,200 --> 00:03:42,410
INFRARED LIGHT ITSELF YOU CAN
NOT DOT TOP PRIORITIES.

50
00:03:42,410 --> 00:03:45,730
THIS TELESCOPE WILL BE IN OUTER
SPACE AND COOLS TO 45 DEGREES

51
00:03:45,730 --> 00:03:47,600
ABOVE ABSOLUTE.
TELL BE CHILLY.

52
00:03:47,600 --> 00:03:54,700
SO IT DOES NOT GLOW.
SO TELL BE VERY PERFECT AS WELL

53
00:03:54,700 --> 00:03:57,751
THE MIRROR THAT YOU SEE IF YOU
MADE IT AND STRETCHED IT OUT TO

54
00:03:57,751 --> 00:04:00,160
BE THE SIZE OF THE ENTIRE UNITED
STATES.

55
00:04:00,160 --> 00:04:02,620
THE HILLS AND VALLEYS ON THE
MIRROR WOULD BE A FEW INCHES

56
00:04:02,620 --> 00:04:12,470
HIGH.
AN ASTONISHING ENGINEERING

57
00:04:12,470 --> 00:04:18,850
ACCOMPLISHMENT THERE.
TO GIVE YOU PERSPECTIVE ABOUT

58
00:04:18,850 --> 00:04:23,450
WHAT WE CAN DO IF YOU WERE†--
BRING OUT AT DISTANCE OF THE

59
00:04:23,450 --> 00:04:25,840
MOON.
WIELD BE ABLE TO SEE YOU.

60
00:04:25,840 --> 00:04:30,720
BOTH BY YOUR REFLECTIVE SUNLIGHT
AND THERMAL RADIATION AND HEAT

61
00:04:30,720 --> 00:04:37,540
YOU EM IT.
WE HAVE ENGINEERING AND THE MOST

62
00:04:37,540 --> 00:04:41,310
ASTONISHINGLY GOOD DETECTORS
MADE FOR PICKING UP THIS

63
00:04:41,310 --> 00:04:47,310
INFRARED LIGHT.
THAT IS BEYOND A MIRACLE AS FAR

64
00:04:47,310 --> 00:04:55,090
AS MY PERSPECTIVE IS CONCERNED.
SO†-- THAT IS HOW WE DO IT, THE

65
00:04:55,090 --> 00:04:59,770
WAY THE TELESCOPE WORKS LIGHT
COME FROM THE SIDE BOUNCES OFF

66
00:04:59,770 --> 00:05:06,040
THE AREA IT IS CONCAVE AND WILL
BE FOCUSED DOWN TO A POINT.

67
00:05:06,040 --> 00:05:09,210
BEFORE IT GETS THERE TELL BE
INTERCEPTED BY THE ROUND MIRROR

68
00:05:09,210 --> 00:05:14,860
WHICH IS FOLDED UP ABOVE THE
TELESCOPE A SECONDARY MIRROR AND

69
00:05:14,860 --> 00:05:20,660
MAGNIFY IT AND SEND IT BACK TO
THE INSTRUMENT PACKAGE IT IS

70
00:05:20,660 --> 00:05:24,240
BEHIND THAT BLACK SNOUT THERE.
THERE WAS A HOLE THAT LETS LIGHT

71
00:05:24,240 --> 00:05:28,930
IN AND THE BACK THE INSTRUMENTS
THAT TAKE THE INCOMING LIGHT AND

72
00:05:28,930 --> 00:05:33,010
CONVERT IT TO DIGITS TO SEND
BACK TO EARTH.

73
00:05:33,010 --> 00:05:37,180
THAT IS LIKE THE CENTERS IN YOUR
CELL PHONE CAMERA ONLY WAY, WAY

74
00:05:37,180 --> 00:05:40,280
BETTER.
THEY PICK UP WAVE LENGTHS YOU

75
00:05:40,280 --> 00:05:43,040
CANNOT SEE WITH YOUR CAMERA OR
EYE.

76
00:05:43,040 --> 00:05:46,790
THE WAVE LENGTHS PICK UP AT 6
MICRONS WAVE LENGTH IT IS

77
00:05:46,790 --> 00:05:53,140
REDDISH IT GOES TO 28 MICRONS
AND YOU COULD NOT SEE IT UNLESS

78
00:05:53,140 --> 00:05:56,800
IT WERE BRIGHT YOU COULD FEEL
THE HEAT THIS . IS WHY WE'RE

79
00:05:56,800 --> 00:05:59,790
OPENING UP A NEW TERRITORY OF
SCIENCE.

80
00:05:59,790 --> 00:06:04,430
YOU CANNOT DO IT ON THE GROUND
THE ATMOSPHERE GLOWS THE

81
00:06:04,430 --> 00:06:08,630
TELESCOPE WOULD GLOW YOU CAN'T
DO IT ANOTHER WAY THAN GOING TO

82
00:06:08,630 --> 00:06:10,780
SPACE.
YOU SEE THIS COMPLEX THING AND

83
00:06:10,780 --> 00:06:15,500
THINK, IT IS COMPLICATED.
WE HAVE TO HAVE IT DO DO THE

84
00:06:15,500 --> 00:06:19,780
SCIENCE WE ARE AFTER.
SO†-- YOU SAY A LITTLE ABOUT THE

85
00:06:19,780 --> 00:06:22,740
SCIENCE WE ARE AFTER.
WE WOULD LIKE TO KNOW, BASICALLY

86
00:06:22,740 --> 00:06:25,430
HOW DID WE GET HERE FROM THE BIG
BANG.

87
00:06:25,430 --> 00:06:30,870
WHAT HAPPENED AFTER THE BIG BANG
STARS AND GALAXY HAPPENED.

88
00:06:30,870 --> 00:06:34,680
WE HAVE LOTS OF PREDICTIONS.
SUPER COMPUTER SIMULATIONS AND

89
00:06:34,680 --> 00:06:37,790
SO YOU A MOVIE HOW IT MIGHT HAVE
HAPPENED BUT WE DON'T KNOW.

90
00:06:37,790 --> 00:06:40,710
YOU HAVE TO LOOK.
NATURE HAS A WAY OF DEFEATING

91
00:06:40,710 --> 00:06:46,830
OUR IMAGINATION.
SO ASTRONOMY HAS BEEN AN

92
00:06:46,830 --> 00:06:51,850
OBSERVABLE SCIENCE.
WHAT HAPPENED AFTER THAT?

93
00:06:51,850 --> 00:06:55,091
THE GALAXIES GREW.
THE MILKY WAY IS 100 BILLION

94
00:06:55,091 --> 00:06:59,060
STARS PROBABLY FORMED BY
THOUSANDS OF BITS PULLED

95
00:06:59,060 --> 00:07:01,580
TOGETHER BY GRAVITY OVER
BILLIONS OF YEARS.

96
00:07:01,580 --> 00:07:05,840
THE MILKY WAY TODAY IS DIFFERENT
FROM WHAT IT WAS WHEN IT WAS

97
00:07:05,840 --> 00:07:09,070
YOUNG.
DID NOT FORM AT ONCE, PROBABLY.

98
00:07:09,070 --> 00:07:11,730
HOW DOT PLANETS AND STARS GET
FORMED?

99
00:07:11,730 --> 00:07:14,150
NOW WE ARE BEGINNING TO SEE
PLANETS GROWING AROUND OTHER

100
00:07:14,150 --> 00:07:17,830
STARS. WEBB TELESCOPE WILL BE
POINTED AT PLACES STARS AND

101
00:07:17,830 --> 00:07:22,510
PLANETS ARE BETTER THAN TODAY.
SEVERAL BORN EVERY YEAR IN THE

102
00:07:22,510 --> 00:07:28,520
MILKY WAY.
CLOSER TO HOME WE SEE THE LITTLE

103
00:07:28,520 --> 00:07:32,630
PLANETS OUT THERE.
THE SOLAR SYSTEM WE GOT LOTS OF

104
00:07:32,630 --> 00:07:36,160
PLANETS.
SOME DWARF AND LOOK AT MARS OUT

105
00:07:36,160 --> 00:07:40,280
AND EVERYTHING IS IN VIEW FOR
THE TELESCOPE AROUND OTHER STARS

106
00:07:40,280 --> 00:07:43,919
WE WILL LOOK FOR PLANETS AROUND
THEM.

107
00:07:43,919 --> 00:07:46,940
SOMETIMES THEY GO IN FRONT OF
THE STARS TO MAKE THE STAR BLINK

108
00:07:46,940 --> 00:07:48,800
AND YOU SAY, I KNOW SOMETHING
HAPPENED.

109
00:07:48,800 --> 00:07:54,570
THIS TELESCOPE IS BIG ENOUGH TO
ANALYZE THE LIGHT AND SEE THE

110
00:07:54,570 --> 00:07:57,190
OTHER CHEMICALS OF ANOTHER
PLANET.

