1
00:00:06,470 --> 00:00:04,070
we can see

2
00:00:07,110 --> 00:00:06,480
the astronauts are now working with

3
00:00:10,230 --> 00:00:07,120
spacex

4
00:00:11,910 --> 00:00:10,240
suit technicians in the closeout team

5
00:00:14,470 --> 00:00:11,920
and that look yeah that's our commander

6
00:00:16,470 --> 00:00:14,480
shane kimbrough

7
00:00:17,510 --> 00:00:16,480
there's megan macarthur getting helped

8
00:00:20,550 --> 00:00:17,520
into her

9
00:00:23,349 --> 00:00:20,560
uh gloves in her spacesuit

10
00:00:27,349 --> 00:00:23,359
and mission specialist toma pesque will

11
00:00:31,349 --> 00:00:27,359
be making his second trip to space

12
00:00:35,750 --> 00:00:31,359
but that's aki hoshide having a laugh

13
00:00:38,869 --> 00:00:38,069

shane kimbrough pilot megan macarthur in

14
00:00:42,869 --> 00:00:38,879
the front

15
00:00:44,630 --> 00:00:42,879
megan blowing kisses and aki

16
00:00:46,950 --> 00:00:44,640
ready for their ride to the space

17
00:00:49,910 --> 00:00:46,960
station

18
00:00:52,229 --> 00:00:49,920
and here they come the crew 2 astronauts

19
00:01:01,670 --> 00:00:52,239
taking their first steps outside

20
00:01:05,189 --> 00:01:03,349
i love this moment you're now going to

21
00:01:07,910 --> 00:01:05,199
have the opportunity to

22
00:01:09,910 --> 00:01:07,920
wave goodbye from a safe distance and it

23
00:01:17,190 --> 00:01:09,920
looks like bob benton is there

24
00:01:22,230 --> 00:01:20,469
departure on schedule all right so we

25
00:01:22,630 --> 00:01:22,240
just heard that announcement that the

26
00:01:25,510 --> 00:01:22,640
crew

27
00:01:25,990 --> 00:01:25,520
has departed the operations and checkout

28
00:01:26,750 --> 00:01:26,000
building

29
00:01:29,510 --> 00:01:26,760
on schedule

30
00:01:32,469 --> 00:01:29,520
[Music]

31
00:01:34,140 --> 00:01:32,479
and we can see the astronauts inside the

32
00:01:38,390 --> 00:01:34,150
crew access arm

33
00:01:41,510 --> 00:01:38,400
[Music]

34
00:01:44,950 --> 00:01:41,520
commander shane kimbrough here he is

35
00:01:47,100 --> 00:01:44,960
climbing inside crew dragon endeavor

36
00:01:50,149 --> 00:01:47,110
we call this process ingress

37
00:01:52,870 --> 00:01:50,159
[Music]

38
00:01:54,870 --> 00:01:52,880

we see green elsies two technicians uh

39
00:01:55,590 --> 00:01:54,880
will help the crew members get buckled

40
00:01:57,510 --> 00:01:55,600
in

41
00:01:58,580 --> 00:01:57,520
as you can see the side hatch has just

42
00:02:01,030 --> 00:01:58,590
been closed

43
00:02:04,069 --> 00:02:01,040
[Music]

44
00:02:19,350 --> 00:02:04,079
five four three

45
00:02:23,110 --> 00:02:21,030
now making their way to the one and only

46
00:02:25,110 --> 00:02:23,120
international space station

47
00:02:26,550 --> 00:02:25,120
the vehicle is pitching down range nine

48
00:02:29,270 --> 00:02:26,560
merlin engines on the first stage

49
00:02:30,949 --> 00:02:29,280
providing 1.7 billion pounds of thrust

50
00:02:43,110 --> 00:02:30,959
hearing good calls for first stage

51
00:02:52,070 --> 00:02:50,470
dragon and falcon 9.

