
NASA

1
00:02:58,630 --> 00:00:20,570
[Music]

2
00:02:58,640 --> 00:03:08,770
do

3
00:03:08,780 --> 00:03:38,070
[Music]

4
00:03:38,080 --> 00:03:46,050
so

5
00:04:54,830 --> 00:03:53,020
[Music]

6
00:04:57,350 --> 00:04:54,840
speed on the

7
00:04:59,270 --> 00:04:57,360
ground new possibilities are opening up

8
00:05:00,560 --> 00:04:59,280
for scientific cooperation between

9
00:05:10,469 --> 00:05:00,570
countries

10
00:05:10,479 --> 00:05:23,230
discovery going up

11
00:05:38,870 --> 00:05:37,670
[Music]

12
00:05:41,029 --> 00:05:38,880
hello

13
00:05:43,350 --> 00:05:41,039

and welcome to nasa's post-splashdown

14
00:05:45,990 --> 00:05:43,360
press conference as we celebrate the

15
00:05:48,390 --> 00:05:46,000
conclusion of the historic dn2 mission

16
00:05:51,029 --> 00:05:48,400
and as we officially return human space

17
00:05:52,950 --> 00:05:51,039
light to american soil i'm bettina klon

18
00:05:55,670 --> 00:05:52,960
and coming to you from nasa's johnson

19
00:05:57,909 --> 00:05:55,680
space center nasa astronauts bob benkin

20
00:05:59,430 --> 00:05:57,919
and doug hurley spent nine weeks aboard

21
00:06:02,390 --> 00:05:59,440
the international space station

22
00:06:05,189 --> 00:06:02,400
traveling 27.1 million miles and

23
00:06:06,710 --> 00:06:05,199
orbiting earth over a thousand and

24
00:06:09,590 --> 00:06:06,720
twenty four times

25
00:06:12,469 --> 00:06:09,600
and today our crew is home

26
00:06:14,469 --> 00:06:12,479
splashing down 45 years and nine days

27
00:06:16,710 --> 00:06:14,479
after the last americans splashed down

28
00:06:19,029 --> 00:06:16,720
on earth moments ago

29
00:06:22,150 --> 00:06:19,039
our two favorite space dads splashed

30
00:06:25,189 --> 00:06:22,160
down off the coast of pensacola and in

31
00:06:27,830 --> 00:06:25,199
aboard the spacex crew dragon

32
00:06:28,950 --> 00:06:27,840
thus concluding our first launch america

33
00:06:31,270 --> 00:06:28,960
mission

34
00:06:32,790 --> 00:06:31,280
this historic landing marked the first

35
00:06:34,710 --> 00:06:32,800
return of commercially built and

36
00:06:37,110 --> 00:06:34,720
operated american spacecraft from the

37
00:06:39,350 --> 00:06:37,120
international space station to discuss

38
00:06:40,870 --> 00:06:39,360

this historic mission more talk more

39
00:06:43,510 --> 00:06:40,880
about launch america and what we have in

40
00:06:46,150 --> 00:06:43,520
store for nasa is we have our briefers

41
00:06:48,629 --> 00:06:46,160
let me introduce them first our nasa

42
00:06:50,870 --> 00:06:48,639
administrator jim bridenstine

43
00:06:52,629 --> 00:06:50,880
gwen shotwell president and ceo of

44
00:06:54,710 --> 00:06:52,639
spacex

45
00:06:56,230 --> 00:06:54,720
steve stitch commercial crew program

46
00:06:58,150 --> 00:06:56,240
manager

47
00:07:00,710 --> 00:06:58,160
joe moltelbano international space

48
00:07:03,990 --> 00:07:00,720
station program manager and the entire

49
00:07:06,150 --> 00:07:04,000
crew of spacex crew one nasa astronauts

50
00:07:09,909 --> 00:07:06,160
mike hopkins victor glover shannon

51
00:07:11,990 --> 00:07:09,919
walker and jaxa astronaut sochi naguchi

52
00:07:14,629 --> 00:07:12,000
who are quarantined together and are

53
00:07:16,230 --> 00:07:14,639
speaking to us today so we'll start with

54
00:07:18,550 --> 00:07:16,240
opening remarks and we'll take questions

55
00:07:20,550 --> 00:07:18,560
for reporters um who have dialed in as a

56
00:07:22,790 --> 00:07:20,560
reminder please press star one to ask

57
00:07:25,189 --> 00:07:22,800
your questions we'll also be to him

58
00:07:28,309 --> 00:07:25,199
taking questions from the public who

59
00:07:29,589 --> 00:07:28,319
have used the hashtag asknasa

60
00:07:30,390 --> 00:07:29,599
let's begin

61
00:07:32,710 --> 00:07:30,400
jim

62
00:07:35,990 --> 00:07:32,720
opening remarks well thank you bettina

63
00:07:37,749 --> 00:07:36,000

um this was a great day for nasa and a

64
00:07:38,870 --> 00:07:37,759
great day for the united states of

65
00:07:43,350 --> 00:07:38,880
america

66
00:07:44,790 --> 00:07:43,360
i want to thank um our spacex partners

67
00:07:48,309 --> 00:07:44,800
and of course the commercial crew

68
00:07:51,589 --> 00:07:48,319
program here at nasa what an amazing day

69
00:07:53,830 --> 00:07:51,599
today we really made history um we are

70
00:07:56,070 --> 00:07:53,840
entering a new era of human space flight

71
00:07:58,790 --> 00:07:56,080
where nasa is no longer the purchaser

72
00:08:00,950 --> 00:07:58,800
owner and operator of all the hardware

73
00:08:03,430 --> 00:08:00,960
we are going to be a customer one

74
00:08:06,070 --> 00:08:03,440
customer of many customers in a very

75
00:08:08,150 --> 00:08:06,080
robust commercial marketplace for human

76
00:08:09,749 --> 00:08:08,160
space flight to low earth orbit

77
00:08:11,510 --> 00:08:09,759
but we also want to have numerous

78
00:08:13,670 --> 00:08:11,520
providers that are competing against

79
00:08:16,710 --> 00:08:13,680
each other on cost and innovation and

80
00:08:19,189 --> 00:08:16,720
safety driving down costs and increasing

81
00:08:21,670 --> 00:08:19,199
access to space in a way that's never

82
00:08:24,070 --> 00:08:21,680
been seen before so this is really an

83
00:08:26,710 --> 00:08:24,080
amazing day but we also need to remember

84
00:08:29,189 --> 00:08:26,720
that this is just the beginning now is

85
00:08:30,790 --> 00:08:29,199
the time to capitalize on all of the

86
00:08:32,630 --> 00:08:30,800
great programs that have recently been

87
00:08:34,870 --> 00:08:32,640
established to include

88
00:08:37,509 --> 00:08:34,880

going sustainably to the moon under a

89
00:08:39,430 --> 00:08:37,519
program we call artemis which is on my

90
00:08:41,269 --> 00:08:39,440
shirt when we think about the artemis

91
00:08:43,190 --> 00:08:41,279
program we're going to the moon

92
00:08:45,430 --> 00:08:43,200
sustainably we're going to go with

93
00:08:47,350 --> 00:08:45,440
commercial partners and international

94
00:08:49,350 --> 00:08:47,360
partners we're going to use the

95
00:08:51,030 --> 00:08:49,360
resources of the moon to learn how to

96
00:08:52,949 --> 00:08:51,040
live and work on another world for long

97
00:08:54,310 --> 00:08:52,959
periods of time we're going to take all

98
00:08:57,350 --> 00:08:54,320
of that knowledge and we're going to go

99
00:08:59,750 --> 00:08:57,360
to mars this is an amazing moment

100
00:09:01,670 --> 00:08:59,760
and the commercial crew program has

101
00:09:04,389 --> 00:09:01,680
really just proven the business model

102
00:09:06,150 --> 00:09:04,399
for how we go forward and we do more

103
00:09:08,070 --> 00:09:06,160
than work than we've ever been able to

104
00:09:11,750 --> 00:09:08,080
do before so i just want to say

105
00:09:14,630 --> 00:09:11,760
congratulations to spacex and elon musk

106
00:09:16,870 --> 00:09:14,640
congratulations to gwen shotwell

107
00:09:19,269 --> 00:09:16,880
and and certainly congratulations to the

108
00:09:21,910 --> 00:09:19,279
entire nasa team which has worked so

109
00:09:24,470 --> 00:09:21,920
diligently on this for so many years

110
00:09:25,750 --> 00:09:24,480
it was really really a remarkable day it

111
00:09:27,509 --> 00:09:25,760
couldn't have gone

112
00:09:29,110 --> 00:09:27,519
any better and i look forward to getting

113
00:09:47,350 --> 00:09:29,120

into the questions

114
00:09:51,350 --> 00:09:48,949
bob and doug

115
00:09:53,910 --> 00:09:51,360
for the honor that you have given us to

116
00:09:56,389 --> 00:09:53,920
be able to be here today and have this

117
00:09:58,389 --> 00:09:56,399
great achievement i also have to do a

118
00:10:00,389 --> 00:09:58,399
call out to the spacex

119
00:10:02,630 --> 00:10:00,399
the great spacex team

120
00:10:04,870 --> 00:10:02,640
they did extraordinary work this was an

121
00:10:07,509 --> 00:10:04,880
incredibly smooth mission i'm sure we'll

122
00:10:11,350 --> 00:10:07,519
go into the little foibles that that we

123
00:10:14,069 --> 00:10:11,360
did experience over the 62 days here um

124
00:10:15,110 --> 00:10:14,079
in the q a but i do think it's important

125
00:10:17,590 --> 00:10:15,120
to point out that this was an

126
00:10:20,949 --> 00:10:17,600
extraordinary mission an extraordinary

127
00:10:23,509 --> 00:10:20,959
day for nasa for spacex

128
00:10:26,150 --> 00:10:23,519
uh frankly for americans and anyone

129
00:10:27,910 --> 00:10:26,160
interested in in space flight as you

130
00:10:30,389 --> 00:10:27,920
mentioned this is really just the

131
00:10:33,670 --> 00:10:30,399
beginning we are starting the journey

132
00:10:36,230 --> 00:10:33,680
uh of bringing people regularly to and

133
00:10:38,470 --> 00:10:36,240
from low earth orbit

134
00:10:40,550 --> 00:10:38,480
and on to the moon and then ultimately

135
00:10:41,910 --> 00:10:40,560
on to mars so today is a great day we

136
00:10:44,310 --> 00:10:41,920
should celebrate what we all

137
00:10:45,509 --> 00:10:44,320
accomplished here today bringing bob and

138
00:10:47,269 --> 00:10:45,519

doug back

139
00:10:50,870 --> 00:10:47,279
but we should also think about this as a

140
00:10:52,790 --> 00:10:50,880
springboard to doing even harder things

141
00:10:56,470 --> 00:10:52,800
with the artemis program and then of

142
00:11:01,590 --> 00:10:58,790
thank you gwen we'll go on to steve

143
00:11:03,190 --> 00:11:01,600
steve stitch thank you patina

144
00:11:04,790 --> 00:11:03,200
it really is a great day i'm almost

145
00:11:06,550 --> 00:11:04,800
speechless as to

146
00:11:08,310 --> 00:11:06,560
how well things went today with the

147
00:11:10,310 --> 00:11:08,320
deorbit and

148
00:11:12,230 --> 00:11:10,320
entry and landing and recovery of bob

149
00:11:14,230 --> 00:11:12,240
and doug you know we really came into

150
00:11:16,310 --> 00:11:14,240
today we had three real objectives of

151
00:11:18,310 --> 00:11:16,320
the flight objectives really to execute

152
00:11:20,630 --> 00:11:18,320
the deorbit and entry uh of the dragon

153
00:11:22,710 --> 00:11:20,640
capsule uh to demonstrate that we could

154
00:11:24,550 --> 00:11:22,720
successfully recover that capsule and

155
00:11:26,310 --> 00:11:24,560
then that we could also uh bring back

156
00:11:28,230 --> 00:11:26,320
cargo from space there's some valuable

157
00:11:31,110 --> 00:11:28,240
science that we brought back into

158
00:11:32,550 --> 00:11:31,120
freezers on board the the dragon vehicle

159
00:11:33,910 --> 00:11:32,560
and i think we demonstrated all three of

160
00:11:35,990 --> 00:11:33,920
those things today

161
00:11:38,790 --> 00:11:36,000
it was just an incredible day i i can't

162
00:11:40,949 --> 00:11:38,800
thank enough the men and women across

163
00:11:41,670 --> 00:11:40,959

the country from spacex

164
00:11:43,030 --> 00:11:41,680
and

165
00:11:45,110 --> 00:11:43,040
nasa

166
00:11:47,030 --> 00:11:45,120
who worked so tirelessly over five years

167
00:11:48,870 --> 00:11:47,040
to make this day happen

168
00:11:50,389 --> 00:11:48,880
to make the the whole mission go

169
00:11:52,150 --> 00:11:50,399
smoothly

170
00:11:53,670 --> 00:11:52,160
it was just a great effort

171
00:11:55,350 --> 00:11:53,680
i would like to thank the iss program

172
00:11:56,949 --> 00:11:55,360
and the partnership as well

173
00:11:58,790 --> 00:11:56,959
today we had a perfect day to land the

174
00:12:01,590 --> 00:11:58,800
wind was about two miles an hour at

175
00:12:03,910 --> 00:12:01,600
landing in a clear day with no waves and

176
00:12:05,990 --> 00:12:03,920
the work that we did with with kenny

177
00:12:07,910 --> 00:12:06,000
todd and the space station program and

178
00:12:09,509 --> 00:12:07,920
actually jackson who moved a cargo

179
00:12:11,670 --> 00:12:09,519
