



1
00:00:38,869 --> 00:00:30,260
here

2
00:00:38,879 --> 00:00:47,350
and i feel fine

3
00:00:47,360 --> 00:00:56,310
[Music]

4
00:01:19,920 --> 00:00:57,200
between countries

5
00:01:33,429 --> 00:01:31,990
[Music]

6
00:01:35,350 --> 00:01:33,439
welcome back to nasa's kennedy space

7
00:01:37,429 --> 00:01:35,360
center i'm joshua santora and

8
00:01:39,670 --> 00:01:37,439
so glad that you could join us a big

9
00:01:41,510 --> 00:01:39,680
welcome to our nasa social participants

10
00:01:43,910 --> 00:01:41,520
as well as our virtual guests joining us

11
00:01:45,510 --> 00:01:43,920
online uh please make sure you add your

12
00:01:46,230 --> 00:01:45,520
questions to the conversation as we go

13
00:01:47,429 --> 00:01:46,240

through today

14

00:01:48,710 --> 00:01:47,439

we're going to be taking those in real

15

00:01:49,270 --> 00:01:48,720

time and look forward to hearing from

16

00:01:51,350 --> 00:01:49,280

you

17

00:01:53,270 --> 00:01:51,360

and also from our fantastic panel today

18

00:01:55,429 --> 00:01:53,280

i'm joined by three incredible

19

00:01:56,870 --> 00:01:55,439

leaders for our agency who are

20

00:01:59,910 --> 00:01:56,880

continuing to help us

21

00:02:02,469 --> 00:01:59,920

push american exploration nasa's

22

00:02:03,910 --> 00:02:02,479

mission and humanity at large to bigger

23

00:02:04,630 --> 00:02:03,920

and better things so thanks guys for

24

00:02:06,230 --> 00:02:04,640

joining me

25

00:02:07,510 --> 00:02:06,240

uh we're gonna go and open with some

26

00:02:08,710 --> 00:02:07,520

opening remarks and kind of some

27

00:02:11,430 --> 00:02:08,720

questions for you all

28

00:02:12,550 --> 00:02:11,440

uh nasa administrator mr jim breinstein

29

00:02:15,030 --> 00:02:12,560

thanks for being here

30

00:02:16,390 --> 00:02:15,040

curious to hear from you on the level of

31

00:02:19,270 --> 00:02:16,400

human exploration

32

00:02:20,949 --> 00:02:19,280

what is the nasa's crew one mission

33

00:02:23,030 --> 00:02:20,959

about and what does it mean for us

34

00:02:24,710 --> 00:02:23,040

so for there's a lot of things that it

35

00:02:25,030 --> 00:02:24,720

means when we think about the fact that

36

00:02:27,350 --> 00:02:25,040

we

37

00:02:29,350 --> 00:02:27,360

are through the test and development

38

00:02:31,110 --> 00:02:29,360

phase of the crew dragon

39

00:02:33,589 --> 00:02:31,120

and now we're into an operational phase

40

00:02:35,509 --> 00:02:33,599

i want to be clear every single flight

41

00:02:37,589 --> 00:02:35,519

when you go to space every single flight

42

00:02:39,670 --> 00:02:37,599

has to be dealt with very seriously

43

00:02:41,350 --> 00:02:39,680

we pay attention to detail on all of

44

00:02:41,990 --> 00:02:41,360

them and we learn from every single one

45

00:02:43,830 --> 00:02:42,000

of them

46

00:02:45,509 --> 00:02:43,840

but it is a big transition because now

47

00:02:46,550 --> 00:02:45,519

we're going with a crew of four

48

00:02:47,910 --> 00:02:46,560

astronauts

49

00:02:49,509 --> 00:02:47,920

which means we're going to be able to

50

00:02:51,350 --> 00:02:49,519

take more people to the international

51
00:02:53,110 --> 00:02:51,360
space station to do more work

52
00:02:54,869 --> 00:02:53,120
and of course the value there is the

53
00:02:55,990 --> 00:02:54,879
microgravity of space and this

54
00:02:57,990 --> 00:02:56,000
laboratory

55
00:02:59,190 --> 00:02:58,000
that is there to benefit all of humanity

56
00:03:01,270 --> 00:02:59,200
so we're going to get

57
00:03:02,550 --> 00:03:01,280
so much more science and so much more

58
00:03:04,710 --> 00:03:02,560
discovery

59
00:03:06,949 --> 00:03:04,720
and so much more capability to benefit

60
00:03:08,869 --> 00:03:06,959
humanity than we could otherwise get

61
00:03:10,390 --> 00:03:08,879
um now that we're taking more crew to

62
00:03:11,270 --> 00:03:10,400
the international space station and when

63
00:03:13,430 --> 00:03:11,280

we take them

64

00:03:15,110 --> 00:03:13,440

they're going to stay longer so that's a

65

00:03:15,910 --> 00:03:15,120

really big deal i would also say the

66

00:03:18,790 --> 00:03:15,920

other big thing

67

00:03:20,149 --> 00:03:18,800

is you know this is uh the first

68

00:03:22,070 --> 00:03:20,159

commercial

69

00:03:23,990 --> 00:03:22,080

contracted launch which means it was

70

00:03:26,149 --> 00:03:24,000

licensed by the faa

71

00:03:28,229 --> 00:03:26,159

which is another big change but very

72

00:03:28,869 --> 00:03:28,239

positive change we're trying to scale up

73

00:03:31,190 --> 00:03:28,879

quickly

74

00:03:32,710 --> 00:03:31,200

nasa wants to be one customer of many

75

00:03:33,830 --> 00:03:32,720

not the owner and operator of the

76

00:03:35,350 --> 00:03:33,840

vehicles

77

00:03:37,030 --> 00:03:35,360

we want to have numerous providers that

78

00:03:38,229 --> 00:03:37,040

can compete on cost and innovation to

79

00:03:40,869 --> 00:03:38,239

bring down cost

80

00:03:41,910 --> 00:03:40,879

and increase access to space the other

81

00:03:43,190 --> 00:03:41,920

big thing

82

00:03:45,430 --> 00:03:43,200

is the fact that we're going to have an

83

00:03:48,550 --> 00:03:45,440

international partner on this one

84

00:03:50,470 --> 00:03:48,560

which is fantastic japan has been an

85

00:03:53,670 --> 00:03:50,480

amazing partner for the united states in

86

00:03:55,270 --> 00:03:53,680

space exploration for so many years now

87

00:03:56,949 --> 00:03:55,280

and of course they're not just a partner

88

00:03:58,070 --> 00:03:56,959

in low earth orbit at the international

89

00:04:00,309 --> 00:03:58,080

space station

90

00:04:01,110 --> 00:04:00,319

they they have gone all in committing to

91

00:04:04,470 --> 00:04:01,120

the moon

92

00:04:06,630 --> 00:04:04,480

to mars program

93

00:04:07,509 --> 00:04:06,640

uh japan has been an amazing partner for

94

00:04:09,190 --> 00:04:07,519

decades now

95

00:04:11,190 --> 00:04:09,200

and it's thrilling to see that here we

96

00:04:12,789 --> 00:04:11,200

are on the first crew launch

97

00:04:14,390 --> 00:04:12,799

of dragon and they're going to be with

98

00:04:17,030 --> 00:04:14,400

us yeah uh

99

00:04:17,830 --> 00:04:17,040

obviously humanity it seems like this is

100

00:04:19,830 --> 00:04:17,840

such a big deal

101
00:04:21,430 --> 00:04:19,840
but it is one piece of so many pieces

102
00:04:22,950 --> 00:04:21,440
that's right uh so we're excited for

103
00:04:25,270 --> 00:04:22,960
this piece to be moving forward

104
00:04:26,629 --> 00:04:25,280
uh mr uh jim moorhard um who's our

105
00:04:27,030 --> 00:04:26,639
deputy administrator thanks for being

106
00:04:28,230 --> 00:04:27,040
here

107
00:04:30,230 --> 00:04:28,240
i wanted to ask you kind of from the

108
00:04:31,030 --> 00:04:30,240
agency perspective um you and mr

109
00:04:33,270 --> 00:04:31,040
breinstein

110
00:04:34,629 --> 00:04:33,280
get to see kind of everything we do like

111
00:04:36,469 --> 00:04:34,639
nobody else can

112
00:04:38,629 --> 00:04:36,479
and so curious to hear from you what's

113
00:04:39,909 --> 00:04:38,639

the feeling like for the agency what is

114

00:04:42,950 --> 00:04:39,919

this moment like

115

00:04:44,469 --> 00:04:42,960

for us as nasa gosh first i appreciate

116

00:04:47,909 --> 00:04:44,479

the question but we have

117

00:04:48,390 --> 00:04:47,919

just an amazing workforce and you think

118

00:04:51,270 --> 00:04:48,400