111
00:07:57,190 --> 00:08:01,330
WE'LL BE ABLE TO TELL YOU A BIT
ABOUT WHETHER THE PLANETS ARE

112
00:08:01,330 --> 00:08:04,440
LIKE EARTH.
THERE ARE A CATALOG OF THINGS TO

113
00:08:04,440 --> 00:08:06,980
LOOK AT.
AND WE HAVE A MISSION GOING UP

114
00:08:06,980 --> 00:08:10,820
CALLED TEST WILL GIVE US A
CATALOG OF BETTER TARGETS.

115
00:08:10,820 --> 00:08:13,980
COMING SOON, WE WILL TELL YOU
MORE.

116
00:08:13,980 --> 00:08:17,190
WE HEARD THERE IS A PLANET
AROUND SAN TORIE.

117
00:08:17,190 --> 00:08:20,560
THE NEAREST STAR TO US WE KNOW
OF.

118
00:08:20,560 --> 00:08:26,980
WE SHOULD PICK UP INFORMATION
FROM THAT PLANET EVEN THAT ONE.

119
00:08:26,980 --> 00:08:30,389
EVEN THOUGH IT IS A TINY GUY THE
SIZE OF EARTH.

120
00:08:30,389 --> 00:08:33,550
SO, HOW DID THIS COME TO BE?
>> MANY YEARS AGO, 21 YEARS AGO

121
00:08:33,550 --> 00:08:36,289
A COMMITTEE WAS FORMED TO SAY
WHAT WILL WE DO AFTER HUBBLE

122
00:08:36,289 --> 00:08:41,589
THEY WROTE A BOOK IT IS POETIC.
YOU WANT TO KNOW HOW WE GOT

123
00:08:41,589 --> 00:08:44,690
STARTED, READ THAT BOOK.
IT GIVES ME GOOSE BUMPS TO THINK

124
00:08:44,690 --> 00:08:50,570
ABOUT WHAT IS IN THAT BOOK.
BUILD A TELESCOPE AND BUILD THE

125
00:08:50,570 --> 00:08:53,540
TECHNOLOGY TO STUDY THE PLANETS
AROUND OTHER STARS AND WE ARE

126
00:08:53,540 --> 00:08:56,220
DOING THAT, TOO.
WHAT DOES IT TAKE TO PUT THIS

127
00:08:56,220 --> 00:09:00,440
TOGETHER IN SPACE.
A PARTNERSHIP INTERNATIONAL IT

128
00:09:00,440 --> 00:09:02,980
IS A PARTNERSHIP NASA IS
LEADING.

129
00:09:02,980 --> 00:09:07,430
WE AT GODDARD ARE LEADING THE
NASA PART BUT INVOLVED MANY

130
00:09:07,430 --> 00:09:11,089
CONTRACT OFFICE AROUND THE
COUNTRY INCLUDING RUMMON AND

131
00:09:11,089 --> 00:09:15,490
BARO SPACE AND USED TO BE EAST
MAN KODAC AND NOW HARRIS, I

132
00:09:15,490 --> 00:09:18,760
THINK.
AND WE HAVE DETECTORS THAT MAGIC

133
00:09:18,760 --> 00:09:20,780
DETECT OFFICE COME FROM OUR
COUNTRY.

134
00:09:20,780 --> 00:09:26,280
WE INVENTED STUFF HER AT GODDARD
THAT NEVER EXISTED AND PARTNERS

135
00:09:26,280 --> 00:09:31,300
PRODUCED IN CANADA AND EUROPE
2-1/2 OF THE FOUR INSTRUMENTS

136
00:09:31,300 --> 00:09:35,770
AND EUROPE IS BUYING THE ROCKET
THAT WILL TAKE US TO SPACE.

137
00:09:35,770 --> 00:09:40,210
IN A COUPLE YEARS WE SHOULD BE
AT THE LAUNCH SITE AND READY TO

138
00:09:40,210 --> 00:09:43,940
PUSH THE BUTTON AND MAY BE BY
THIS DAY OF THAT MONTH WE'LL BE

139
00:09:43,940 --> 00:09:46,130
UP.
WISH US LUCK.

140
00:09:46,130 --> 00:09:48,850
WE HAVE HARD THINGS TO DO IN
FRONT OF US.

141
00:09:48,850 --> 00:09:51,460
WE ARE ABOUT TO SUBJECT THIS
BEAUTIFUL BEAST WHICH IS

142
00:09:51,460 --> 00:09:54,950
FINISHED TO SEE IF IT WILL
SURVIVE LAUNCH.

143
00:09:54,950 --> 00:09:57,130
WE EXPECT IT TO BUT WE HAVE TO
PROVE IT.

144
00:09:57,130 --> 00:10:01,370
AFTER WE DO THAT WE WILL SHIP IT
TO TEXAS TO PUT IT IN A TANK

145
00:10:01,370 --> 00:10:06,670
THERE AND MAKE IT FOCUS AS TELL
BE IN FLIGHT.

146
00:10:06,670 --> 00:10:09,110
THEN TO CALIFORNIA TO MEET UP
WITH THE WARM PART OF THE

147
00:10:09,110 --> 00:10:14,460
OBSERVATORY WITH THE FUEL TANKS
AND THE COMPUTERS AND THE POWER

148
00:10:14,460 --> 00:10:18,860
SUPPLIES ALL THAT ARE LOCATED.
TELL BE THERE AND TELL MEET UP

149
00:10:18,860 --> 00:10:22,390
WITH THE SUNSHIELD WHICH IS THE
PART THAT UNFOLDS IN SPACE AND

150
00:10:22,390 --> 00:10:26,550
PROTECTS THE TELESCOPE
TEMPERATURE IS AS BIG AS A

151
00:10:26,550 --> 00:10:30,480
TENNIS COURT.
TRY TO IMAGINE ROGER FEDDERER

152
00:10:30,480 --> 00:10:33,540
PLAYING BACK AND FORTH ON OUR
TELESCOPE.

153
00:10:33,540 --> 00:10:37,330
PICTURE THAT AND IMAGINE HOW
LARGE THAT IS AND HOW A HARD JOB

154
00:10:37,330 --> 00:10:41,190
IT WAS TO FINISH.
HOW TO DO THAT.

155
00:10:41,190 --> 00:10:44,980
I WANT TO CHECK AND SEE IF WE
HAVE ONE MORE THING I AM

156
00:10:44,980 --> 00:10:49,940
SUPPOSED TO TELL YOU.
I THINK THAT COVERED MOST OF IT.

157
00:10:49,940 --> 00:10:54,060
JUST TO SAY, WE ARE DOING THIS
BY PLAN AND INTENTION.

158
00:10:54,060 --> 00:10:59,430
IT HAS TAKEN SUPPORT OF NASA AND
THE WORLD 20 YEAR TO GET HERE.

159
00:10:59,430 --> 00:11:02,620
AND THEY'RE ALMOST DONE.
PEOPLE LAUGHED AND SAID THAT

160
00:11:02,620 --> 00:11:09,280
COULD NEVER HAPPEN AND IT
HAPPENED.

161
00:11:09,280 --> 00:11:10,460
THANK YOU.
[APPLAUSE].

162
00:11:10,460 --> 00:11:14,470
THANK YOU, JOHN.
SO AS JOHN SAID, YOU KNOW THIS

163
00:11:14,470 --> 00:11:22,149
IS A GREAT ACCOMPLISHMENT WE ARE
COMPLETING THE WHOLE MISSION AND

164
00:11:22,149 --> 00:11:26,000
STARTING THE TESTING OF THE
INTEGRATIVE TELESCOPE NOW.

165
00:11:26,000 --> 00:11:32,250
AND AS JOHNED IT HAS TAKEN OUR
COOPERATION AND THE SUPPORT OF A

166
00:11:32,250 --> 00:11:35,830
LOT OF PEOPLE IN ORDER TOA AND A
LOT OF ORGANIZATIONS TO MAKE

167
00:11:35,830 --> 00:11:39,220
THIS WORK.
NOT ONLY IN THE U.S. BUT AROUND

168
00:11:39,220 --> 00:11:42,500
THE WORLD.
AND TO ALL OF THEM WE SAY, THANK

169
00:11:42,500 --> 00:11:45,180
YOU.
FOR GETTING US THIS FAR AND

170
00:11:45,180 --> 00:11:50,130
HELPING US TO ULTIMATELY DEVELOP
OUR FANTASTIC OBSERVATORY.

171
00:11:50,130 --> 00:11:53,720
NOW ANOTHER PERSON WHO HELPED US
GET HERE.

172
00:11:53,720 --> 00:11:57,209
AND JOHN MENTIONED, IT STARTED
IN SOME WAYS WITH THE HUBBLE

173
00:11:57,209 --> 00:12:02,160
SPACE TELESCOPE.
IT HAS BEEN A GREAT SUCCESS.

174
00:12:02,160 --> 00:12:06,190
ONE OF THE PEOPLE WHO DEPLOY
TODAY IS OUR ADD ADMINISTRATOR

175
00:12:06,190 --> 00:12:14,459
CHARLIE BOLDEN.
SINCE THEN HE CAME BACK TO NASA

176
00:12:14,459 --> 00:12:18,850
AND MADE JAMES WEB SPACE
TELESCOPE A PRIORITY.