52
00:02:53,910 --> 00:02:52,080
good morning and thank you for joining

53
00:02:57,270 --> 00:02:53,920
us earlier today

54
00:02:58,070 --> 00:02:57,280
at 5 49 a.m nasa and spacex crew 2

55
00:03:00,229 --> 00:02:58,080
mission

56
00:03:02,550 --> 00:03:00,239
blasted off from kennedy space center's

57
00:03:04,550 --> 00:03:02,560
launch complex 39a

58
00:03:05,830 --> 00:03:04,560
the crew ii mission is the second crew

59
00:03:08,229 --> 00:03:05,840
rotation fight

60
00:03:09,350 --> 00:03:08,239
of the crew dragon spacecraft and falcon

61
00:03:11,509 --> 00:03:09,360
9 rocket

62
00:03:13,270 --> 00:03:11,519
carrying nasa astronauts shane kimbrough

63
00:03:16,390 --> 00:03:13,280

and megan mcarthur

64
00:03:17,190 --> 00:03:16,400
jassa astronaut aki hoshide and isa

65
00:03:19,430 --> 00:03:17,200
astronaut

66
00:03:20,470 --> 00:03:19,440
tomok pesquet to the international space

67
00:03:22,309 --> 00:03:20,480
station

68
00:03:25,030 --> 00:03:22,319
my name is jackie mcginnis nasa press

69
00:03:27,110 --> 00:03:25,040
secretary and i'm joined here today

70
00:03:28,149 --> 00:03:27,120
by acting nasa administrator steve

71
00:03:31,589 --> 00:03:28,159
jersey

72
00:03:33,990 --> 00:03:31,599
elon musk chief engineer at spacex

73
00:03:36,789 --> 00:03:34,000
kathy leaders associate administrator

74
00:03:40,229 --> 00:03:36,799
for nasa's human exploration operations

75
00:03:40,949 --> 00:03:40,239
mission directorate steve stitch manager

76
00:03:44,470 --> 00:03:40,959
of nash's

77
00:03:46,070 --> 00:03:44,480
commercial crew program joe montebano

78
00:03:48,470 --> 00:03:46,080
manager of the international space

79
00:03:51,110 --> 00:03:48,480
station program at nasa

80
00:03:52,070 --> 00:03:51,120
hiroshi sasaki vice president and

81
00:03:54,309 --> 00:03:52,080
director general

82
00:03:55,350 --> 00:03:54,319
of jax's human space flight technology

83
00:03:57,350 --> 00:03:55,360
directorate

84
00:03:59,270 --> 00:03:57,360
and frank tavina manager of the

85
00:04:02,390 --> 00:03:59,280
international space station program

86
00:04:04,550 --> 00:04:02,400
at the european space agency

87
00:04:05,750 --> 00:04:04,560
each speaker will make brief remarks and

88
00:04:07,429 --> 00:04:05,760

then we will open the lines for

89
00:04:10,470 --> 00:04:07,439
questions from the media

90
00:04:12,789 --> 00:04:10,480
for reporters on the line press star 1

91
00:04:14,390 --> 00:04:12,799
to get into the queue to ask a question

92
00:04:16,789 --> 00:04:14,400
please remember to state your name and

93
00:04:18,629 --> 00:04:16,799
media affiliation before you speak

94
00:04:20,069 --> 00:04:18,639
and address the speaker you'd like to

95
00:04:22,150 --> 00:04:20,079
answer your question

96
00:04:24,469 --> 00:04:22,160
please only ask one question and address

97
00:04:26,230 --> 00:04:24,479
one per speaker at a time

98
00:04:28,310 --> 00:04:26,240
you may enter the queue again and ask

99
00:04:29,830 --> 00:04:28,320
additional questions

100
00:04:33,030 --> 00:04:29,840
first up we'll hear from acting

101
00:04:35,189 --> 00:04:33,040
administrator steve dursick

102
00:04:36,070 --> 00:04:35,199
hey thank you jackie and it's just great

103
00:04:37,749 --> 00:04:36,080
to be here today

104
00:04:40,070 --> 00:04:37,759
so first i want to thank encourage

105
00:04:41,670 --> 00:04:40,080
congratulate the nasa team

106
00:04:43,350 --> 00:04:41,680
spacex team and our international

107
00:04:45,510 --> 00:04:43,360
partners um

108
00:04:47,430 --> 00:04:45,520
what we do is really challenging but

109
00:04:49,110 --> 00:04:47,440
also rewarding and we could not do it

110
00:04:49,990 --> 00:04:49,120
without our commercial and international

111
00:04:51,350 --> 00:04:50,000
partners so thank you and

112
00:04:53,270 --> 00:04:51,360
congratulations

113
00:04:55,110 --> 00:04:53,280

um watching a launch from kennedy space

114
00:04:57,830 --> 00:04:55,120
center never gets old for me

115
00:05:00,390 --> 00:04:57,840
um i've watched many launches and uh and

116
00:05:03,430 --> 00:05:00,400
watching a pre-daw launch is especially

117
00:05:03,830 --> 00:05:03,440
um exciting and just visually stunning

118
00:05:07,029 --> 00:05:03,840
and this

119
00:05:08,230 --> 00:05:07,039
this launch wasn't um a little bit

120
00:05:11,430 --> 00:05:08,240
different for me this time

121
00:05:13,029 --> 00:05:11,440
as acting administrator um but again i'm

122
00:05:14,390 --> 00:05:13,039
just congratulations team i could not be

123
00:05:16,070 --> 00:05:14,400
more proud of the team

124
00:05:17,830 --> 00:05:16,080
it's been a really incredible year for

125
00:05:19,590 --> 00:05:17,840
nasa um for

126
00:05:21,510 --> 00:05:19,600
all our mission areas but particularly

127
00:05:23,029 --> 00:05:21,520
for human space flight with uh with

128
00:05:25,510 --> 00:05:23,039
three launches

129
00:05:26,790 --> 00:05:25,520
in 11 months and it's hard to believe it

130
00:05:29,990 --> 00:05:26,800
was just

131
00:05:32,550 --> 00:05:30,000
11 months ago last may where we

132
00:05:33,990 --> 00:05:32,560
were in the the room we were watching

133
00:05:36,629 --> 00:05:34,000
the launch from the day

134
00:05:37,430 --> 00:05:36,639
and doing the first flight radius review

135
00:05:39,029 --> 00:05:37,440
for human

136
00:05:40,710 --> 00:05:39,039
exploration mission in just about a

137
00:05:42,550 --> 00:05:40,720
decade uh and

138
00:05:43,830 --> 00:05:42,560

and then we did the demo 2 mission and

139
00:05:45,430 --> 00:05:43,840
uh i just

140
00:05:47,830 --> 00:05:45,440
it's just been incredible to be a part

141
00:05:50,469 --> 00:05:47,840
of it um

142
00:05:52,070 --> 00:05:50,479
this marks many important milestones um

143
00:05:54,310 --> 00:05:52,080
but it really

144
00:05:55,270 --> 00:05:54,320
uh is important for getting a regular

145
00:05:58,230 --> 00:05:55,280
cadence of

146
00:05:59,990 --> 00:05:58,240
crew to the station and back um and it's

147
00:06:01,110 --> 00:06:00,000
going to really accelerate the research

148
00:06:02,469 --> 00:06:01,120
and technology development that we're

149
00:06:04,230 --> 00:06:02,479
able to do on station and i'm really

150
00:06:06,629 --> 00:06:04,240
looking forward to

151
00:06:08,150 --> 00:06:06,639
what crew i've i've really enjoyed

152
00:06:09,029 --> 00:06:08,160
watching what crew one has been able to

153
00:06:10,629 --> 00:06:09,039
accomplish

154
00:06:12,870 --> 00:06:10,639
and i'm going to really enjoy what crew

155
00:06:13,350 --> 00:06:12,880
2 is going to do um on i on their six

156
00:06:16,550 --> 00:06:13,360
month

157
00:06:17,189 --> 00:06:16,560
stint on iss it took it took 10 years to

158
00:06:19,670 --> 00:06:17,199
get here

159
00:06:21,270 --> 00:06:19,680
um it's achieved this bold vision we had

160
00:06:23,830 --> 00:06:21,280
for commercial crew

161
00:06:26,230 --> 00:06:23,840
and uh and again it's been amazing what

162
00:06:30,070 --> 00:06:26,240
the team has been able to accomplish

163
00:06:34,150 --> 00:06:30,080

um you know uh

164
00:06:36,230 --> 00:06:34,160
the what we do on iss is important um

165
00:06:37,270 --> 00:06:36,240
not only for the research and technology

166
00:06:39,430 --> 00:06:37,280
development that we do

167
00:06:42,070 --> 00:06:39,440
for here on earth but also to prepare

168
00:06:45,110 --> 00:06:42,080
for what we're going to do in the future

169
00:06:48,150 --> 00:06:45,120
so iss is not only important for our

170
00:06:49,749 --> 00:06:48,160
commercial activities in space and

171
00:06:51,510 --> 00:06:49,759
stimulating those but also for our

172
00:06:53,510 --> 00:06:51,520
exploration missions

173
00:06:54,870 --> 00:06:53,520
um we'll continue to celebrate the

174
00:06:55,749 --> 00:06:54,880
marvels of the international space

175
00:06:56,870 --> 00:06:55,759
station

176
00:06:59,110 --> 00:06:56,880
and the science and technology

177
00:07:01,749 --> 00:06:59,120
development that will be conducting

178
00:07:03,110 --> 00:07:01,759
as we look to the future of sending

179
00:07:05,430 --> 00:07:03,120
astronauts um

180
00:07:07,189 --> 00:07:05,440
to moon or orbit and eventually the

181
00:07:09,029 --> 00:07:07,199
surface and then our ultimate goal of

182
00:07:12,230 --> 00:07:09,039
sending astronauts to mars

183
00:07:14,390 --> 00:07:12,240
so coupled with our robotic exploration

184
00:07:16,950 --> 00:07:14,400
and uh and our earth science missions

185
00:07:18,790 --> 00:07:16,960
that look down at at earth

186
00:07:20,309 --> 00:07:18,800
i'm proud to be a part of this team that

187
00:07:22,710 --> 00:07:20,319
makes it all happen

188
00:07:24,550 --> 00:07:22,720

and look easy and i can assure you it is

189
00:07:26,469 --> 00:07:24,560
not it is not easy

190
00:07:28,309 --> 00:07:26,479
but we have an incredibly talented team

191
00:07:30,230 --> 00:07:28,319
at nasa along with our

192
00:07:32,309 --> 00:07:30,240
commercial international partners and i

193
00:07:33,270 --> 00:07:32,319
know they've gotten the job done this

194
00:07:34,870 --> 00:07:33,280
last year and i know they're going to

195
00:07:39,430 --> 00:07:34,880
get the job done moving forward so thank

196
00:07:42,830 --> 00:07:41,430
thanks and now we have elon musk chief

197
00:07:46,309 --> 00:07:42,840
engineer at nasa

198
00:07:49,670 --> 00:07:46,319
spacex uh thank you uh well i think

199
00:07:51,350 --> 00:07:49,680
um actually steve said said really um

200
00:07:53,189 --> 00:07:51,360
all the really important things i'm just

201
00:07:55,110 --> 00:07:53,199
really proud of the spacex team and the

202
00:07:58,230 --> 00:07:55,120
and are to be partnered with uh

203
00:08:00,070 --> 00:07:58,240
with nasa and uh and and uh helping with

204
00:08:03,350 --> 00:08:00,080
jackson and esa as well

205
00:08:04,550 --> 00:08:03,360
uh so um uh yeah just thrilled to be

206
00:08:06,710 --> 00:08:04,560
part of advancing

207
00:08:08,070 --> 00:08:06,720
uh human space flight and uh looking

208
00:08:10,390 --> 00:08:08,080
forward to um

209
00:08:12,950 --> 00:08:10,400
yeah going going beyond uh earth orbit

210
00:08:14,550 --> 00:08:12,960
to the moon and mars

211