about

119

00:04:53,990 --> 00:04:51,280

even during a pandemic at no time have

120

00:04:56,070 --> 00:04:54,000

we ever pushed we've always said

121

00:04:58,230 --> 00:04:56,080

help your health and safety is number

122

00:04:59,110 --> 00:04:58,240

one it's paramount for what we want to

123

00:05:00,950 --> 00:04:59,120

do

124

00:05:03,830 --> 00:05:00,960

and to me that's leadership that's jim's

125

00:05:06,070 --> 00:05:03,840

leadership and we continue to do that

126

00:05:08,150 --> 00:05:06,080

but in the meantime as jim's talked

127

00:05:11,909 --> 00:05:08,160

about it's low earth orbit

128

00:05:13,990 --> 00:05:11,919

it's it's but it's also moon it's mars

129

00:05:15,029 --> 00:05:14,000

it's earth sciences it's planetary

130

00:05:17,590 --> 00:05:15,039

sciences it's

131

00:05:18,710 --> 00:05:17,600

it's studying the sun all these things

132

00:05:21,990 --> 00:05:18,720

come together

133

00:05:24,550 --> 00:05:22,000

but we're really here to help humanity

134

00:05:26,150 --> 00:05:24,560

that's why nasa exists and that's what

135

00:05:28,070 --> 00:05:26,160

we continue to do

136

00:05:29,430 --> 00:05:28,080

and it's just been a great honor to and

137

00:05:31,830 --> 00:05:29,440

it continues to be

138

00:05:33,270 --> 00:05:31,840

to work with these folks because they

139

00:05:35,830 --> 00:05:33,280

are so committed

140

00:05:37,029 --> 00:05:35,840

and it's just a pleasure every day

141

00:05:38,950 --> 00:05:37,039

that's how i'd say it

142

00:05:40,310 --> 00:05:38,960

awesome yeah i mean well said not much

143

00:05:41,830 --> 00:05:40,320

else to say um

144

00:05:43,189 --> 00:05:41,840

and it's exciting too because this is

145

00:05:43,749 --> 00:05:43,199

the first time i think this is the first

146

00:05:45,749 --> 00:05:43,759

time

147

00:05:46,790 --> 00:05:45,759

we will have a long-duration crew of

148

00:05:48,150 --> 00:05:46,800

seven uh

149

00:05:50,390 --> 00:05:48,160

even with the shuttle program we never

150

00:05:53,029 --> 00:05:50,400

ran a long duration crew of seven so

151
00:05:54,230 --> 00:05:53,039
the realization of bridging the gap from

152
00:05:56,710 --> 00:05:54,240
the shuttle program

153
00:05:58,070 --> 00:05:56,720
to commercial crew mr cabana you have

154
00:06:00,550 --> 00:05:58,080
been a bridge of leadership

155
00:06:01,670 --> 00:06:00,560
across that span um so it's got to feel

156
00:06:03,430 --> 00:06:01,680
good that we're here

157
00:06:05,510 --> 00:06:03,440
first off but curious to kind of get

158
00:06:05,990 --> 00:06:05,520
your take as things just speed up for

159
00:06:08,230 --> 00:06:06,000
the kennedy

160
00:06:09,110 --> 00:06:08,240
space center uh what does that mean for

161
00:06:12,629 --> 00:06:09,120
for our

162
00:06:14,950 --> 00:06:12,639
center but also just our spaceport

163
00:06:17,350 --> 00:06:14,960

well first off josh i mean it this is an

164

00:06:19,029 --> 00:06:17,360

amazing time for america's space program

165

00:06:21,110 --> 00:06:19,039

when you look at what we have done here

166

00:06:23,029 --> 00:06:21,120

at ksc but it's across the board

167

00:06:25,189 --> 00:06:23,039

our partnership with the faa with the

168

00:06:26,790 --> 00:06:25,199

45th space wing in the air force to

169

00:06:28,950 --> 00:06:26,800

establish the environment that we have

170

00:06:31,749 --> 00:06:28,960

here to enable commercial launches more

171

00:06:34,469 --> 00:06:31,759

efficiently and effectively less costly

172

00:06:36,070 --> 00:06:34,479

it's absolutely awesome and yes it's

173

00:06:37,909 --> 00:06:36,080

going to continue you know the one thing

174

00:06:38,710 --> 00:06:37,919

that's constant in our lives is change

175

00:06:40,629 --> 00:06:38,720

all right

176
00:06:42,230 --> 00:06:40,639
and we are going to continue to change

177
00:06:43,350 --> 00:06:42,240
and evolve but we're going to continue

178
00:06:45,110 --> 00:06:43,360
to change and evolve

179
00:06:46,629 --> 00:06:45,120
to even a better condition as we

180
00:06:47,270 --> 00:06:46,639
increase the number of launches that we

181
00:06:49,909 --> 00:06:47,280
have

182
00:06:51,830 --> 00:06:49,919
what jim bradenstein has done his effort

183
00:06:53,589 --> 00:06:51,840
to commercialize low earth orbit

184
00:06:55,350 --> 00:06:53,599
establish this commercial economy in low

185
00:06:57,430 --> 00:06:55,360
earth orbit to enable nasa

186
00:06:59,110 --> 00:06:57,440
to focus on the hard job of exploring

187
00:07:00,790 --> 00:06:59,120
but we're not going exploring alone

188
00:07:01,270 --> 00:07:00,800

we're taking our commercial partners

189

00:07:03,270 --> 00:07:01,280

with us

190

00:07:04,870 --> 00:07:03,280

as we establish the gateway around the

191

00:07:06,070 --> 00:07:04,880

moon as we get to the lunar surface as

192

00:07:07,749 --> 00:07:06,080

we go on to mars

193

00:07:09,029 --> 00:07:07,759

the gateway logistics program is here at

194

00:07:10,230 --> 00:07:09,039

the kennedy space center these are

195

00:07:13,270 --> 00:07:10,240

commercial contracts

196

00:07:14,629 --> 00:07:13,280

just as we serve commercially cargo to

197

00:07:16,390 --> 00:07:14,639

the international space station

198

00:07:17,670 --> 00:07:16,400

we're going to do that from ksc with

199

00:07:19,430 --> 00:07:17,680

commercial contracts

200

00:07:21,189 --> 00:07:19,440

to service the gateway to service

201
00:07:22,710 --> 00:07:21,199
operations on the moon and mars

202
00:07:24,710 --> 00:07:22,720
this is not something that we're doing

203
00:07:26,390 --> 00:07:24,720
alone uh you know i always talk

204
00:07:27,830 --> 00:07:26,400
there's only one space above us people

205
00:07:28,870 --> 00:07:27,840
talk about commercial space government

206
00:07:30,870 --> 00:07:28,880
space baloney

207
00:07:32,870 --> 00:07:30,880
new space old space there's one space up

208
00:07:34,390 --> 00:07:32,880
there and we need to be integrated with

209
00:07:36,070 --> 00:07:34,400
our commercial partners government

210
00:07:37,350 --> 00:07:36,080
and commercial integrated together for

211
00:07:38,230 --> 00:07:37,360
all our launches if we're going to be

212
00:07:40,469 --> 00:07:38,240
successful

213
00:07:41,990 --> 00:07:40,479

and i just i have to compliment both

214

00:07:43,270 --> 00:07:42,000

jim's jim bridenstine for his

215

00:07:44,869 --> 00:07:43,280

exceptional leadership

216

00:07:47,189 --> 00:07:44,879

jim moreheart for the work that you have

217

00:07:48,950 --> 00:07:47,199

done to get us help get us the budgets

218

00:07:50,309 --> 00:07:48,960

that we need to be successful you guys

219

00:07:51,670 --> 00:07:50,319

have been absolutely awesome and it's

220

00:07:53,430 --> 00:07:51,680

been a real pleasure being part of the

221

00:07:55,830 --> 00:07:53,440

team with you

222

00:07:57,589 --> 00:07:55,840

yeah awesome so a quick couple of notes

223

00:07:57,990 --> 00:07:57,599

um remember to be asking your questions

224

00:07:59,510 --> 00:07:58,000

on youtube

225

00:08:01,189 --> 00:07:59,520

as we go i want to make sure that you

226

00:08:03,029 --> 00:08:01,199

guys know the crew one mission

227

00:08:05,670 --> 00:08:03,039

is launching uh scheduled for tomorrow

228

00:08:07,990 --> 00:08:05,680

lift off at 7 49 pm eastern time

229

00:08:08,950 --> 00:08:08,000

we have three nas astronauts and as mr

230

00:08:11,749 --> 00:08:08,960

breitner mentioned

231