177
00:12:18,850 --> 00:12:22,850
GIVING US THE TECHNICAL
STABILITY THAT ALL MISSIONS NEED

178
00:12:22,850 --> 00:12:27,370
AND THE TEAM FOCUSES ON BUT THE
FINANCIAL AND PROGRAM ATTIC

179
00:12:27,370 --> 00:12:31,910
STABILITY TO ALLOW US TO OPERATE
AND DEVELOP THE SPACECRAFT.

180
00:12:31,910 --> 00:12:35,839
THE TELESCOPE AND THE
INSTRUMENTS.

181
00:12:35,839 --> 00:12:38,740
WITH THAT, CHARLIE, THANK YOU
FOR LEADERSHIP AND WELCOME TO

182
00:12:38,740 --> 00:12:42,370
YOU SAY SOME WORDS.
>> THANK YOU AM [APPLAUSE]

183
00:12:42,370 --> 00:12:47,980
UM†-- LET ME FIRST OF ALL THANK
YOU FOR COMING OUT.

184
00:12:47,980 --> 00:12:50,640
SOME OF YOU ARE HERE BECAUSE
YOUR BOSS TOLD TO YOU COME AND

185
00:12:50,640 --> 00:12:56,650
BRING YOUR CAMERA AND MIC OTHERS
ARE HERE BECAUSE YOU ARE

186
00:12:56,650 --> 00:12:58,740
INTERESTED AND WE APPRECIATE
THAT.

187
00:12:58,740 --> 00:13:04,710
I LOOK IN ON A SECRET.
ERIC SMITH IS HERE THE PROGRAM

188
00:13:04,710 --> 00:13:07,730
MANAGER NOW AND ERIC AND I WORK
OUT IN THE MORNINGS IN THE

189
00:13:07,730 --> 00:13:11,080
FITNESS CENTER IN NASA
HEADQUARTERS I SAID ISSUE ERIC,

190
00:13:11,080 --> 00:13:14,140
CAN YOU GIVE ME A TIME THAT
WOULD BE NICE TO LOOK AT THE

191
00:13:14,140 --> 00:13:19,080
TELESCOPE, YOU KNOW, BENEFIT IT
GETS SHIPPED WHEN IT IS ASEMBLED

192
00:13:19,080 --> 00:13:22,050
HE SAID, WE CAN MAKE THAT
HAPPEN.

193
00:13:22,050 --> 00:13:26,640
NEXT THING WE KNEW WE HAD THIS
BIG EVENT.

194
00:13:26,640 --> 00:13:30,620
SO, IT WAS REMINISCENT OF DAYS
AS AN ACTIVE DUTY MARINE WHEN

195
00:13:30,620 --> 00:13:35,610
THE GENERAL SAID, OKAY WE WANT
TO HAVE A FORMATION AND DO IT AT

196
00:13:35,610 --> 00:13:40,600
0800 IN THE MORNING AND 0600 THE
TROOPS WERE IN FORMATION THEY

197
00:13:40,600 --> 00:13:44,930
WILL BE THERE WHEN THE GENERAL
COME AT 0800 I HAD NOT GOTTEN

198
00:13:44,930 --> 00:13:49,890
AWAY FROM SOME OF THAT.
I WOULD LIKE TO THANK JOHN AND

199
00:13:49,890 --> 00:13:53,440
HIS TEAM.
JOHN SAID THIS WAS A LONG TIME

200
00:13:53,440 --> 00:13:57,860
IN COMING.
AND A LONG TIME IN COMING IT IS

201
00:13:57,860 --> 00:13:59,830
SO COMPLEX.
I'M NOT SURE HOW MANY PEOPLE

202
00:13:59,830 --> 00:14:03,430
UNDERSTAND THE TREMENDOUS
COMPLEXITY OF THIS PARTICULAR

203
00:14:03,430 --> 00:14:09,600
BENCH OBSERVATORY FROM A
TECHNICAL AND SCIENTIFIC

204
00:14:09,600 --> 00:14:15,100
STANDPOINT BUT A MANAGEMENT
STANDPOINT IT IS A DIFFICULT

205
00:14:15,100 --> 00:14:19,020
PROJECT TO MANAGE.
I WANT TO COMMEND THE TEAM THAT

206
00:14:19,020 --> 00:14:24,020
HAS BEEN IN PLACE AND MADE THIS
HAPPEN WORK THAT HAS BEEN DONE

207
00:14:24,020 --> 00:14:27,670
OVER THE LAST SIX YEARS.
SOME OF YOU WHO HAVE FOLLOWED

208
00:14:27,670 --> 00:14:32,800
KNOW THAT IT ALMOST DID NOT
HAPPEN AND IT IS MAINLY BECAUSE

209
00:14:32,800 --> 00:14:36,810
OF THE PEOPLE THAT ARE SITTING
HERE ABLE TO TALK TO YOU TODAY

210
00:14:36,810 --> 00:14:40,100
THAT WE ARE ALL HERE AND WITHIN
TWO YEARS OF LAUNCH.

211
00:14:40,100 --> 00:14:43,630
I THOUGHT I WOULD TELL YOU
QUICKLY, I'M NOT SURE HOW MANY

212
00:14:43,630 --> 00:14:48,339
KNOW WHO JAMES WEBB WAS.
A LOT OF PEOPLE THINK JAMES WEBB

213
00:14:48,339 --> 00:14:53,649
WAS SOME GREAT ASTRONOMER AND
DESIGNED AND BUILT THE TELESCOPE

214
00:14:53,649 --> 00:15:00,350
OR WON A NOBLE PRIZE.
JAMES WEBB WAS SOMEBODY SORT OF

215
00:15:00,350 --> 00:15:04,980
LIKE ME ONLY MUCH BETTER.
JAMES WEBB WAS A MARINE.

216
00:15:04,980 --> 00:15:09,750
HE WAS A MARINE PILOT WHO SERVED
IN WORLD WAR II TWICE.

217
00:15:09,750 --> 00:15:15,410
GOT WINGS IN 1936 AND GOT OUT
AND WENT BACK TO SCHOOL.

218
00:15:15,410 --> 00:15:20,120
WENT TO G. W. AND GOT A LAW
DEGREE.

219
00:15:20,120 --> 00:15:24,350
HE BECAME AN ATTORNEY.
DID TIME WITH PRETTY BIG

220
00:15:24,350 --> 00:15:28,450
BUSINESSES AND THEN THE WAR
BROKE OUT IN 1944 DECIDED HE

221
00:15:28,450 --> 00:15:33,620
WOULD GO BACK TO THE MARINE CORP
AND SERVE AS PEOPLE DID SERVED

222
00:15:33,620 --> 00:15:37,310
UNTIL THE WAR WAS OVER.
THAT'S WHAT JAMES WEBB DID.

223
00:15:37,310 --> 00:15:40,450
WHAT DID HE DO.
JAMES WEBB WENT TO THE WAR AND

224
00:15:40,450 --> 00:15:43,770
CAME BACK AND DID A NUMBER OF
THING IN AND OUT OF GOVERNMENT

225
00:15:43,770 --> 00:15:48,829
AND ASSIGNED TO BE THE SECOND
ADMINISTRATOR OF NASA.

226
00:15:48,829 --> 00:15:54,100
A THING ABOUT JAMES WEBB OTHER
THAN THE FACT HE OVER SAW OUR

227
00:15:54,100 --> 00:15:59,130
JOURNEY TO THE MOON IN THE
APOLLO PROGRAM AND PRESIDED OVER

228
00:15:59,130 --> 00:16:05,460
THE SURVIVAL OF THE AGENCY AFTER
APOLLO ONE FIRE HIS ARGUMENTS

229
00:16:05,460 --> 00:16:09,570
AND THEY WERE NOT DISCUSSIONS
THEY WERE ARGUMENTS WITH THE

230
00:16:09,570 --> 00:16:13,660
PRESIDENT OF THE UNITED STATES.
ON NASA'S FUTURE.

231
00:16:13,660 --> 00:16:18,040
AND JAMES WEBB IF YOU GO TO THE
KENNEDY LIBRARY OR ONLINE, YOU

232
00:16:18,040 --> 00:16:22,490
CAN 11 TO THE DEBATE BETWEEN
JAMES WEBB THE ADMINISTRATOR OF

233
00:16:22,490 --> 00:16:26,700
NASA AND JOHN KENNEDY THE
PRESIDENT WHERE THE U.S. NEEDED

234
00:16:26,700 --> 00:16:31,160
TO GO NEXT IF WE WERE GOING TO
BEAT THE SOVIET UNION.

235
00:16:31,160 --> 00:16:36,279
AND JAMES WEBB SAID, SCIENCE IS
THE FUTURE THAT WOULD BE HIS

236
00:16:36,279 --> 00:16:44,620
LEGACY TO THIS AGENCY HE WAS THE
STRONGEST ADVOCATES FOR SCIENCE.

237
00:16:44,620 --> 00:16:49,829
AS A RESULT OF THAT TRAIT AND
THE FACT HE HAD BEEN A PREVIOUS

238
00:16:49,829 --> 00:16:54,339
NASA ADMINISTRATOR HE WAS CHOSEN
BY MY PREDECESSOR TO BE THE

239
00:16:54,339 --> 00:16:58,260
NAMESAKE FOR THIS INCREDIBLE
INSTRUMENT WE HAVE TODAY.