00:08:16,710 --> 00:08:14,560
and helping make humanity a space spring

212
00:08:20,550 --> 00:08:16,720
civilization and

213
00:08:22,309 --> 00:08:20,560

a multi-planet species one day thank you

214
00:08:24,230 --> 00:08:22,319
thank you and now we have kathy leaders

215
00:08:25,909 --> 00:08:24,240
associate administrator for nasa's human

216
00:08:28,390 --> 00:08:25,919
exploration operations mission

217
00:08:32,070 --> 00:08:28,400
directorate

218
00:08:35,670 --> 00:08:32,080
wow i mean i i think i'm just always

219
00:08:38,469 --> 00:08:35,680
amazed at the nasa and in particular the

220
00:08:41,190 --> 00:08:38,479
spacex team that diligently

221
00:08:42,149 --> 00:08:41,200
stepped through and got us ready to fly

222
00:08:44,710 --> 00:08:42,159
once again

223
00:08:45,509 --> 00:08:44,720
and really want to thank elon and the

224
00:08:48,870 --> 00:08:45,519
team

225
00:08:51,910 --> 00:08:48,880
um from a heel perspective and

226
00:08:53,509 --> 00:08:51,920
thank steve stitch and joel here who

227
00:08:56,550 --> 00:08:53,519
have been working really hard to

228
00:08:58,630 --> 00:08:56,560
keep this cadence going it's a very very

229
00:08:59,110 --> 00:08:58,640
very exciting time for human exploration

230
00:09:02,310 --> 00:08:59,120
right now

231
00:09:04,949 --> 00:09:02,320
just like steve said you know

232
00:09:06,829 --> 00:09:04,959
joel every day advances science and

233
00:09:09,990 --> 00:09:06,839
technology on the international space

234
00:09:13,509 --> 00:09:10,000
station and that has really been enabled

235
00:09:15,750 --> 00:09:13,519
with the activities and the flights that

236
00:09:17,269 --> 00:09:15,760
spacex has provided for us over the last

237
00:09:18,790 --> 00:09:17,279
11 months like we said and the

238
00:09:21,190 --> 00:09:18,800

commercial crew team

239
00:09:22,150 --> 00:09:21,200
has been working to keep that science

240
00:09:25,430 --> 00:09:22,160
and technology

241
00:09:27,190 --> 00:09:25,440
development going um joel's had a had a

242
00:09:27,829 --> 00:09:27,200
busy month we were talking the other day

243
00:09:31,350 --> 00:09:27,839
about

244
00:09:34,150 --> 00:09:31,360
he just had a a soyuz launch a soyuz

245
00:09:37,910 --> 00:09:34,160
landing now we've got a commercial crew

246
00:09:39,509 --> 00:09:37,920
launch and uh you know we're gonna be

247
00:09:41,430 --> 00:09:39,519
obviously working through and making

248
00:09:43,190 --> 00:09:41,440
sure we get the four crew members there

249
00:09:44,870 --> 00:09:43,200
and safely to station

250
00:09:47,110 --> 00:09:44,880
but then steve and joel are gonna be

251
00:09:48,949 --> 00:09:47,120
getting ready for a crew one landing

252
00:09:51,990 --> 00:09:48,959
with the spacex folks so

253
00:09:54,310 --> 00:09:52,000
very very very exciting time for us in

254
00:09:57,350 --> 00:09:54,320
addition we've got a core stage

255
00:09:58,470 --> 00:09:57,360
coming in next week which will be

256
00:10:00,230 --> 00:09:58,480
joining the

257
00:10:02,150 --> 00:10:00,240
solid rocket motors that have now been

258
00:10:04,230 --> 00:10:02,160
stacked in the bab

259
00:10:07,269 --> 00:10:04,240
and the orion spacecraft that's now been

260
00:10:09,670 --> 00:10:07,279
fueled uh getting ready for our first

261
00:10:11,350 --> 00:10:09,680
artemis one uncrewed demonstration

262
00:10:13,910 --> 00:10:11,360
mission so we're going to be

263
00:10:15,430 --> 00:10:13,920

working and getting our exploration

264
00:10:18,470 --> 00:10:15,440
system ready to go and

265
00:10:19,350 --> 00:10:18,480
very very excited about that in addition

266
00:10:22,790 --> 00:10:19,360
last

267
00:10:24,630 --> 00:10:22,800
week we had announced to uh spacex

268
00:10:26,790 --> 00:10:24,640
the uh human landing system

269
00:10:30,710 --> 00:10:26,800
demonstration uh mission too

270
00:10:33,829 --> 00:10:30,720
so um this is you know when i

271
00:10:35,910 --> 00:10:33,839
took over for heoa i thought

272
00:10:37,750 --> 00:10:35,920
after that demo 2 mission i thought oh

273
00:10:39,190 --> 00:10:37,760
my gosh i'm going to be missing out on

274
00:10:41,190 --> 00:10:39,200
these fun missions but

275
00:10:42,310 --> 00:10:41,200
really i kind of have the best of both

276
00:10:44,949 --> 00:10:42,320
all worlds now

277
00:10:46,069 --> 00:10:44,959
with all the cool missions that joel and

278
00:10:49,430 --> 00:10:46,079
steve

279
00:10:51,190 --> 00:10:49,440
the artemis team's doing and further

280
00:10:53,190 --> 00:10:51,200
missions going forward to

281
00:10:54,949 --> 00:10:53,200
moon and then eventually mars so very

282
00:10:58,069 --> 00:10:54,959
very exciting time for us

283
00:10:59,030 --> 00:10:58,079
thank you thank you kathy now we have

284
00:11:00,630 --> 00:10:59,040
steve stitch

285
00:11:02,949 --> 00:11:00,640
manager of nasa's commercial crew

286
00:11:05,829 --> 00:11:02,959
program

287
00:11:07,430 --> 00:11:05,839
thank you jackie uh as i watched the the

288
00:11:09,509 --> 00:11:07,440

video play before we uh

289
00:11:11,350 --> 00:11:09,519
started our opening remarks it's just

290
00:11:13,190 --> 00:11:11,360
reflected on the last two years

291
00:11:15,030 --> 00:11:13,200
as steve jerzik said we've have now

292
00:11:18,069 --> 00:11:15,040
three crude missions in

293
00:11:18,870 --> 00:11:18,079
in just over 11 months and when i think

294
00:11:22,150 --> 00:11:18,880
about

295
00:11:24,310 --> 00:11:22,160
team that we have between nasa

296
00:11:27,030 --> 00:11:24,320
commercial crew and spacex

297
00:11:28,870 --> 00:11:27,040
an incredible team that refurbished this

298
00:11:32,069 --> 00:11:28,880
crew one booster that just flew

299
00:11:34,310 --> 00:11:32,079
uh our crew 2 team to the

300
00:11:36,870 --> 00:11:34,320
space station refurbishing the dragon

301
00:11:39,190 --> 00:11:36,880
spacecraft over these last 10 months and

302
00:11:41,030 --> 00:11:39,200
just all the hard work across the

303
00:11:42,550 --> 00:11:41,040
country from the spacex team the nasa

304
00:11:43,750 --> 00:11:42,560
team and certifying it

305
00:11:45,670 --> 00:11:43,760
you know i was thinking about some of

306
00:11:46,550 --> 00:11:45,680
the meetings we have and and spacex and

307
00:11:48,870 --> 00:11:46,560
nasa

308
00:11:49,829 --> 00:11:48,880
work so well together at times during

309
00:11:51,030 --> 00:11:49,839
these meetings

310
00:11:52,790 --> 00:11:51,040
people will finish each other's

311
00:11:54,470 --> 00:11:52,800
sentences one person on the spacex side

312
00:11:56,069 --> 00:11:54,480
may say something and nasa

313
00:11:58,389 --> 00:11:56,079

knows exactly what that person is

314
00:12:00,949 --> 00:11:58,399
thinking is just tremendous teamwork

315
00:12:02,870 --> 00:12:00,959
uh dragon's doing well in orbit uh the

316
00:12:04,949 --> 00:12:02,880
crew is out of their suits right now

317
00:12:05,910 --> 00:12:04,959
uh the crew is uh in the middle of a

318
00:12:08,230 --> 00:12:05,920
meal

319
00:12:10,710 --> 00:12:08,240
uh they'll go to bed uh this afternoon

320
00:12:11,670 --> 00:12:10,720
hear about two eastern and sleep until

321
00:12:15,430 --> 00:12:11,680
about

322
00:12:18,069 --> 00:12:15,440
their suits

323
00:12:20,389 --> 00:12:18,079
saturday morning at about 2 50 a.m

324
00:12:22,550 --> 00:12:20,399
eastern time

325
00:12:24,069 --> 00:12:22,560
for the final rendezvous and docking and

326
00:12:26,870 --> 00:12:24,079
they'll make contact about

327
00:12:28,870 --> 00:12:26,880
5 10 a.m eastern with a final docking

328
00:12:30,310 --> 00:12:28,880
around 5 23 a.m so

329
00:12:32,470 --> 00:12:30,320
kind of a busy time for the crew and the

330
00:12:35,030 --> 00:12:32,480
ground teams as they look over dragon

331
00:12:36,550 --> 00:12:35,040
as i said dragon is doing very well

332
00:12:37,990 --> 00:12:36,560
today the weather cooperated you know we

333
00:12:39,269 --> 00:12:38,000
moved the launch one day we looked at

334
00:12:41,110 --> 00:12:39,279
the abort weather

335
00:12:43,190 --> 00:12:41,120
and the down range aboard track wasn't

336
00:12:45,910 --> 00:12:43,200
very good for thursday we moved that

337
00:12:48,310 --> 00:12:45,920
launch one day and the weather just

338
00:12:50,310 --> 00:12:48,320

cooperated great today

339
00:12:52,949 --> 00:12:50,320
you know the vehicle improvements that

340
00:12:55,670 --> 00:12:52,959
spacex embarked upon for this flight

341
00:12:57,350 --> 00:12:55,680
uh adding capability to uh to handle

342
00:12:58,150 --> 00:12:57,360
onshore winds today was a difference

343
00:13:01,110 --> 00:12:58,160
really

344
00:13:02,790 --> 00:13:01,120
in getting off with the onshore winds

345
00:13:04,870 --> 00:13:02,800
with the vehicle we had for crew one and

346
00:13:06,790 --> 00:13:04,880
demo two we would not have gotten off

347
00:13:08,069 --> 00:13:06,800
the countdown was very smooth we worked

348
00:13:10,389 --> 00:13:08,079
a couple of things

349
00:13:11,269 --> 00:13:10,399
checking out a cover on the draco

350
00:13:12,629 --> 00:13:11,279
thruster

351
00:13:13,750 --> 00:13:12,639
and making sure the hydraulic system was

352
00:13:15,910 --> 00:13:13,760
ready to go but other than that the

353
00:13:17,430 --> 00:13:15,920
countdown was extremely smooth today

354
00:13:19,110 --> 00:13:17,440
a lot of people worked very hard to put

355
00:13:21,269 --> 00:13:19,120
that together and then

356
00:13:23,030 --> 00:13:21,279
uh as kathy alluded to it's a busy time

357
00:13:24,069 --> 00:13:23,040
for us we'll uh we'll get the crew

358
00:13:27,750 --> 00:13:24,079
docked

359
00:13:30,069 --> 00:13:27,760
uh on saturday and then uh after we

360
00:13:31,990 --> 00:13:30,079
get them safely on board we'll start to

361
00:13:35,030 --> 00:13:32,000
focus on the crew one return

362
00:13:38,470 --> 00:13:35,040
and uh we're looking at undocking

363
00:13:39,269 --> 00:13:38,480

on wednesday april the 28th at about 7

364
00:13:42,470 --> 00:13:39,279
a.m

365
00:13:45,030 --> 00:13:42,480
eastern time and the targeted touchdown

366
00:13:48,230 --> 00:13:45,040
is tallahassee with uh with a landing

367
00:13:49,990 --> 00:13:48,240
on wednesday april 28th about 12 40.