vehicle to allow us to have this day i'm

180
00:12:13,509 --> 00:12:11,680
i'm so thankful for that

181
00:12:15,990 --> 00:12:13,519
you know uh the whole

182
00:12:18,550 --> 00:12:16,000
part of deorbit entry went very normally

183
00:12:20,389 --> 00:12:18,560
the entry was uh as expected

184
00:12:22,550 --> 00:12:20,399
uh the parachute performance was great

185
00:12:25,509 --> 00:12:22,560
the drugs deployed as we expected the

186
00:12:26,629 --> 00:12:25,519
mains we touched down just fine we did

187
00:12:27,750 --> 00:12:26,639
have one

188
00:12:29,590 --> 00:12:27,760

slight issue as we were bringing the

189
00:12:32,550 --> 00:12:29,600
vehicle back on to the

190
00:12:35,590 --> 00:12:32,560
onto the ship we noticed a few

191
00:12:38,150 --> 00:12:35,600
a slight uh toxic vapors and for uh

192
00:12:39,430 --> 00:12:38,160
oxidizer and so they were slightly with

193
00:12:41,030 --> 00:12:39,440
they were within limits where we could

194
00:12:43,750 --> 00:12:41,040
have actually safely had got the crew

195
00:12:45,910 --> 00:12:43,760
out we took a little time to do a purge

196
00:12:47,590 --> 00:12:45,920
to purge those vapors out

197
00:12:48,870 --> 00:12:47,600
and to make sure that bob and doug were

198
00:12:50,550 --> 00:12:48,880
safe we actually took a few readings

199
00:12:52,389 --> 00:12:50,560
inside the cabin as well

200
00:12:54,389 --> 00:12:52,399
so just an incredible day

201
00:12:56,629 --> 00:12:54,399
uh when i left the console the

202
00:12:58,870 --> 00:12:56,639
helicopter had landed on on the ship and

203
00:13:00,389 --> 00:12:58,880
ready to take bob and doug back to shore

204
00:13:02,069 --> 00:13:00,399
and bob and doug were out of the capsule

205
00:13:03,829 --> 00:13:02,079
getting uh some medical checkouts so

206
00:13:05,750 --> 00:13:03,839
things were going very well

207
00:13:07,590 --> 00:13:05,760
so again incredible day

208
00:13:10,230 --> 00:13:07,600
thanks to our team and all the hard work

209
00:13:11,829 --> 00:13:10,240
to make it make this happen

210
00:13:13,990 --> 00:13:11,839
thank you steve

211
00:13:16,389 --> 00:13:14,000
joel

212
00:13:17,990 --> 00:13:16,399
thank you and welcome again to the post

213
00:13:20,470 --> 00:13:18,000

splashdown press brief what an

214
00:13:23,750 --> 00:13:20,480
outstanding day that we saw today just

215
00:13:25,670 --> 00:13:23,760
incredible for 60 plus days bob and doug

216
00:13:26,710 --> 00:13:25,680
the spacex team the commercial crew

217
00:13:29,590 --> 00:13:26,720
program

218
00:13:32,310 --> 00:13:29,600
uh spacex vehicle were on board doing

219
00:13:35,350 --> 00:13:32,320
critical science for us bob and doug

220
00:13:37,509 --> 00:13:35,360
completed over 110 hours of science

221
00:13:39,590 --> 00:13:37,519
utilization research technology

222
00:13:41,910 --> 00:13:39,600
development work that will help this

223
00:13:44,310 --> 00:13:41,920
great laboratory that we have help us in

224
00:13:46,710 --> 00:13:44,320
low earth orbit and allow us to go to

225
00:13:49,350 --> 00:13:46,720
the moon into mars and with the artemis

226
00:13:51,269 --> 00:13:49,360
program just an incredible day and this

227
00:13:52,470 --> 00:13:51,279
is just a small window to what we'll see

228
00:13:54,470 --> 00:13:52,480
in the future

229
00:13:56,550 --> 00:13:54,480
today this mission had two crew members

230
00:13:58,790 --> 00:13:56,560
we'll have four crew members and

231
00:14:00,710 --> 00:13:58,800
allowing us to do an incredible amount

232
00:14:03,110 --> 00:14:00,720
of science and research and technology

233
00:14:05,110 --> 00:14:03,120
development on board so a huge thanks to

234
00:14:07,030 --> 00:14:05,120
the spacex team congratulations to the

235
00:14:09,189 --> 00:14:07,040
spacex team the congratulations to the

236
00:14:11,509 --> 00:14:09,199
commercial crew program and just a

237
00:14:13,350 --> 00:14:11,519
congratulations to all involved in human

238
00:14:15,509 --> 00:14:13,360

space flight with that thank you very

239
00:14:18,230 --> 00:14:15,519
much and back to you bettina thank you

240
00:14:22,310 --> 00:14:18,240
joel and now let's introduce again the

241
00:14:24,550 --> 00:14:22,320
crew one team over to you guys

242
00:14:26,470 --> 00:14:24,560
thanks for tina okay on behalf of crew

243
00:14:28,949 --> 00:14:26,480
one and our families we want to say uh

244
00:14:30,949 --> 00:14:28,959
congratulations to bob and doug and

245
00:14:32,870 --> 00:14:30,959
their families you've heard it already

246
00:14:35,430 --> 00:14:32,880
but today was a big day it was a big day

247
00:14:37,509 --> 00:14:35,440
for our nation it was a big day for

248
00:14:39,509 --> 00:14:37,519
for nasa for human space flight for

249
00:14:40,629 --> 00:14:39,519
spacex and for our international

250
00:14:42,790 --> 00:14:40,639
partners

251
00:14:45,030 --> 00:14:42,800
we've had an opportunity to to witness

252
00:14:47,430 --> 00:14:45,040
all of the work and dedication that it's

253
00:14:51,030 --> 00:14:47,440
taken to pull off the dm2 mission and

254
00:14:53,350 --> 00:14:51,040
it's been truly impressive and inspiring

255
00:14:55,110 --> 00:14:53,360
as you can imagine crew one we've got

256
00:14:58,310 --> 00:14:55,120
big smiles on our face from what we saw

257
00:15:00,230 --> 00:14:58,320
from the dn2 the dm2 mission i said this

258
00:15:02,790 --> 00:15:00,240
after the launch and i'm going to say it

259
00:15:05,430 --> 00:15:02,800
again after watching splashdown it did

260
00:15:08,389 --> 00:15:05,440
not seem like this was the first nasa

261
00:15:10,310 --> 00:15:08,399
spacex mission with astronauts on board

262
00:15:11,829 --> 00:15:10,320
it seemed to go extremely smooth but we

263
00:15:13,910 --> 00:15:11,839

also realized there's a lot of work to

264
00:15:16,629 --> 00:15:13,920
go we need to look at the data

265
00:15:19,030 --> 00:15:16,639
but again overall things seem to go very

266
00:15:21,030 --> 00:15:19,040
very very well and then uh just a little

267
00:15:23,110 --> 00:15:21,040
bit on crew one our we are wrapping up

268
00:15:25,189 --> 00:15:23,120
our training uh later earlier this week

269
00:15:28,389 --> 00:15:25,199
we had a chance to see the crew one

270
00:15:30,150 --> 00:15:28,399
capsule and it's a beautiful vehicle and

271
00:15:31,670 --> 00:15:30,160
we can't wait to have an opportunity to

272
00:15:34,470 --> 00:15:31,680
take it into space

273
00:15:37,509 --> 00:15:34,480
but again today is is really about dm2

274
00:15:39,990 --> 00:15:37,519
and a successful mission bob and doug

275
00:15:41,910 --> 00:15:40,000
and your families congratulations

276
00:15:44,629 --> 00:15:41,920
thank you mike and we are all really

277
00:15:46,389 --> 00:15:44,639
excited to to celebrate when your crew

278
00:15:48,150 --> 00:15:46,399
launches up to the international space

279
00:15:50,150 --> 00:15:48,160
station with that we'll start with

280
00:15:52,790 --> 00:15:50,160
questions from the media again press

281
00:15:54,790 --> 00:15:52,800
star one to ask a question

282
00:15:57,509 --> 00:15:54,800
our first question comes from lauren

283
00:16:02,389 --> 00:15:59,590
hi thank you so much for taking my

284
00:16:04,389 --> 00:16:02,399
question um obviously a lot of us took

285
00:16:07,189 --> 00:16:04,399
note of all of the boats that were

286
00:16:09,189 --> 00:16:07,199
surrounding the crew dragon at landing

287
00:16:12,150 --> 00:16:09,199
so i'm very curious how that was allowed

288
00:16:13,910 --> 00:16:12,160

to happen and what nasa and spacex plan

289
00:16:16,389 --> 00:16:13,920
to do to prevent that in the future i'm

290
00:16:17,430 --> 00:16:16,399
assuming that can get quite dangerous if

291
00:16:20,949 --> 00:16:17,440
not

292
00:16:23,430 --> 00:16:20,959
you know treated properly thank you

293
00:16:26,069 --> 00:16:23,440
so i'll i'll talk about it for a second

294
00:16:28,310 --> 00:16:26,079
and then i'll turn it over to steve um

295
00:16:31,269 --> 00:16:28,320
yeah so that that was uh not what we

296
00:16:32,790 --> 00:16:31,279
were anticipating um of course we we

297
00:16:34,389 --> 00:16:32,800
wanted to make sure that there was a

298
00:16:36,550 --> 00:16:34,399
clearing for them to land the coast

299
00:16:38,230 --> 00:16:36,560
guard did an excellent job of of

300
00:16:39,829 --> 00:16:38,240
ensuring that and then of course after

301
00:16:42,230 --> 00:16:39,839
they landed

302
00:16:44,230 --> 00:16:42,240
the boats just came in and

303
00:16:45,269 --> 00:16:44,240
we need to do a better job next time for

304
00:16:46,870 --> 00:16:45,279
sure

305
00:16:47,990 --> 00:16:46,880
i will tell you it's a beautiful sunny

306
00:16:50,230 --> 00:16:48,000
day

307
00:16:52,150 --> 00:16:50,240
and a lot of boaters were out there and

308
00:16:55,110 --> 00:16:52,160
they were certainly intrigued i think

309
00:16:57,829 --> 00:16:55,120
all of america was was very anxious to

310
00:16:59,670 --> 00:16:57,839
to see the capsule land in the water um

311
00:17:03,430 --> 00:16:59,680
but yeah it's uh it's it's something

312
00:17:07,510 --> 00:17:05,590
and i'll just add a couple things we do

313
00:17:09,669 --> 00:17:07,520

clear that area we have like a a 10

314
00:17:11,350 --> 00:17:09,679
nautical mile area that we clear

315
00:17:12,630 --> 00:17:11,360
we have a couple of coast guard cutters

316
00:17:14,949 --> 00:17:12,640
out there that were clear in the air and

317
00:17:17,189 --> 00:17:14,959
they did an excellent job it was totally

318
00:17:18,789 --> 00:17:17,199
clear for the actual splashdown event

319
00:17:20,230 --> 00:17:18,799
and then i think as jim said it was just

320
00:17:21,909 --> 00:17:20,240
a beautiful day

321
00:17:24,230 --> 00:17:21,919
lots of people out

322
00:17:25,750 --> 00:17:24,240
maybe boating or fishing and then

323
00:17:28,150 --> 00:17:25,760
saw the capsule and kind of came in and

324
00:17:29,750 --> 00:17:28,160
we we have some work to do with spacex

325
00:17:33,510 --> 00:17:29,760
uh we'll work together to do a better

326
00:17:36,070 --> 00:17:33,520
job for the next splashdown

327
00:17:37,750 --> 00:17:36,080
great thank you so much

328
00:17:41,270 --> 00:17:37,760
our next question comes from chris

329
00:17:47,110 --> 00:17:44,789
uh congrats on on a great mission i'm

330
00:17:49,270 --> 00:17:47,120
just wondering if you had any updates on

331
00:17:51,590 --> 00:17:49,280
bob and doug it looked like they were

332
00:17:52,789 --> 00:17:51,600
feeling well but just any updates on

333
00:17:57,430 --> 00:17:52,799
their health and how they're doing

334
00:18:01,430 --> 00:17:59,190
i know

335
00:18:02,870 --> 00:18:01,440
uh when i left the control center bob

336
00:18:04,870 --> 00:18:02,880
and doug were doing well you know we

337
00:18:07,350 --> 00:18:04,880
kind of watched them in the capsule

338
00:18:09,350 --> 00:18:07,360

uh they were they were moving around and

339
00:18:10,950 --> 00:18:09,360
looking at displays we asked asked them

340
00:18:13,510 --> 00:18:10,960
to take a few readings

341
00:18:15,350 --> 00:18:13,520
to make sure the cabin was fine

342
00:18:16,950 --> 00:18:15,360
we had gotten them out and they were

343
00:18:19,110 --> 00:18:16,960
going through medical checks and all

344
00:18:20,549 --> 00:18:19,120
indications where they're doing well

345
00:18:22,150 --> 00:18:20,559
the plan from now

346
00:18:24,150 --> 00:18:22,160
the rest of the day

347
00:18:25,110 --> 00:18:24,160
some helicopters will take them off the

348
00:18:27,029 --> 00:18:25,120
ship

349
00:18:29,669 --> 00:18:27,039
to pensacola naval air station and then

350
00:18:30,789 --> 00:18:29,679
they'll return to houston tonight and

351
00:18:34,950 --> 00:18:30,799