240
00:16:58,260 --> 00:17:02,630
A PIECE OF TRIVIA.
JOHN TALKED ABOUT OUR

241
00:17:02,630 --> 00:17:06,829
INTERNATIONAL TEAM THIS IS A
COLLABORATION AMONG THE EUROPEAN

242
00:17:06,829 --> 00:17:12,230
SPACE AGENCY AND CANADIAN AGENCY
INDUSTRY, ACDEMMIA I COULD GIVE

243
00:17:12,230 --> 00:17:16,569
YOU NUMBERS AND NAMES OF
ORGANIZATIONS I DON'T WANT TO

244
00:17:16,569 --> 00:17:19,890
BORE YOU WITH THAT.
WHAT IS IMPORTANT IS THAT IT

245
00:17:19,890 --> 00:17:25,389
SHOWS YOU WHAT IS REQUIRED TO DO
SOMETHING OF THIS COMPLEXITY AND

246
00:17:25,389 --> 00:17:27,860
THIS MAGNITUDE.
IT TABLES TEAM WORK.

247
00:17:27,860 --> 00:17:31,559
AND THAT'S WHAT YOU ARE SEEING
IN FRONT OF YOU TODAY.

248
00:17:31,559 --> 00:17:34,139
WE ARE ALL PROUD TO BE A PART OF
THIS.

249
00:17:34,139 --> 00:17:40,019
WE ARE EXCEPTIONALLY PROUD TO BE
SORT OF, THE CARE TAKERS OR OVER

250
00:17:40,019 --> 00:17:42,519
SEERS HERE AT GODDARD.
IF YOU LOOK, I LIKE TO TELL

251
00:17:42,519 --> 00:17:49,909
PEOPLE, IF YOU LOOK AT PER METER
OR CENTIMETER, GODDARD HAS MORE

252
00:17:49,909 --> 00:17:54,279
SCIENTISTS THAN ENGINEERS THAN
ANY OTHER NASA CENTER.

253
00:17:54,279 --> 00:17:58,460
AND MANY DON'T REMEMBER THAT OR
DON'T KNOW THAT.

254
00:17:58,460 --> 00:18:04,019
SO, IT IS QUITE AN APPROPRIATE
PLACE FOR US TO BE TODAY TO HAVE

255
00:18:04,019 --> 00:18:07,269
AN OPPORTUNITY FOR ALL OF YOU TO
LOOK AT THIS TELESCOPE.

256
00:18:07,269 --> 00:18:13,700
THE ONLY THING I WOULD TELL
NUCLOSING IS AGAIN, EMPHASIZE

257
00:18:13,700 --> 00:18:18,020
THE INCREDIBLE TEAM WORK THAT
WAS REQUIRED TO GET US HERE

258
00:18:18,020 --> 00:18:20,710
TODAY.
JOHN, I CANNOT THANK YOU ENOUGH

259
00:18:20,710 --> 00:18:24,960
FOR THE LEADERSHIP THAT YOU AND
ERIC AND CHRIS AND OTHERS HAVE

260
00:18:24,960 --> 00:18:27,249
EXHIBITED OVER THE PERIOD OF
TIME.

261
00:18:27,249 --> 00:18:30,429
WE GOT OUR CONTRACTED PARTNERS
HERE.

262
00:18:30,429 --> 00:18:32,909
WE ALL PLAYED A ROLE IN OUR
SPECIAL WAY.

263
00:18:32,909 --> 00:18:36,739
SOMEBODY'S GOTTA BE THERE SAYING
DO THIS, AND DO THAT.

264
00:18:36,739 --> 00:18:40,129
I WANT TO HIGHLIGHT THE THREE OF
YOU AND BILL FOR THE SPECIAL

265
00:18:40,129 --> 00:18:44,909
WORK THAT YOU ALL HAVE DONE IN
BEING THE ONES THAT SAID, OKAY,

266
00:18:44,909 --> 00:18:49,999
TODAY WE WILL DO THIS.
>> I WOULD SAY THANKS TO ALL OF

267
00:18:49,999 --> 00:18:53,799
YOU FOR COMING OUT FOR THIS MILE
STONE AND NOW WE NEED TO GET ON

268
00:18:53,799 --> 00:18:56,090
WITH IT.
GET THROUGH THE CEREMONY, AND

269
00:18:56,090 --> 00:18:59,919
MOVE TO THE NEXT MILE STONE THAT
TAKES US TO A 2018 LAUNCH.

270
00:18:59,919 --> 00:19:02,570
THANKS FOR COMING OUT, AGAIN.
[APPLAUSE].

271
00:19:02,570 --> 00:19:08,850
THANK YOU, ADMINISTRATOR BOLDEN.
DOCTOR MATH AND CHRIS FOR HAVING

272
00:19:08,850 --> 00:19:13,740
US HERE FOR THE OPPORTUNITY TO
SEAT TELESCOPE BEFORE IT GUESS

273
00:19:13,740 --> 00:19:17,179
TO SPACE AS IT WILL BE IN A
MILLION MILES AWAY AND UNLOCKING

274
00:19:17,179 --> 00:19:21,809
THE SECRETS OF THE SOLAR SYSTEM.
WE WILL TAKE QUESTIONS FROM

275
00:19:21,809 --> 00:19:26,049
REPORTERS IN THE ROOM AND FROM
THOSE OF US FOLLOWING ONLINE ON

276
00:19:26,049 --> 00:19:30,539
SOCIAL MEDIA, OF COURSE, YOU CAN
FIND MORE DETAILED INFORMATION,

277
00:19:30,539 --> 00:19:39,710
IMAGES, VIDEOS AND EVERYTHING
ONLINE AT WWW.NASA. GOV/WEBB.

278
00:19:39,710 --> 00:19:43,111
AND FOR REPORTERS IN THE ROOM
RAISE YOUR HAND, WAIT FOR A

279
00:19:43,111 --> 00:19:46,010
MICROPHONE.
IDENTIFY YOURSELF AND YOUR

280
00:19:46,010 --> 00:19:49,669
ORGANIZATION.
AND KEEP IT TO ONE QUESTION SO

281
00:19:49,669 --> 00:19:52,230
YOUR COLLEAGUES HAVE AN
OPPORTUNITY TO ASK QUESTIONS AS

282
00:19:52,230 --> 00:19:55,299
WELL.
IF YOU ARE FOLLOWING ONLINE, YOU

283
00:19:55,299 --> 00:20:02,859
CAN USE THE #ASKNASA TO FIND
YOUR QUESTION AND ASK YOU.

284
00:20:02,859 --> 00:20:12,809
THANK YOU.
WE WILL NOW TAKE QUESTIONS.

285
00:20:12,809 --> 00:20:20,679
LET'S GIVE THE MICROPHONE†-- ALL
RIGHT.

286
00:20:20,679 --> 00:20:29,720
QUESTION HERE?
Q: YOU HAVE†-- IS IT WORKING?

287
00:20:29,720 --> 00:20:33,700
YOU HAVE MENTIONED THAT NOW WHAT
YOU DO IS APPROVE THE SURVIVAL.

288
00:20:33,700 --> 00:20:34,832
WHAT TOUCHING IS GOING ON TO DO
THAT.

289
00:20:34,832 --> 00:20:36,700
A: WE HAVE TO SHAKE IT.
TWO, LOUD NOISES ON IT AS TELL

290
00:20:36,700 --> 00:20:42,980
FEEL THE LOUD NOISES OF LAUNCH.
150 DECIBELS OR SOMETHING.

291
00:20:42,980 --> 00:20:46,289
THAT IS THE FIRST TEST WE HAVE
TO DO TO MAKE SURE IT SURVIVES.

292
00:20:46,289 --> 00:20:48,539
DOWN TO TEXAS AND PROVE IT
FOCUSES AS WELL.

293
00:20:48,539 --> 00:20:50,779
THAT WAS THE NUMBER ONE
CHALLENGE TO MAKE SURE YOU KNOW

294
00:20:50,779 --> 00:20:54,590
IT WILL FOCUS IN SPACE AFTER WE
LEARNED THE HUBBLE WAS NOT IN

295
00:20:54,590 --> 00:20:56,989
FOCUS WHEN WE LAUNCHED.
WE LEARNED HOW TO DO THAT.

296
00:20:56,989 --> 00:21:04,019
THAT IS THE NEXT STEP.
>> NEXT QUESTION HERE?

297
00:21:04,019 --> 00:21:11,960
Q: THANK YOU FOR THIS EVENT.
FOR DOCTOR MATHER, WHAT IS YOUR

298
00:21:11,960 --> 00:21:16,950
MOST EXCITING OBSERVATION?
IS GOING TO HAPPEN AND THANK

299
00:21:16,950 --> 00:21:20,779
YOU.
A: IF I KNEW I WOULD TELL YOU.