368
00:13:51,430 --> 00:13:50,000
it's a busy time for us it's an exciting

369
00:13:52,790 --> 00:13:51,440
time it's the first time we've done this

370
00:13:55,030 --> 00:13:52,800
direct handover

371
00:13:57,590 --> 00:13:55,040
and i'm just really proud to be part of

372
00:14:04,069 --> 00:14:00,150
thanks steve now we have joel montalbano

373
00:14:06,230 --> 00:14:04,079
manager of the iss program at nasa

374
00:14:08,710 --> 00:14:06,240
hello again that just an outstanding

375
00:14:11,030 --> 00:14:08,720
launch and a great way to end the week

376
00:14:12,230 --> 00:14:11,040
you know we're excited to have another

377
00:14:15,269 --> 00:14:12,240
commercial crew

378
00:14:16,949 --> 00:14:15,279
mission on board and in space coming to

379
00:14:19,110 --> 00:14:16,959
the international space station

380
00:14:20,949 --> 00:14:19,120
and these missions allow us to keep our

381
00:14:22,710 --> 00:14:20,959
utilization research program

382
00:14:23,590 --> 00:14:22,720
our technology development for artemis

383
00:14:25,430 --> 00:14:23,600
and our low earth orbit

384
00:14:27,269 --> 00:14:25,440
commercialization activities

385
00:14:28,470 --> 00:14:27,279
onboard the international space station

386
00:14:30,710 --> 00:14:28,480
moving forward

387
00:14:32,710 --> 00:14:30,720
with an incredible amount of steep you

388
00:14:34,629 --> 00:14:32,720

know these these missions they enable

389
00:14:36,550 --> 00:14:34,639
these activities on board so we're

390
00:14:38,150 --> 00:14:36,560
excited to have it we're also excited to

391
00:14:40,389 --> 00:14:38,160
have 11 people on board

392
00:14:42,069 --> 00:14:40,399
after docking and it'll only be a short

393
00:14:42,949 --> 00:14:42,079
time but it's something that we've been

394
00:14:45,189 --> 00:14:42,959
preparing for

395
00:14:47,189 --> 00:14:45,199
and we're looking forward to it after

396
00:14:48,710 --> 00:14:47,199
launch we did inform the crew on board

397
00:14:49,990 --> 00:14:48,720
the international space station that we

398
00:14:52,790 --> 00:14:50,000
had a successful launch

399
00:14:53,189 --> 00:14:52,800
and company was on its way they didn't

400
00:14:55,269 --> 00:14:53,199
pass

401
00:14:57,350 --> 00:14:55,279
uh congratulations to the team on the

402
00:14:58,150 --> 00:14:57,360
ground and i'd like to also pass my

403
00:15:00,150 --> 00:14:58,160
congratulations

404
00:15:02,470 --> 00:15:00,160
to the commercial crew program and the

405
00:15:06,069 --> 00:15:02,480
spacex teams for just an outstanding

406
00:15:08,710 --> 00:15:06,079
outstanding launch today thank you

407
00:15:09,590 --> 00:15:08,720
thanks joel now we have hiroshi sasaki

408
00:15:11,590 --> 00:15:09,600
vice president

409
00:15:14,310 --> 00:15:11,600
and director general of jax's human

410
00:15:16,069 --> 00:15:14,320
space flight technology directorate

411
00:15:18,310 --> 00:15:16,079
thank you for the introduction i'm

412
00:15:20,870 --> 00:15:18,320
hirosha saki a vice president for

413
00:15:23,750 --> 00:15:20,880

jackson responsible for human space

414
00:15:26,389 --> 00:15:23,760
flight and space exploration

415
00:15:27,670 --> 00:15:26,399
first of all on behalf of jackson i'd

416
00:15:30,550 --> 00:15:27,680
like to express

417
00:15:31,829 --> 00:15:30,560
my sister thanks to nasa spacex and all

418
00:15:34,870 --> 00:15:31,839
staff

419
00:15:39,350 --> 00:15:34,880
who have been working for these missions

420
00:15:42,389 --> 00:15:39,360
under the severe kobe 19 situations

421
00:15:42,870 --> 00:15:42,399
uh as reported areas the crew dragon was

422
00:15:46,230 --> 00:15:42,880
launched

423
00:15:49,430 --> 00:15:46,240
into the orbit nominally the mission

424
00:15:49,749 --> 00:15:49,440
sequence is still going on but i'd like

425
00:15:51,990 --> 00:15:49,759
to

426
00:15:54,150 --> 00:15:52,000
congratulate all of you on the

427
00:15:56,870 --> 00:15:54,160
successful launch

428
00:15:57,269 --> 00:15:56,880
i have already seen grow dragon launch

429
00:15:59,590 --> 00:15:57,279
for

430
00:16:00,949 --> 00:15:59,600
japanese astronaut search nomuji last

431
00:16:03,990 --> 00:16:00,959
november

432
00:16:08,870 --> 00:16:04,000
and i am so delighted again to be

433
00:16:11,430 --> 00:16:08,880
part of the team uh here today

434
00:16:13,430 --> 00:16:11,440
it is uh really a great pleasure not

435
00:16:16,470 --> 00:16:13,440
only for me but also the japan

436
00:16:19,430 --> 00:16:16,480
that the two japanese astronauts

437
00:16:20,949 --> 00:16:19,440
soichi and aki on board the professional

438
00:16:24,550 --> 00:16:20,959

flight of crew dragon

439
00:16:25,910 --> 00:16:24,560
twice in a row they will meet together

440
00:16:29,189 --> 00:16:25,920
at the iss

441
00:16:29,670 --> 00:16:29,199
i believe this is brought by the very

442
00:16:32,470 --> 00:16:29,680
close

443
00:16:36,389 --> 00:16:32,480
tie between japan and the u.s for many

444
00:16:39,110 --> 00:16:36,399
years through the iss program

445
00:16:40,550 --> 00:16:39,120
there on board the crew 2 will

446
00:16:43,670 --> 00:16:40,560
contribute

447
00:16:45,030 --> 00:16:43,680
to the explanation 6562 mission as a

448
00:16:47,990 --> 00:16:45,040
commander

449
00:16:48,629 --> 00:16:48,000
i hope he will jointly create fruitful

450
00:16:51,990 --> 00:16:48,639
outcomes

451
00:16:53,990 --> 00:16:52,000
together with his fellow astronauts

452
00:16:56,470 --> 00:16:54,000
working also very closely with

453
00:16:59,269 --> 00:16:56,480
colleagues on the ground

454
00:17:00,949 --> 00:16:59,279
during these missions jackson's planning

455
00:17:02,710 --> 00:17:00,959
performed various scientific

456
00:17:04,390 --> 00:17:02,720
and technical research such as the

457
00:17:07,750 --> 00:17:04,400
protein

458
00:17:10,309 --> 00:17:07,760
crystal growth for medicine design

459
00:17:11,750 --> 00:17:10,319
contributing to the people on the ground

460
00:17:14,630 --> 00:17:11,760
and demonstrations

461
00:17:15,750 --> 00:17:14,640
on enhanced water recovery system

462
00:17:19,110 --> 00:17:15,760
preparing the

463
00:17:19,590 --> 00:17:19,120

future exploration mission as well jaxa

464
00:17:22,870 --> 00:17:19,600
is

465
00:17:25,110 --> 00:17:22,880
also going to hold a robotic program

466
00:17:26,949 --> 00:17:25,120
challenge with nasa to inspire young

467
00:17:29,270 --> 00:17:26,959
people around the world

468
00:17:31,510 --> 00:17:29,280
i am looking forward to see that aki

469
00:17:32,150 --> 00:17:31,520
will contribute to those activities

470
00:17:36,470 --> 00:17:32,160
through

471
00:17:39,350 --> 00:17:36,480
the great teamwork i believe the crew 2

472
00:17:41,510 --> 00:17:39,360
mission is a symbol of international and

473
00:17:44,950 --> 00:17:41,520
industry partnership

474
00:17:45,830 --> 00:17:44,960
four crew members from nasa isa and jaxa

475
00:17:49,590 --> 00:17:45,840
on board

476
00:17:52,150 --> 00:17:49,600
good dragon launched by the spacex

477
00:17:52,710 --> 00:17:52,160
i believe it's the first time that nasa

478
00:17:56,070 --> 00:17:52,720
issa

479
00:18:01,029 --> 00:17:56,080
and jax astronauts flying to and stay

480
00:18:03,510 --> 00:18:01,039
for long duration at the iss together

481
00:18:05,510 --> 00:18:03,520
human space activities are really a

482
00:18:06,710 --> 00:18:05,520
great global interview that people

483
00:18:09,110 --> 00:18:06,720
pushing the

484
00:18:09,909 --> 00:18:09,120
human boundaries from the leo to the

485
00:18:13,669 --> 00:18:09,919
moon and

486
00:18:15,110 --> 00:18:13,679
even beyond i'm confident that the

487
00:18:17,669 --> 00:18:15,120
international partnership

488
00:18:19,110 --> 00:18:17,679

is truly important and japan will

489
00:18:21,750 --> 00:18:19,120
contribute to take

490
00:18:23,350 --> 00:18:21,760
part in this human endeavor by making

491
00:18:26,390 --> 00:18:23,360
the best use of the

492
00:18:34,549 --> 00:18:31,430
such as ecosystem and transfer vehicles

493
00:18:36,710 --> 00:18:34,559
we are going together once again

494
00:18:38,870 --> 00:18:36,720
congratulations on the successful launch

495
00:18:42,870 --> 00:18:38,880
thank you

496
00:18:45,909 --> 00:18:42,880
davina manager of the iss

497
00:18:49,430 --> 00:18:45,919
program at esa

498
00:18:51,350 --> 00:18:49,440
thank you jackie what a great day and

499
00:18:53,110 --> 00:18:51,360
what an excitement to see the four crew

500
00:18:56,789 --> 00:18:53,120
members and of course our

501
00:18:58,710 --> 00:18:56,799
isa astronaut thomas peske

502
00:19:00,470 --> 00:18:58,720
dragon to the international space

503
00:19:03,350 --> 00:19:00,480
station

504
00:19:06,390 --> 00:19:03,360
it's a great time for us we have

505
00:19:09,190 --> 00:19:06,400
permanently now four usos crew members

506
00:19:10,150 --> 00:19:09,200
on orbit meaning that the crew time that

507
00:19:12,789 --> 00:19:10,160
we have available

508
00:19:14,630 --> 00:19:12,799
for science and utilization has

509
00:19:17,029 --> 00:19:14,640
drastically increased and

510
00:19:18,070 --> 00:19:17,039
we thank the partners and of course uh

511
00:19:20,789 --> 00:19:18,080
spacex and

512
00:19:21,430 --> 00:19:20,799
nasa with all the international partners

513
00:19:23,990 --> 00:19:21,440

to make this

514
00:19:24,630 --> 00:19:24,000
uh happen tomorrow we'll have a busy

515
00:19:27,270 --> 00:19:24,640
schedule

516
00:19:28,150 --> 00:19:27,280
uh on the 15th of july we will also

517
00:19:31,190 --> 00:19:28,160
launch the

518
00:19:33,830 --> 00:19:31,200
mlm module with our colleagues from

519
00:19:35,669 --> 00:19:33,840
roscosmos and on that module will be the

520
00:19:37,750 --> 00:19:35,679
european robotic arm

521
00:19:39,190 --> 00:19:37,760
and so tomorrow will also be involved in

522
00:19:39,590 --> 00:19:39,200
the commissioning and the checkout of

523
00:19:41,510 --> 00:19:39,600
this

524
00:19:44,310 --> 00:19:41,520
european robotic arm that we have been

525
00:19:47,110 --> 00:19:44,320