looking forward to seeing them when they

352
00:18:38,390 --> 00:18:36,310
thank you for that question chris i know

353
00:18:39,830 --> 00:18:38,400
we're all anxious to see more about bob

354
00:18:41,510 --> 00:18:39,840
and doug and make sure that

355
00:18:45,590 --> 00:18:41,520
they continue to be okay

356
00:18:47,350 --> 00:18:45,600
our next question comes from keith cowie

357
00:18:48,950 --> 00:18:47,360
uh before i ask my question just to

358
00:18:50,470 --> 00:18:48,960
glenn i gotta tell you i can remember

359
00:18:53,029 --> 00:18:50,480
sitting in a hotel lobby with you and

360
00:18:54,870 --> 00:18:53,039
elon nearly 20 years ago looking at the

361
00:18:57,110 --> 00:18:54,880
first drawing so i gotta say this has

362
00:18:58,470 --> 00:18:57,120
just got to be too cool for you guys and

363
00:19:00,710 --> 00:18:58,480

i think everybody had a bit of a cheer

364
00:19:03,190 --> 00:19:00,720
in their eye um i want to do a follow-up

365
00:19:05,350 --> 00:19:03,200
on lauren's question about the boats um

366
00:19:07,590 --> 00:19:05,360
you know i i took all the safety classes

367
00:19:09,830 --> 00:19:07,600
at nasa and nitrogen tech is not

368
00:19:11,590 --> 00:19:09,840
something you monkey with i just i'm

369
00:19:13,110 --> 00:19:11,600
wondering why it is you dropped the

370
00:19:15,029 --> 00:19:13,120
space capsule

371
00:19:16,630 --> 00:19:15,039
into a location where power boats are

372
00:19:18,230 --> 00:19:16,640
likely going to be it was a guy in the

373
00:19:20,950 --> 00:19:18,240
sail board another guy with a big trump

374
00:19:23,830 --> 00:19:20,960
flag mere feet away and nobody seemed to

375
00:19:25,669 --> 00:19:23,840
be trying to shoo them off

376
00:19:28,710 --> 00:19:25,679
you going to sort of maybe try to not be

377
00:19:29,990 --> 00:19:28,720
that close to shore next time

378
00:19:31,350 --> 00:19:30,000
i think we're going to look at a number

379
00:19:33,510 --> 00:19:31,360
of different options but you're

380
00:19:35,430 --> 00:19:33,520
absolutely right we can do better uh

381
00:19:37,190 --> 00:19:35,440
certainly

382
00:19:40,230 --> 00:19:37,200
we had all the clearance that was

383
00:19:42,390 --> 00:19:40,240
required at landing um and then as soon

384
00:19:44,150 --> 00:19:42,400
as as soon as that i mean that

385
00:19:46,630 --> 00:19:44,160
that capsule was in the water for a good

386
00:19:48,950 --> 00:19:46,640
period of time and you know the boats

387
00:19:51,590 --> 00:19:48,960
just made a beeline for it so

388
00:19:53,590 --> 00:19:51,600

um it's it's a big area to have to clear

389
00:19:55,669 --> 00:19:53,600
and to to clear all of it is probably

390
00:19:58,870 --> 00:19:55,679
going to require more resources

391
00:19:59,909 --> 00:19:58,880
um but it's uh yeah there are things

392
00:20:04,870 --> 00:19:59,919
that we're going to look at that we can

393
00:20:09,350 --> 00:20:07,029
everybody understands that the crews

394
00:20:11,270 --> 00:20:09,360
that we had deployed there their focus

395
00:20:14,549 --> 00:20:11,280
was to make sure bob and doug got on the

396
00:20:16,789 --> 00:20:14,559
boat uh and exited the capsule safely uh

397
00:20:18,870 --> 00:20:16,799
it was not really their job to police

398
00:20:20,950 --> 00:20:18,880
the area we had the coast guard out

399
00:20:22,710 --> 00:20:20,960
there for that the lesson learned here

400
00:20:23,830 --> 00:20:22,720
is we probably need more coast guard

401
00:20:27,110 --> 00:20:23,840
assets

402
00:20:29,110 --> 00:20:27,120
as well

403
00:20:30,870 --> 00:20:29,120
what's important is that bob and doug

404
00:20:33,270 --> 00:20:30,880
got safely on the boat

405
00:20:36,390 --> 00:20:33,280
we were able to keep the area clear for

406
00:20:37,830 --> 00:20:36,400
landing and then ask people to move back

407
00:20:40,470 --> 00:20:37,840
as they came a little bit too close to

408
00:20:42,390 --> 00:20:40,480
the dragon capsule which they did

409
00:20:44,230 --> 00:20:42,400
so anyhow this was a demonstration

410
00:20:46,070 --> 00:20:44,240
mission this is the time that you go

411
00:20:47,669 --> 00:20:46,080
learn about these things

412
00:20:50,470 --> 00:20:47,679
and we'll certainly be better prepared

413
00:20:53,270 --> 00:20:51,590

thank you

414
00:20:57,270 --> 00:20:53,280
our next question will come from irene

415
00:21:00,549 --> 00:20:59,270
thanks katina and congratulations

416
00:21:07,190 --> 00:21:00,559
everyone it was

417
00:21:13,350 --> 00:21:10,310
the iss crews of course spacex plans to

418
00:21:14,789 --> 00:21:13,360
fly paying passengers

419
00:21:17,590 --> 00:21:14,799
after going through this demo one

420
00:21:19,909 --> 00:21:17,600
mission do you still think that you're

421
00:21:21,750 --> 00:21:19,919
going to be ready to mature enough

422
00:21:23,430 --> 00:21:21,760
the system for a

423
00:21:28,789 --> 00:21:23,440
paying passenger

424
00:21:28,799 --> 00:21:32,870
you

425
00:21:37,669 --> 00:21:35,590
yeah this uh this mission was incredibly

426
00:21:39,190 --> 00:21:37,679
smooth uh not to say that there weren't

427
00:21:41,590 --> 00:21:39,200
things that we want to work on and do

428
00:21:43,510 --> 00:21:41,600
better next time but uh the capsule

429
00:21:46,149 --> 00:21:43,520
worked beautifully

430
00:21:49,029 --> 00:21:46,159
the the the operations worked extremely

431
00:21:50,710 --> 00:21:49,039
well so we certainly feel comfortable

432
00:21:52,710 --> 00:21:50,720
that we're on the right path to carry

433
00:21:54,470 --> 00:21:52,720
commercial passengers

434
00:21:56,390 --> 00:21:54,480
not too long from now

435
00:21:58,870 --> 00:21:56,400
obviously our focus is ensuring that we

436
00:22:01,909 --> 00:21:58,880
get crew one lifted off

437
00:22:02,870 --> 00:22:01,919
in time to do a handoff with crew 2

438
00:22:04,549 --> 00:22:02,880

but

439
00:22:05,909 --> 00:22:04,559
yeah i think

440
00:22:07,909 --> 00:22:05,919
i think based on the results that we've

441
00:22:09,750 --> 00:22:07,919
seen so far there's more data obviously

442
00:22:15,430 --> 00:22:09,760
to go look at but based on the results

443
00:22:18,870 --> 00:22:16,710
okay

444
00:22:19,909 --> 00:22:18,880
we're going to ask get a quick question

445
00:22:22,630 --> 00:22:19,919
from

446
00:22:24,630 --> 00:22:22,640
twitter we have bulgari ask how long

447
00:22:27,270 --> 00:22:24,640
will it take astronauts to normalize

448
00:22:31,830 --> 00:22:27,280
after you leave the capsule how much

449
00:22:36,390 --> 00:22:34,149
and if steve you want to take that

450
00:22:37,350 --> 00:22:36,400
sure bettina i can certainly take that

451
00:22:39,270 --> 00:22:37,360
um

452
00:22:41,669 --> 00:22:39,280
you know it really it really depends uh

453
00:22:43,750 --> 00:22:41,679
bob and doug were in space for uh

454
00:22:45,669 --> 00:22:43,760
for a couple of months and so they'll

455
00:22:47,750 --> 00:22:45,679
come back here and they'll start doing

456
00:22:49,350 --> 00:22:47,760
some special training so you know

457
00:22:51,110 --> 00:22:49,360
sometimes within a matter of a few days

458
00:22:53,590 --> 00:22:51,120
or weeks they're they're kind of back

459
00:22:54,870 --> 00:22:53,600
back to normal so it varies a little bit

460
00:22:56,950 --> 00:22:54,880
from crew to crew but we'll get them

461
00:22:59,110 --> 00:22:56,960
back here and they'll start doing uh

462
00:23:00,950 --> 00:22:59,120
some special exercises and special

463
00:23:01,909 --> 00:23:00,960

things to get them re-adapted to earth's

464
00:23:03,110 --> 00:23:01,919
gravity

465
00:23:05,510 --> 00:23:03,120
so far they look like they're doing

466
00:23:06,549 --> 00:23:05,520
really well um and

467
00:23:07,590 --> 00:23:06,559
so

468
00:23:09,909 --> 00:23:07,600
we're looking forward to getting them

469
00:23:11,350 --> 00:23:09,919
back here in houston

470
00:23:13,270 --> 00:23:11,360
okay

471
00:23:16,470 --> 00:23:13,280
we'll take our next questions from joey

472
00:23:21,909 --> 00:23:19,110
doing this um question for gwen um based

473
00:23:23,750 --> 00:23:21,919
on the results so far how many missions

474
00:23:26,070 --> 00:23:23,760
do you foresee before you guys start

475
00:23:29,510 --> 00:23:26,080
flying private cruise and also since

476
00:23:31,590 --> 00:23:29,520
we're uh planning to reuse crew 2 our

477
00:23:33,190 --> 00:23:31,600
reuse is capsule for crew 2.

478
00:23:35,190 --> 00:23:33,200
i was just wondering if you could break

479
00:23:38,070 --> 00:23:35,200
down the refurbishment process for this

480
00:23:40,549 --> 00:23:38,080
and and how i guess nasa came to

481
00:23:42,710 --> 00:23:40,559
agree to reusing these capsules after

482
00:23:44,710 --> 00:23:42,720
they they splashed down it and for jim

483
00:23:47,510 --> 00:23:44,720
and steve stitch i'd love to hear uh

484
00:23:49,990 --> 00:23:47,520
your take on that as well um what kind

485
00:23:55,269 --> 00:23:50,000
of happened to to make this crew capsule

486
00:24:00,149 --> 00:23:57,990
hey joey so appreciate the question um

487
00:24:02,070 --> 00:24:00,159
obviously we're trying to really change

488
00:24:03,510 --> 00:24:02,080

the paradigm of human space flight and

489
00:24:06,070 --> 00:24:03,520
in order to do that you need to make

490
00:24:08,470 --> 00:24:06,080
sure that these capsules are rapidly

491
00:24:11,350 --> 00:24:08,480
and readily reusable we've been working

492
00:24:14,630 --> 00:24:11,360
on this with our launch customers and

493
00:24:16,310 --> 00:24:14,640
with nasa for probably half a decade or

494
00:24:19,430 --> 00:24:16,320
so

495
00:24:22,310 --> 00:24:19,440
the dragon 2 vehicle itself was designed

496
00:24:24,390 --> 00:24:22,320
with far greater certainty on

497
00:24:26,630 --> 00:24:24,400
ensuring it can be reused

498
00:24:28,470 --> 00:24:26,640
the capsule is designed for 5 to 10

499
00:24:30,870 --> 00:24:28,480
missions

500
00:24:32,549 --> 00:24:30,880
we have to see how things worked out

501
00:24:34,950 --> 00:24:32,559
after we examine the capsule when it

502
00:24:36,870 --> 00:24:34,960
gets back to port and back to the cape

503
00:24:37,669 --> 00:24:36,880
to our facilities there

504
00:24:40,149 --> 00:24:37,679
but

505
00:24:41,750 --> 00:24:40,159
based on the telemetry uh and any visual

506
00:24:43,110 --> 00:24:41,760
indications that we've had so far the

507
00:24:44,390 --> 00:24:43,120
vehicle looks like it's in really good

508
00:24:47,990 --> 00:24:44,400
shape

509
00:24:49,909 --> 00:24:48,000
i'll let uh steve and uh and jim talk a

510
00:24:52,549 --> 00:24:49,919
little bit about the journey on uh

511
00:24:55,750 --> 00:24:52,559
getting reusability but it was it was a

512
00:25:01,029 --> 00:24:55,760
part of our original bid for uh the

513
00:25:03,669 --> 00:25:02,390

as gwen said it was part of their

514
00:25:06,230 --> 00:25:03,679
original bid

515
00:25:08,390 --> 00:25:06,240
uh and you know the vehicle was designed

516
00:25:10,070 --> 00:25:08,400
as gwen said for five to ten flights we

517
00:25:11,830 --> 00:25:10,080
took a look at that data and we're

518
00:25:13,510 --> 00:25:11,840
continuing to look through that

519
00:25:15,350 --> 00:25:13,520
and for us it looked like it was a

520
00:25:16,310 --> 00:25:15,360
reasonable thing to go do

521
00:25:17,669 --> 00:25:16,320
um

522
00:25:19,350 --> 00:25:17,679
i think part of the question was how

523
00:25:20,549 --> 00:25:19,360
long does it take to refurbish the

524
00:25:22,710 --> 00:25:20,559
vehicle

525
00:25:25,750 --> 00:25:22,720
it takes about four months or so so we

526
00:25:27,510 --> 00:25:25,760
have a lot of margin getting into the

527
00:25:28,950 --> 00:25:27,520
the flight in the springtime flame for

528
00:25:30,950 --> 00:25:28,960
crew 2.