300
00:21:20,779 --> 00:21:23,409
I'M HOPING THAT WE WILL FIND
SOMETHING THAT NOBODY KNOWS IS

301
00:21:23,409 --> 00:21:26,399
OUT THERE.
SOME LITTLE THING THAT HAPPENED

302
00:21:26,399 --> 00:21:28,499
EARLY UNIVERSE BEFORE THE
GALAXY.

303
00:21:28,499 --> 00:21:30,470
A WAY THE BLACK HOLES WERE
FORMED.

304
00:21:30,470 --> 00:21:36,619
THAT IS WITH OPEN TOPIC FOR
SCIENTISTS.

305
00:21:36,619 --> 00:21:39,820
EVERYTHING WE KNOW ABOUT PLANETS
HAS BEEN A SURPRISE.

306
00:21:39,820 --> 00:21:43,120
I'M EXPECTING MORE SURPRISES
ABOUT PLANETS.

307
00:21:43,120 --> 00:21:45,629
THOSE ARE THE TWO THINGS I KNOW
WE SHOULD GET A SURPRISE.

308
00:21:45,629 --> 00:21:49,389
I DON'T KNOW WHAT OTHERS WILL
BE.

309
00:21:49,389 --> 00:21:55,759
Q: UNLIKE HUBBLE WE CAN'T SEND
MR. BOLDEN OR AN ASTRONAUT TO

310
00:21:55,759 --> 00:21:59,710
FIX IT.
TELL US ABOUT MAY BE THE

311
00:21:59,710 --> 00:22:04,970
PRESSURE OR THE IMPORTANCE OF
GETTING IT RIGHT ON THE GROUND

312
00:22:04,970 --> 00:22:07,979
AND HOW YOU ARE DEALING WITH
THAT?

313
00:22:07,979 --> 00:22:11,119
REALIZING ONCE THIS IS OUT THERE
THERE IS NO WAY TO FIX IT.

314
00:22:11,119 --> 00:22:15,659
A: IT IS CRITICALLY IMPORTANT TO
GET IT RIGHT ON THE GROUND.

315
00:22:15,659 --> 00:22:18,820
THAT IS THE PURPOSE FOR THE TEST
WE ARE DOING HERE AND MOST

316
00:22:18,820 --> 00:22:22,649
IMPORTANTLY THE TESTS IN JOHNSON
AND CHAMBER AIN THE VACUUM

317
00:22:22,649 --> 00:22:27,840
CHAMBER TO MAKE SURE IT WILL BE
FOCUSED SO WE WILL NOT FIND LIKE

318
00:22:27,840 --> 00:22:32,279
WITH HUBBLE WEEP DON'T HAVE THE
ABILITY TO DO WHAT WE THOUGHT IT

319
00:22:32,279 --> 00:22:37,340
WOULD DO.
THE FACT IT IS A SEGMENTS MIRROR

320
00:22:37,340 --> 00:22:42,380
THAT HAS INDIVIDUAL BEHIND EACH
SEGMENT WE CAN TUNE IT.

321
00:22:42,380 --> 00:22:46,090
SO WE HAVE THE OPPORTUNITY TO DO
WHAT IT TOOK ASTRONAUTS WITH

322
00:22:46,090 --> 00:22:49,109
HUBBLE TO GO UP AND PUT
CORRECTIVE LENSES ON IT.

323
00:22:49,109 --> 00:22:53,679
WE CAN DO THAT, I GOT EDUCATION
FROM JOHN THIS MORNING.

324
00:22:53,679 --> 00:22:58,460
THE TEAM WILL BE ABLE TO
INDIVIDUALLY TUNE THE MIRROR

325
00:22:58,460 --> 00:23:00,429
SEGMENTS THAT IS WHAT IS
IMPORTANT.

326
00:23:00,429 --> 00:23:05,100
I THINK THE OTHER THING AND
AGAIN, GOING WITH WHAT I LEARNED

327
00:23:05,100 --> 00:23:10,799
THIS MORNING, THIS MAY BE THE
LAST TELESCOPE THAT WE BUILD

328
00:23:10,799 --> 00:23:16,159
THAT IS NOT MODULAR.
SUCH THAT IT HAS A CAPABILITY TO

329
00:23:16,159 --> 00:23:21,029
BE SERVICED ON ORBIT.
YOU KNOW, JOHN CAN EXPLAIN TO

330
00:23:21,029 --> 00:23:25,660
YOU WHERE WE DON'T WANT TO MESS
WITH THIS ONE THE FACT IT IS A

331
00:23:25,660 --> 00:23:31,820
REALLY COLD TELESCOPE AND THE
BIG THING IS THE SOLAR PANEL TO

332
00:23:31,820 --> 00:23:35,950
PROTECT IT AND THE FACT IT HAS
SHARP EDGES AND ASTRONAUTS DON'T

333
00:23:35,950 --> 00:23:40,830
LIKE BEING AROUND SHARP EDGES.
A NUMBER OF REASONS WE DECIDED

334
00:23:40,830 --> 00:23:44,679
WE WOULD NOT SERVICE IT.
>> I THINK CHARLIE COVERED THE

335
00:23:44,679 --> 00:23:49,830
MAIN POINTS TO ASSURE YOU, OUR
LESSONS LEARNED FROM HUBBLE IF

336
00:23:49,830 --> 00:23:53,409
YOU CARE ABOUT SOMETHING HAVE
YOU TO MEASURE IT TWICE.

337
00:23:53,409 --> 00:23:57,460
IF YOU DON'T GET THE SAME ANSWER
YOU BETTER FIGURE OUT WHY.

338
00:23:57,460 --> 00:24:02,769
THAT WAS IMPORTANT LESSON WE
BUILT OUR PROGRAM AROUND THAT.

339
00:24:02,769 --> 00:24:08,330
>> NEXT QUESTION OVER HERE?
Q: DAVID KRAMER, HOW CONFIDENT

340
00:24:08,330 --> 00:24:14,419
ARE YOU THIS PROJECT IS
[INAUDIBLE] ON BUDGET AND†--

341
00:24:14,419 --> 00:24:19,159
A: VERY CONFIDENT.
I WILL SAY THAT AND THAT IS I

342
00:24:19,159 --> 00:24:22,220
TALKED ABOUT THE CRITICAL
IMPORTANCE OF THE TECHNICAL AND

343
00:24:22,220 --> 00:24:25,399
SCIENTIFIC SIDE.
ALSO THERE IS THE MANAGEMENT

344
00:24:25,399 --> 00:24:29,729
SIDE AND THE REASON I SINGLE
OUT, SINGLE IS NOT THE RIGHT

345
00:24:29,729 --> 00:24:35,340
WORD WHEN YOU POINT TO BILLOWS
AND POINT TO ERIC AND CHRIS AND

346
00:24:35,340 --> 00:24:39,950
JOHN, IS WE MADE A COMMITMENT TO
THE PRESIDENT AND THE CONGRESS

347
00:24:39,950 --> 00:24:46,649
NAMELY SENATOR ABOUT SEVEN-SIX
YEARS AGO WHEN WE FOUND OUT THAT

348
00:24:46,649 --> 00:24:51,970
WE WERE NOT GOING TO BE ABLE TO
BRING JAMES WEBB INTO LIFE ON

349
00:24:51,970 --> 00:24:54,880
THE SCHEDULE WE HAD AND THE COST
THAT WE HAD.

350
00:24:54,880 --> 00:24:57,989
SO, WE HAD OUTSIDE EXPERTS GET
TOGETHER WITH US.

351
00:24:57,989 --> 00:25:02,679
WE TOOK A LOOK AND CAME UP WITH
A REVISED SCHEDULE AND A TIME

352
00:25:02,679 --> 00:25:08,349
LINE AND COST†-- SCHEDULE FOR
JAMES WEBB.

353
00:25:08,349 --> 00:25:13,009
AS CHRIS SAID IT IS MY
RESPONSIBILITY.

354
00:25:13,009 --> 00:25:14,179
THAT WAS THE RESPONSIBILITY I
TOOK.

355
00:25:14,179 --> 00:25:18,619
I MADE IT AN AGENCY PRIORITY.
WE LOOK AT IT EVERY, I LOOK AT

356
00:25:18,619 --> 00:25:21,590
IT EVERY MONTH.
THEY LOOK AT IT EVERY DAY.

357
00:25:21,590 --> 00:25:25,941
WE'RE ON SCHEDULE AND ON COST
AND IN FACT, I WILL NOT TALK

358
00:25:25,941 --> 00:25:29,269
ABOUT ANYTHING ELSE BUT JUST
SUFFICE IT TO SAY WEER SCHEDULE

359
00:25:29,269 --> 00:25:39,739
AND ON COST.
>> GREAT ANOTHER QUESTION HERE?

360
00:25:39,739 --> 00:25:51,720
Q: [INAUDIBLE] IS EVERYTHING
ABOUT THE [INAUDIBLE] WHAT

361
00:25:51,720 --> 00:25:56,919
HAPPENED IN THE ELECTION NEXT
WEEK.

362
00:25:56,919 --> 00:25:57,919
[LAUGHTER].
>> DAVID?

363
00:25:57,919 --> 00:25:58,919
LET ME TELL YOU.
[LAUGHTER].