waiting for long uh to launch to the

526
00:19:48,310 --> 00:19:47,120
international space station and after

527
00:19:51,350 --> 00:19:48,320
tomorrow we will uh

528
00:19:53,510 --> 00:19:51,360
have matthias more that will launch

529
00:19:55,190 --> 00:19:53,520
in the fall of this year and after that

530
00:19:56,070 --> 00:19:55,200
samantha crystal ferretti so for the

531
00:19:58,310 --> 00:19:56,080
first time

532
00:19:59,270 --> 00:19:58,320
we will have three astronauts in a row

533
00:20:00,789 --> 00:19:59,280
that will be

534
00:20:02,630 --> 00:20:00,799
permanently on board of the

535
00:20:05,430 --> 00:20:02,640
international space station so

536
00:20:07,350 --> 00:20:05,440
really great times to come for for the

537
00:20:09,909 --> 00:20:07,360
european space agency

538
00:20:11,909 --> 00:20:09,919

uh all the science technology that we do

539
00:20:13,909 --> 00:20:11,919
it's of course for the benefit of

540
00:20:15,190 --> 00:20:13,919
people here on earth and uh for

541
00:20:17,190 --> 00:20:15,200
humankind

542
00:20:18,710 --> 00:20:17,200
but it's also to prepare for the future

543
00:20:20,230 --> 00:20:18,720
uh isa

544
00:20:22,070 --> 00:20:20,240
together with our colleagues from

545
00:20:23,350 --> 00:20:22,080
jackson and canada are part of the

546
00:20:25,110 --> 00:20:23,360
gateway program

547
00:20:27,830 --> 00:20:25,120
we are looking forward to whether

548
00:20:29,909 --> 00:20:27,840
further work with nasa on those programs

549
00:20:30,870 --> 00:20:29,919
to have our esa astronauts fly to the

550
00:20:33,190 --> 00:20:30,880
gateway

551
00:20:35,430 --> 00:20:33,200
but not stop there we also want to have

552
00:20:37,110 --> 00:20:35,440
in the future our esa astronauts walk on

553
00:20:39,990 --> 00:20:37,120
the surface of the moon so

554
00:20:40,470 --> 00:20:40,000
exciting times to be in human space

555
00:20:43,190 --> 00:20:40,480
flight

556
00:20:43,990 --> 00:20:43,200
and really looking forward to further

557
00:20:46,230 --> 00:20:44,000
enhance

558
00:20:48,470 --> 00:20:46,240
this great international cooperation

559
00:20:51,909 --> 00:20:48,480
thank you

560
00:20:53,990 --> 00:20:51,919
the line

561
00:20:55,510 --> 00:20:54,000
press star one to get into the queue and

562
00:20:57,190 --> 00:20:55,520
ask a question

563
00:21:00,310 --> 00:20:57,200

first up we have marcia dunn with the

564
00:21:05,430 --> 00:21:02,870
gorgeous launch for elon could you

565
00:21:07,190 --> 00:21:05,440
describe your emotions at liftoff and

566
00:21:09,590 --> 00:21:07,200
does it get any easier

567
00:21:11,669 --> 00:21:09,600
easier for you on a personal level level

568
00:21:15,669 --> 00:21:11,679
being responsible for lives after

569
00:21:20,870 --> 00:21:18,710
yeah it's it's very very intense

570
00:21:22,230 --> 00:21:20,880
um i suppose it does get a little bit

571
00:21:25,270 --> 00:21:22,240
easier but it's still

572
00:21:26,870 --> 00:21:25,280
extremely intense and uh i i usually

573
00:21:27,510 --> 00:21:26,880
can't sleep the night before launch and

574
00:21:29,990 --> 00:21:27,520
that's

575
00:21:31,350 --> 00:21:30,000
true of the night before this one so i

576
00:21:34,549 --> 00:21:31,360
haven't had much sleep

577
00:21:37,669 --> 00:21:34,559
um but uh unfortunately we've got

578
00:21:38,310 --> 00:21:37,679
a great team that are really um really

579
00:21:39,909 --> 00:21:38,320
proud of the

580
00:21:42,830 --> 00:21:39,919
incredible work the team's done and

581
00:21:46,070 --> 00:21:42,840
partnership with nasa

582
00:21:49,590 --> 00:21:47,990
yeah i suppose it gets a little bit

583
00:21:50,149 --> 00:21:49,600
easier but but still still pretty

584
00:21:53,590 --> 00:21:50,159
intense

585
00:21:59,270 --> 00:21:53,600
i have to say um

586
00:22:00,950 --> 00:21:59,280
so um yeah

587
00:22:02,470 --> 00:22:00,960
i can i kind of it's hard to believe

588
00:22:10,830 --> 00:22:02,480

that we're here doing this

589
00:22:14,149 --> 00:22:12,230
dream

590
00:22:16,789 --> 00:22:14,159
thank you and now we have bill hardwood

591
00:22:19,190 --> 00:22:16,799
with cbs

592
00:22:20,950 --> 00:22:19,200
thanks uh and and again congratulations

593
00:22:22,870 --> 00:22:20,960
to all of you uh for this launch free

594
00:22:23,669 --> 00:22:22,880
crew dragon flights in less than a year

595
00:22:26,390 --> 00:22:23,679
is

596
00:22:27,430 --> 00:22:26,400
quite a record and i guess for mr musk i

597
00:22:29,190 --> 00:22:27,440
realized

598
00:22:30,549 --> 00:22:29,200
this current flight is less than two

599
00:22:32,070 --> 00:22:30,559
hours old right now but

600
00:22:33,270 --> 00:22:32,080
can you tell us anything about the

601
00:22:34,470 --> 00:22:33,280
schedule for the next flight the

602
00:22:36,549 --> 00:22:34,480
inspiration

603
00:22:38,710 --> 00:22:36,559
uh four launch schedule and and one

604
00:22:40,390 --> 00:22:38,720
question i think a lot of us have is is

605
00:22:42,230 --> 00:22:40,400
how do you do that flight without

606
00:22:43,990 --> 00:22:42,240
working with nasa i mean in terms of

607
00:22:47,270 --> 00:22:44,000
crew quarters and suit up and

608
00:22:48,789 --> 00:22:47,280
facilities in general right

609
00:22:51,110 --> 00:22:48,799
um yeah well i think we'll we'll still

610
00:22:52,710 --> 00:22:51,120
be obviously uh coordinating with nasa

611
00:22:55,430 --> 00:22:52,720
and

612
00:22:57,350 --> 00:22:55,440
the th that'll be you know put a free

613
00:23:00,470 --> 00:22:57,360

flyer mission with um

614
00:23:01,990 --> 00:23:00,480
a a kind of a big uh

615
00:23:03,830 --> 00:23:02,000
kind of glass dome on the front instead

616
00:23:05,590 --> 00:23:03,840
of docking adapter so

617
00:23:07,430 --> 00:23:05,600
it should give a quite a different feel

618
00:23:08,310 --> 00:23:07,440
for like to really you should really

619
00:23:11,190 --> 00:23:08,320
feel like you're

620
00:23:12,310 --> 00:23:11,200
you're in space more than one you know

621
00:23:15,110 --> 00:23:12,320
because it'll just be

622
00:23:17,990 --> 00:23:15,120
you just surrounded by a glass um or

623
00:23:20,310 --> 00:23:18,000
acrylic technically but

624
00:23:21,029 --> 00:23:20,320
um yeah so yeah we're looking forward to

625
00:23:23,590 --> 00:23:21,039
that mission

626
00:23:24,470 --> 00:23:23,600
um but i'll obviously still be work you

627
00:23:25,990 --> 00:23:24,480
know

628
00:23:27,510 --> 00:23:26,000
working in coordination with nasa for

629
00:23:29,990 --> 00:23:27,520
that mission so

630
00:23:31,190 --> 00:23:30,000
um that that should be hopefully like as

631
00:23:33,750 --> 00:23:31,200
the name suggests uh

632
00:23:34,870 --> 00:23:33,760
inspiration you know and actually you

633
00:23:36,789 --> 00:23:34,880
know i think that's the

634
00:23:38,230 --> 00:23:36,799
best thing about you know human space

635
00:23:39,830 --> 00:23:38,240
flight is that

636
00:23:41,669 --> 00:23:39,840
it's one of those things that makes

637
00:23:44,230 --> 00:23:41,679
people excited about the future

638
00:23:45,669 --> 00:23:44,240

uh you know you look forward to you know

639
00:23:46,710 --> 00:23:45,679
wake up in the morning and think hey

640
00:23:48,310 --> 00:23:46,720
what's going to be great about the

641
00:23:50,149 --> 00:23:48,320
future it's like man if we're out there

642
00:23:52,630 --> 00:23:50,159
and we're a space spring civilization

643
00:23:54,630 --> 00:23:52,640
and and visiting other planets and

644
00:23:55,830 --> 00:23:54,640
exciting plants i think that's

645
00:23:58,710 --> 00:23:55,840
that's what gets one of those things

646
00:24:03,990 --> 00:23:58,720
that gets people fired up you know

647
00:24:06,789 --> 00:24:04,000
yeah silly let's be fired up obviously

648
00:24:09,269 --> 00:24:06,799
thank you now we have eric berger with

649
00:24:11,430 --> 00:24:09,279
rs technica

650
00:24:13,190 --> 00:24:11,440
hi good morning and congratulations to

651
00:24:15,669 --> 00:24:13,200
uh to everyone on this

652
00:24:16,310 --> 00:24:15,679
um a couple questions first of all maybe

653
00:24:18,149 --> 00:24:16,320
for

654
00:24:19,830 --> 00:24:18,159
steve stitch can you comment on the fact

655
00:24:21,110 --> 00:24:19,840
that you know in less than four years i

656
00:24:23,350 --> 00:24:21,120
guess it's been about four years since

657
00:24:25,190 --> 00:24:23,360
spacex first launched a falcon 9

658
00:24:26,549 --> 00:24:25,200
rocket for the second time the ses-10

659
00:24:29,350 --> 00:24:26,559
mission um

660
00:24:31,350 --> 00:24:29,360
has it been a rapid process to try to

661
00:24:33,590 --> 00:24:31,360
get to certification

662
00:24:35,510 --> 00:24:33,600
or the falcon 9 you know previously

663
00:24:37,430 --> 00:24:35,520

phone rockets for crew

664
00:24:39,110 --> 00:24:37,440
and elon can you comment on the human

665
00:24:40,870 --> 00:24:39,120
landing system award last friday

666
00:24:43,430 --> 00:24:40,880
you know how important is it to spacex

667
00:24:43,669 --> 00:24:43,440
that nasa showed that kind of confidence

668
00:24:48,390 --> 00:24:43,679
in

669
00:24:48,870 --> 00:24:48,400
the vehicle for the moon and potentially

670
00:24:52,230 --> 00:24:48,880
mars

671
00:24:53,830 --> 00:24:52,240
thank you yeah yeah i'll take the first

672
00:24:55,190 --> 00:24:53,840
question regarding the certification of

673
00:24:57,990 --> 00:24:55,200
the falcon 9

674
00:24:59,830 --> 00:24:58,000
you know for uh for the first flight for

675
00:25:01,510 --> 00:24:59,840
demo two for bob and doug we had gone

676
00:25:04,310 --> 00:25:01,520
through a certification

677
00:25:05,110 --> 00:25:04,320
of of the rocket uh for that very for

678
00:25:06,549 --> 00:25:05,120
one flight

679
00:25:08,789 --> 00:25:06,559
so we had started to understand the

680
00:25:10,470 --> 00:25:08,799
systems we actually follow

681
00:25:12,789 --> 00:25:10,480
the whole fleet of all the flights that

682
00:25:14,070 --> 00:25:12,799
spacex flies spacex has been a great

683