529
00:25:33,190 --> 00:25:30,960
the vehicle will start actually getting

530
00:25:34,390 --> 00:25:33,200
as soon as it gets back to area 59 at

531
00:25:35,430 --> 00:25:34,400
the cape it will start going through its

532
00:25:37,350 --> 00:25:35,440
maintenance

533
00:25:39,510 --> 00:25:37,360
and will mass is a part of that

534
00:25:42,070 --> 00:25:39,520
maintenance we have a presence over in

535
00:25:43,990 --> 00:25:42,080
area 59 and we'll follow along with

536
00:25:45,510 --> 00:25:44,000
every step of that maintenance

537
00:25:47,430 --> 00:25:45,520
and also look re look at all the

538
00:25:50,230 --> 00:25:47,440

certification just to make sure that

539
00:25:51,990 --> 00:25:50,240
there's nothing untoward and we'll do

540
00:25:53,590 --> 00:25:52,000
that as we get

541
00:25:55,669 --> 00:25:53,600
the build up to this crew one launch

542
00:25:57,350 --> 00:25:55,679
here in the fall we really want to make

543
00:25:58,470 --> 00:25:57,360
sure we have overlap between crew one

544
00:26:01,269 --> 00:25:58,480
and crew two

545
00:26:02,470 --> 00:26:01,279
to uh ensure that we have access to iss

546
00:26:06,470 --> 00:26:02,480
and we're doing that with joel and the

547
00:26:11,350 --> 00:26:08,870
yeah i think i think that sums it up um

548
00:26:13,830 --> 00:26:11,360
you know our desire as an agency has

549
00:26:15,750 --> 00:26:13,840
been for sustainability and that means

550
00:26:18,390 --> 00:26:15,760
reusability um

551
00:26:20,230 --> 00:26:18,400
not in every case but in most cases and

552
00:26:21,750 --> 00:26:20,240
spacex has proven that they're capable

553
00:26:24,390 --> 00:26:21,760
of doing that so

554
00:26:26,710 --> 00:26:24,400
we're looking forward to uh to doing

555
00:26:27,750 --> 00:26:26,720
crew 2 with the capsule that just came

556
00:26:29,350 --> 00:26:27,760
home

557
00:26:31,830 --> 00:26:29,360
as steve said there's a lot of work to

558
00:26:33,510 --> 00:26:31,840
be done between now and then

559
00:26:35,269 --> 00:26:33,520
and a lot of evaluation that needs to be

560
00:26:37,269 --> 00:26:35,279
done but

561
00:26:38,950 --> 00:26:37,279
as gwen said based on the telemetry and

562
00:26:43,269 --> 00:26:38,960
what we see it looks like we're going to

563
00:26:48,630 --> 00:26:44,070

great

564
00:26:53,029 --> 00:26:50,870
thought well please i'm wondering if you

565
00:26:55,350 --> 00:26:53,039
know once the deorbit burn

566
00:26:57,269 --> 00:26:55,360
had uh had occurred

567
00:26:58,950 --> 00:26:57,279
was there was it pretty tense inside

568
00:27:01,990 --> 00:26:58,960
flight control there at spacex and you

569
00:27:04,549 --> 00:27:02,000
were sitting right next to elon musk and

570
00:27:07,110 --> 00:27:04,559
uh what was it like for him and for you

571
00:27:09,750 --> 00:27:07,120
during those final minutes of the flight

572
00:27:11,190 --> 00:27:09,760
and especially right after a successful

573
00:27:15,350 --> 00:27:11,200
splashdown could you describe those

574
00:27:18,710 --> 00:27:17,029
so there's no question it was an

575
00:27:21,830 --> 00:27:18,720
enormous relief

576
00:27:23,430 --> 00:27:21,840
after months of anxiety making sure we

577
00:27:25,830 --> 00:27:23,440
could bring bob and doug back home

578
00:27:27,430 --> 00:27:25,840
safely but splashdown was really just

579
00:27:29,590 --> 00:27:27,440
the beginning we wanted to make sure

580
00:27:32,389 --> 00:27:29,600
that bob and doug exited the vehicle

581
00:27:33,590 --> 00:27:32,399
safely and looked good

582
00:27:35,110 --> 00:27:33,600
so

583
00:27:36,470 --> 00:27:35,120
a lot of people were cheering after

584
00:27:38,630 --> 00:27:36,480
splashdown i got a lot of

585
00:27:40,070 --> 00:27:38,640
congratulations on my

586
00:27:42,310 --> 00:27:40,080
on my uh

587
00:27:44,389 --> 00:27:42,320
on my cell phone and emails but uh we

588
00:27:47,029 --> 00:27:44,399

weren't done until uh we got bob and

589
00:27:49,029 --> 00:27:47,039
doug out of the capsule uh we being kind

590
00:27:51,110 --> 00:27:49,039
of elon and i he hopped on a flight he's

591
00:27:53,110 --> 00:27:51,120
going to go to houston and uh and meet

592
00:27:55,029 --> 00:27:53,120
up with the astronauts and i still have

593
00:27:57,190 --> 00:27:55,039
a crew here in mission control making

594
00:27:59,669 --> 00:27:57,200
sure that bob and doug got safely on the

595
00:28:00,630 --> 00:27:59,679
helicopter and will get safely back to

596
00:28:03,029 --> 00:28:00,640
shore

597
00:28:05,830 --> 00:28:03,039
so not everybody's job is done yet but

598
00:28:07,990 --> 00:28:05,840
uh it was an initial relief for sure it

599
00:28:10,549 --> 00:28:08,000
was a greater relief when i saw bob and

600
00:28:11,669 --> 00:28:10,559
doug come out of the capsule smiling

601
00:28:14,070 --> 00:28:11,679
thumbs up

602
00:28:17,190 --> 00:28:14,080
looking very cheerful that was that was

603
00:28:18,950 --> 00:28:17,200
the good moment

604
00:28:23,029 --> 00:28:18,960
thank you so much our next question

605
00:28:26,310 --> 00:28:25,110
yeah hi thanks for doing this a question

606
00:28:29,350 --> 00:28:26,320
for glenn

607
00:28:32,470 --> 00:28:29,360
it's been 12 years actually to this day

608
00:28:34,070 --> 00:28:32,480
when falcon 1 failed on its third flight

609
00:28:35,510 --> 00:28:34,080
that's 12 years

610
00:28:37,029 --> 00:28:35,520
you know since then you've launched

611
00:28:39,190 --> 00:28:37,039
three different rockets a couple of

612
00:28:41,190 --> 00:28:39,200
spacecraft and now put two people into

613
00:28:43,110 --> 00:28:41,200

space and brought them back

614
00:28:44,710 --> 00:28:43,120
you know 12 years is not that long of a

615
00:28:46,630 --> 00:28:44,720
period of time

616
00:28:49,029 --> 00:28:46,640
can you process

617
00:28:50,789 --> 00:28:49,039
some of sort of the transformation of

618
00:28:54,230 --> 00:28:50,799
spacex's has happened during this

619
00:28:59,330 --> 00:28:55,909
you know eric 12 years seems like a

620
00:29:01,590 --> 00:28:59,340
really long time to me

621
00:29:04,470 --> 00:29:01,600
[Music]