364
00:25:58,919 --> 00:25:59,919
I WILL BE THE ONE TO GO OUT ON A
LIMB HERE.

365
00:25:59,919 --> 00:26:01,889
IT IS IMPORTANT.
WE ARE ABOUT TO GO THROUGH A

366
00:26:01,889 --> 00:26:06,149
PERIOD OF THE TRANSITION.
WE THINK WE HAVE AN INCREDIBLY

367
00:26:06,149 --> 00:26:11,620
GOOD STORE TOW TELL.
JAMES WEBB HAS STOOD THE TEST OF

368
00:26:11,620 --> 00:26:14,519
TIME.
WE SPENT A TREMENDOUS AMOUNT

369
00:26:14,519 --> 00:26:17,659
MONEY UP FRONT.
PEOPLE TALK ABOUT THE NEED FOR

370
00:26:17,659 --> 00:26:21,099
TECHNOLOGY DEVELOPMENT.
MOST OF THE MONEY ON JAMES WEBB

371
00:26:21,099 --> 00:26:25,009
WAS UP FRONT BEFORE WE PUT
ANYTHING TOGETHER THIS IS

372
00:26:25,009 --> 00:26:29,100
TECHNOLOGY THAT DID NOT EXIST
WHEN THIS TELESCOPE WAS

373
00:26:29,100 --> 00:26:32,429
CONCEIVED.
WHEN IT WAS AGREED WE WOULD DO

374
00:26:32,429 --> 00:26:35,429
THIS, THE TECHNOLOGY STILL DID
NOT EXIST.

375
00:26:35,429 --> 00:26:39,489
SO, WE HAVE DONE WHAT I HAVE
SAID ABOUT NASA, WE TOLD PEOPLE

376
00:26:39,489 --> 00:26:44,409
WHAT WE WOULD DO AND MADE A
SCHEDULE AND BEEN ON THAT FOR

377
00:26:44,409 --> 00:26:47,999
SIX YEARS NOW.
I THINK THE STORY WE HAVE TO

378
00:26:47,999 --> 00:26:52,739
TELL, RECORD OF PERFORMANCE THAT
WE HAVE SHOULD STAND US IN GOOD

379
00:26:52,739 --> 00:26:54,659
STEAD.
ANYBODY WOULD BE CRAZY TO TELL

380
00:26:54,659 --> 00:27:00,779
YOU ANYTHING, YOU KNOW, SURVIVES
OVER A TRANSITION.

381
00:27:00,779 --> 00:27:05,039
I'M COMFORTABLE AS I AM ABOUT
MOST BEHALF NASA IS DOING WE GOT

382
00:27:05,039 --> 00:27:08,390
A GOOD STORE AND HE A RECORD OF
PERFORMANCE.

383
00:27:08,390 --> 00:27:13,509
>> A FEW MORE?
Q: THANK YOU VERY MUCH, WITH

384
00:27:13,509 --> 00:27:15,899
SPACE.COM.
DOCTOR MATHER, YOU SAID YOUR

385
00:27:15,899 --> 00:27:19,269
BABY IS BUILT.
NOW TIME TO DETACH.

386
00:27:19,269 --> 00:27:24,139
IT HAS AN INTRICATE DEPLOYMENT
SEQUENCE, A LOT OF THINGS HAVE

387
00:27:24,139 --> 00:27:30,769
TO MOVE PART IS THERE
TRENTIDATION ON THE TEAM.

388
00:27:30,769 --> 00:27:34,100
YEARS OF TESTING THE INDIVIDUAL
THINGS AND IT ALL HAS TO WORK AT

389
00:27:34,100 --> 00:27:38,239
ONCE WHEN IT GETS UP THERE.
>> I WOULD BE CRAZY TO TELL YOU

390
00:27:38,239 --> 00:27:43,909
I WAS NOT A LITTLE NERVOUS.
BUT WE HAVE A PROCESS WHICH DOES

391
00:27:43,909 --> 00:27:46,759
AS WELL AS HUMANLY POSSIBLE TO
MAKE SURE TELL DO WHAT WE SAY

392
00:27:46,759 --> 00:27:49,700
TELL DO.
WE RECORDED EVERYTHING WE DO

393
00:27:49,700 --> 00:27:52,869
DURING A TEST.
IT IS LIKE PACKING UP YOUR

394
00:27:52,869 --> 00:27:57,320
PARACHUTE BEFORE YOU JUMP.
DO AT THIS TIME SAME WAY.

395
00:27:57,320 --> 00:28:00,909
WE GOT EVERYTHING DOCUMENTED AND
PEOPLE THAT WILL DO IT ARE THE

396
00:28:00,909 --> 00:28:05,359
SAME PEOPLE THAT DID IT BEFORE.
SO†-- EVERYTHING YOU COULD DO TO

397
00:28:05,359 --> 00:28:08,440
GET IT RIGHT WE ARE DOING THAT.
AND I'M NOT AWARE OF ANYTHING WE

398
00:28:08,440 --> 00:28:13,349
SHOULD DO WE ARE NOT DOING.
I CAN SLEEP AT NIGHT.

399
00:28:13,349 --> 00:28:17,169
>> RIGHT.
Q: FRANK WITH AVIATION FOR

400
00:28:17,169 --> 00:28:22,039
DOCTOR MATHER, THIS WILL BE
OPERATIONAL AT THE SAME TIME AT

401
00:28:22,039 --> 00:28:25,190
THE HUBBLE.
ARE THERE OBSERVATIONS THAT

402
00:28:25,190 --> 00:28:29,289
WOULD LIMB THEMSELVES TO HAVE
THE TWO SPACE TELESCOPES WORKING

403
00:28:29,289 --> 00:28:33,559
AND BIG TELESCOPES COMING ALONG
ON THE EARTH?

404
00:28:33,559 --> 00:28:38,440
A: A COUPLE THINGS THAT ARE
OBVIOUS THERE ARE THINGS OUT

405
00:28:38,440 --> 00:28:43,299
THERE THAT FLUCTUATE.
I HAVE PULSES COMING OUT AND

406
00:28:43,299 --> 00:28:46,549
THINGS FLAIR AND JUMP ITS IS
GOOD TO GET THEM AT THE SAME

407
00:28:46,549 --> 00:28:50,580
TIME WITH THE EQUIPMENT YOU GOT
AND THIS WEEK IT WAS POINTED OUT

408
00:28:50,580 --> 00:28:55,039
THAT HUBBLE AND WEBB CAN LOOK AT
THE SAME PLANETS FROM DIFFERENT

409
00:28:55,039 --> 00:29:04,269
ANGLES.
GOSPELS YOU GIVES AWE STEREO

410
00:29:04,269 --> 00:29:06,130
SCOPECK VIEWPOINT.
THEY SHOULD SEE A NICE

411
00:29:06,130 --> 00:29:10,359
PERSPECTIVE ON THE PLANET.
I THINK THAT IS REALLY COOL.

412
00:29:10,359 --> 00:29:14,659
>> ANOTHER QUESTION HERE?
Q: YES, SCOTT JOHNSON WITH SPACE

413
00:29:14,659 --> 00:29:17,739
INSIDER.
I KNOW HUBBLE IS IN LOWER ORBIT.

414
00:29:17,739 --> 00:29:21,830
I BELIEVE THIS TELESCOPE WILL BE
PLACED IN A DIFFERENT PLACE IN

415
00:29:21,830 --> 00:29:28,690
SPACE, L TWO, CAN YOU SPEAK TO
HOW THAT WORKS AND HOW WE WILL

416
00:29:28,690 --> 00:29:31,710
GET IT THERE?
A: PUT NOTHING A MILLION MILES

417
00:29:31,710 --> 00:29:35,750
FROM EARTH.
ON THE TELL BE OVER HEAD AT MID

418
00:29:35,750 --> 00:29:38,250
NIGHT.
SUN OTHER EARTH AND TELESCOPE IN

419
00:29:38,250 --> 00:29:41,080
A ROW.
WE ORBIT AROUND BECAUSE WE DON'T

420
00:29:41,080 --> 00:29:44,989
WANT TO BE IN THE SHADOW OF THE
EARTH WE NEED SOLAR POWER AND

421
00:29:44,989 --> 00:29:48,429
PUT ITTING THERE IT IS THE FIRST
AND ONLY PLACE THAT IS EASY TO

422
00:29:48,429 --> 00:29:52,289
PREDICT THE TELESCOPE FROM THE
SUN AND EARTH AT THE SAME TIME.

423
00:29:52,289 --> 00:29:56,260
TELESCOPE'S GOTTA BE COLD AT
THAT LOCATION YOU SET UP A ONE

424
00:29:56,260 --> 00:29:59,029
SIDED UMBRELLA AND IT WILL BE
COLTED THAT IS THE POINT OF

425
00:29:59,029 --> 00:30:02,799
GOING THERE.
HARD TO GET THERE BUT NOT SO

426
00:30:02,799 --> 00:30:13,039
HARD WE KNOW HOW TO DO THAT.
>> ALL THE WAY TO THE BAY.