00:08:13,510 --> 00:08:11,759

an international partner in suicinaguchi

232

00:08:15,110 --> 00:08:13,520

who's flying from jaxa with us

233

00:08:16,790 --> 00:08:15,120

um so a huge accomplishment there the

234

00:08:19,029 --> 00:08:16,800

nasa astronauts mike hopkins

235

00:08:20,629 --> 00:08:19,039

victor glover and shannon walker um so

236

00:08:21,749 --> 00:08:20,639

let's jump into questions here mr cabana

237

00:08:23,350 --> 00:08:21,759

we'll come to you first because you have

238

00:08:26,390 --> 00:08:23,360

personal experience with this

239

00:08:27,830 --> 00:08:26,400

uh when the astronauts are in space do

240

00:08:28,629 --> 00:08:27,840

they have an opportunity to talk to

241

00:08:29,909 --> 00:08:28,639

their family

242

00:08:32,389 --> 00:08:29,919

and you would know this because you

243

00:08:33,750 --> 00:08:32,399

spent a number of days in space on four

244

00:08:35,110 --> 00:08:33,760

shuttle missions well it's so much

245

00:08:36,709 --> 00:08:35,120

better now than when i was up there they

246

00:08:38,630 --> 00:08:36,719

had arranged everything special for us

247

00:08:39,990 --> 00:08:38,640

to have a video telecon with our

248

00:08:41,430 --> 00:08:40,000

families and it only happened on the

249

00:08:42,550 --> 00:08:41,440

long duration flights that you got a

250

00:08:44,630 --> 00:08:42,560

video telecon

251

00:08:46,470 --> 00:08:44,640

otherwise it was emailed back and forth

252

00:08:48,070 --> 00:08:46,480

now they've got a voice over ip tell if

253

00:08:49,509 --> 00:08:48,080

they can call home anytime they want and

254

00:08:50,630 --> 00:08:49,519

talk to folks i was sitting in my office

255

00:08:52,230 --> 00:08:50,640

one day i got a call from the

256

00:08:54,389 --> 00:08:52,240

international space station it's like oh

257

00:08:56,550 --> 00:08:54,399

hey how you doing no so now

258

00:08:58,389 --> 00:08:56,560

communications today are so much better

259

00:08:59,750 --> 00:08:58,399

and and that's really important to be

260

00:09:01,509 --> 00:08:59,760

able to stay connected

261

00:09:03,430 --> 00:09:01,519

you know with friends and family when

262

00:09:04,790 --> 00:09:03,440

you are on a six-month mission i look

263

00:09:05,590 --> 00:09:04,800

back to when i was deployed in the

264

00:09:08,949 --> 00:09:05,600

marine corps

265

00:09:11,350 --> 00:09:08,959

overseas you know and we used to call on

266

00:09:12,949 --> 00:09:11,360

you know ham radio calling home you know

267

00:09:16,550 --> 00:09:12,959

i love you honey over

268

00:09:18,389 --> 00:09:16,560

and uh you know today communication

269

00:09:19,670 --> 00:09:18,399

satellites nasa what we have done the

270

00:09:22,710 --> 00:09:19,680

space industry has

271

00:09:23,269 --> 00:09:22,720

changed communications uh for for

272

00:09:25,030 --> 00:09:23,279

everyone

273

00:09:25,990 --> 00:09:25,040

connecting us all and i i think it's

274

00:09:27,110 --> 00:09:26,000

really great that they're so

275

00:09:29,430 --> 00:09:27,120

interconnected

276

00:09:30,150 --> 00:09:29,440

awesome good uh so mr breitner coming to

277

00:09:32,870 --> 00:09:30,160

you um

278

00:09:34,949 --> 00:09:32,880

you were involved in the announcement of

279

00:09:36,470 --> 00:09:34,959

these commercial crew astronaut crews

280

00:09:38,070 --> 00:09:36,480

i think it's been a couple years now it

281

00:09:39,829 --> 00:09:38,080

seems like yesterday right

282

00:09:41,590 --> 00:09:39,839

so can you are you involved in the

283

00:09:43,190 --> 00:09:41,600

selection process and kind of what goes

284

00:09:44,790 --> 00:09:43,200

into that i think we're in the middle of

285

00:09:46,550 --> 00:09:44,800

another round of selection right now

286

00:09:48,150 --> 00:09:46,560

what's that process like yeah so i'll

287

00:09:48,470 --> 00:09:48,160

tell you there are professionals that

288

00:09:50,150 --> 00:09:48,480

are

289

00:09:52,389 --> 00:09:50,160

you know working in the astronaut office

290

00:09:54,389 --> 00:09:52,399

day in and day out um and i am very

291

00:09:56,389 --> 00:09:54,399

happy to leave it to them to pick who

292

00:09:58,710 --> 00:09:56,399

uh who should be on these different

293

00:10:00,310 --> 00:09:58,720

crews but i'll tell you when you look at

294

00:10:00,949 --> 00:10:00,320

the astronaut core you really can't go

295

00:10:03,670 --> 00:10:00,959

wrong

296

00:10:04,150 --> 00:10:03,680

there are every single one of them has

297

00:10:06,710 --> 00:10:04,160

like

298

00:10:08,949 --> 00:10:06,720

you know seven phds and their medical

299

00:10:10,710 --> 00:10:08,959

doctors and navy seals and

300

00:10:12,870 --> 00:10:10,720

and some of them are medical doctors and

301
00:10:14,470 --> 00:10:12,880
navy seals at the same time it's a

302
00:10:16,630 --> 00:10:14,480
it is really an amazing group of

303
00:10:17,990 --> 00:10:16,640
individuals um and so

304
00:10:19,910 --> 00:10:18,000
you really can't go wrong but i will

305
00:10:22,230 --> 00:10:19,920
tell you um yeah the

306
00:10:24,150 --> 00:10:22,240
the the selections are done uh by by the

307
00:10:25,829 --> 00:10:24,160
astronaut office down at the johnson

308
00:10:28,790 --> 00:10:25,839
space center in texas

309
00:10:29,350 --> 00:10:28,800
um i also want to say about bob look uh

310
00:10:31,910 --> 00:10:29,360
you know

311
00:10:33,829 --> 00:10:31,920
we just recently we celebrated 20 years

312
00:10:35,509 --> 00:10:33,839
of continuous human presence on the

313
00:10:36,790 --> 00:10:35,519

international space station

314

00:10:39,590 --> 00:10:36,800

a lot of people don't know but you know

315

00:10:41,590 --> 00:10:39,600

bob was there when the unity node

316

00:10:42,870 --> 00:10:41,600

was was flown to the internet literally

317

00:10:45,509 --> 00:10:42,880

there he was literally

318

00:10:45,990 --> 00:10:45,519

there he was in fact you were the first

319

00:10:48,310 --> 00:10:46,000

person

320

00:10:49,110 --> 00:10:48,320

on the unity node uh when it was when it

321

00:10:51,350 --> 00:10:49,120

was assembled

322

00:10:53,269 --> 00:10:51,360

um and here we are and you talk about

323

00:10:53,750 --> 00:10:53,279

the transformation and how we've evolved

324

00:10:56,790 --> 00:10:53,760

in our

325

00:10:59,670 --> 00:10:56,800

the way we do contracting um and and

326

00:11:00,069 --> 00:10:59,680

and what's amazing is uh uh it's still

327

00:11:01,990 --> 00:11:00,079

there

328

00:11:03,990 --> 00:11:02,000

it's still doing a it's doing more and

329

00:11:06,790 --> 00:11:04,000

better work than ever before

330

00:11:08,230 --> 00:11:06,800

um and and uh it couldn't have been it

331

00:11:11,030 --> 00:11:08,240

couldn't have been done without bob

332

00:11:12,550 --> 00:11:11,040

uh starting it way back in the day so uh

333

00:11:14,069 --> 00:11:12,560

i'll tell you bob you're uh you're an

334

00:11:15,430 --> 00:11:14,079

amazing leader

335

00:11:16,310 --> 00:11:15,440

and your commitment to this program

336

00:11:18,230 --> 00:11:16,320

throughout the years has been

337

00:11:19,190 --> 00:11:18,240

astonishing oh thanks jim i appreciate

338

00:11:21,190 --> 00:11:19,200

it

339

00:11:22,310 --> 00:11:21,200

uh mr moorhart will come to you next uh

340

00:11:24,710 --> 00:11:22,320

where will you be launched

341

00:11:26,710 --> 00:11:24,720

watching launch from and what's the one

342