622
00:29:05,669 --> 00:29:04,480
candidly it is hard to process um i

623
00:29:07,750 --> 00:29:05,679
didn't know that today was the

624
00:29:09,909 --> 00:29:07,760
anniversary of the third falcon one

625
00:29:12,549 --> 00:29:09,919
flight but you would know that so thank

626
00:29:13,990 --> 00:29:12,559
you for reminding me of that

627
00:29:15,029 --> 00:29:14,000
you know i never shy away from our

628
00:29:17,190 --> 00:29:15,039
failures

629
00:29:18,149 --> 00:29:17,200
they're incredible opportunities to

630
00:29:24,230 --> 00:29:18,159
learn

631
00:29:26,389 --> 00:29:24,240
but i have to say that we would not be

632
00:29:28,549 --> 00:29:26,399
the company that we are today we would

633
00:29:31,190 --> 00:29:28,559
have not achieved this goal

634
00:29:31,909 --> 00:29:31,200
without the support

635
00:29:33,830 --> 00:29:31,919
that

636
00:29:36,310 --> 00:29:33,840
basically the kind of the

637
00:29:38,070 --> 00:29:36,320
moral support the financial support as

638
00:29:39,269 --> 00:29:38,080

well as the technical support that nasa

639
00:29:40,789 --> 00:29:39,279
has given us

640
00:29:43,110 --> 00:29:40,799
over the years

641
00:29:46,149 --> 00:29:43,120
i think in august of 2006 is when we

642
00:29:47,990 --> 00:29:46,159
started working very closely with nasa

643
00:29:49,750 --> 00:29:48,000
so

644
00:29:52,710 --> 00:29:49,760
though it seems like a long time we we

645
00:29:54,310 --> 00:29:52,720
have done a lot in that time frame and

646
00:29:56,549 --> 00:29:54,320
you know what's so great is we've done

647
00:29:58,950 --> 00:29:56,559
so much of this uh in partnership kind

648
00:30:00,870 --> 00:29:58,960
of hand in hand with nasa so

649
00:30:03,590 --> 00:30:00,880
you know it's a great day to celebrate

650
00:30:05,990 --> 00:30:03,600
uh not only bob and doug's return

651
00:30:07,669 --> 00:30:06,000
and they're being the heroes that they

652
00:30:09,190 --> 00:30:07,679
are but also to celebrate the relate

653
00:30:12,870 --> 00:30:09,200
this extraordinary relationship that we

654
00:30:16,549 --> 00:30:14,950
and it's been a great relationship we're

655
00:30:18,470 --> 00:30:16,559
going to ask some questions from social

656
00:30:21,590 --> 00:30:18,480
media we have a question from arturo

657
00:30:24,070 --> 00:30:21,600
valdez asks for the crew one team how

658
00:30:26,070 --> 00:30:24,080
will data collected ultra training for

659
00:30:32,789 --> 00:30:26,080
you so close to launch date and how does

660
00:30:36,470 --> 00:30:34,389
that's a great question and thank you

661
00:30:38,470 --> 00:30:36,480
again for the opportunity to speak to

662
00:30:40,549 --> 00:30:38,480
you all uh the data collected is going

663
00:30:42,149 --> 00:30:40,559

to to help us to move forward to to our

664
00:30:43,669 --> 00:30:42,159
launch date but again we've got to

665
00:30:45,590 --> 00:30:43,679
refurbish this vehicle and get it ready

666
00:30:48,389 --> 00:30:45,600
for crew 2 so that we can have some time

667
00:30:49,990 --> 00:30:48,399
to hand over uh and so we are ready

668
00:30:51,350 --> 00:30:50,000
we're ready to go to the space station

669
00:30:53,430 --> 00:30:51,360
we're very close to ready to fly the

670
00:30:54,630 --> 00:30:53,440
dragon into low earth orbit and uh but

671
00:30:56,470 --> 00:30:54,640
it's also important that we take some

672
00:30:58,149 --> 00:30:56,480
time to enjoy the accomplishment

673
00:31:01,190 --> 00:30:58,159
celebrating with bob and doug's families

674
00:31:02,789 --> 00:31:01,200
and the nasa and spacex team and just to

675
00:31:04,470 --> 00:31:02,799
be in the moment and appreciate all of

676
00:31:06,310 --> 00:31:04,480
the amazing things that have happened

677
00:31:09,350 --> 00:31:06,320
here it's just a great time to be at

678
00:31:14,070 --> 00:31:11,350
and joel anything else about how the

679
00:31:17,430 --> 00:31:14,080
information we learned from dm2 impacts

680
00:31:19,269 --> 00:31:17,440
future missions at the iss

681
00:31:21,509 --> 00:31:19,279
so good question you know we took the

682
00:31:23,509 --> 00:31:21,519
opportunity to do some habitability

683
00:31:26,070 --> 00:31:23,519
studies while the vehicle was attached

684
00:31:27,909 --> 00:31:26,080
to iss so this vehicle as everyone knows

685
00:31:29,830 --> 00:31:27,919
only came up with two crew members we'll

686
00:31:32,549 --> 00:31:29,840
have four crew members up there for the

687
00:31:34,630 --> 00:31:32,559
next vehicle and so we did some testing

688
00:31:36,470 --> 00:31:34,640

on that and learned a few things we

689
00:31:38,870 --> 00:31:36,480
learned testing on where to stow items

690
00:31:40,870 --> 00:31:38,880
and and how to live in that vehicle so

691
00:31:42,310 --> 00:31:40,880
just a number of items we took

692
00:31:43,990 --> 00:31:42,320
a lot of

693
00:31:46,230 --> 00:31:44,000
we took advantage of having the vehicle

694
00:31:48,470 --> 00:31:46,240
there for 60 days and that'll help us

695
00:31:50,870 --> 00:31:48,480
make a better vehicle in the sense of

696
00:31:53,990 --> 00:31:50,880
better operations for crew one and in

697
00:31:56,070 --> 00:31:54,000
crew 2 and subsequent vehicles

698
00:31:57,750 --> 00:31:56,080
thank you joel we'll go back to our

699
00:32:03,350 --> 00:31:57,760
reporters in the queue

700
00:32:07,269 --> 00:32:04,710
hi thank you for taking my question

701
00:32:08,950 --> 00:32:07,279
stephen clark from space flight now a

702
00:32:11,269 --> 00:32:08,960
question for gwen

703
00:32:12,870 --> 00:32:11,279
since you're going to be reusing

704
00:32:15,750 --> 00:32:12,880
more and more of these crew dragon

705
00:32:17,750 --> 00:32:15,760
vehicles i'm curious do you plan on

706
00:32:19,110 --> 00:32:17,760
building a fleet of vehicles going

707
00:32:20,789 --> 00:32:19,120
forward how many do you think you'll

708
00:32:25,029 --> 00:32:20,799
need to have in your rotation for the

709
00:32:26,789 --> 00:32:25,039
demand both from nasa and from private

710
00:32:29,509 --> 00:32:26,799
astronauts private passengers going

711
00:32:30,789 --> 00:32:29,519
forward and a question for suicide on

712
00:32:32,149 --> 00:32:30,799
the crew one flight i think you're going

713
00:32:33,669 --> 00:32:32,159

to be the first

714
00:32:35,830 --> 00:32:33,679
astronaut since

715
00:32:37,190 --> 00:32:35,840
john young if i recall correctly to fly

716
00:32:38,789 --> 00:32:37,200
on three different

717
00:32:41,430 --> 00:32:38,799
launch vehicles with your experience on

718
00:32:42,870 --> 00:32:41,440
soyuz and the space shuttle

719
00:32:44,310 --> 00:32:42,880
curious if you could compare your

720
00:32:46,389 --> 00:32:44,320
experiences on those two vehicles

721
00:32:48,789 --> 00:32:46,399
writing them into orbit and

722
00:33:00,789 --> 00:32:48,799
how you think falcon 9 may compare going

723
00:33:05,029 --> 00:33:02,789
okay i go first now thanks for the great

724
00:33:07,669 --> 00:33:05,039
questions uh yes i am very honored to

725
00:33:09,909 --> 00:33:07,679
fly this mission and uh along with my

726
00:33:11,590 --> 00:33:09,919
experience with the space shuttle and

727
00:33:14,630 --> 00:33:11,600
the russian soyuz but the important

728
00:33:16,710 --> 00:33:14,640
thing is that i'm rookie to the spacex

729
00:33:18,630 --> 00:33:16,720
and i'm learning a lot from from my

730
00:33:20,630 --> 00:33:18,640
commander and my pilot they've been in

731
00:33:22,950 --> 00:33:20,640
this training club for a long long time

732
00:33:25,909 --> 00:33:22,960
i just started like last february so

733
00:33:29,029 --> 00:33:25,919
this is like going back to square one uh

734
00:33:31,830 --> 00:33:29,039
everything is for my safety our team

735
00:33:34,470 --> 00:33:31,840
safety so uh every day is like a rookie

736
00:33:36,710 --> 00:33:34,480
and the important thing is that we have

737
00:33:39,750 --> 00:33:36,720
a great uh

738
00:33:41,669 --> 00:33:39,760

variety or diversity in this crew and my

739
00:33:43,830 --> 00:33:41,679
my small contribution to this great team

740
00:33:45,909 --> 00:33:43,840
is experience so uh but we have a

741
00:33:48,630 --> 00:33:45,919
different uh views different backgrounds

742
00:33:50,230 --> 00:33:48,640
so name it so the diversity bring up the

743
00:33:56,950 --> 00:33:50,240
resilience to this crew so should be a

744
00:34:01,909 --> 00:33:57,909
i think

745
00:34:06,470 --> 00:34:03,909
right thanks bettina

746
00:34:09,669 --> 00:34:06,480
steven we are building out a fleet of

747
00:34:10,710 --> 00:34:09,679
dragon twos both cargo version and crew

748
00:34:12,710 --> 00:34:10,720
version

749
00:34:13,829 --> 00:34:12,720
we want to wait and see how many we have

750
00:34:16,069 --> 00:34:13,839
to build

751
00:34:17,750 --> 00:34:16,079
before we you know before we say we're

752
00:34:19,909 --> 00:34:17,760
done building out the fleet

753
00:34:21,909 --> 00:34:19,919
we want to see how this vehicle looks

754
00:34:23,669 --> 00:34:21,919
after we get the opportunity to inspect

755
00:34:29,270 --> 00:34:23,679
it and such but

756
00:34:31,909 --> 00:34:30,310
thank you

757
00:34:36,069 --> 00:34:31,919
we're going to go back to the lines and

758
00:34:40,310 --> 00:34:37,750
goddard for the times of london and

759
00:34:42,869 --> 00:34:40,320
congratulations everyone my question is

760
00:34:44,710 --> 00:34:42,879
for the crew one folks mike shannon

761
00:34:46,149 --> 00:34:44,720
victor soichi i wondered if you could

762
00:34:48,629 --> 00:34:46,159
describe

763
00:34:50,790 --> 00:34:48,639

how you watched that splashdown what you

764
00:34:52,710 --> 00:34:50,800
went through emotionally um

765
00:34:55,270 --> 00:34:52,720
as you watched it and what it means to

766
00:35:00,710 --> 00:34:55,280
you knowing that your flight depended on

767
00:35:04,950 --> 00:35:02,790
well thank you for the question um we

768
00:35:07,270 --> 00:35:04,960
were together in the control center here

769
00:35:10,150 --> 00:35:07,280
in houston watching the splashdown and

770
00:35:11,750 --> 00:35:10,160
it was so exciting and i would say uh i

771
00:35:14,150 --> 00:35:11,760
think it's fair to say it was a very

772
00:35:15,430 --> 00:35:14,160
emotional event for all of us um to be

773
00:35:17,990 --> 00:35:15,440
able to watch

774
00:35:20,230 --> 00:35:18,000
our colleagues our friends come home

775
00:35:22,950 --> 00:35:20,240
safely is always an emotional event and

776
00:35:24,950 --> 00:35:22,960
then just to see how smoothly everything

777
00:35:27,510 --> 00:35:24,960
went during their splashdown and their

778
00:35:29,750 --> 00:35:27,520
re-entry so we're very excited that it

779
00:35:30,710 --> 00:35:29,760
went as smoothly as it did because now

780
00:35:32,230 --> 00:35:30,720
that

781
00:35:34,310 --> 00:35:32,240
really points to

782
00:35:40,870 --> 00:35:34,320
the success of how our mission will be

783
00:35:46,150 --> 00:35:42,710
thank you shannon we're going to go to

784
00:35:47,829 --> 00:35:46,160
dave mosher business insider

785
00:35:49,750 --> 00:35:47,839
thank you for taking my question uh gwen

786
00:35:51,670 --> 00:35:49,760
this one's for you so this is uh

787
00:35:53,990 --> 00:35:51,680
spacex's first slide of people obviously

788
00:35:55,829 --> 00:35:54,000

and you have tons of data to go through

789
00:35:58,069 --> 00:35:55,839
but i'm i'm really curious what was the

790
00:36:00,470 --> 00:35:58,079
most surprising thing your team has

791
00:36:02,630 --> 00:36:00,480
learned from the mission so far

792
00:36:05,349 --> 00:36:02,640
and relatedly is there any one thing you

793
00:36:10,310 --> 00:36:05,359
check for or change for crew one for you

794
00:36:14,310 --> 00:36:12,069
you know i don't i have such an

795
00:36:17,589 --> 00:36:14,320
extraordinary team here at spacex i

796
00:36:19,190 --> 00:36:17,599
don't want to um

797
00:36:21,109 --> 00:36:19,200
i don't want to undermine any of that

798
00:36:23,190 --> 00:36:21,119
but i i think probably the greatest

799
00:36:25,430 --> 00:36:23,200
surprise is that this mission was as

800
00:36:28,310 --> 00:36:25,440
smooth as it is and like i don't want to

801
00:36:30,710 --> 00:36:28,320
take anything away from uh from the team

802
00:36:32,069 --> 00:36:30,720
uh but this was a demonstration mission

803
00:36:34,550 --> 00:36:32,079
um this wasn't the first flight of

804
00:36:37,510 --> 00:36:34,560
dragon 2 but uh

805
00:36:39,829 --> 00:36:37,520
this vehicle had a lot uh had a lot of

806
00:36:44,150 --> 00:36:39,839
capability on it that was not flown uh

807
00:36:46,230 --> 00:36:44,160
during the the demo demo one um so i

808
00:36:48,230 --> 00:36:46,240
think we're surprised

809
00:36:50,069 --> 00:36:48,240
minorly surprised but obviously

810
00:36:52,310 --> 00:36:50,079
incredibly pleased that uh that this

811
00:36:53,750 --> 00:36:52,320
went as smoothly as it did

812
00:36:56,150 --> 00:36:53,760
and there's no question that we learned

813
00:36:59,349 --> 00:36:56,160

some things along the way uh that we

814
00:37:02,390 --> 00:36:59,359
will want to roll into uh the crew one

815
00:37:05,349 --> 00:37:02,400
flight some we knew about preflight um

816
00:37:07,510 --> 00:37:05,359
and i think we had a lot of press on um

817
00:37:09,910 --> 00:37:07,520
solar arrays we're looking to

818
00:37:11,750 --> 00:37:09,920
have upgrades there to make sure that it

819
00:37:13,990 --> 00:37:11,760
the vehicle survives with margin on

820
00:37:15,430 --> 00:37:14,000
orbit for the six-month requirement by

821
00:37:18,390 --> 00:37:15,440
the way the solar rays on this

822
00:37:20,310 --> 00:37:18,400
particular mission did uh as uh better

823
00:37:22,230 --> 00:37:20,320
than we anticipated and we certainly

824
00:37:24,710 --> 00:37:22,240
would have been able to complete the

825
00:37:26,470 --> 00:37:24,720
mission uh the original uh planned

826
00:37:29,109 --> 00:37:26,480
mission duration we had a couple months

827
00:37:31,430 --> 00:37:29,119
a couple months of margin to spare there

828
00:37:33,270 --> 00:37:31,440
um so so pre-flight we learned some

829
00:37:34,150 --> 00:37:33,280
things we'll make sure we include those

830
00:37:45,750 --> 00:37:34,160
in

831
00:37:47,190 --> 00:37:45,760