427
00:30:13,039 --> 00:30:18,479
>> TIM KRAMER UNIVERSE TODAY.
FOR JOHN, CAN YOU TALK ABOUT HOW

428
00:30:18,479 --> 00:30:22,129
THIS TELESCOPE LOOKED THE
MOLECULES RELATE TO THE ORIGIN

429
00:30:22,129 --> 00:30:27,840
OF LIFE IN PLANET ATMOSPHERES
AND THE PRIORITY WE WILL GET IN

430
00:30:27,840 --> 00:30:31,279
LOOKING AT IT.
A: EVERYBODY KNOWS WE WANT TO DO

431
00:30:31,279 --> 00:30:33,969
THIS.
WHAT WE HAVE TO DEMONSTRATE

432
00:30:33,969 --> 00:30:38,859
AFTER LUNCH IS WE REALLY CAN'T.
THE SUBJECT CAME UP AFTER WE

433
00:30:38,859 --> 00:30:42,580
DESIGNED THE TELESCOPE.
THERE IS NO REQUIREMENT WE COULD

434
00:30:42,580 --> 00:30:46,969
VERIFY THAT PROVES WE K. BUT ON
THE OTHER HAND EVERYBODY IS

435
00:30:46,969 --> 00:30:50,730
OPTIMISTIC WE WILL BE ABLE.
SO TO REMIND PEOPLE WHAT WE DO

436
00:30:50,730 --> 00:30:54,889
IS SPREAD OUT THE LIGHT OF A
STAR TO THE RAINBOW A SPECTRUM

437
00:30:54,889 --> 00:31:01,580
AND LOOK FOR THE DIFFERENT WAVE
LENGTHS THE ATOMS AND MOLECULES

438
00:31:01,580 --> 00:31:04,659
INTERCEPT SOME LIGHT AND WE WILL
DETECT IT THAT WAY.

439
00:31:04,659 --> 00:31:10,339
SO THERE ARE FEW THAT WE SHOULD
BE ABLE TO SEE, WATER VAPOR IS A

440
00:31:10,339 --> 00:31:13,789
TOP TARGET WE LIKE TO KNOW IF
PLANET OUT THERE HAS ENOUGH

441
00:31:13,789 --> 00:31:17,720
WATER TO HAVE AN OCEAN.
WE THINK WE CAN DO THAT.

442
00:31:17,720 --> 00:31:25,049
>> ANOTHER ONE AND WE WILL GO
DO QUESTIONS ONLINE.

443
00:31:25,049 --> 00:31:29,409
Q: [INAUDIBLE] DO YOU NEED THE
PLANET TO PASS IN FRONT OF ITS

444
00:31:29,409 --> 00:31:31,460
STAR FOR WEBB TO GET
INFORMATION?

445
00:31:31,460 --> 00:31:33,769
OR CAN YOU LOOK AT PLANETS THAT
DON'T TRANSMIT?

446
00:31:33,769 --> 00:31:38,110
A: BOTH TYPES WE CAN DO.
THE LITTLE ONE IN FRONT OF THE

447
00:31:38,110 --> 00:31:43,690
STAR IS THE WAY WE SEE THEM.
IF THEY ARE FAR ENOUGH WE SEE

448
00:31:43,690 --> 00:31:47,080
THEM AS A DOT THAT IS SEPARATE
FROM THE STAR.

449
00:31:47,080 --> 00:31:51,609
THEN WE STUDY THEM BETTER THAT
WORKS FOR BIG BRIGHT ONCE.

450
00:31:51,609 --> 00:31:56,479
>> OKAY A COUPLE QUESTIONS FROM
ONLINE.

451
00:31:56,479 --> 00:32:01,630
OKAY.
AND GERMAN WANTS TO KNOW WHAT IS

452
00:32:01,630 --> 00:32:08,639
THE PROBABILITIED THAT SPACE
DEGREE WILL HIT THE MIRROR IS?

453
00:32:08,639 --> 00:32:10,609
>> 100%.
[LAUGHTER].

454
00:32:10,609 --> 00:32:13,580
AND WE ARE DESIGNED TO HANDLE
THAT.

455
00:32:13,580 --> 00:32:16,570
WE DON'T MIND IF THERE ARE HOLES
IN THE MIRRORS.

456
00:32:16,570 --> 00:32:20,299
AND WE HAVE DESIGNED TO ASH
COUNT FOR EVERYTHING THAT MIGHT

457
00:32:20,299 --> 00:32:23,440
HAPPEN, TOO.
>> SECOND QUESTION FROM MORRIS

458
00:32:23,440 --> 00:32:27,369
TECH IN NEW JERSEY THE ENTIRE
SCHOOL IS WATCHING.

459
00:32:27,369 --> 00:32:31,940
WILL THEY SEE WHAT THE TELESCOPE
CEASE LIVE OR AS THE PICTURES

460
00:32:31,940 --> 00:32:36,710
ARE RELEASED?
>> NOBODY CAN SEE IT LIVE

461
00:32:36,710 --> 00:32:40,549
BECAUSE THAT I WILL DON'T COME
BACK RIGHT AWAY.

462
00:32:40,549 --> 00:32:45,909
WE AACCUMULATE THE DATA AND SEND
IT TO A GROUND STATION AND HAS

463
00:32:45,909 --> 00:32:49,169
TO PROCESS THROUGH A COMPUTER
BEFORE WE CAN SEE IT.

464
00:32:49,169 --> 00:32:52,330
SOME OF THE DATA WILL BE PUBLIC
IMMEDIATELY AND SOME IT WILL

465
00:32:52,330 --> 00:32:55,859
WILL HAVE TO CHEW ON IT BEFORE
IT IS READY.

466
00:32:55,859 --> 00:33:04,269
IT WILL ALL BECOME PUBLIC.
>> ONE MORE, THE†-- WANTS TO

467
00:33:04,269 --> 00:33:06,769
KNOW WILL THIS BE AS
REVOLUTIONARY AS GALILEO'S

468
00:33:06,769 --> 00:33:12,869
TELESCOPE?
>> THAT IS A HARD ONE.

469
00:33:12,869 --> 00:33:17,080
SO†-- GALILEO'S TELESCOPE
CHANGED EVERYTHING FOR ALL OF

470
00:33:17,080 --> 00:33:20,600
HUMANITY.
I THINK YOU CAN'T CLAIM TO BE

471
00:33:20,600 --> 00:33:24,639
THE FIRST ANYMORE.
BUT WE EXPECT WONDERFUL

472
00:33:24,639 --> 00:33:27,570
SURPRISES.
>> THANK YOU.

473
00:33:27,570 --> 00:33:37,200
PERHAPS ANOTHER QUESTION IN THE
ROOM AND THEN WE WILL LOOK AT

474
00:33:37,200 --> 00:33:39,969
WRAPPING UP?
Q: ON THE ISSUE OF GOING

475
00:33:39,969 --> 00:33:43,159
POSSIBLY BACK TO VISIT THIS,
DOES THE TELESCOPE HAVE A

476
00:33:43,159 --> 00:33:50,389
GRAPPLING FIXTURE.
I KNOW IT WAS A DISPUTE WOULD BE

477
00:33:50,389 --> 00:33:52,769
ONE IS THERE ONE?
>>

478
00:33:52,769 --> 00:33:58,990
A: NO.
WE KNOW HOW TO ATAMP WE CAN USE

479
00:33:58,990 --> 00:34:03,109
THE RING WE ATTACHED TO THE
LAUNCH VEHICLE W. WE KNOW HOW TO

480
00:34:03,109 --> 00:34:07,730
ATTACH IT IF WE NEED IT.
WE ARE NOT PLANNING ON IT.

481
00:34:07,730 --> 00:34:13,169
WE ARE PLANNING TO NOT NEED IT.
THANK YOU VERY MUCH.

482
00:34:13,169 --> 00:34:15,030
[LAUGHTER].
ANOTHER QUESTION HERE?

483
00:34:15,030 --> 00:34:20,210
Q: HI, DOYLE FROM USA TODAY,
WHAT IS THE LIFE SPAN OF THIS

484
00:34:20,210 --> 00:34:23,800
TELESCOPE?
HOW LONG WILL IT BE UP THERE?

485
00:34:23,800 --> 00:34:28,230
A: WE PROMISED 5 YEARS WE ARE
CARRYING FUEL FOR 10.

486
00:34:28,230 --> 00:34:31,060
IFFY WOOR LUCKY IT WILL LAST
LONGER.

487
00:34:31,060 --> 00:34:34,830
THAT IS A LONG TIME.
IT IS NOT INFINITY.

488
00:34:34,830 --> 00:34:38,080
WE WILL RUN OUT AT A CERTAIN
DAY.

489
00:34:38,080 --> 00:34:44,970
>> ANOTHER QUESTION HERE?
Q: I WANT TO ASK ABOUT THE

490
00:34:44,970 --> 00:34:52,140
DEPLOYMENT PROCESS AGAIN.
AND HOW MANY STEPS ARE INVOLVED

491
00:34:52,140 --> 00:34:55,890
AND WHEN DO YOU SIGH OF RELIEF
IT IS THERE.