00:25:15,909 --> 00:25:14,080
partner in sharing data

684
00:25:17,830 --> 00:25:15,919
and every single flight and we were able

685
00:25:20,470 --> 00:25:17,840
to look at the performance so

686
00:25:22,310 --> 00:25:20,480
over time we started to understand uh

687
00:25:23,830 --> 00:25:22,320
how the engines perform how the rocket

688
00:25:25,909 --> 00:25:23,840

itself performs

689
00:25:27,350 --> 00:25:25,919
and then in a partnership with spacex we

690
00:25:30,390 --> 00:25:27,360
went through and looked at

691
00:25:33,590 --> 00:25:30,400
every single piece of the launch vehicle

692
00:25:35,110 --> 00:25:33,600
the engines the structures

693
00:25:36,710 --> 00:25:35,120
everything about the re-entry and the

694
00:25:39,830 --> 00:25:36,720
heating and we were able to

695
00:25:41,990 --> 00:25:39,840
in about 10 months go through

696
00:25:43,430 --> 00:25:42,000
on the order of 400 or so certification

697
00:25:46,710 --> 00:25:43,440
products

698
00:25:48,950 --> 00:25:46,720
by spacex we also did

699
00:25:51,430 --> 00:25:48,960
our independent analysis of certain key

700
00:25:53,830 --> 00:25:51,440
components from a structural perspective

701
00:25:55,110 --> 00:25:53,840
we looked at the heating for entry and

702
00:25:56,710 --> 00:25:55,120
and did an independent

703
00:25:58,310 --> 00:25:56,720
assessment of that to make sure that we

704
00:26:00,070 --> 00:25:58,320
were comfortable with the

705
00:26:01,430 --> 00:26:00,080
with the margins and so it was a quite

706
00:26:03,269 --> 00:26:01,440
an extensive effort

707
00:26:04,789 --> 00:26:03,279
in 10 months by our team and an

708
00:26:08,149 --> 00:26:04,799
incredible partnership between nasa and

709
00:26:13,669 --> 00:26:11,430
and elon yeah

710
00:26:15,269 --> 00:26:13,679
it's it's a great honor to be chosen by

711
00:26:18,230 --> 00:26:15,279
nasa to

712
00:26:19,350 --> 00:26:18,240
return uh people to the moon um it's

713
00:26:22,789 --> 00:26:19,360

been

714
00:26:25,590 --> 00:26:22,799
now almost half a century since humans

715
00:26:27,029 --> 00:26:25,600
were last on the moon it's too long we

716
00:26:29,830 --> 00:26:27,039
need to get back there

717
00:26:31,110 --> 00:26:29,840
and uh and have a permanent base in the

718
00:26:33,190 --> 00:26:31,120
moon i think a

719
00:26:34,230 --> 00:26:33,200
like a big permanently occupied base on

720
00:26:37,350 --> 00:26:34,240
the moon

721
00:26:38,870 --> 00:26:37,360
and uh and then build a city on mars and

722
00:26:40,390 --> 00:26:38,880
become a space spring you know like

723
00:26:41,430 --> 00:26:40,400
space rank civilization a multi-planet

724
00:26:42,789 --> 00:26:41,440
species

725
00:26:44,310 --> 00:26:42,799
we don't want to be one of those single

726
00:26:46,310 --> 00:26:44,320
planet species we want to be a

727
00:26:53,430 --> 00:26:46,320
multi-planet species

728
00:26:56,710 --> 00:26:53,440
um you know so

729
00:26:58,950 --> 00:26:56,720
yeah thank you

730
00:27:00,549 --> 00:26:58,960
now we have irene klotz with aviation

731
00:27:02,630 --> 00:27:00,559
week

732
00:27:04,390 --> 00:27:02,640
thanks jackie and congratulations that

733
00:27:07,830 --> 00:27:04,400
was a really exotic launch

734
00:27:11,350 --> 00:27:07,840
this morning um elon um

735
00:27:15,110 --> 00:27:11,360
how will the funding from hls

736
00:27:18,230 --> 00:27:15,120
impact your design and development and

737
00:27:20,950 --> 00:27:18,240
schedule for starship and what's been

738
00:27:25,909 --> 00:27:20,960

kind of your technological challenge

739
00:27:29,269 --> 00:27:27,430
well i mean it's definitely really

740
00:27:30,950 --> 00:27:29,279
helpful in funding this the sasha

741
00:27:32,549 --> 00:27:30,960
program

742
00:27:35,990 --> 00:27:32,559
it's mostly been funded internally thus

743
00:27:37,510 --> 00:27:36,000
far and it's pretty expensive

744
00:27:39,190 --> 00:27:37,520
um as you can tell if you've been

745
00:27:42,710 --> 00:27:39,200
watching the videos we've you know

746
00:27:46,630 --> 00:27:42,720
blown up a few of them so

747
00:27:48,870 --> 00:27:46,640
excitement guaranteed one way or another

748
00:27:49,909 --> 00:27:48,880
so it's it's a it's a tough uh vehicle

749
00:27:53,269 --> 00:27:49,919
to build because we're

750
00:27:55,990 --> 00:27:53,279
we're trying to crack this nut of uh a

751
00:27:57,909 --> 00:27:56,000
rapid and fully enrol you know fully and

752
00:27:59,430 --> 00:27:57,919
rapidly reusable rocket

753
00:28:01,269 --> 00:27:59,440
and i apologize i'm a little slow enough

754
00:28:02,230 --> 00:28:01,279
to take care of them going on not much

755
00:28:05,029 --> 00:28:02,240
sleep at all

756
00:28:06,149 --> 00:28:05,039
um but the the thing that's really

757
00:28:09,430 --> 00:28:06,159
important to

758
00:28:11,430 --> 00:28:09,440
revolutionize space is

759
00:28:14,149 --> 00:28:11,440
a rapidly reusable rocket that's

760
00:28:16,549 --> 00:28:14,159
reliable too

761
00:28:17,190 --> 00:28:16,559
so that's really what what needs to

762
00:28:20,230 --> 00:28:17,200
happen

763
00:28:23,269 --> 00:28:20,240

um if that if that can be done

764
00:28:25,110 --> 00:28:23,279
then like the cost of access to orbit

765
00:28:28,830 --> 00:28:25,120
and beyond can be reduced by

766
00:28:32,310 --> 00:28:28,840
potentially a factor of 100 or more so

767
00:28:36,389 --> 00:28:34,149
that's that's really what what what is

768
00:28:37,830 --> 00:28:36,399
um most important about

769
00:28:40,310 --> 00:28:37,840
it's got to be done by somebody's got to

770
00:28:42,950 --> 00:28:40,320
do this um

771
00:28:43,990 --> 00:28:42,960
and uh and if that is if you have rapid

772
00:28:47,430 --> 00:28:44,000
and complete reusability

773
00:28:51,110 --> 00:28:47,440
then that that opens up that's that is

774
00:28:54,230 --> 00:28:53,110
that's what matters that's what we're

775
00:28:56,630 --> 00:28:54,240
trying to get done

776
00:28:59,669 --> 00:28:56,640
and the support of nasa is it makes a

777
00:29:01,909 --> 00:28:59,679
huge difference

778
00:29:03,510 --> 00:29:01,919
thank you to media on the line just a

779
00:29:05,110 --> 00:29:03,520
reminder to focus your questions this

780
00:29:08,230 --> 00:29:05,120
morning on the crew 2 mission

781
00:29:09,990 --> 00:29:08,240
that would be greatly appreciated

782
00:29:12,950 --> 00:29:10,000
uh next up we have joey roulette with

783
00:29:15,190 --> 00:29:12,960
the verge hey thanks jackie

784
00:29:17,990 --> 00:29:15,200
and congrats everyone on a good launch

785
00:29:19,669 --> 00:29:18,000
the questions for elon musk

786
00:29:21,029 --> 00:29:19,679
from your perspective i was just

787
00:29:22,789 --> 00:29:21,039
wondering if you

788
00:29:24,630 --> 00:29:22,799

are plugged in or if you have any idea

789
00:29:25,350 --> 00:29:24,640
what to hold up on getting an agreement

790
00:29:27,430 --> 00:29:25,360
with

791
00:29:29,750 --> 00:29:27,440
the russians for flying cosmonauts on

792
00:29:31,830 --> 00:29:29,760
crew dragon is would you like to see

793
00:29:33,430 --> 00:29:31,840
cosmonauts flying on crew dragons sooner

794
00:29:35,190 --> 00:29:33,440
than later and uh since

795
00:29:38,070 --> 00:29:35,200
hls was mentioned earlier i just was

796
00:29:41,750 --> 00:29:38,080
just wondering um how soon will starship

797
00:29:43,909 --> 00:29:41,760
be able to put humans on the moon thanks

798
00:29:45,430 --> 00:29:43,919
i i do not have any insight on on that

799
00:29:46,950 --> 00:29:45,440
with regard to the cosmos but

800
00:29:48,950 --> 00:29:46,960
of course we would be uh you know

801
00:29:52,549 --> 00:29:48,960
honored to fly um

802
00:29:54,870 --> 00:29:52,559
cosmonauts on dragon um but i do not

803
00:29:56,230 --> 00:29:54,880
have any insight into any potential

804
00:29:57,909 --> 00:29:56,240
objections i i'm not

805
00:29:59,669 --> 00:29:57,919
perhaps this may be just a

806
00:30:02,710 --> 00:29:59,679
communications uh

807
00:30:04,789 --> 00:30:02,720
breakdown i don't know um but uh i don't

808
00:30:07,750 --> 00:30:04,799
have any insight into it

809
00:30:09,110 --> 00:30:07,760
yeah with that i mean that's we're we're

810
00:30:11,909 --> 00:30:09,120
actually working through

811
00:30:13,190 --> 00:30:11,919
the agreements right now and i think

812
00:30:14,710 --> 00:30:13,200
people understand

813
00:30:16,870 --> 00:30:14,720

and i think we talked about this in the

814
00:30:18,549 --> 00:30:16,880
post-fr news conference that people

815
00:30:22,389 --> 00:30:18,559
understand

816
00:30:25,830 --> 00:30:22,399
the importance of you know crew swaps

817
00:30:28,870 --> 00:30:25,840
for supportability of iss

818
00:30:32,710 --> 00:30:28,880
and so we're working through that um

819
00:30:36,630 --> 00:30:35,029
it takes a while sometimes i found out

820
00:30:37,669 --> 00:30:36,640
there's lots of people to coordinate

821
00:30:39,510 --> 00:30:37,679
with so

822
00:30:41,110 --> 00:30:39,520
it doesn't happen as fast probably as i

823
00:30:45,990 --> 00:30:41,120
want it to

824
00:30:52,950 --> 00:30:47,990
thank you and now we have stephen clark

825
00:30:56,310 --> 00:30:54,389
thank you and congratulations to

826
00:30:59,350 --> 00:30:56,320
everyone uh my question

827
00:31:00,230 --> 00:30:59,360
is for elon musk as well um this was the

828
00:31:02,470 --> 00:31:00,240
first time

829
00:31:04,470 --> 00:31:02,480
uh you've watched astronauts on a reused

830
00:31:05,990 --> 00:31:04,480
shopkin 9 and crew dragon although it's

831
00:31:06,630 --> 00:31:06,000
far from the first time you've done that

832
00:31:07,909 --> 00:31:06,640
for

833
00:31:10,630 --> 00:31:07,919
you know overall through your flight

834
00:31:13,509 --> 00:31:10,640
history i'm curious

835
00:31:14,710 --> 00:31:13,519
you know as you develop starship uh to

836
00:31:16,950 --> 00:31:14,720
focus on that rapid

837
00:31:18,630 --> 00:31:16,960
full usability as you're flying your

838
00:31:20,070 --> 00:31:18,640

manifest with falcon 9.