00:11:28,230 --> 00:11:26,720

thing you're most excited about

343

00:11:29,750 --> 00:11:28,240

boy you know i'm going to be watching it

344

00:11:31,750 --> 00:11:29,760

with the administrator

345

00:11:32,870 --> 00:11:31,760

and we certainly are going to be

346

00:11:37,030 --> 00:11:32,880

watching closely

347

00:11:40,069 --> 00:11:37,040

uh you know i'm excited really because

348

00:11:42,870 --> 00:11:40,079

this is when those astronauts

349

00:11:44,150 --> 00:11:42,880

open that portal at the international

350

00:11:46,389 --> 00:11:44,160

space station

351
00:11:47,750 --> 00:11:46,399
we're going to be increasing the

352
00:11:51,590 --> 00:11:47,760
research we're doing

353
00:11:54,790 --> 00:11:51,600
by 300 percent there is such a demand

354
00:11:56,069 --> 00:11:54,800
for research with microgravity in low

355
00:11:58,790 --> 00:11:56,079
earth orbit

356
00:11:59,350 --> 00:11:58,800
and the hope is ultimately that we'll

357
00:12:02,069 --> 00:11:59,360
have

358
00:12:04,629 --> 00:12:02,079
commercial space stations which is going

359
00:12:07,430 --> 00:12:04,639
to drive the demand even further

360
00:12:09,350 --> 00:12:07,440
this is why we've worked so hard to have

361
00:12:11,110 --> 00:12:09,360
a commercial crew program

362
00:12:13,670 --> 00:12:11,120
we're really at the beginning we're at

363
00:12:16,069 --> 00:12:13,680

the dawn of a new space age

364

00:12:17,030 --> 00:12:16,079

of really human space flight that's what

365

00:12:20,069 --> 00:12:17,040

we're trying to do

366

00:12:22,230 --> 00:12:20,079

again to help humankind

367

00:12:24,150 --> 00:12:22,240

yeah so it's interesting to hear you say

368

00:12:25,750 --> 00:12:24,160

that as this is a beginning moment

369

00:12:27,269 --> 00:12:25,760

and then to hear comments from mr brian

370

00:12:31,030 --> 00:12:27,279

mr cabana of

371

00:12:33,509 --> 00:12:31,040

the i hope people can feel kind of

372

00:12:35,110 --> 00:12:33,519

just the excitement of celebrating

373

00:12:36,870 --> 00:12:35,120

what's been done so far

374

00:12:38,150 --> 00:12:36,880

that it's incredible how far we've come

375

00:12:39,509 --> 00:12:38,160

and yet this is still kind of a

376

00:12:40,790 --> 00:12:39,519

beginning moment for us

377

00:12:42,550 --> 00:12:40,800

that there's so much more to go so i

378

00:12:43,670 --> 00:12:42,560

hope people kind of can feel that energy

379

00:12:46,069 --> 00:12:43,680

as we move into

380

00:12:47,430 --> 00:12:46,079

a new era for us um on the note of

381

00:12:48,470 --> 00:12:47,440

research somebody asked the question

382

00:12:50,310 --> 00:12:48,480

online of

383

00:12:51,990 --> 00:12:50,320

do we know what kind of experiments this

384

00:12:53,829 --> 00:12:52,000

crew will actually be conducting

385

00:12:55,030 --> 00:12:53,839

and if we're not sure on the specifics i

386

00:12:55,590 --> 00:12:55,040

know there are some resources out there

387

00:12:58,870 --> 00:12:55,600

for

388

00:13:01,829 --> 00:12:58,880

take that one

389

00:13:02,389 --> 00:13:01,839

i i would refer that one to my space

390

00:13:05,110 --> 00:13:02,399

station

391

00:13:07,030 --> 00:13:05,120

app on my phone perfect and it's got all

392

00:13:09,910 --> 00:13:07,040

the science everything that's going on

393

00:13:10,470 --> 00:13:09,920

real time what's being done on iss and

394

00:13:12,550 --> 00:13:10,480

uh

395

00:13:14,949 --> 00:13:12,560

that that's a a truthful way to get the

396

00:13:16,550 --> 00:13:14,959

answer rather than me guessing

397

00:13:18,550 --> 00:13:16,560

yeah obviously we know there is research

398

00:13:19,509 --> 00:13:18,560

going up that's not the highlight here

399

00:13:21,190 --> 00:13:19,519

that the people are

400

00:13:22,389 --> 00:13:21,200

the people cargo that's our real

401
00:13:23,430 --> 00:13:22,399
highlight here but certainly really good

402
00:13:25,829 --> 00:13:23,440
research going on and

403
00:13:27,670 --> 00:13:25,839
we have a a slew of nasa apps that are

404
00:13:30,790 --> 00:13:27,680
out there amazing everything from

405
00:13:32,550 --> 00:13:30,800
art to science to earth to uh other

406
00:13:33,269 --> 00:13:32,560
planets mars you name it and we've got

407
00:13:34,790 --> 00:13:33,279
resources

408
00:13:36,310 --> 00:13:34,800
available for it i'll tell you one

409
00:13:39,350 --> 00:13:36,320
experiment um that

410
00:13:40,150 --> 00:13:39,360
that really gets me excited um josh and

411
00:13:43,110 --> 00:13:40,160
that is this

412
00:13:43,910 --> 00:13:43,120
um they're they're doing they're they're

413
00:13:46,310 --> 00:13:43,920

doing work

414

00:13:48,150 --> 00:13:46,320

to develop regenerative medicine on the

415

00:13:50,870 --> 00:13:48,160

international space station so

416

00:13:53,590 --> 00:13:50,880

josh we could take your own skin cells

417

00:13:56,470 --> 00:13:53,600

your own skin cells and use your own dna

418

00:13:56,949 --> 00:13:56,480

to actually create your own human tissue

419

00:13:59,189 --> 00:13:56,959

um

420

00:14:00,069 --> 00:13:59,199

and use that are you going to clone me

421

00:14:03,110 --> 00:14:00,079

am i getting a clone

422

00:14:04,150 --> 00:14:03,120

one day that might be very dangerous i

423

00:14:06,389 --> 00:14:04,160

don't know about that uh

424

00:14:08,710 --> 00:14:06,399

yeah that's not what we're doing one

425

00:14:09,829 --> 00:14:08,720

josh might be all nasa can handle

426

00:14:12,150 --> 00:14:09,839

but i know a lot of people who would

427

00:14:13,750 --> 00:14:12,160

second that comment all right but uh

428

00:14:16,150 --> 00:14:13,760

i'll tell you yeah and mr cabana is one

429

00:14:17,590 --> 00:14:16,160

of them there we go but uh but no the

430

00:14:19,350 --> 00:14:17,600

the idea though is that we there's

431

00:14:21,110 --> 00:14:19,360

life-saving capabilities that that

432

00:14:22,949 --> 00:14:21,120

microgravity can be used for

433

00:14:24,790 --> 00:14:22,959

and having more astronauts there to do

434

00:14:25,829 --> 00:14:24,800

those experiments to to develop those

435

00:14:28,150 --> 00:14:25,839

capabilities

436

00:14:29,350 --> 00:14:28,160

will be transformational for humanity i

437

00:14:30,710 --> 00:14:29,360

i think that's one of the

438

00:14:32,389 --> 00:14:30,720

really important things about this

439

00:14:33,910 --> 00:14:32,399

mission and it was said earlier

440

00:14:35,590 --> 00:14:33,920

and it's getting more crew up there to

441

00:14:37,110 --> 00:14:35,600

be able to do the science and not just

442

00:14:39,110 --> 00:14:37,120

maintain the space station

443

00:14:40,870 --> 00:14:39,120

you know being up on iss it's a

444

00:14:42,550 --> 00:14:40,880

full-time job just to clean all the

445

00:14:43,829 --> 00:14:42,560

filters and keep everything operating

446

00:14:45,350 --> 00:14:43,839

and running and then you throw in

447

00:14:47,189 --> 00:14:45,360

everybody's got two and a half hours of

448

00:14:48,790 --> 00:14:47,199

mandatory exercise every day and you're

449

00:14:50,230 --> 00:14:48,800

constantly eating into the time that's

450

00:14:52,069 --> 00:14:50,240

available to do science

451
00:14:53,910 --> 00:14:52,079
and this is such a phenomenal

452
00:14:56,069 --> 00:14:53,920
microgravity research facility

453
00:14:57,829 --> 00:14:56,079
i i mean we've it's done so many amazing

454
00:14:58,629 --> 00:14:57,839
things already but we don't know what