primary and a backup on the rescue boat

832
00:37:48,710 --> 00:37:47,200
or on the recovery boat i think we'll

833
00:37:51,670 --> 00:37:48,720
probably have three generators which is

834
00:37:54,150 --> 00:37:51,680
one primary and two backups that's just

835
00:37:59,510 --> 00:37:54,160
one example uh kind of a small thing

836
00:38:04,150 --> 00:38:02,150
next we have andrea liffener and forgive

837
00:38:06,870 --> 00:38:04,160
me i've killed that from the houston

838
00:38:10,870 --> 00:38:09,510

hi thanks for having us um and it was

839
00:38:13,270 --> 00:38:10,880
really great watching them can't wait to

840
00:38:15,670 --> 00:38:13,280
have them back in houston so i'd like to

841
00:38:17,030 --> 00:38:15,680
know how landing compared to the apollo

842
00:38:18,470 --> 00:38:17,040
capsules you know was there new

843
00:38:19,910 --> 00:38:18,480
technology to kind of make it smoother

844
00:38:23,750 --> 00:38:19,920
on the astronauts or was it pretty

845
00:38:27,109 --> 00:38:24,630
i can

846
00:38:28,870 --> 00:38:27,119
take a crack at this one so uh wasn't

847
00:38:30,870 --> 00:38:28,880
around during apollo but

848
00:38:33,750 --> 00:38:30,880
i would say the landing compared to the

849
00:38:35,910 --> 00:38:33,760
apollo spacecraft was was very similar

850
00:38:37,190 --> 00:38:35,920
uh it just turns out the parachute

851
00:38:39,190 --> 00:38:37,200
technology

852
00:38:40,390 --> 00:38:39,200
and landing a vehicle in the water

853
00:38:43,109 --> 00:38:40,400
requires

854
00:38:44,950 --> 00:38:43,119
very similar kinds of shoots for the the

855
00:38:47,430 --> 00:38:44,960
drugs which deploy up high to stabilize

856
00:38:49,589 --> 00:38:47,440
the vehicle and then uh the main

857
00:38:51,270 --> 00:38:49,599
parachutes are are very similar

858
00:38:53,190 --> 00:38:51,280
the one difference you know spacex has

859
00:38:55,030 --> 00:38:53,200
chosen to use four main parachutes

860
00:38:57,510 --> 00:38:55,040
versus apollo head three

861
00:39:00,310 --> 00:38:57,520
uh but all in all i would say that the

862
00:39:02,390 --> 00:39:00,320
the technology is very similar the

863
00:39:04,630 --> 00:39:02,400

vehicle itself compared to apollo you

864
00:39:06,630 --> 00:39:04,640
compare this dragon what an incredible

865
00:39:10,790 --> 00:39:06,640
spacecraft uh

866
00:39:12,550 --> 00:39:10,800
crew

867
00:39:13,670 --> 00:39:12,560
from the time from the deorbit burn all

868
00:39:16,150 --> 00:39:13,680
the way

869
00:39:17,670 --> 00:39:16,160
to uh to splash down and landing

870
00:39:19,109 --> 00:39:17,680
it doesn't really have to take very many

871
00:39:21,910 --> 00:39:19,119
actions on their own the vehicle does

872
00:39:25,030 --> 00:39:21,920
out all by itself it's very autonomous

873
00:39:29,589 --> 00:39:25,040
uh and uh so all in all you know it's a

874
00:39:34,550 --> 00:39:31,750
we're going to go next to jeff faust

875
00:39:38,710 --> 00:39:36,550
good afternoon and uh congratulations to

876
00:39:40,230 --> 00:39:38,720
everybody a question probably for steve

877
00:39:41,430 --> 00:39:40,240
stitch

878
00:39:42,630 --> 00:39:41,440
you talked about this a little bit

879
00:39:44,550 --> 00:39:42,640
earlier but maybe a little bit more

880
00:39:47,510 --> 00:39:44,560
details and what's involved with going

881
00:39:49,910 --> 00:39:47,520
over the demo 2 spacecraft now that it's

882
00:39:51,910 --> 00:39:49,920
back and the process that will lead up

883
00:39:54,470 --> 00:39:51,920
to certification so you can launch the

884
00:39:56,630 --> 00:39:54,480
crew one mission thanks

885
00:39:58,310 --> 00:39:56,640
absolutely happy to talk about that you

886
00:40:00,790 --> 00:39:58,320
know we'll do a few things to get ready

887
00:40:03,910 --> 00:40:00,800
for certification uh in a few different

888
00:40:06,630 --> 00:40:03,920

areas one we'll review all the telemetry

889
00:40:09,589 --> 00:40:06,640
all the data from the dragon uh we've

890
00:40:11,750 --> 00:40:09,599
done that for the whole flight to date

891
00:40:13,510 --> 00:40:11,760
we'll do it now for undocking all the

892
00:40:15,589 --> 00:40:13,520
way through splashdown and recovery so

893
00:40:17,750 --> 00:40:15,599
we'll have engineers we're gonna we do

894
00:40:19,670 --> 00:40:17,760
it jointly with spacex we have our nasa

895
00:40:21,109 --> 00:40:19,680
team and spacex team work together and

896
00:40:24,309 --> 00:40:21,119
go through all the data for each of the

897
00:40:25,670 --> 00:40:24,319
various systems life support propulsion

898
00:40:27,270 --> 00:40:25,680
and so forth so we'll go through all

899
00:40:29,349 --> 00:40:27,280
that data to make sure there's nothing

900
00:40:31,030 --> 00:40:29,359
that's anomalous there

901
00:40:33,109 --> 00:40:31,040
secondly we'll look at the parachutes uh

902
00:40:34,870 --> 00:40:33,119
parachutes is a very important system on

903
00:40:36,069 --> 00:40:34,880
the vehicle

904
00:40:37,430 --> 00:40:36,079
spacex was doing a great job of

905
00:40:39,430 --> 00:40:37,440
recovering those shoots today so we'll

906
00:40:40,630 --> 00:40:39,440
take those back and analyze those and

907
00:40:42,230 --> 00:40:40,640
look at it and just to see that they're

908
00:40:44,390 --> 00:40:42,240
performing well

909
00:40:45,829 --> 00:40:44,400
and then thirdly uh spacex is going to

910
00:40:48,069 --> 00:40:45,839
take the vehicle apart one of the

911
00:40:50,950 --> 00:40:48,079
benefits of reuse i would say

912
00:40:53,109 --> 00:40:50,960
is the fact that we'll take some of the

913
00:40:54,550 --> 00:40:53,119

vehicle apart some of the the nose cone

914
00:40:56,470 --> 00:40:54,560
will come off the heat shield comes off

915
00:40:58,069 --> 00:40:56,480
we'll start to inspect part of the

916
00:40:59,349 --> 00:40:58,079
spacecraft and sometimes we can learn

917
00:41:00,470 --> 00:40:59,359
things from that and so we'll do that

918
00:41:01,670 --> 00:41:00,480
inspection

919
00:41:03,270 --> 00:41:01,680
and then we'll put all that data

920
00:41:05,430 --> 00:41:03,280
together and head into the certification

921
00:41:10,790 --> 00:41:05,440
review uh probably toward the end of

922
00:41:18,069 --> 00:41:12,550
we're going to go to michael sheets from

923
00:41:21,190 --> 00:41:19,270
hi all

924
00:41:23,589 --> 00:41:21,200
great to talk to you and congratulations

925
00:41:25,750 --> 00:41:23,599
to everyone especially bob and doug

926
00:41:27,750 --> 00:41:25,760
i wanted to note that both of the

927
00:41:30,230 --> 00:41:27,760
astronauts were helped out of the cast

928
00:41:32,630 --> 00:41:30,240
capsule and i want i was wondering if

929
00:41:35,270 --> 00:41:32,640
that's the protocol nasa and spacex have

930
00:41:37,510 --> 00:41:35,280
in place or will future astronauts

931
00:41:43,430 --> 00:41:37,520
be comfortable enough to be able to step

932
00:41:47,270 --> 00:41:45,750
take that question

933
00:41:49,430 --> 00:41:47,280
it's pretty typical for the long

934
00:41:50,790 --> 00:41:49,440
duration space flight uh when a crew

935
00:41:51,910 --> 00:41:50,800
returns to earth

936
00:41:54,150 --> 00:41:51,920
uh that they need a little bit of

937
00:41:55,829 --> 00:41:54,160
assistance coming out of the capsule

938
00:41:57,589 --> 00:41:55,839

if you just think about the human body

939
00:42:00,550 --> 00:41:57,599
when it's been in space bob and doug

940
00:42:01,990 --> 00:42:00,560
were in space for for about 63 days

941
00:42:03,430 --> 00:42:02,000
so when it comes back into earth's

942
00:42:06,790 --> 00:42:03,440
gravity the body

943
00:42:09,589 --> 00:42:06,800
does a wonderful job adapting to zero g

944
00:42:11,349 --> 00:42:09,599
um and it you can live and work very

945
00:42:13,670 --> 00:42:11,359
well in space but then when you come

946
00:42:15,670 --> 00:42:13,680
back in the atmosphere they pulled about

947
00:42:17,190 --> 00:42:15,680
four times the force of gravity today

948
00:42:19,109 --> 00:42:17,200
coming back and then

949
00:42:21,270 --> 00:42:19,119
the gravity is tugging on them a little

950
00:42:23,510 --> 00:42:21,280
bit when they come back and so it takes

951
00:42:25,750 --> 00:42:23,520
the body a little while to adapt and it

952
00:42:28,710 --> 00:42:25,760
takes the inner ear a little bit of time

953
00:42:30,309 --> 00:42:28,720
to to adapt to the gravity again and so

954
00:42:32,710 --> 00:42:30,319
that's kind of what you see with bob and

955
00:42:34,630 --> 00:42:32,720
doug today and it's very typical and so

956
00:42:35,829 --> 00:42:34,640
i would expect that for

957
00:42:37,910 --> 00:42:35,839
many of our missions that are going to

958
00:42:42,069 --> 00:42:37,920
be in these long-duration missions

959
00:42:47,750 --> 00:42:43,990
thank you we're going to go to marsha

960
00:42:50,390 --> 00:42:47,760
smith from space policy online

961
00:42:52,390 --> 00:42:50,400
this is my question which is to joel

962
00:42:54,630 --> 00:42:52,400
i'm curious about what this is going to

963
00:42:57,349 --> 00:42:54,640

mean operationally for the space station

964
00:42:59,030 --> 00:42:57,359
to have four people permanently aboard

965
00:43:00,870 --> 00:42:59,040
the u.s segment

966
00:43:01,910 --> 00:43:00,880
are you going to need more resupply

967
00:43:03,430 --> 00:43:01,920
flights

968
00:43:05,109 --> 00:43:03,440
you've talked about how there'll be more

969
00:43:07,430 --> 00:43:05,119
signs done so you'll need more signs

970
00:43:08,790 --> 00:43:07,440
going up and coming back

971
00:43:10,390 --> 00:43:08,800
just what does it mean to have four

972
00:43:13,430 --> 00:43:10,400
people up there instead of three on a

973
00:43:16,069 --> 00:43:13,440
permanent basis so we're planning to

974
00:43:17,750 --> 00:43:16,079
have you know four to five uh cargo

975
00:43:20,069 --> 00:43:17,760
missions resupply missions to the

976
00:43:21,990 --> 00:43:20,079
international space station the beauty

977
00:43:24,230 --> 00:43:22,000
of having the fourth crew is that

978
00:43:25,750 --> 00:43:24,240
person's time is going to be 100 percent

979
00:43:27,990 --> 00:43:25,760
dedicated to

980
00:43:30,710 --> 00:43:28,000
utilization research and technology

981
00:43:33,910 --> 00:43:30,720
development and so today we average

982
00:43:35,829 --> 00:43:33,920
about 35 hours a week in that area and

983
00:43:37,910 --> 00:43:35,839
we're going to increase that to 70 hours

984
00:43:40,390 --> 00:43:37,920
a week once we get four crew members up

985
00:43:42,630 --> 00:43:40,400
so that fourth person won't be dedicated

986
00:43:44,790 --> 00:43:42,640
to that but the time that he brings to

987
00:43:46,710 --> 00:43:44,800
the team that time will be dedicated to

988
00:43:48,069 --> 00:43:46,720

that so we're looking forward to it

989
00:43:50,470 --> 00:43:48,079
that's something we've been planning for

990
00:43:53,030 --> 00:43:50,480
a while we've had some opportunities to

991
00:43:55,349 --> 00:43:53,040
do for usos crews as you're well aware

992
00:43:58,630 --> 00:43:55,359
in the past and we've had taken that

993
00:44:00,630 --> 00:43:58,640
time to learn and plan forward so these

994
00:44:02,790 --> 00:44:00,640
the upcoming spacex missions and the

995
00:44:06,069 --> 00:44:02,800
upcoming boeing missions we're excited

996
00:44:07,349 --> 00:44:06,079
and we're ready to rock and roll

997
00:44:09,510 --> 00:44:07,359
rock and roll

998
00:44:13,670 --> 00:44:09,520
um our next question comes from mike

999
00:44:18,069 --> 00:44:15,670
thank you all for doing this um

1000
00:44:20,470 --> 00:44:18,079
yeah this is another one for the um crew

1001
00:44:22,069 --> 00:44:20,480
one astronauts i'm just curious but like

1002
00:44:23,510 --> 00:44:22,079
what kind of conversation do you guys

1003
00:44:25,910 --> 00:44:23,520
want to have with

1004
00:44:26,950 --> 00:44:25,920
with yeah both both like bob and doug

1005
00:44:28,950 --> 00:44:26,960
maybe what it's like what do you want to

1006
00:44:29,990 --> 00:44:28,960
ask them about how yeah how endeavor

1007
00:44:32,069 --> 00:44:30,000
handled

1008
00:44:36,309 --> 00:44:32,079
um or how it flew what do you most want

1009
00:44:39,990 --> 00:44:38,230
that's a great question uh we did have

1010
00:44:41,910 --> 00:44:40,000
an opportunity after they got on orbit

1011
00:44:43,670 --> 00:44:41,920
and docked to the station to talk to

1012
00:44:45,670 --> 00:44:43,680
them about the launch and that was uh

1013
00:44:46,950 --> 00:44:45,680

actually very timely because

1014
00:44:48,550 --> 00:44:46,960
we were able to do it when it was all

1015
00:44:50,150 --> 00:44:48,560
still fresh in their mind and they

1016
00:44:51,829 --> 00:44:50,160
talked about the various stages of the

1017
00:44:54,230 --> 00:44:51,839
launch and and what it felt like and

1018
00:44:55,589 --> 00:44:54,240
even actually um some of the points on

1019
00:44:57,430 --> 00:44:55,599
the pad when they were sitting there and

1020
00:44:59,589 --> 00:44:57,440
they were fueling the rocket and and

1021
00:45:02,550 --> 00:44:59,599
some of the feelings they had there

1022
00:45:03,670 --> 00:45:02,560
um and so certainly uh that was good and

1023
00:45:05,510 --> 00:45:03,680
it was great to be able to talk to them

1024
00:45:07,430 --> 00:45:05,520
that quickly and hopefully we'll have an

1025
00:45:08,950 --> 00:45:07,440
opportunity to do that again here uh in

1026
00:45:11,589 --> 00:45:08,960
their post landing

1027
00:45:13,349 --> 00:45:11,599
again trying to talk to them while

1028
00:45:14,950 --> 00:45:13,359
uh while it's still fresh in their minds

1029
00:45:18,069 --> 00:45:14,960
and of course we'd like to hear all

1030
00:45:19,750 --> 00:45:18,079
about uh what entry was like

1031
00:45:22,150 --> 00:45:19,760
you know the feelings how much the g's

1032
00:45:24,470 --> 00:45:22,160
came on uh when the shoots open that's

1033
00:45:26,630 --> 00:45:24,480
usually a very dynamic uh time during

1034
00:45:27,829 --> 00:45:26,640
the flights and and so just curious what

1035
00:45:29,349 --> 00:45:27,839
that experience was like and then of

1036
00:45:30,550 --> 00:45:29,359
course as you can imagine

1037
00:45:32,470 --> 00:45:30,560
we're all very curious about what it's

1038
00:45:34,470 --> 00:45:32,480