492
00:34:55,890 --> 00:34:57,710
[LAUGHTER].
READY TO GO.

493
00:34:57,710 --> 00:35:00,770
[LAUGHTER]
A: WE NEVER COMPLETELY RELIEVE

494
00:35:00,770 --> 00:35:04,140
TODAY IS SAVE.
NOTHING IS TOTALLY SAFE.

495
00:35:04,140 --> 00:35:09,000
WE HAVE TWO WEEKS TO GET THE
THING UNFOLDED SO THE FIRST

496
00:35:09,000 --> 00:35:13,090
THING COME OUT ARE SOLAR PANELS
AND THE DISH AND WAIT AWHILE

497
00:35:13,090 --> 00:35:18,340
UNTIL WATER VAPORS COME OUT OF
THE CARBON STUFF AND UNFOLD THE

498
00:35:18,340 --> 00:35:26,250
SUNSHIELD AND THEN†-- IT TAKES
QUITE AWHILE WE GO STEP BY STEP.

499
00:35:26,250 --> 00:35:29,070
WE HAVE TO BE CAREFUL THERE IS
NO WAY TO BACK UP ON THAT.

500
00:35:29,070 --> 00:35:32,780
HAVE YOU TO MAKE SURE EVERYTHING
IS WORKING STEP BY STEP AND WE

501
00:35:32,780 --> 00:35:37,180
WAIT UNTIL IT IS COLD AND FOCUS
IT.

502
00:35:37,180 --> 00:35:40,340
TAKES A COUPLE OF MONTHS BENEFIT
IT IS COLD AND GET TO THE

503
00:35:40,340 --> 00:35:43,970
DETAILS OF DOES EVERY PART DO
WHAT IT IS SUPPOSED TO DO AND

504
00:35:43,970 --> 00:35:47,580
OPTIMIZE TEMPERATURE SIX AMONG
MONTHS AFTER LAUNCH WE SHOULD BE

505
00:35:47,580 --> 00:35:59,010
ABLE TO GET PICTURES.
Q: HI, I WAS WONDERING IF THIS

506
00:35:59,010 --> 00:36:03,100
WORKS WITH INFRARED.
WILL WE SEE THIS AMAZING PHOTOS

507
00:36:03,100 --> 00:36:13,280
THAT HUBBLE SENT US?
>> YES WE DON'T SEAT ULTRAVIOLET

508
00:36:13,280 --> 00:36:17,840
WE SEE EVERYTHING AND IT IS
GORGEOUS TO LOOK AT IT.

509
00:36:17,840 --> 00:36:22,610
TELL BE PRETTY.
>> ANOTHER QUESTION THERE.

510
00:36:22,610 --> 00:36:26,640
THIS QUESTION IS FOR
COMMISSIONER BOLDEN THIS IS

511
00:36:26,640 --> 00:36:30,840
SCOTT THE BALTIMORE SUN.
CURIOUS IF THE SENATOR PREPARES

512
00:36:30,840 --> 00:36:34,860
TO STEP DOWN IF YOU HAD
CONVERSATIONS WITH HER TO REASH

513
00:36:34,860 --> 00:36:37,980
SURE HER LIKE YOU WERE SAYING
YOU WILL KEEP YOUR PROMISES.

514
00:36:37,980 --> 00:36:41,550
>> ALL THE TIME.
SHE IS STILL THE SENATOR

515
00:36:41,550 --> 00:36:44,990
REPRESENTING MARYLAND AND THE
RANKING MEMBER OF THE

516
00:36:44,990 --> 00:36:48,510
APPROPRIATION'S COMMITTEE ALL
THE TIME.

517
00:36:48,510 --> 00:36:52,700
>> AND MY GUESS IS†-- WHEN I'M
NO LONGER THE NASA ADMINISTRATOR

518
00:36:52,700 --> 00:36:59,700
AFTER THE OBAMA ADMINISTRATION
SHE

519
00:36:59,700 --> 00:37:03,310
HAS MY NUMBER AND SHE WILL
PROBABLY STILL BE CALLING AND

520
00:37:03,310 --> 00:37:06,850
SAYING WHAT ARE THOSE GUYS
DOING?

521
00:37:06,850 --> 00:37:14,360
YOU KNOW MY HOPE IS SHE WILL
REMAIN ACTIVE AND INVOLVED IN

522
00:37:14,360 --> 00:37:18,980
THE LIFE OF GODDARD AND THE
SCIENCE COMMUNITY OF NAS A. SHE

523
00:37:18,980 --> 00:37:22,700
HAS BEEN AN INCREDIBLE.
I DON'T WANT IT TO GO BY

524
00:37:22,700 --> 00:37:26,600
WITHOUT, YOU KNOW YOU NEED
CHAMPIONS.

525
00:37:26,600 --> 00:37:32,460
AND SHE HAS BEEN A TRUE CHAMPION
FOR SCIENCE, NASA AND GODDARD.

526
00:37:32,460 --> 00:37:37,330
IN THAT ORDER.
>> WE HAVE TIME FOR TWO MORE

527
00:37:37,330 --> 00:37:41,670
QUESTIONS AND WRAP UP.
WHO HAS NOT ASKED?

528
00:37:41,670 --> 00:37:43,980
ANY REMAINING QUESTIONS?
YOU HAVE ALREADY ASKED A

529
00:37:43,980 --> 00:37:47,890
QUESTION.
ANYBODY WHO HAS NOT IN THE BACK.

530
00:37:47,890 --> 00:37:52,670
Q: HI, SUMMER ASH FOR SPACE
MAGAZINE.

531
00:37:52,670 --> 00:37:57,990
I WAS CURIOUS ABOUT THE
DEPLOYMENT OF WEBB PRIOR TO WEBB

532
00:37:57,990 --> 00:38:02,051
WHAT WAS THE MOST COMPLICATED
DEPLOYMENT THAT NASA OR A SPACE

533
00:38:02,051 --> 00:38:07,670
AGENCY HAS DONE?
>> I DON'T KNOW IT WAS PER

534
00:38:07,670 --> 00:38:12,870
ANOTHER GOVERNMENT AGENCY VMENT
CHRIS SAYS CURIOUSITY.

535
00:38:12,870 --> 00:38:18,190
>> IF YOU REMEMBER EVERYTHING
HAD TO WORK AND EVERYTHING HAD

536
00:38:18,190 --> 00:38:22,320
TO WORK IN SPECIFIC ORDER.
AND IT IS LIKE JOHN SAID YOU

537
00:38:22,320 --> 00:38:25,150
NEVER STOPPED HOLDING YOUR
BREATH.

538
00:38:25,150 --> 00:38:32,220
WE NEVER STOPPED HOLDING OUR
BREATH EVEN NOW.

539
00:38:32,220 --> 00:38:33,980
>> YEA.
>> YEA.

540
00:38:33,980 --> 00:38:37,110
>> THIS IS SIX MONTHS OF†--
[LAUGHTER].

541
00:38:37,110 --> 00:38:41,230
THERE IS A LIMIT AND DEGREE THAT
YOU CAN SURPRISE.

542
00:38:41,230 --> 00:38:44,110
SIX MONTHS.
WHEN WE HAVE TO MAKE SURE WE

543
00:38:44,110 --> 00:38:47,850
DON'T NEED TO BE VERIFIED BY
DOING OUR JOB NOW.

544
00:38:47,850 --> 00:38:55,400
>> YES, THEY00 AUTOPEOPLE THAT
HAVE BEEN BUILDING INSTRUMENTS

545
00:38:55,400 --> 00:38:59,900
AND OTHERS WERE CHOSEN TO GIFT
FIRST DIPS ON PARTS.

546
00:38:59,900 --> 00:39:04,230
A COMMUNITY EFFORT WHERE THE
ENTIRE WORLD CAN SAY THIS IS

547
00:39:04,230 --> 00:39:07,910
WHAT WE THINK WE SHOULD OBSERVE
RIGHT AWAY AND THAT DASTAL BE

548
00:39:07,910 --> 00:39:11,020
PUBLIC IMMEDIATELY.
THOSE OTHER TWO THINGS WE GOT

549
00:39:11,020 --> 00:39:14,190
SET UP.
WE HAVE NOT CHOSEN YET.

550
00:39:14,190 --> 00:39:16,000
>> OKAY.
GREAT.

551
00:39:16,000 --> 00:39:21,230
THANK YOU FOR JOINING US FOR THE
JAMES WEBB TELESCOPE THAT WILL

552
00:39:21,230 --> 00:39:28,160
TELL US SECRETS ABOUT THE
UNIVERSE, STARS AND GALAXIES AND

553
00:39:28,160 --> 00:39:33,800
OTHER SOLAR SYSTEMS AND BEYOND.
AS WE LAUNCH THE TELESCOPE I'M

554
00:39:33,800 --> 00:39:38,070
SURE TELL REVEAL QUESTIONS WE
HAVE NOT THOUGHT TO ASK AND THE

555
00:39:38,070 --> 00:39:43,320
ANSWERS YOU WILL FIND THE LATEST
ABOUT ALL OF IT ONLINE AT NASA.