839
00:31:22,389 --> 00:31:20,080
um how many missions do you think you

840
00:31:23,909 --> 00:31:22,399
can get out of the falcon 9 booster

841
00:31:25,909 --> 00:31:23,919
um and is that something you're you're

842
00:31:28,310 --> 00:31:25,919
willing to push the limit on to

843
00:31:28,950 --> 00:31:28,320
you know keep flying one until it breaks

844
00:31:37,590 --> 00:31:28,960
or

845
00:31:40,389 --> 00:31:37,600
booster

846
00:31:40,789 --> 00:31:40,399
going forward well that doesn't seem to

847
00:31:45,190 --> 00:31:40,799
be

848
00:31:47,830 --> 00:31:45,200
obvious limit to the

849
00:31:49,509 --> 00:31:47,840
reusability of the the vehicle um and

850
00:31:52,149 --> 00:31:49,519
yeah we do intend to fly

851
00:31:53,590 --> 00:31:52,159
the falcon booster until we see some

852
00:31:55,110 --> 00:31:53,600
kind of a failure with the stalling

853
00:31:56,149 --> 00:31:55,120
missions obviously just have that be a

854
00:31:58,070 --> 00:31:56,159
life leader

855
00:31:59,750 --> 00:31:58,080
um and we're just actually talking in

856
00:32:00,870 --> 00:31:59,760
the in the control room uh so we're

857
00:32:03,350 --> 00:32:00,880
talking with the

858
00:32:04,710 --> 00:32:03,360
um between spacex nasa and we're like

859
00:32:05,750 --> 00:32:04,720
wondering you know what like what's the

860
00:32:07,430 --> 00:32:05,760
optimal

861
00:32:09,669 --> 00:32:07,440
number of launches for you know do you

862
00:32:11,990 --> 00:32:09,679
want to be on a on a brand new

863
00:32:12,870 --> 00:32:12,000

booster or we probably don't want to be

864
00:32:16,149 --> 00:32:12,880
on the life leader

865
00:32:18,070 --> 00:32:16,159
for for a crew mission um but uh but

866
00:32:19,269 --> 00:32:18,080
you know it's probably good to have a a

867
00:32:20,710 --> 00:32:19,279
flight or two

868
00:32:22,389 --> 00:32:20,720
under its belt for the booster to have

869
00:32:23,590 --> 00:32:22,399
flown you know once or twice i think if

870
00:32:25,509 --> 00:32:23,600
it was like a

871
00:32:27,190 --> 00:32:25,519
you know an aircraft coming out of an

872
00:32:28,549 --> 00:32:27,200
aircraft factory you'd want the aircraft

873
00:32:29,269 --> 00:32:28,559
to probably have gone on a test flight

874
00:32:32,950 --> 00:32:29,279
or two

875
00:32:34,710 --> 00:32:32,960
before you know you put passengers on so

876
00:32:36,230 --> 00:32:34,720
uh you know i think that's probably you

877
00:32:38,230 --> 00:32:36,240
know a couple of flights is a

878
00:32:40,149 --> 00:32:38,240
good number to have for a for crew

879
00:32:43,269 --> 00:32:40,159
booster and um

880
00:32:44,870 --> 00:32:43,279
in the meantime we'll keep flying the uh

881
00:32:46,389 --> 00:32:44,880
the live leader we've got nine flights

882
00:32:48,070 --> 00:32:46,399
on one of the boosters we're gonna have

883
00:32:48,710 --> 00:32:48,080
a tenth flight soon with a starlight

884
00:32:51,430 --> 00:32:48,720
mission

885
00:32:52,870 --> 00:32:51,440
and um yeah we're learning a lot about

886
00:32:55,350 --> 00:32:52,880
reusability and

887
00:32:56,389 --> 00:32:55,360
it's a hard problem for rockets i mean

888
00:32:59,430 --> 00:32:56,399

there's a reason it's not

889
00:33:02,950 --> 00:32:59,440
it had really you know right now

890
00:33:04,549 --> 00:33:02,960
falcon is the only um partially reusable

891
00:33:06,389 --> 00:33:04,559
rocket being flown you know with the

892
00:33:07,750 --> 00:33:06,399
brewster coming back and the fairing

893
00:33:09,190 --> 00:33:07,760
coming back but we still can't we don't

894
00:33:10,070 --> 00:33:09,200
reuse the upper stage or the dragon

895
00:33:12,950 --> 00:33:10,080
trunk

896
00:33:13,430 --> 00:33:12,960
and so with the starship we just like

897
00:33:18,310 --> 00:33:13,440
hopefully

898
00:33:20,470 --> 00:33:18,320
this is a hard problem for rockets

899
00:33:23,830 --> 00:33:20,480
that's for sure and it's taking us

900
00:33:26,870 --> 00:33:23,840
uh we're like 19 years in

901
00:33:29,990 --> 00:33:26,880
um but i think

902
00:33:33,110 --> 00:33:30,000
the i think we can see

903
00:33:36,789 --> 00:33:33,120
the the starship design can work

904
00:33:38,070 --> 00:33:36,799
it's just it's a hard thing to solve um

905
00:33:41,350 --> 00:33:38,080
and the support nasa is very much

906
00:33:42,950 --> 00:33:41,360
appreciated in this regard um

907
00:33:48,149 --> 00:33:42,960
i don't know i think it's gonna i think

908
00:33:58,389 --> 00:33:50,149
thank you and next up we have david

909
00:34:05,350 --> 00:34:01,830
hi there sorry unmuting um

910
00:34:06,710 --> 00:34:05,360
for anybody nasa or spacex

911
00:34:08,710 --> 00:34:06,720
was bob banking allowed to leave

912
00:34:12,149 --> 00:34:08,720
anything for megan in

913
00:34:12,869 --> 00:34:12,159

the dragon and elon uh it's been a long

914
00:34:15,669 --> 00:34:12,879
journey

915
00:34:18,389 --> 00:34:15,679
uh with the hls and everything else on

916
00:34:20,230 --> 00:34:18,399
the arc of what you're hoping to do

917
00:34:22,710 --> 00:34:20,240
are you going faster or slower i know

918
00:34:24,950 --> 00:34:22,720
you had some frustrations early but

919
00:34:25,829 --> 00:34:24,960
where do you see bigger picture we are

920
00:34:30,629 --> 00:34:25,839
where we need to go

921
00:34:33,990 --> 00:34:32,710
i guess i'll take the question of bob

922
00:34:35,589 --> 00:34:34,000
you know

923
00:34:37,109 --> 00:34:35,599
i don't know of anything specific that

924
00:34:40,310 --> 00:34:37,119
he left for megan

925
00:34:41,909 --> 00:34:40,320
um he certainly left a lot of uh love

926
00:34:43,669 --> 00:34:41,919
tenderness and care of that vehicle

927
00:34:45,510 --> 00:34:43,679
while he flew it and

928
00:34:47,270 --> 00:34:45,520
you know for me as the program manager

929
00:34:48,470 --> 00:34:47,280
for commercial crew it's pretty exciting

930
00:34:50,149 --> 00:34:48,480
to see

931
00:34:52,389 --> 00:34:50,159
you know bob having flown that vehicle

932
00:34:54,230 --> 00:34:52,399
for the first time testing it out

933
00:34:55,669 --> 00:34:54,240
and taking it for a spin for his wife

934
00:34:58,550 --> 00:34:55,679
megan and she gets to take it for a

935
00:35:01,030 --> 00:34:58,560
little longer so it's kind of cool

936
00:35:02,470 --> 00:35:01,040
to see the two fly in the same vehicle

937
00:35:03,190 --> 00:35:02,480
and the first time that we've reused

938
00:35:06,870 --> 00:35:03,200

that vehicle

939
00:35:10,390 --> 00:35:08,550
yeah actually i don't know if people saw

940
00:35:11,109 --> 00:35:10,400
the the zero g indicator this time which

941
00:35:13,589 --> 00:35:11,119
is uh this

942
00:35:14,870 --> 00:35:13,599
cute fluffy penguin called my first

943
00:35:18,150 --> 00:35:14,880
penguin

944
00:35:18,870 --> 00:35:18,160
that's floating around in zero g right

945
00:35:23,030 --> 00:35:18,880
now

946
00:35:28,950 --> 00:35:23,040
that but it's it's kind of cute

947
00:35:33,190 --> 00:35:31,750
it's yes it's been 19 years uh since

948
00:35:35,670 --> 00:35:33,200
starting spacex

949
00:35:36,390 --> 00:35:35,680
and uh certainly a lot of adventures

950
00:35:37,910 --> 00:35:36,400
along the way

951
00:35:40,870 --> 00:35:37,920
some some tough times and a lot of good

952
00:35:42,630 --> 00:35:40,880
times um

953
00:35:43,990 --> 00:35:42,640
i'd say it's only recently though that i

954
00:35:47,589 --> 00:35:44,000
i think that i i

955
00:35:48,790 --> 00:35:47,599
feel that uh phone rapid reusability can

956
00:35:52,069 --> 00:35:48,800
be accomplished

957
00:35:55,589 --> 00:35:52,079
um i wasn't sure for a long time but i

958
00:36:00,790 --> 00:35:58,150
thank you and next up we have jeff faust

959
00:36:02,950 --> 00:36:00,800
with space news

960
00:36:03,910 --> 00:36:02,960
uh good morning uh question for elon

961
00:36:05,750 --> 00:36:03,920
musk um

962
00:36:07,270 --> 00:36:05,760
you know it took years of development to

963
00:36:08,790 --> 00:36:07,280

get the crew dragon to the point where

964
00:36:09,750 --> 00:36:08,800
you could have a successful series of

965
00:36:12,150 --> 00:36:09,760
missions like

966
00:36:13,589 --> 00:36:12,160
crew 2 this morning uh at what point do

967
00:36:14,630 --> 00:36:13,599
you think starship will be ready to

968
00:36:18,069 --> 00:36:14,640
start carrying people

969
00:36:18,550 --> 00:36:18,079
thanks well i think we are trying to

970
00:36:20,710 --> 00:36:18,560
keep

971
00:36:22,790 --> 00:36:20,720
the questions to uh you know we're

972
00:36:23,750 --> 00:36:22,800
limited to this you know this mission

973
00:36:26,069 --> 00:36:23,760
but

974
00:36:26,950 --> 00:36:26,079
um civical speculate with respect to i

975
00:36:31,670 --> 00:36:26,960
mean

976
00:36:34,150 --> 00:36:31,680
as you know i tend to be somewhat

977
00:36:41,349 --> 00:36:34,160
optimistic with respect to schedules uh

978
00:36:43,190 --> 00:36:41,359
um i feel i should acknowledge this uh

979
00:36:44,550 --> 00:36:43,200
but um you know so take that with a

980
00:36:47,030 --> 00:36:44,560
grain of salt but um

981
00:36:47,829 --> 00:36:47,040
i i think it's not out of the question

982
00:36:50,390 --> 00:36:47,839
that it could be

983
00:36:52,310 --> 00:36:50,400
ready for flag fly people in a couple of

984
00:36:53,990 --> 00:36:52,320
years

985
00:36:57,910 --> 00:36:54,000
obviously we need to like not be making

986
00:37:01,430 --> 00:37:00,550
you know i was like hop in we're we're

987
00:37:04,790 --> 00:37:01,440
going to mars no

988
00:37:06,950 --> 00:37:04,800

not quite not yet um

989
00:37:07,990 --> 00:37:06,960
it's got some work to do but making

990
00:37:09,510 --> 00:37:08,000
rapid progress i think

991
00:37:10,790 --> 00:37:09,520
if they're we're going to make sure

992
00:37:12,069 --> 00:37:10,800
we're accelerating the rate of

993
00:37:14,710 --> 00:37:12,079
innovation

994
00:37:17,349 --> 00:37:14,720
and then it could be right in a couple

995
00:37:21,990 --> 00:37:20,829
thank you now we have eric nyler with

996
00:37:24,390 --> 00:37:22,000
wired

997
00:37:25,030 --> 00:37:24,400
uh greetings uh congratulations to

998
00:37:29,670 --> 00:37:25,040
everybody

999
00:37:33,270 --> 00:37:29,680
um senator bill nelson mentioned a 2024

1000
00:37:35,670 --> 00:37:33,280
timetable for for a lunar landing

1001
00:37:37,109 --> 00:37:35,680
through hls during a confirmation

1002
00:37:37,990 --> 00:37:37,119
hearing on capitol hill and i'm just

1003
00:37:40,470 --> 00:37:38,000
wondering

1004
00:37:42,069 --> 00:37:40,480
uh from elon whether that's kind of a

1005
00:37:47,190 --> 00:37:42,079
crazy talk or is that

1006
00:38:01,589 --> 00:37:51,670
i think that can be done um

1007
00:38:05,510 --> 00:38:04,069
i think we're yeah we're we're we're

1008
00:38:06,870 --> 00:38:05,520
both gonna build a lot of rockets and

1009
00:38:10,390 --> 00:38:06,880
we're gonna probably smash a bunch of

1010
00:38:16,870 --> 00:38:13,670
i can i think i think this

1011
00:38:19,990 --> 00:38:16,880
i think it will happen i think 2024

1012
00:38:21,190 --> 00:38:20,000
this seems likely we're going to aim for

1013
00:38:24,390 --> 00:38:21,200

sooner than that but

1014
00:38:26,550 --> 00:38:24,400
i think you know i think we

1015
00:38:30,230 --> 00:38:26,560
try this this is this is actually doable

1016
00:38:33,750 --> 00:38:31,589
thanks and we have time for one more

1017
00:38:37,030 --> 00:38:33,760
question camden hall

1018
00:38:39,270 --> 00:38:37,040
from talk of titusville thanks for

1019
00:38:40,150 --> 00:38:39,280
taking my question my question is for

1020
00:38:41,829 --> 00:38:40,160
elon

1021
00:38:44,069 --> 00:38:41,839
where were you watching the launch from

1022
00:38:47,990 --> 00:38:44,079
were you in the lcc like you were

1023
00:38:52,550 --> 00:38:48,000
for demo 2 or somewhere else thanks

1024
00:38:55,510 --> 00:38:52,560
um yeah i was in launch control and the

1025
00:38:57,109 --> 00:38:55,520
yeah it's funny it's the same same place