like to splash down on the water

1039
00:45:36,710 --> 00:45:34,480
and and then what it's like afterwards

1040
00:45:39,670 --> 00:45:36,720
uh we're we're hoping we've already put

1041
00:45:41,349 --> 00:45:39,680
in our request for a day like today when

1042
00:45:43,270 --> 00:45:41,359
it's our turn to land because uh the

1043
00:45:44,950 --> 00:45:43,280
water looked very smooth and

1044
00:45:47,510 --> 00:45:44,960
and it was beautiful so we're hoping

1045
00:45:50,550 --> 00:45:47,520
that we'll get the same thing

1046
00:45:52,309 --> 00:45:50,560
yeah that water did look like glass

1047
00:45:55,910 --> 00:45:52,319
next we'll go to emery kelly from

1048
00:45:59,190 --> 00:45:57,349
hey folks thanks for

1049
00:46:01,750 --> 00:45:59,200
thanks for doing this and

1050
00:46:05,430 --> 00:46:01,760
congratulations i just wanted to

1051
00:46:08,630 --> 00:46:05,440
possibly get gwen's thoughts um

1052
00:46:09,990 --> 00:46:08,640
and maybe more just a a reaction if you

1053
00:46:12,950 --> 00:46:10,000
will that

1054
00:46:15,589 --> 00:46:12,960
this spacecraft that arrived today

1055
00:46:17,030 --> 00:46:15,599
uh you know bob trusted it

1056
00:46:19,190 --> 00:46:17,040
for his mission

1057
00:46:21,990 --> 00:46:19,200
and bob will again trust it for his

1058
00:46:23,270 --> 00:46:22,000
wife's mission which is you know pretty

1059
00:46:27,670 --> 00:46:23,280
impressive i'm wondering if you could

1060
00:46:32,390 --> 00:46:29,990
yeah so um

1061
00:46:34,550 --> 00:46:32,400
i'd like to point out that uh you know

1062
00:46:36,710 --> 00:46:34,560
megan is uh first and foremost an

1063
00:46:39,829 --> 00:46:36,720

astronaut uh when it comes to our

1064
00:46:42,950 --> 00:46:39,839
perspective uh i'm sure her and bob and

1065
00:46:44,470 --> 00:46:42,960
excuse me her and bob have a a different

1066
00:46:45,430 --> 00:46:44,480
perspective

1067
00:46:47,430 --> 00:46:45,440
but

1068
00:46:49,030 --> 00:46:47,440
she was selected to be

1069
00:46:50,550 --> 00:46:49,040
one of the esteemed members of the crew

1070
00:46:53,510 --> 00:46:50,560
2 mission

1071
00:46:56,950 --> 00:46:53,520
we will make sure that that vehicle

1072
00:47:00,309 --> 00:46:56,960
is as good or better than the vehicle

1073
00:47:02,790 --> 00:47:00,319
that that bob flew in today uh well two

1074
00:47:05,190 --> 00:47:02,800
months ago and today

1075
00:47:09,589 --> 00:47:06,630
yeah

1076
00:47:10,470 --> 00:47:09,599
this is space flight is really hard

1077
00:47:13,670 --> 00:47:10,480
and

1078
00:47:16,550 --> 00:47:13,680
though the mission was incredibly smooth

1079
00:47:18,950 --> 00:47:16,560
today especially was very smooth

1080
00:47:20,710 --> 00:47:18,960
this is still really hard and i just

1081
00:47:21,750 --> 00:47:20,720
want to make sure everybody understands

1082
00:47:30,710 --> 00:47:21,760
that

1083
00:47:32,950 --> 00:47:30,720
but first and foremost our job is to

1084
00:47:36,870 --> 00:47:32,960
make sure that the astronauts remain

1085
00:47:39,030 --> 00:47:36,880
safe both both uphill and downhill so

1086
00:47:42,870 --> 00:47:39,040
what we did for bob i think we can do an

1087
00:47:45,349 --> 00:47:42,880
even better job for megan and i hope she

1088
00:47:48,470 --> 00:47:45,359

is really excited to fly in this

1089
00:47:50,630 --> 00:47:48,480
particular capsule i was really excited

1090
00:47:55,750 --> 00:47:50,640
to have her named uh

1091
00:48:01,589 --> 00:47:58,069
our next question comes from samantha

1092
00:48:02,390 --> 00:48:01,599
masunaga from l.a times

1093
00:48:04,470 --> 00:48:02,400
hi

1094
00:48:07,910 --> 00:48:04,480
thanks for taking my question

1095
00:48:10,069 --> 00:48:07,920
i wanted to see if um maybe this was for

1096
00:48:12,150 --> 00:48:10,079
um gwen or steve uh to talk a little bit

1097
00:48:14,630 --> 00:48:12,160
more about the nto fumes um that were

1098
00:48:16,790 --> 00:48:14,640
detected outside the capsule i most of

1099
00:48:18,870 --> 00:48:16,800
you are saying they're in limits um but

1100
00:48:20,470 --> 00:48:18,880
anything that you guys are looking at or

1101
00:48:23,270 --> 00:48:20,480
you know anything that might need to be

1102
00:48:25,910 --> 00:48:23,280
changed before the next flight

1103
00:48:27,990 --> 00:48:25,920
yeah i can start and then gwen can add

1104
00:48:29,910 --> 00:48:28,000
you know we uh it's a it's a pretty

1105
00:48:31,270 --> 00:48:29,920
common practice with any spacecraft we

1106
00:48:33,270 --> 00:48:31,280
did it with a space shuttle after

1107
00:48:35,430 --> 00:48:33,280
landing we would go around and and kind

1108
00:48:38,150 --> 00:48:35,440
of sniff thrusters to see if there was

1109
00:48:41,030 --> 00:48:38,160
any vapors from those thrusters

1110
00:48:43,750 --> 00:48:41,040
we did that today with dragon and we did

1111
00:48:47,510 --> 00:48:43,760
have a slight slight hit on the sensor

1112
00:48:49,990 --> 00:48:47,520
for the oxidizer nitrogen tetroxide

1113
00:48:51,589 --> 00:48:50,000

we think there may be a some mechanism

1114
00:48:53,030 --> 00:48:51,599
where it's getting entrapped into the

1115
00:48:54,470 --> 00:48:53,040
service section

1116
00:48:55,910 --> 00:48:54,480
kind of from thruster firings during

1117
00:48:56,870 --> 00:48:55,920
entry we got to go look through the data

1118
00:48:59,270 --> 00:48:56,880
this is maybe a little bit of

1119
00:49:01,349 --> 00:48:59,280
speculation on my part i think we'll go

1120
00:49:02,630 --> 00:49:01,359
figure out a way to handle it better on

1121
00:49:05,190 --> 00:49:02,640
the next flight

1122
00:49:06,950 --> 00:49:05,200
perhaps uh starting with a purge as soon

1123
00:49:09,910 --> 00:49:06,960
as we get on the vehicle

1124
00:49:11,589 --> 00:49:09,920
uh and uh it just it's kind of a normal

1125
00:49:13,510 --> 00:49:11,599
thing we've had similar things with

1126
00:49:16,230 --> 00:49:13,520
other vehicles so i wouldn't i wouldn't

1127
00:49:17,670 --> 00:49:16,240
say this was a big deal at all it was

1128
00:49:19,990 --> 00:49:17,680
something that the spacex team took

1129
00:49:21,829 --> 00:49:20,000
extra precaution with just to make sure

1130
00:49:24,069 --> 00:49:21,839
that their personnel on the ship were

1131
00:49:25,430 --> 00:49:24,079
safe and then also bob and doug so we'll

1132
00:49:27,030 --> 00:49:25,440
go look at the data and see if there's

1133
00:49:29,349 --> 00:49:27,040
anything we can do better next flight

1134
00:49:32,950 --> 00:49:29,359
one of the things that i would say

1135
00:49:34,790 --> 00:49:32,960
about this nasa and spacex team and

1136
00:49:36,390 --> 00:49:34,800
we will get you know hundreds of

1137
00:49:38,390 --> 00:49:36,400
comments and hundreds of things to look

1138
00:49:40,309 --> 00:49:38,400

at and post flight even though the

1139
00:49:41,990 --> 00:49:40,319
flight goes so well

1140
00:49:43,990 --> 00:49:42,000
uh one of the things that we do in space

1141
00:49:45,510 --> 00:49:44,000
flight is we just pour over the data and

1142
00:49:47,910 --> 00:49:45,520
try to learn from it to try to make it

1143
00:49:50,069 --> 00:49:47,920
better because as gwen said uh

1144
00:49:52,069 --> 00:49:50,079
spaceflight is very hard and it can be

1145
00:49:53,510 --> 00:49:52,079
in for unforgiving and so you try to

1146
00:49:55,589 --> 00:49:53,520
look at very

1147
00:49:57,030 --> 00:49:55,599
you know minute changes in data and

1148
00:49:58,950 --> 00:49:57,040
things that you see in the data from the

1149
00:50:03,270 --> 00:49:58,960
flight learn from that and try to do

1150
00:50:08,069 --> 00:50:06,150
yeah we made sure that

1151
00:50:11,349 --> 00:50:08,079
based on all the telemetry that we had

1152
00:50:13,670 --> 00:50:11,359
that we didn't find any system breaches

1153
00:50:16,309 --> 00:50:13,680
we had them sniff the thrusters

1154
00:50:18,069 --> 00:50:16,319
and as steve mentioned we did initiate a

1155
00:50:20,710 --> 00:50:18,079
service section purge i think we'll

1156
00:50:22,870 --> 00:50:20,720
probably do that sooner next time it was

1157
00:50:24,470 --> 00:50:22,880
also an incredibly calm day there was

1158
00:50:27,670 --> 00:50:24,480
not a lot of

1159
00:50:29,589 --> 00:50:27,680
wind blowing uh on the capsule as uh

1160
00:50:30,630 --> 00:50:29,599
will probably be

1161
00:50:32,390 --> 00:50:30,640
blowing

1162
00:50:34,630 --> 00:50:32,400
more in the future

1163
00:50:36,230 --> 00:50:34,640

but it was a good good lesson for us we

1164
00:50:38,150 --> 00:50:36,240
took an extremely

1165
00:50:39,190 --> 00:50:38,160
conservative approach here we certainly

1166
00:50:41,430 --> 00:50:39,200
could have brought them out of the

1167
00:50:43,910 --> 00:50:41,440
capsule sooner than we did but we made

1168
00:50:47,270 --> 00:50:43,920
sure the inside of the dragon that cabin

1169
00:50:48,549 --> 00:50:47,280
was uh was not experiencing any fumes

1170
00:50:50,390 --> 00:50:48,559
bob and doug

1171
00:50:51,829 --> 00:50:50,400
in fact i heard doug say look take your

1172
00:50:53,270 --> 00:50:51,839
time we want to make sure we're doing

1173
00:50:54,710 --> 00:50:53,280
the right thing here take the time that

1174
00:50:57,030 --> 00:50:54,720
you need

1175
00:50:59,750 --> 00:50:57,040
and they weren't in a particular hurry

1176
00:51:01,589 --> 00:50:59,760
so uh it was a good lesson learned um

1177
00:51:03,270 --> 00:51:01,599
we'll probably initiate a purge sooner

1178
00:51:05,030 --> 00:51:03,280
there probably will be more wind on

1179
00:51:08,150 --> 00:51:05,040
future missions and we might not see it

1180
00:51:10,470 --> 00:51:08,160
uh see this in uh in the future but i

1181
00:51:12,790 --> 00:51:10,480
think we did the right thing um as uh

1182
00:51:14,470 --> 00:51:12,800
kind of high anxiety driving that it was

1183
00:51:16,390 --> 00:51:14,480
i really wanted to see bob and doug come

1184
00:51:19,430 --> 00:51:16,400
out but uh i think we did the right

1185
00:51:20,710 --> 00:51:19,440
thing and uh got the levels to nearly

1186
00:51:25,190 --> 00:51:20,720
undetectable

1187
00:51:30,150 --> 00:51:28,309
i would i would just add that

1188
00:51:31,510 --> 00:51:30,160

just modify maybe what steve said he

1189
00:51:33,030 --> 00:51:31,520
mentioned that it wasn't that big of a

1190
00:51:36,150 --> 00:51:33,040
deal it's pretty common and all of that

1191
00:51:37,270 --> 00:51:36,160
is absolutely true what is not common is

1192
00:51:40,309 --> 00:51:37,280
having

1193
00:51:42,950 --> 00:51:40,319
passers-by approach the vehicle at close

1194
00:51:44,630 --> 00:51:42,960
range with nitrogen tetroxide in the

1195
00:51:47,510 --> 00:51:44,640
atmosphere that's

1196
00:51:49,030 --> 00:51:47,520
not something that is good and we need

1197
00:51:51,109 --> 00:51:49,040
to make sure that we're warning people

1198
00:51:56,630 --> 00:51:51,119
not to get close to the spacecraft in

1199
00:52:02,390 --> 00:51:59,109
our next question comes from zachary

1200
00:52:05,589 --> 00:52:02,400
hall from spacexplore.com

1201
00:52:07,750 --> 00:52:05,599
sure so kind of on that same token um

1202
00:52:09,510 --> 00:52:07,760
it is there is clearly an educational

1203
00:52:11,109 --> 00:52:09,520
opportunity for the public you know

1204
00:52:14,470 --> 00:52:11,119
especially with splashdowns in places

1205
00:52:16,549 --> 00:52:14,480
where there hasn't been in 45 years um

1206
00:52:17,910 --> 00:52:16,559
to stay back you know as i watched the

1207
00:52:19,589 --> 00:52:17,920
stream i was learning about what was

1208
00:52:21,430 --> 00:52:19,599
dangerous about it

1209
00:52:23,589 --> 00:52:21,440
i'm curious is there sort of a safe

1210
00:52:27,109 --> 00:52:23,599
viewing distance the public could

1211
00:52:28,710 --> 00:52:27,119
uh understand and and view from

1212
00:52:31,829 --> 00:52:28,720
and also

1213
00:52:34,549 --> 00:52:31,839

kind of on the same idea of inclusivity

1214
00:52:36,150 --> 00:52:34,559
and involvement in and space uh what

1215
00:52:37,750 --> 00:52:36,160
what's kind of the better way to channel

1216
00:52:39,030 --> 00:52:37,760
your excitement for

1217
00:52:40,710 --> 00:52:39,040
these activities i know we're in the

1218
00:52:42,710 --> 00:52:40,720
middle of a pandemic and like a parade

1219
00:52:44,470 --> 00:52:42,720
would probably not not be appropriate

1220
00:52:47,430 --> 00:52:44,480
but is there something that could be

1221
00:52:52,309 --> 00:52:47,440
done to kind of celebrate the moment and

1222
00:52:55,510 --> 00:52:53,910
safe distance and then maybe i'll let

1223
00:52:57,589 --> 00:52:55,520
you talk about the public but we're

1224
00:52:59,670 --> 00:52:57,599
celebrating the moment and we invited

1225
00:53:02,870 --> 00:52:59,680
everybody to join us

1226
00:53:04,230 --> 00:53:02,880
online and to to share in the moment um

1227
00:53:06,470 --> 00:53:04,240
in all the different social media

1228
00:53:08,950 --> 00:53:06,480
platforms spacex did a great job with

1229
00:53:11,510 --> 00:53:08,960
with the broadcast so i think there's a

1230
00:53:13,349 --> 00:53:11,520
lot of different ways that we can do it

1231
00:53:15,750 --> 00:53:13,359
but certainly uh you know approaching

1232
00:53:21,430 --> 00:53:15,760
the spacecraft is is not is not among

1233
00:53:24,069 --> 00:53:23,030
we're going to be wrapping up in a few

1234
00:53:26,790 --> 00:53:24,079
minutes

1235
00:53:30,470 --> 00:53:26,800
but let's take one of our last questions

1236
00:53:32,549 --> 00:53:30,480
from jackie wattles cnn

1237
00:53:35,190 --> 00:53:32,559
hey folks thanks so much for doing this

1238
00:53:37,030 --> 00:53:35,200

and congratulations um so i was curious

1239
00:53:39,910 --> 00:53:37,040
if we could get some insight into what's

1240
00:53:42,150 --> 00:53:39,920
ahead for bob and doug over the next few

1241
00:53:44,069 --> 00:53:42,160
hours and days are they going to get to

1242
00:53:46,750 --> 00:53:44,079
go home with their families tonight and

1243
00:53:53,030 --> 00:53:46,760
how might the pandemic change how their

1244
00:53:57,829 --> 00:53:55,430
i can start off

1245
00:53:59,829 --> 00:53:57,839
bob and doug already have left uh left

1246
00:54:01,990 --> 00:53:59,839
the ship and they have been transported

1247
00:54:04,870 --> 00:54:02,000