455
00:15:00,790 --> 00:14:58,639
else can come

456
00:15:02,069 --> 00:15:00,800
now that we are getting into a real

457
00:15:04,710 --> 00:15:02,079
ability to use it

458
00:15:05,430 --> 00:15:04,720
that's right i'd also add that we're

459
00:15:08,550 --> 00:15:05,440
looking

460
00:15:09,030 --> 00:15:08,560
back at earth of how do we help folks on

461
00:15:11,590 --> 00:15:09,040
earth

462
00:15:12,790 --> 00:15:11,600
but we're also looking at preparing to

463
00:15:16,550 --> 00:15:12,800

go to mars

464

00:15:18,629 --> 00:15:16,560

so we're looking backwards and forwards

465

00:15:21,350 --> 00:15:18,639

and there's so much on in both

466

00:15:23,430 --> 00:15:21,360

directions that can be done up there

467

00:15:24,870 --> 00:15:23,440

yeah awesome so let's talk for a minute

468

00:15:28,230 --> 00:15:24,880

a question came in about

469

00:15:30,629 --> 00:15:28,240

um training crews

470

00:15:31,269 --> 00:15:30,639

as well as kind of man rating or human

471

00:15:33,990 --> 00:15:31,279

rating

472

00:15:35,670 --> 00:15:34,000

uh capsules spacecraft so we'll kind of

473

00:15:37,430 --> 00:15:35,680

take those as two separate topics of

474

00:15:39,269 --> 00:15:37,440

how do are we training our crews the

475

00:15:40,710 --> 00:15:39,279

same way and are we

476

00:15:42,470 --> 00:15:40,720

developing our spacecraft the same way

477

00:15:43,430 --> 00:15:42,480

we always have and i don't know who

478

00:15:45,350 --> 00:15:43,440

wants to take that one or

479

00:15:47,110 --> 00:15:45,360

i'm sure there's lots to say there well

480

00:15:49,590 --> 00:15:47,120

so when you think about how we

481

00:15:50,949 --> 00:15:49,600

create an an astronaut um you know they

482

00:15:53,189 --> 00:15:50,959

they have a two-year period where

483

00:15:54,870 --> 00:15:53,199

they're astronaut candidates and then

484

00:15:56,629 --> 00:15:54,880

um that you know they go through you

485

00:15:58,150 --> 00:15:56,639

know a whole host of different types of

486

00:16:00,310 --> 00:15:58,160

training everything from

487

00:16:02,550 --> 00:16:00,320

you know how to do a spacewalk using the

488

00:16:04,150 --> 00:16:02,560

the the neutral buoyancy lab a huge

489

00:16:08,310 --> 00:16:04,160
swimming pool down in houston

490

00:16:10,550 --> 00:16:08,320
uh to to to flight simulators to um

491

00:16:12,790 --> 00:16:10,560
you know uh yeah i don't know

492

00:16:14,629 --> 00:16:12,800
spacewalking etc they do all kinds of

493

00:16:16,069 --> 00:16:14,639
they learn russian for goodness sake

494

00:16:17,910 --> 00:16:16,079
you got two years and when you're done

495

00:16:20,629 --> 00:16:17,920
you got to come out speaking russian i

496

00:16:21,430 --> 00:16:20,639
i couldn't yeah i couldn't do it but but

497

00:16:23,509 --> 00:16:21,440
others can

498

00:16:25,110 --> 00:16:23,519
and um so so they go through that

499

00:16:25,590 --> 00:16:25,120
training then after two years you are

500

00:16:27,670 --> 00:16:25,600
you are

501
00:16:28,949 --> 00:16:27,680
a qualified astronaut and then of course

502
00:16:30,710 --> 00:16:28,959
you get selected for

503
00:16:32,310 --> 00:16:30,720
a mission one of the things that's

504
00:16:33,509 --> 00:16:32,320
unique today is we have so many things

505
00:16:36,310 --> 00:16:33,519
under development

506
00:16:37,189 --> 00:16:36,320
and now obviously in operation with the

507
00:16:39,910 --> 00:16:37,199
the spacex

508
00:16:40,790 --> 00:16:39,920
crew dragon uh the boeing starliner

509
00:16:47,350 --> 00:16:40,800
capsule

510
00:16:48,389 --> 00:16:47,360
uh each each one of these is different

511
00:16:50,949 --> 00:16:48,399
uh very different

512
00:16:52,310 --> 00:16:50,959
and so once once you become an astronaut

513
00:16:54,150 --> 00:16:52,320

you have to you have to get trained for

514

00:16:55,509 --> 00:16:54,160

the specific vehicle that you're in

515

00:16:57,910 --> 00:16:55,519

and then you have to be trained for the

516

00:16:59,829 --> 00:16:57,920

specific mission that you're doing so

517

00:17:01,829 --> 00:16:59,839

every time an astronaut gets trained

518

00:17:03,430 --> 00:17:01,839

they get trained in very different ways

519

00:17:05,429 --> 00:17:03,440

and different different astronauts are

520

00:17:06,710 --> 00:17:05,439

doing different things some are pilots

521

00:17:09,029 --> 00:17:06,720

um that are going to be you know

522

00:17:11,750 --> 00:17:09,039

obviously at the controls and others are

523

00:17:13,510 --> 00:17:11,760

are mission specialists so um but i'll

524

00:17:14,789 --> 00:17:13,520

tell you today every astronaut is an

525

00:17:15,909 --> 00:17:14,799

astronaut and they're all going to be

526

00:17:17,350 --> 00:17:15,919

doing science and they're all going to

527

00:17:19,750 --> 00:17:17,360

be capable of flying

528

00:17:20,710 --> 00:17:19,760

so it's good awesome did you have

529

00:17:22,949 --> 00:17:20,720

something you wanted to add

530

00:17:24,390 --> 00:17:22,959

no i think that's good perfect um so

531

00:17:25,110 --> 00:17:24,400

yeah i want to highlight a couple things

532

00:17:27,110 --> 00:17:25,120

victor glover

533

00:17:28,150 --> 00:17:27,120

flying this is his rookie mission so he

534

00:17:29,590 --> 00:17:28,160

doesn't have this experience i'm sure

535

00:17:31,750 --> 00:17:29,600

we'd all love to kind of

536

00:17:33,750 --> 00:17:31,760

be with him to experience whatever that

537

00:17:36,150 --> 00:17:33,760

feeling is of being in space

538

00:17:37,830 --> 00:17:36,160

um it sounds amazing to me uh and then

539

00:17:38,710 --> 00:17:37,840

we have suici who's flown on two other

540

00:17:42,150 --> 00:17:38,720

spacecraft

541

00:17:44,549 --> 00:17:42,160

then shannon and mike

542

00:17:45,830 --> 00:17:44,559

um well this will be not their first

543

00:17:47,350 --> 00:17:45,840

flight but i think they've only flown on

544

00:17:49,270 --> 00:17:47,360

one crafts previously so

545

00:17:50,870 --> 00:17:49,280

a really diverse crew a really neat

546

00:17:53,590 --> 00:17:50,880

group from what i understand

547

00:17:54,710 --> 00:17:53,600

i'm excited to see them fly uh i want to

548

00:17:57,830 --> 00:17:54,720

ask

549

00:17:59,830 --> 00:17:57,840

um mr cabana so

550

00:18:01,590 --> 00:17:59,840

there's a question about traditions for

551
00:18:02,549 --> 00:18:01,600
astronauts and i know that there's

552
00:18:04,470 --> 00:18:02,559
probably things

553
00:18:06,230 --> 00:18:04,480
deeper into training and otherwise but

554
00:18:08,070 --> 00:18:06,240
thinking about the lead-up

555
00:18:10,230 --> 00:18:08,080
to launch i know there are some

556
00:18:11,750 --> 00:18:10,240
traditions that that used to be and some

557
00:18:13,430 --> 00:18:11,760
new ones that are being started

558
00:18:15,190 --> 00:18:13,440
can you tell us more about traditions

559
00:18:16,630 --> 00:18:15,200
that you went through as well as do you

560
00:18:17,990 --> 00:18:16,640
know of the new ones that are happening

561
00:18:19,830 --> 00:18:18,000
so there's one tradition i'll throw out

562
00:18:21,190 --> 00:18:19,840
there and i don't know if they're still

563
00:18:24,150 --> 00:18:21,200

doing it or not

564

00:18:25,430 --> 00:18:24,160

but uh prior to when the crew got suited

565

00:18:27,510 --> 00:18:25,440

up in the suit room

566

00:18:28,630 --> 00:18:27,520

there was a specific time you walked out

567

00:18:30,310 --> 00:18:28,640