1026
00:39:00,710 --> 00:38:57,119
the

1027
00:39:02,390 --> 00:39:00,720
missions will launch from you know it's

1028
00:39:03,510 --> 00:39:02,400
pretty wild it's the same windows same

1029
00:39:06,870 --> 00:39:03,520
glass

1030
00:39:07,990 --> 00:39:06,880
um so it's a little hard to see out at

1031
00:39:09,270 --> 00:39:08,000
night

1032
00:39:11,030 --> 00:39:09,280
during the day it's a lot easier yeah

1033
00:39:11,990 --> 00:39:11,040
the view from the roof is actually

1034
00:39:14,390 --> 00:39:12,000
better from

1035
00:39:15,430 --> 00:39:14,400
the view from launch control but you can

1036
00:39:21,430 --> 00:39:15,440
see all the data there

1037
00:39:21,440 --> 00:39:25,430
i don't know the future's looking good

1038
00:39:32,230 --> 00:39:26,790

like we're i think we're at the dawn of

1039
00:39:35,589 --> 00:39:34,150
thank you again to all of our speakers

1040
00:39:37,190 --> 00:39:35,599
and to our reporters

1041
00:39:39,190 --> 00:39:37,200
that's going to wrap things up for us

1042
00:39:41,030 --> 00:39:39,200
here our crew 2 mission coverage

1043
00:39:42,870 --> 00:39:41,040
continues on nasa tv

1044
00:39:44,710 --> 00:39:42,880
we'll have live coverage all the way to

1045
00:39:47,270 --> 00:39:44,720
the international space station

1046
00:39:47,990 --> 00:39:47,280
including true crew dragon docking hatch

1047
00:39:50,150 --> 00:39:48,000
opening

1048
00:39:51,750 --> 00:39:50,160
and the welcome ceremony docking is

1049
00:39:55,109 --> 00:39:51,760
targeting at 5

1050
00:39:56,069 --> 00:39:55,119
10 a.m saturday april 24th with hatch

1051
00:39:59,430 --> 00:39:56,079
opening at 7

1052
00:40:00,390 --> 00:39:59,440
15 a.m and the welcome ceremony at 7 45

1053
00:40:14,069 --> 00:40:00,400
a.m

1054
00:40:17,829 --> 00:40:15,750
station burn when dragon is about two

1055
00:40:19,990 --> 00:40:17,839
and a half kilometers below the station

1056
00:40:21,829 --> 00:40:20,000
and just about seven kilometers behind

1057
00:40:23,829 --> 00:40:21,839
it this will swing dragon up

1058
00:40:25,030 --> 00:40:23,839
until it's about 400 meters directly

1059
00:40:26,870 --> 00:40:25,040
below the station

1060
00:40:28,069 --> 00:40:26,880
this maneuver will also move dragon

1061
00:40:29,670 --> 00:40:28,079
inside one of two

1062
00:40:31,190 --> 00:40:29,680
safety zones around the station that

1063
00:40:32,950 --> 00:40:31,200

requires a set of go

1064
00:40:34,230 --> 00:40:32,960
no-go poles with the different control

1065
00:40:36,150 --> 00:40:34,240
teams the first

1066
00:40:37,589 --> 00:40:36,160
zone is called the approach ellipsoid

1067
00:40:39,190 --> 00:40:37,599
which is an imaginary shape

1068
00:40:40,870 --> 00:40:39,200
measuring four kilometers by two

1069
00:40:42,870 --> 00:40:40,880
kilometers by two kilometers

1070
00:40:45,349 --> 00:40:42,880
essentially a large three-dimensional

1071
00:40:45,910 --> 00:40:45,359
oval before dragon is given permission

1072
00:40:48,390 --> 00:40:45,920
to move

1073
00:40:50,470 --> 00:40:48,400
inside this ellipsoid uh referred to by

1074
00:40:52,230 --> 00:40:50,480
the teams as the ae

1075
00:40:54,630 --> 00:40:52,240
it's configured to be on what is known

1076
00:40:56,309 --> 00:40:54,640
as a 24-hour safe trajectory this means

1077
00:40:58,150 --> 00:40:56,319
that if dragon lost all control to its

1078
00:41:00,390 --> 00:40:58,160
thrusters it would be at least 24 hours

1079
00:41:03,109 --> 00:41:00,400
before the trajectory would move inside

1080
00:41:05,910 --> 00:41:03,119
that approach ellipsoid once dragon

1081
00:41:07,910 --> 00:41:05,920
arrives at 400 meters below station it

1082
00:41:08,630 --> 00:41:07,920
will be at what is known as waypoint

1083
00:41:10,390 --> 00:41:08,640
zero

1084
00:41:12,550 --> 00:41:10,400
and will be the first checkpoint during

1085
00:41:15,190 --> 00:41:12,560
our approach the vehicle can hold

1086
00:41:16,390 --> 00:41:15,200
at 400 meters or continue on if all

1087
00:41:18,950 --> 00:41:16,400
systems check out to

1088
00:41:19,990 --> 00:41:18,960

approach to waypoint one by this point

1089
00:41:22,309 --> 00:41:20,000
the teams will do

1090
00:41:23,910 --> 00:41:22,319
a go no go pull forward dragon to move

1091
00:41:25,349 --> 00:41:23,920
inside the keep out sphere

1092
00:41:27,190 --> 00:41:25,359
another zone that consists of an

1093
00:41:29,349 --> 00:41:27,200
imaginary sphere around the station with

1094
00:41:31,510 --> 00:41:29,359
a radius of 200 meters

1095
00:41:33,589 --> 00:41:31,520
it's another chance to confirm all the

1096
00:41:33,990 --> 00:41:33,599
guidance navigation and control systems

1097
00:41:36,150 --> 00:41:34,000
are working

1098
00:41:37,190 --> 00:41:36,160
correctly on dragon before moving closer

1099
00:41:38,870 --> 00:41:37,200
to the station

1100
00:41:41,109 --> 00:41:38,880
and carries a requirement similar to the

1101
00:41:41,670 --> 00:41:41,119
ae that dragon's orbital trajectory

1102
00:41:43,990 --> 00:41:41,680
would not

1103
00:41:44,950 --> 00:41:44,000
bring it inside that sphere if control

1104
00:41:48,230 --> 00:41:44,960
was lost

1105
00:41:50,870 --> 00:41:48,240
but this time only for four orbits or

1106
00:41:52,550 --> 00:41:50,880
about six hours instead of 24 hours

1107
00:41:54,710 --> 00:41:52,560
dragons move from waypoint zero to

1108
00:41:56,470 --> 00:41:54,720
waypoint one will swing it up and out in

1109
00:41:57,190 --> 00:41:56,480
front of the station pausing at a

1110
00:42:00,150 --> 00:41:57,200
distance

1111
00:42:01,829 --> 00:42:00,160
of approximately 220 meters at this

1112
00:42:03,829 --> 00:42:01,839
point it will be on what we call the

1113
00:42:05,670 --> 00:42:03,839

docking axis which essentially means

1114
00:42:06,470 --> 00:42:05,680
it's directly in front of the docking

1115
00:42:08,950 --> 00:42:06,480
port

1116
00:42:10,710 --> 00:42:08,960
the crew is headed to the forward most

1117
00:42:12,470 --> 00:42:10,720
port on the international space station

1118
00:42:14,230 --> 00:42:12,480
the node 2 forward port

1119
00:42:16,309 --> 00:42:14,240
that's where dragon docked for both of

1120
00:42:18,309 --> 00:42:16,319
our demonstration missions and where one

1121
00:42:20,790 --> 00:42:18,319
of two international docking adapters is

1122
00:42:22,550 --> 00:42:20,800
located these were installed for

1123
00:42:24,550 --> 00:42:22,560
new commercial spacecraft flights and

1124
00:42:27,510 --> 00:42:24,560
any other future spacecraft that also

1125
00:42:30,550 --> 00:42:27,520
used the international docking standard

1126
00:42:32,630 --> 00:42:30,560
once dragon is only 20 meters away at

1127
00:42:34,230 --> 00:42:32,640
waypoint 2 the spacecraft focuses on

1128
00:42:35,589 --> 00:42:34,240
aligning its docking system with the

1129
00:42:37,829 --> 00:42:35,599
docking adapter

1130
00:42:38,870 --> 00:42:37,839
dragon will then fly in and make contact

1131
00:42:41,990 --> 00:42:38,880
with the ida

1132
00:42:43,990 --> 00:42:42,000
giving us what we call soft capture soft

1133
00:42:46,230 --> 00:42:44,000
capture ring then retracts until

1134
00:42:48,950 --> 00:42:46,240
sensors indicate it's time for hooks to

1135
00:42:52,230 --> 00:42:48,960
drive in place to give us a hard capture

1136
00:42:54,150 --> 00:42:52,240
and firmly secure dragon to the station

1137
00:42:55,990 --> 00:42:54,160
then it's time for leak checks and hatch

1138
00:42:57,109 --> 00:42:56,000

opening which will which is currently

1139
00:43:00,630 --> 00:42:57,119
timeline to come

1140
00:43:02,550 --> 00:43:00,640
about two hours following jockey so we

1141
00:43:04,230 --> 00:43:02,560
have a lot of action still to come so

1142
00:43:06,230 --> 00:43:04,240
stay with us as we follow dragon

1143
00:43:20,390 --> 00:43:06,240
carrying nasa's crew 2 astronauts to the

1144
00:43:24,790 --> 00:43:22,630
thanks gary the crew is awake aboard the

1145
00:43:27,109 --> 00:43:24,800
station now getting ready to welcome the

1146
00:43:28,710 --> 00:43:27,119
crew to astronauts tomorrow

1147
00:43:30,710 --> 00:43:28,720
the crew onboard the station was

1148
00:43:32,710 --> 00:43:30,720
actually watching our coverage watching

1149
00:43:35,910 --> 00:43:32,720
the launch play out

1150
00:43:38,470 --> 00:43:35,920
astronaut victor glover tweeted tweeted

1151
00:43:40,470 --> 00:43:38,480
four pictures of the broadcast and the

1152
00:43:41,750 --> 00:43:40,480
crew watching aboard the international

1153
00:43:43,750 --> 00:43:41,760
space station

1154
00:43:45,030 --> 00:43:43,760
his tweet read welcome to low earth

1155
00:43:48,950 --> 00:43:45,040
orbit endeavor

1156
00:43:50,710 --> 00:43:48,960
godspeed tomorrow on docking day nasa's

1157
00:43:52,870 --> 00:43:50,720
victor glover will be primed for

1158
00:43:54,309 --> 00:43:52,880
monitoring dragon for its final approach

1159
00:43:55,510 --> 00:43:54,319
and will take the lead on hatch

1160
00:43:57,510 --> 00:43:55,520
operations

1161
00:43:59,430 --> 00:43:57,520
once the hatch the hatches are opened

1162
00:44:01,430 --> 00:43:59,440
after crew 2's arrival we'll have

1163
00:44:02,790 --> 00:44:01,440

11 people living aboard the station for

1164
00:44:04,550 --> 00:44:02,800
the next few days

1165
00:44:07,109 --> 00:44:04,560
station commander shannon walker will

1166
00:44:08,550 --> 00:44:07,119
give the new arrivals a safety briefing

1167
00:44:10,150 --> 00:44:08,560
they'll have a light day before heading

1168
00:44:11,990 --> 00:44:10,160
to sleep early while the rest of the

1169
00:44:13,750 --> 00:44:12,000
expedition 65 crew

1170
00:44:15,990 --> 00:44:13,760
conducts some additional science and

1171
00:44:17,190 --> 00:44:16,000
continues preparations for crew one to

1172
00:44:18,710 --> 00:44:17,200
return home

1173
00:44:21,030 --> 00:44:18,720
meanwhile here in mission control

1174
00:44:22,950 --> 00:44:21,040
houston the orbit 2 team is now on

1175
00:44:24,470 --> 00:44:22,960
console after a shift handover

1176
00:44:26,309 --> 00:44:24,480
the team of flight controllers here in

1177
00:44:28,710 --> 00:44:26,319
mission control houston is now being led

1178
00:44:30,790 --> 00:44:28,720
by flight director adi boulos

1179
00:44:33,190 --> 00:44:30,800
several hours before the crew boarded

1180
00:44:34,950 --> 00:44:33,200
dragon the space station team did their

1181
00:44:36,710 --> 00:44:34,960
own go no-go pull

1182
00:44:38,390 --> 00:44:36,720
and there were several systems that we

1183
00:44:40,390 --> 00:44:38,400
had to ensure were fully functioning

1184
00:44:41,270 --> 00:44:40,400
properly before nasa could give their go

1185
00:44:42,710 --> 00:44:41,280
for launch

1186
00:44:44,870 --> 00:44:42,720
everything is still looking good on the

1187
00:44:46,390 --> 00:44:44,880
station side for dragon's arrival

1188
00:44:49,750 --> 00:44:46,400

so that'll do it for us here in mission

1189
00:44:51,430 --> 00:44:49,760
control houston now back over to

1190
00:44:53,510 --> 00:44:51,440
all right thanks courtney good to hear

1191
00:44:55,750 --> 00:44:53,520
that everything's good on that side

1192
00:44:57,990 --> 00:44:55,760
over the last 20 years crews aboard the

1193
00:44:59,910 --> 00:44:58,000
space station have completed over 3

1194
00:45:02,309 --> 00:44:59,920
000 scientific and educational

1195
00:45:04,150 --> 00:45:02,319
experiments and crew 2 is prepared to

1196
00:45:06,069 --> 00:45:04,160
add to that growing number

1197
00:45:07,510 --> 00:45:06,079
once crew 2 arrives at the space station

1198
00:45:07,990 --> 00:45:07,520
they'll spend the next six months

1199
00:45:10,309 --> 00:45:08,000
working

1200
00:45:11,750 --> 00:45:10,319
in our orbital laboratory having seven

1201
00:45:13,430 --> 00:45:11,760
crew members on board

1202
00:45:15,109 --> 00:45:13,440
with five of those on the u.s side

1203
00:45:15,910 --> 00:45:15,119
compared to the three we've had for

1204
00:45:17,589 --> 00:45:15,920
years