by helicopter to pensacola

1248
00:54:06,390 --> 00:54:04,880
uh they will come back here uh to jsc

1249
00:54:08,390 --> 00:54:06,400
via aircraft

1250
00:54:10,630 --> 00:54:08,400
uh later on this evening they'll get

1251
00:54:12,630 --> 00:54:10,640
some medical evaluations

1252
00:54:14,230 --> 00:54:12,640
i think uh i'm not quite sure whether

1253
00:54:16,309 --> 00:54:14,240
the plan is to stay

1254
00:54:18,150 --> 00:54:16,319
stay on site for observation or maybe go

1255
00:54:19,190 --> 00:54:18,160
back to their families

1256
00:54:21,270 --> 00:54:19,200
certainly

1257
00:54:23,910 --> 00:54:21,280
they a lot of precautions were made to

1258
00:54:25,510 --> 00:54:23,920
protect for the pandemic

1259
00:54:27,990 --> 00:54:25,520
everybody on the ship

1260
00:54:30,150 --> 00:54:28,000
uh was quarantined on their personal

1261
00:54:31,910 --> 00:54:30,160
level self-quarantined for a couple

1262
00:54:33,750 --> 00:54:31,920
weeks they got tested

1263
00:54:36,069 --> 00:54:33,760

so we went to a lot of precautions to

1264
00:54:37,910 --> 00:54:36,079
protect bob and doug

1265
00:54:39,190 --> 00:54:37,920
and make sure that you know they're safe

1266
00:54:40,870 --> 00:54:39,200
from the virus

1267
00:54:45,990 --> 00:54:40,880
and we're just excited to have them back

1268
00:54:46,000 --> 00:54:51,670
it's from marina corrin

1269
00:54:55,910 --> 00:54:53,990
on a successful splashdown this question

1270
00:54:57,670 --> 00:54:55,920
is for gwen when you said in your

1271
00:55:00,549 --> 00:54:57,680
opening remarks on this call that this

1272
00:55:02,710 --> 00:55:00,559
mission experienced some foibles over 62

1273
00:55:06,230 --> 00:55:02,720
days on orbit what foibles were you

1274
00:55:07,910 --> 00:55:06,240
referring to

1275
00:55:10,950 --> 00:55:07,920
uh actually the foibles that i was

1276
00:55:13,670 --> 00:55:10,960
referring to were today uh we had a uh

1277
00:55:16,870 --> 00:55:13,680
our backup generator on the go navigator

1278
00:55:17,750 --> 00:55:16,880
uh stop working before uh before we set

1279
00:55:19,910 --> 00:55:17,760
sail

1280
00:55:22,950 --> 00:55:19,920
um so next time we're going to have two

1281
00:55:24,470 --> 00:55:22,960
backup generators um we did mobilize

1282
00:55:26,950 --> 00:55:24,480
another one but it didn't it wasn't

1283
00:55:30,309 --> 00:55:26,960
going to get to port in time for the

1284
00:55:32,069 --> 00:55:30,319
vehicle to uh set sea and make sure it

1285
00:55:33,430 --> 00:55:32,079
got to bob and doug

1286
00:55:35,829 --> 00:55:33,440
we had that vehicle flanked with other

1287
00:55:40,150 --> 00:55:35,839
ships so we were pretty comfortable uh

1288
00:55:42,069 --> 00:55:40,160

but that is is one um and then uh the

1289
00:55:45,990 --> 00:55:42,079
discussion that we were just having on

1290
00:55:48,950 --> 00:55:46,000
the uh on the uh oxidizer on the outside

1291
00:55:50,630 --> 00:55:48,960
of uh of dragon we will

1292
00:55:53,030 --> 00:55:50,640
work on that up

1293
00:55:55,910 --> 00:55:53,040
to make sure that we keep the astronauts

1294
00:55:57,510 --> 00:55:55,920
and the folks around the capsule safe

1295
00:55:59,670 --> 00:55:57,520
those are the only two

1296
00:56:02,870 --> 00:55:59,680
i think we had the mission on orbit was

1297
00:56:04,549 --> 00:56:02,880
incredibly kind of quiet

1298
00:56:06,150 --> 00:56:04,559
i can't recall offhand whether there

1299
00:56:08,150 --> 00:56:06,160
were some anomalies there may have been

1300
00:56:11,990 --> 00:56:08,160
some small ones but certainly nothing

1301
00:56:16,150 --> 00:56:14,150
thank you gwen and with that we'll

1302
00:56:17,910 --> 00:56:16,160
turn it over to jim bridenstine for some

1303
00:56:18,950 --> 00:56:17,920
closing remarks

1304
00:56:20,950 --> 00:56:18,960
well thank you

1305
00:56:23,190 --> 00:56:20,960
bettina and thank you to everybody who

1306
00:56:24,630 --> 00:56:23,200
participated in this a big special

1307
00:56:27,030 --> 00:56:24,640
thanks to

1308
00:56:29,030 --> 00:56:27,040
bob and doug and their families

1309
00:56:31,030 --> 00:56:29,040
the entire nasa team and of course the

1310
00:56:33,030 --> 00:56:31,040
spacex team

1311
00:56:35,589 --> 00:56:33,040
for what an amazing day this was a

1312
00:56:38,230 --> 00:56:35,599
historic day a couple of things it came

1313
00:56:40,470 --> 00:56:38,240

up earlier somebody asked when um about

1314
00:56:42,150 --> 00:56:40,480
what size of a fleet do you need

1315
00:56:43,349 --> 00:56:42,160
and and do you expect to grow it and of

1316
00:56:45,349 --> 00:56:43,359
course

1317
00:56:46,870 --> 00:56:45,359
as a private company spacex is looking

1318
00:56:49,270 --> 00:56:46,880
at what the demand is and i'm going to

1319
00:56:51,510 --> 00:56:49,280
tell you what our goal is at nasa our

1320
00:56:53,430 --> 00:56:51,520
goal is to make sure that there is a big

1321
00:56:54,390 --> 00:56:53,440
demand in the future and i would love to

1322
00:56:56,630 --> 00:56:54,400
see

1323
00:56:58,950 --> 00:56:56,640
a fleet of crew dragons servicing not

1324
00:57:00,710 --> 00:56:58,960
just the international space station but

1325
00:57:03,109 --> 00:57:00,720
also commercial space stations which is

1326
00:57:04,950 --> 00:57:03,119
why we're working so hard every day to

1327
00:57:07,190 --> 00:57:04,960
commercialize our activities in low

1328
00:57:10,069 --> 00:57:07,200
earth orbit whether it's industrialized

1329
00:57:12,309 --> 00:57:10,079
biomedicine or advanced materials

1330
00:57:15,109 --> 00:57:12,319
there's a lot of hope for humanity on

1331
00:57:17,990 --> 00:57:15,119
earth based on what the microgravity of

1332
00:57:20,069 --> 00:57:18,000
space can provide so the future is very

1333
00:57:21,829 --> 00:57:20,079
bright but it's going to require these

1334
00:57:24,230 --> 00:57:21,839
public-private partnerships which we

1335
00:57:27,589 --> 00:57:24,240
have now proven can be very very

1336
00:57:29,750 --> 00:57:27,599
successful i also want to say

1337
00:57:32,950 --> 00:57:29,760
another question came up about how

1338
00:57:36,390 --> 00:57:32,960

spacex has you know changed since

1339
00:57:38,789 --> 00:57:36,400
uh launching you know falcon 1 so many

1340
00:57:41,109 --> 00:57:38,799
years ago and even falcon the third

1341
00:57:43,349 --> 00:57:41,119
launch of falcon 1

1342
00:57:44,950 --> 00:57:43,359
was a failure

1343
00:57:47,270 --> 00:57:44,960
let me be clear

1344
00:57:51,030 --> 00:57:47,280
the reason we had success today

1345
00:57:54,230 --> 00:57:51,040
is because spacex is so good at adapting

1346
00:57:56,069 --> 00:57:54,240
and the nasa team is so good about about

1347
00:57:58,549 --> 00:57:56,079
sharing what the engineering challenges

1348
00:58:01,109 --> 00:57:58,559
are and ultimately

1349
00:58:03,190 --> 00:58:01,119
them responding it has been

1350
00:58:04,950 --> 00:58:03,200
not without you know some pain from time

1351
00:58:07,109 --> 00:58:04,960
to time but it has been an absolute

1352
00:58:09,430 --> 00:58:07,119
amazing partnership and it really just

1353
00:58:10,710 --> 00:58:09,440
culminated in this spectacular event

1354
00:58:12,710 --> 00:58:10,720
today

1355
00:58:15,270 --> 00:58:12,720
when nasa comes and we say we want to

1356
00:58:17,030 --> 00:58:15,280
create high level requirements we have a

1357
00:58:18,870 --> 00:58:17,040
payload capacity that we need we have

1358
00:58:20,870 --> 00:58:18,880
safety requirements that we need and

1359
00:58:24,549 --> 00:58:20,880
then we allow a private company like

1360
00:58:26,390 --> 00:58:24,559
spacex to go and innovate and

1361
00:58:28,789 --> 00:58:26,400
miraculous things happen we launch

1362
00:58:30,309 --> 00:58:28,799
rockets with nine engines uh we launch

1363
00:58:32,390 --> 00:58:30,319

rockets where the launch abort

1364
00:58:35,030 --> 00:58:32,400
capability is integrated into the

1365
00:58:37,910 --> 00:58:35,040
spacecraft spacecraft propulsion system

1366
00:58:40,789 --> 00:58:37,920
itself we we have you know a pressure

1367
00:58:43,190 --> 00:58:40,799
vessel inside of a liquid oxygen tank

1368
00:58:44,710 --> 00:58:43,200
these are things that that nasa never

1369
00:58:46,950 --> 00:58:44,720
would have done on its own but because

1370
00:58:48,710 --> 00:58:46,960
we set the high level requirements and

1371
00:58:51,190 --> 00:58:48,720
then we say to the private company we

1372
00:58:54,069 --> 00:58:51,200
say prove to us that your engineering is

1373
00:58:55,750 --> 00:58:54,079
sound through both engineering and

1374
00:58:58,069 --> 00:58:55,760
testing

1375
00:58:59,990 --> 00:58:58,079
and and as as time went on over the

1376
00:59:02,950 --> 00:59:00,000
years behind us now

1377
00:59:05,750 --> 00:59:02,960
uh spacex proved and and we and we of

1378
00:59:07,589 --> 00:59:05,760
course as an agency had to had to make

1379
00:59:10,549 --> 00:59:07,599
sure that what they were telling us was

1380
00:59:13,270 --> 00:59:10,559
accurate and then um and then testing it

1381
00:59:15,670 --> 00:59:13,280
and i will tell you it has been just

1382
00:59:17,910 --> 00:59:15,680
a magnificent thing to watch so again

1383
00:59:20,150 --> 00:59:17,920
congratulations to the spacex team

1384
00:59:21,829 --> 00:59:20,160
congratulations to the nasa team it's

1385
00:59:23,990 --> 00:59:21,839
been an amazing partnership there's a

1386
00:59:25,750 --> 00:59:24,000
lot more to come i want one other thing

1387
00:59:28,309 --> 00:59:25,760
before we close out

1388
00:59:30,390 --> 00:59:28,319

eric berger sent a tweet yesterday and

1389
00:59:31,990 --> 00:59:30,400
in that tweet he talked about how you

1390
00:59:34,309 --> 00:59:32,000
know we have been without a human space

1391
00:59:37,109 --> 00:59:34,319
flight program now for nine years

1392
00:59:38,950 --> 00:59:37,119
um and he said now we've got dragon and

1393
00:59:42,549 --> 00:59:38,960
we've got starliner and we've got

1394
00:59:44,710 --> 00:59:42,559
starship and we've got orion um and and

1395
00:59:46,789 --> 00:59:44,720
blue moon and other vehicles that are on

1396
00:59:49,270 --> 00:59:46,799
the table may it never be that the

1397
00:59:51,510 --> 00:59:49,280
united states goes a day without a human

1398
00:59:53,750 --> 00:59:51,520
space flight capability in the future

1399
00:59:55,589 --> 00:59:53,760
and i would double down on that and say

1400
00:59:57,750 --> 00:59:55,599
i'm the first nasa administrator in

1401
01:00:00,870 --> 00:59:57,760
history that was not alive when we had

1402
01:00:02,390 --> 01:00:00,880
people living and working on the moon we

1403
01:00:05,109 --> 01:00:02,400
have to make sure that another

1404
01:00:07,510 --> 01:00:05,119
generation doesn't miss this opportunity

1405
01:00:10,549 --> 01:00:07,520
today was a great victory but it is just

1406
01:00:12,230 --> 01:00:10,559
the beginning the artemis program is our

1407
01:00:13,670 --> 01:00:12,240
sustainable return to the moon we're

1408
01:00:15,510 --> 01:00:13,680
going to go to the moon and we're going

1409
01:00:17,589 --> 01:00:15,520
to stay we're going to learn how to live

1410
01:00:20,470 --> 01:00:17,599
and work there for long periods of time

1411
01:00:21,510 --> 01:00:20,480
and we're going to take that on to mars

1412
01:00:23,030 --> 01:00:21,520
so

1413
01:00:25,670 --> 01:00:23,040

i want to thank eric berger for that

1414
01:00:27,750 --> 01:00:25,680
tweet and i also want to say that

1415
01:00:30,069 --> 01:00:27,760
if we do things right we will get the

1416
01:00:32,069 --> 01:00:30,079
strong bipartisan support that we need

1417
01:00:33,910 --> 01:00:32,079
to make sure that this program is

1418
01:00:35,589 --> 01:00:33,920
sustainable into the future and that it

1419
01:00:37,349 --> 01:00:35,599
grows into the future and i also want to

1420
01:00:39,510 --> 01:00:37,359
thank the president and the vice

1421
01:00:41,190 --> 01:00:39,520
president for their amazing support the

1422
01:00:44,150 --> 01:00:41,200
budget request before the house and the

1423
01:00:46,470 --> 01:00:44,160
senate right now is 25.2

1424
01:00:48,630 --> 01:00:46,480
billion dollars when my name was first

1425
01:00:50,549 --> 01:00:48,640
floated for the nasa administrator a

1426
01:00:51,910 --> 01:00:50,559
little over i guess two and a half years

1427
01:00:53,990 --> 01:00:51,920
ago about now

1428
01:00:56,309 --> 01:00:54,000
um actually it was

1429
01:00:59,270 --> 01:00:56,319
longer than that that the net the budget

1430
01:01:02,309 --> 01:00:59,280
for nasa was 18 billion so 18 billion to

1431
01:01:04,950 --> 01:01:02,319
25.2 billion we've got a bright future a

1432
01:01:06,549 --> 01:01:04,960
big agenda this is this is an amazing

1433
01:01:08,549 --> 01:01:06,559
opportunity not just for the united

1434
01:01:10,470 --> 01:01:08,559
states of america but for the world but

1435
01:01:13,109 --> 01:01:10,480
i would implore our members of congress

1436
01:01:15,030 --> 01:01:13,119
bipartisan house in the senate uh to

1437
01:01:17,190 --> 01:01:15,040
please fund the budget request for nasa

1438
01:01:19,430 --> 01:01:17,200

we have proven that if you give us the

1439
01:01:21,349 --> 01:01:19,440
resources we can deliver and our

1440
01:01:23,589 --> 01:01:21,359
partners can deliver and this is about

1441
01:01:25,109 --> 01:01:23,599
all of america so i just want to say

1442
01:01:27,829 --> 01:01:25,119
thank you to everybody for getting us to

1443
01:01:30,870 --> 01:01:27,839
where we are and i would implore um the

1444
01:01:33,430 --> 01:01:30,880
the folks that fund our agency to uh to

1445
01:01:35,030 --> 01:01:33,440
to to get an appropriation done um that

1446
01:01:37,109 --> 01:01:35,040
justifies the great work that we've

1447
01:01:38,789 --> 01:01:37,119
already done so thank you guys so much

1448
01:01:42,309 --> 01:01:38,799
what an amazing day we made history

1449
01:01:44,390 --> 01:01:42,319
today congratulations to everybody

1450
01:01:54,840 --> 01:01:44,400
thank you so much that concludes today's

1451
01:01:54,850 --> 01:02:10,150
[Music]

1452
01:02:10,160 --> 01:02:14,000
so

1453
01:02:14,010 --> 01:02:33,430
[Music]

1454
01:02:33,440 --> 01:02:39,080
foreign

1455
01:02:39,090 --> 01:02:52,390
[Music]