to make the timeline

568

00:18:31,990 --> 00:18:30,320

to drive out to the pad and if you were

569

00:18:32,950 --> 00:18:32,000

suited up early you still couldn't leave

570

00:18:35,190 --> 00:18:32,960

the suit room

571

00:18:36,950 --> 00:18:35,200

so they had to do something to occupy

572

00:18:38,870 --> 00:18:36,960

the the crew and one of the

573

00:18:39,990 --> 00:18:38,880

things that they did it was played

574

00:18:42,950 --> 00:18:40,000

low-handed

575

00:18:45,110 --> 00:18:42,960

poker possum fargo and uh it was the

576

00:18:46,549 --> 00:18:45,120

director of flight crew ops and a few

577

00:18:47,110 --> 00:18:46,559

other folks chief of the astronaut

578

00:18:49,190 --> 00:18:47,120

office

579

00:18:50,870 --> 00:18:49,200

and the rule was you couldn't walk out

580

00:18:53,029 --> 00:18:50,880

until the commander won

581

00:18:55,029 --> 00:18:53,039

and so yeah that i don't know if they're

582

00:18:57,590 --> 00:18:55,039

carrying that tradition out or not

583

00:18:58,710 --> 00:18:57,600

yeah i think they are i think we i don't

584

00:19:00,230 --> 00:18:58,720

think we get to see it

585

00:19:01,909 --> 00:19:00,240

i think they keep it a private event but

586

00:19:02,870 --> 00:19:01,919

i think we'll discuss it some tomorrow

587

00:19:04,470 --> 00:19:02,880

on our broadcast

588

00:19:05,830 --> 00:19:04,480

all right um so looking forward to that

589

00:19:07,270 --> 00:19:05,840

um and maybe catch some other traditions

590

00:19:08,230 --> 00:19:07,280

along the way anybody you'll know of any

591

00:19:10,310 --> 00:19:08,240

other traditions

592

00:19:11,590 --> 00:19:10,320

i i know i'm anxious to kind of discover

593

00:19:13,029 --> 00:19:11,600

this together because they don't really

594

00:19:13,830 --> 00:19:13,039

publicize it we just kind of pick up on

595

00:19:15,990 --> 00:19:13,840

it with time

596

00:19:17,990 --> 00:19:16,000

yeah i mean we we see um you know as the

597

00:19:18,870 --> 00:19:18,000

astronauts walk out of those famous

598

00:19:21,510 --> 00:19:18,880

doors that

599

00:19:22,310 --> 00:19:21,520

um our apollo astronauts walked out of

600

00:19:24,150 --> 00:19:22,320

um

601
00:19:25,430 --> 00:19:24,160
you know the when you see them for the

602
00:19:27,590 --> 00:19:25,440
first time as they get into their

603
00:19:30,870 --> 00:19:27,600
vehicles and go out to the launch pad

604
00:19:32,470 --> 00:19:30,880
uh they they take a sticker uh maybe not

605
00:19:33,990 --> 00:19:32,480
that day but previous to that they'll

606
00:19:35,590 --> 00:19:34,000
take a sticker and they'll put it on

607
00:19:37,350 --> 00:19:35,600
you know overhead the door there i think

608
00:19:39,029 --> 00:19:37,360
that's a special moment

609
00:19:40,549 --> 00:19:39,039
um and you can see all of the previous

610
00:19:42,310 --> 00:19:40,559
missions that have come before the one

611
00:19:44,470 --> 00:19:42,320
that's currently going and it's uh

612
00:19:45,350 --> 00:19:44,480
it's a pretty unique uh unique

613
00:19:48,150 --> 00:19:45,360

experience

614

00:19:48,710 --> 00:19:48,160

cool mr cabana um i know uh speaking of

615

00:19:50,870 --> 00:19:48,720

crew

616

00:19:52,070 --> 00:19:50,880

mr cabana has to take off now he's on a

617

00:19:53,669 --> 00:19:52,080

tight timeline because

618

00:19:55,110 --> 00:19:53,679

he is actually headed to see the crew to

619

00:19:56,390 --> 00:19:55,120

wish them well um

620

00:19:57,510 --> 00:19:56,400

so we're going to thank you for joining

621

00:19:58,549 --> 00:19:57,520

us um we're going to keep going for a

622

00:19:58,950 --> 00:19:58,559

few more minutes with questions all

623

00:20:00,630 --> 00:19:58,960

right well

624

00:20:02,310 --> 00:20:00,640

thanks josh jim and jim thank you so

625

00:20:03,669 --> 00:20:02,320

much it's great having you guys at the

626

00:20:06,070 --> 00:20:03,679

kennedy space center

627

00:20:07,190 --> 00:20:06,080

and all i can say is go falcon go dragon

628

00:20:08,390 --> 00:20:07,200

go resilience

629

00:20:10,310 --> 00:20:08,400

there you go there you go give my

630

00:20:12,230 --> 00:20:10,320

regards to the crew you bet awesome

631

00:20:13,430 --> 00:20:12,240

yeah resilience there as mr commander

632

00:20:15,430 --> 00:20:13,440

just mentioned that's the actual name

633

00:20:17,110 --> 00:20:15,440

given by the crew of their capsule

634

00:20:19,029 --> 00:20:17,120

um so it'll be resilience that they're

635

00:20:20,470 --> 00:20:19,039

flying on board so excited for that

636

00:20:22,630 --> 00:20:20,480

um kind of another tradition there of

637

00:20:25,110 --> 00:20:22,640

naming naming capsules

638

00:20:26,149 --> 00:20:25,120

and fun things like that let's another

639

00:20:26,870 --> 00:20:26,159

question from online what's the

640

00:20:29,110 --> 00:20:26,880

historical

641

00:20:30,149 --> 00:20:29,120

impact that this mission has i know

642

00:20:30,870 --> 00:20:30,159

we've spoken to that a little bit

643

00:20:33,190 --> 00:20:30,880

already

644

00:20:34,070 --> 00:20:33,200

uh but just in the in the scope of

645

00:20:35,909 --> 00:20:34,080

history

646

00:20:37,510 --> 00:20:35,919

uh we've we've talked about kind of the

647

00:20:39,350 --> 00:20:37,520

past and what has led to this

648

00:20:40,549 --> 00:20:39,360

some of the future we've talked about

649

00:20:41,830 --> 00:20:40,559

the fact that this has been a year with

650

00:20:43,830 --> 00:20:41,840

a global pandemic

651
00:20:45,510 --> 00:20:43,840
um which is shocking because i think the

652
00:20:47,430 --> 00:20:45,520
history books won't read that way

653
00:20:49,029 --> 00:20:47,440
with with what we've done this year so

654
00:20:50,230 --> 00:20:49,039
what other history is there in this

655
00:20:52,470 --> 00:20:50,240
moment

656
00:20:54,950 --> 00:20:52,480
so i i would say and i'll turn it to jim

657
00:20:57,350 --> 00:20:54,960
here but i i would say the big thing is

658
00:20:58,070 --> 00:20:57,360
historically human space flight has been

659
00:21:00,230 --> 00:20:58,080
a zero-sum

660
00:21:01,590 --> 00:21:00,240
game it was something that was done by

661
00:21:02,549 --> 00:21:01,600
governments and it was something done

662
00:21:04,470 --> 00:21:02,559
for governments

663
00:21:06,230 --> 00:21:04,480

and and and now with all of the

664

00:21:07,510 --> 00:21:06,240

commercial space industry that exists

665

00:21:10,710 --> 00:21:07,520

today

666

00:21:12,789 --> 00:21:10,720

nasa is one of many customers and that's

667

00:21:13,830 --> 00:21:12,799

really what this commercial crew program

668

00:21:15,669 --> 00:21:13,840

represents

669

00:21:17,110 --> 00:21:15,679

um and when there's commercial customers

670

00:21:18,470 --> 00:21:17,120

what that means is we can do public

671

00:21:20,870 --> 00:21:18,480

private partnerships

672

00:21:21,669 --> 00:21:20,880

we can be a customer we can help develop

673

00:21:24,630 --> 00:21:21,679

the market

674

00:21:25,830 --> 00:21:24,640

and then other other companies private

675

00:21:28,390 --> 00:21:25,840

individuals

676

00:21:30,230 --> 00:21:28,400

uh even other countries can step in and

677

00:21:31,990 --> 00:21:30,240

and move the ball forward

678

00:21:33,669 --> 00:21:32,000

and and so this really is it's a

679

00:21:36,789 --> 00:21:33,679

transformational moment

680

00:21:38,630 --> 00:21:36,799

uh where it's not just a zero-sum game

681

00:21:40,230 --> 00:21:38,640

where all of the money comes from

682

00:21:41,990 --> 00:21:40,240

government and the only money that comes

683

00:21:43,590 --> 00:21:42,000

in is from government in fact

684

00:21:45,110 --> 00:21:43,600

it's it's a it's a very robust

685

00:21:46,870 --> 00:21:45,120

commercial marketplace and we want to

686

00:21:50,149 --> 00:21:46,880

see it grow

687

00:21:50,789 --> 00:21:50,159

you know josh going on with what jim's

688

00:21:54,149 --> 00:21:50,799

saying

689

00:21:57,830 --> 00:21:54,159

you think of nasa and we design

690

00:22:01,430 --> 00:21:57,840

built and operated all the spacecraft

691

00:22:05,270 --> 00:22:01,440

apollo gemini all of them

692

00:22:07,190 --> 00:22:05,280

and today we're really looking as jim

693

00:22:10,310 --> 00:22:07,200

said to be one of many customers

694

00:22:12,149 --> 00:22:10,320

but it's really so that nasa can focus

695

00:22:14,549 --> 00:22:12,159

on deep space

696

00:22:16,070 --> 00:22:14,559

we want to have the commercial we want

697

00:22:18,310 --> 00:22:16,080

these partners both commercial

698

00:22:19,430 --> 00:22:18,320

and international partners so that we

699

00:22:22,630 --> 00:22:19,440

can continue in low

700

00:22:25,430 --> 00:22:22,640

earth orbit build that economy much

701
00:22:25,990 --> 00:22:25,440
larger than it is today and in the

702
00:22:29,350 --> 00:22:26,000
trillions

703
00:22:31,270 --> 00:22:29,360
is where we're heading but you look at

704
00:22:33,029 --> 00:22:31,280
historically i can tell you in my own

705
00:22:34,070 --> 00:22:33,039
personal experience i was about six

706
00:22:36,230 --> 00:22:34,080
years old

707
00:22:37,830 --> 00:22:36,240
i found myself being pushed out of my

708
00:22:41,590 --> 00:22:37,840
parents ford

709
00:22:43,750 --> 00:22:41,600
station wagon uh with my brother jay

710
00:22:46,070 --> 00:22:43,760
and i was walking up to somebody's house

711
00:22:49,990 --> 00:22:46,080
in arlington virginia knocked down his

712
00:22:51,350 --> 00:22:50,000
door and uh john glenn answered the door

713
00:22:52,710 --> 00:22:51,360

and my parents i don't know what my

714

00:22:53,990 --> 00:22:52,720

parents were thinking that they just

715

00:22:56,390 --> 00:22:54,000

threw us up there

716

00:22:58,870 --> 00:22:56,400

and he let us in i pet his cat he gave

717

00:23:01,350 --> 00:22:58,880

us a glass of water we got his autograph

718

00:23:02,549 --> 00:23:01,360

that was my first historically that is

719

00:23:05,990 --> 00:23:02,559

the first time

720

00:23:09,029 --> 00:23:06,000

i was ever touched

721

00:23:09,909 --> 00:23:09,039

space anything to do with space and the

722

00:23:12,230 --> 00:23:09,919

way to do it that's

723

00:23:14,390 --> 00:23:12,240

that's a good start it was a good start

724

00:23:16,390 --> 00:23:14,400

and i ended up working with him

725

00:23:18,789 --> 00:23:16,400

in the senate and he was the same

726

00:23:21,270 --> 00:23:18,799

gentleman that he was as

727

00:23:21,990 --> 00:23:21,280

you know all these astronauts are but

728

00:23:23,750 --> 00:23:22,000

you know to me

729

00:23:25,350 --> 00:23:23,760

that's the history and we're going to

730

00:23:28,149 --> 00:23:25,360

continue that history

731

00:23:29,270 --> 00:23:28,159

tomorrow and into the future cool

732

00:23:31,270 --> 00:23:29,280

there's a lot of questions coming in

733

00:23:33,430 --> 00:23:31,280

about the weather i know today is a

734

00:23:35,270 --> 00:23:33,440

beautiful weather day here in florida

735

00:23:37,029 --> 00:23:35,280

um i don't know that it's a great day

736

00:23:37,830 --> 00:23:37,039

for a launch there's a lot of clouds or

737

00:23:38,789 --> 00:23:37,840

some breeze here

738

00:23:40,390 --> 00:23:38,799

you all know have you all seen the

739

00:23:41,350 --> 00:23:40,400

weather report yet um for tomorrow i

740

00:23:43,830 --> 00:23:41,360

know it's okay

741

00:23:44,630 --> 00:23:43,840

yeah i mean it looks fairly good but as

742

00:23:48,310 --> 00:23:44,640

you know it's

743

00:23:50,470 --> 00:23:48,320

it's florida and so uh so there are some

744

00:23:52,070 --> 00:23:50,480

there are some issues you know the the

745

00:23:53,830 --> 00:23:52,080

concern of course would be

746

00:23:55,909 --> 00:23:53,840

the winds that are coming from the ocean

747

00:23:58,950 --> 00:23:55,919

over the land rather than the other way

748

00:24:01,430 --> 00:23:58,960

so if there's like a if if for some

749

00:24:02,549 --> 00:24:01,440

uh reason we had to do a launch abort or

750

00:24:04,070 --> 00:24:02,559

a pad abort

751
00:24:06,070 --> 00:24:04,080
uh you know we need them to land in the

752
00:24:08,789 --> 00:24:06,080
ocean not on the land and so

753
00:24:09,909 --> 00:24:08,799
um there's there's a small chance that

754
00:24:11,110 --> 00:24:09,919
the winds could be heading the wrong

755
00:24:11,909 --> 00:24:11,120
direction tomorrow we don't we don't

756
00:24:14,470 --> 00:24:11,919
know

757
00:24:16,230 --> 00:24:14,480
um there's there's there's room there

758
00:24:17,990 --> 00:24:16,240
there's margin so we'll see what what

759
00:24:19,990 --> 00:24:18,000
direction it goes but um

760
00:24:21,909 --> 00:24:20,000
but i think where i think look it's uh

761
00:24:23,830 --> 00:24:21,919
when we launched demo two

762
00:24:25,269 --> 00:24:23,840
uh we had we we actually had to scrub a

763
00:24:26,710 --> 00:24:25,279

flight and we came back

764

00:24:28,390 --> 00:24:26,720

you know a couple days later i was like

765

00:24:29,590 --> 00:24:28,400

there's no way we're going i got up in

766

00:24:31,510 --> 00:24:29,600

the morning i was like this thing

767

00:24:32,870 --> 00:24:31,520

is we should cancel it now i think we

768

00:24:34,310 --> 00:24:32,880

all said the same thing that day yeah

769

00:24:36,149 --> 00:24:34,320

and then by the afternoon we were

770

00:24:36,950 --> 00:24:36,159

launching and it was a beautiful flight

771

00:24:42,070 --> 00:24:36,960

so

772

00:24:43,909 --> 00:24:42,080

we're gonna we're gonna go as far as we

773

00:24:44,710 --> 00:24:43,919

can go and if things stay the same we're

774

00:24:46,870 --> 00:24:44,720

gonna be good

775

00:24:48,950 --> 00:24:46,880

great and this afternoon we're going to

776
00:24:51,110 --> 00:24:48,960
be doing the launch readiness review

777
00:24:53,110 --> 00:24:51,120
yes and i'll be attending that jim's got

778
00:24:54,789 --> 00:24:53,120
some other things he's working on

779
00:24:56,310 --> 00:24:54,799
but we're going to be going through all

780
00:24:59,510 --> 00:24:56,320
those all those

781
00:25:00,070 --> 00:24:59,520
questions and we'll certainly have

782
00:25:02,630 --> 00:25:00,080
answers

783
00:25:04,310 --> 00:25:02,640
by the end of today great yes uh we do

784
00:25:05,669 --> 00:25:04,320
have a launch readiness review

785
00:25:07,830 --> 00:25:05,679
uh i think it's kicking off here in just

786
00:25:09,350 --> 00:25:07,840
a few minutes it'll go until it's done

787
00:25:10,390 --> 00:25:09,360
that's how the reviews work um and then

788
00:25:11,830 --> 00:25:10,400

there'll be a briefing later this

789

00:25:13,350 --> 00:25:11,840

evening on nasa tv

790

00:25:14,549 --> 00:25:13,360

um and so we will get things like

791

00:25:15,190 --> 00:25:14,559

weather reports and those kinds of

792

00:25:18,230 --> 00:25:15,200

details

793

00:25:21,110 --> 00:25:18,240

hopefully all things go for tomorrow um

794

00:25:22,470 --> 00:25:21,120

last question for today uh is uh

795

00:25:24,149 --> 00:25:22,480

duration of this mission

796

00:25:25,510 --> 00:25:24,159

um we've talked about this being a

797

00:25:26,230 --> 00:25:25,520

long-duration mission but what does that

798

00:25:29,110 --> 00:25:26,240

mean

799

00:25:29,909 --> 00:25:29,120

um we've seen everything from a few days

800

00:25:31,110 --> 00:25:29,919

up to a year

801
00:25:33,110 --> 00:25:31,120
with our astronauts so what's this

802
00:25:34,470 --> 00:25:33,120
mission for this crew yeah so these uh

803
00:25:36,149 --> 00:25:34,480
these astronauts are gonna be up there

804
00:25:38,230 --> 00:25:36,159
for a period of six months the vehicle

805
00:25:39,669 --> 00:25:38,240
will be there for a period of six months

806
00:25:42,390 --> 00:25:39,679
uh so we've had to make some

807
00:25:42,950 --> 00:25:42,400
modifications to the vehicle the the um

808
00:25:46,310 --> 00:25:42,960
the limit

809
00:25:49,510 --> 00:25:46,320
limiting factor was the solar panels

810
00:25:51,590 --> 00:25:49,520
we got the solar panels changed um and

811
00:25:53,350 --> 00:25:51,600
and uh and it you know we're in we're in

812
00:25:55,750 --> 00:25:53,360
good shape for uh for a six month

813
00:25:58,470 --> 00:25:55,760

mission it is a long mission

814

00:25:59,909 --> 00:25:58,480

the shuttle never i don't think ever did

815

00:26:01,830 --> 00:25:59,919

a six-month mission

816

00:26:03,750 --> 00:26:01,840

so this will be the the longest uh

817

00:26:06,870 --> 00:26:03,760

longest one for a for a vehicle

818

00:26:08,230 --> 00:26:06,880

a crewed vehicle which is um which is

819

00:26:09,110 --> 00:26:08,240

going to be remarkable so we're very

820

00:26:10,870 --> 00:26:09,120

excited about it

821

00:26:12,390 --> 00:26:10,880

cool good all right we'll open it up for

822

00:26:13,190 --> 00:26:12,400

you guys last comments or thoughts for

823

00:26:15,909 --> 00:26:13,200

our audience

824

00:26:17,350 --> 00:26:15,919

um just the excitement of it's crew one

825

00:26:20,470 --> 00:26:17,360

we're there go ahead jim

826
00:26:21,510 --> 00:26:20,480
gosh you know first i'm just honored to

827
00:26:23,990 --> 00:26:21,520
be here

828
00:26:25,669 --> 00:26:24,000
and be a part of this be part of what

829
00:26:28,630 --> 00:26:25,679
jim has put together

830
00:26:29,830 --> 00:26:28,640
and we're looking for looking for

831
00:26:33,029 --> 00:26:29,840
forward

832
00:26:33,750 --> 00:26:33,039
to a successful launch tomorrow and

833
00:26:36,390 --> 00:26:33,760
again

834
00:26:39,029 --> 00:26:36,400
as i said before this is the beginning

835
00:26:41,830 --> 00:26:39,039
really the dawn of a new space age

836
00:26:42,710 --> 00:26:41,840
that is what we're doing here yeah and

837
00:26:45,750 --> 00:26:42,720
and i want to

838
00:26:48,230 --> 00:26:45,760

say to to jim and to josh that uh

839

00:26:50,390 --> 00:26:48,240

we've had some really great successes uh

840

00:26:52,710 --> 00:26:50,400

as when we look at 2020 which has been a

841

00:26:53,669 --> 00:26:52,720

very difficult year i will tell you one

842

00:26:55,510 --> 00:26:53,679

thing that's great

843

00:26:56,789 --> 00:26:55,520

is that the nasa budget is as high as

844

00:26:58,950 --> 00:26:56,799

it's ever been

845

00:27:00,630 --> 00:26:58,960

that we've got bipartisan apolitical

846

00:27:02,710 --> 00:27:00,640

support for missions like commercial

847

00:27:04,789 --> 00:27:02,720

crew like the artemis program

848

00:27:06,990 --> 00:27:04,799

like building a human landing system for

849

00:27:09,029 --> 00:27:07,000

the moon which hasn't happened since

850

00:27:12,149 --> 00:27:09,039

1972

851
00:27:14,390 --> 00:27:12,159
so as tough as 2020 has been with covid

852
00:27:16,230 --> 00:27:14,400
some challenges with the economy here's

853
00:27:17,190 --> 00:27:16,240
the thing we're doing big things in

854
00:27:19,190 --> 00:27:17,200
space

855
00:27:21,350 --> 00:27:19,200
this is just the beginning there's so

856
00:27:22,070 --> 00:27:21,360
much more to do 2021 is going to be a

857
00:27:24,950 --> 00:27:22,080
great year

858
00:27:25,830 --> 00:27:24,960
with the artemis program uh underway and

859
00:27:28,389 --> 00:27:25,840
going to the moon

860
00:27:29,190 --> 00:27:28,399
not just with you know the next man but

861
00:27:31,029 --> 00:27:29,200
the first woman

862
00:27:33,350 --> 00:27:31,039
not not in 2021 but we're going to start

863
00:27:35,669 --> 00:27:33,360

launching rockets in 2021

864

00:27:37,269 --> 00:27:35,679

by 2024 landing the first woman and the

865

00:27:39,990 --> 00:27:37,279

next man on the moon so

866

00:27:40,549 --> 00:27:40,000

uh look nasa is in a great position and

867

00:27:43,190 --> 00:27:40,559

uh the

868

00:27:44,070 --> 00:27:43,200

the the great work of my deputy jim jim

869

00:27:45,990 --> 00:27:44,080

moorhard

870

00:27:48,230 --> 00:27:46,000

who has done so many uh so many great

871

00:27:49,510 --> 00:27:48,240

things on behalf of the agency it's been

872

00:27:51,190 --> 00:27:49,520

a real pleasure and and

873

00:27:52,630 --> 00:27:51,200

and this is just the beginning there's a

874

00:27:55,190 --> 00:27:52,640

lot more to come

875

00:27:56,070 --> 00:27:55,200

awesome i i ditto right back to jim

876

00:27:58,549 --> 00:27:56,080

breidenstein

877

00:27:59,990 --> 00:27:58,559

and by the way keep in mind we have the

878

00:28:02,470 --> 00:28:00,000

largest budget

879

00:28:04,870 --> 00:28:02,480

that nasa has ever had we call it in

880

00:28:07,430 --> 00:28:04,880

nominal dollars but it's real money

881

00:28:09,029 --> 00:28:07,440

and we need that to keep going forward

882

00:28:11,350 --> 00:28:09,039

yeah we're excited for that

883

00:28:12,870 --> 00:28:11,360

um mr breinstein mr morjard always a

884

00:28:14,870 --> 00:28:12,880

pleasure to share the stage with you

885

00:28:16,710 --> 00:28:14,880

i appreciate you both um thank you for

886

00:28:19,669 --> 00:28:16,720

joining us online i want to remind you

887

00:28:21,110 --> 00:28:19,679

uh check nasa kennedy facebook for more

888

00:28:23,750 --> 00:28:21,120

nasa social events today

889

00:28:25,510 --> 00:28:23,760

um stay tuned to more streaming on nasa

890

00:28:27,110 --> 00:28:25,520

kennedy's youtube page

891

00:28:28,630 --> 00:28:27,120

and then tune in tomorrow beginning at 3

892

00:28:30,789 --> 00:28:28,640

30 pm eastern time

893

00:28:31,750 --> 00:28:30,799

we will open coverage for that launch

894

00:28:34,230 --> 00:28:31,760

scheduled for 7

895

00:28:36,310 --> 00:28:34,240

49 pm eastern time um that coverage

896

00:28:37,510 --> 00:28:36,320

begins just prior to crew suit up that's

897

00:28:38,630 --> 00:28:37,520

why we pick that time

898

00:28:40,870 --> 00:28:38,640

we get a lot we get to see a lot of

899

00:28:42,470 --> 00:28:40,880

really neat things um all the all of the

900

00:28:43,350 --> 00:28:42,480

suit up or most of the suit up the drive

901

00:28:45,350 --> 00:28:43,360

out to the pad

902

00:28:47,430 --> 00:28:45,360

and then uh fingers crossed weather good

903

00:28:49,430 --> 00:28:47,440

technology permitting we're going to fly

904

00:28:50,470 --> 00:28:49,440

all things moving forward um offer one

905

00:28:52,789 --> 00:28:50,480

one for all

906

00:28:53,750 --> 00:28:52,799

go falcon go dragon go resilience go