1
00:00:20,230 --> 00:00:17,430
good evening and welcome to nasa's

2
00:00:22,710 --> 00:00:20,240
kennedy space center in florida for the

3
00:00:24,310 --> 00:00:22,720
spacex crs 11 post launch news

4
00:00:26,630 --> 00:00:24,320
conference we wouldn't be here if it

5
00:00:28,390 --> 00:00:26,640
weren't a tremendously successful day

6
00:00:31,589 --> 00:00:28,400
and we're all very pleased to be here

7
00:00:33,270 --> 00:00:31,599
and i'm happy to be joined by to my left

8
00:00:35,030 --> 00:00:33,280
mr ven fenn

9
00:00:37,270 --> 00:00:35,040
manager of the international space

10
00:00:38,950 --> 00:00:37,280
station transportation integration

11
00:00:40,549 --> 00:00:38,960
office at johnson space center in

12
00:00:44,310 --> 00:00:40,559
houston

13
00:00:49,670 --> 00:00:47,190

hans kunigsman spacex vice president of

14
00:00:51,590 --> 00:00:49,680
build and flight reliability and the

15
00:00:53,510 --> 00:00:51,600
chief engineer on console for today's

16
00:00:55,350 --> 00:00:53,520
successful launch gentlemen thank you

17
00:00:57,029 --> 00:00:55,360
for joining me thank you michael and

18
00:00:59,029 --> 00:00:57,039
we'll start off with uh some opening

19
00:01:00,950 --> 00:00:59,039
statements great uh it's great to be

20
00:01:03,110 --> 00:01:00,960
here thank you very much um and

21
00:01:05,030 --> 00:01:03,120
congratulations to our spacex colleagues

22
00:01:07,590 --> 00:01:05,040
another uh wonderful launch we're very

23
00:01:08,789 --> 00:01:07,600
much looking forward to having a dragon

24
00:01:10,789 --> 00:01:08,799
come visit

25
00:01:12,550 --> 00:01:10,799
come back to visit the space station

26
00:01:14,710 --> 00:01:12,560
in this case especially so because this

27
00:01:19,030 --> 00:01:14,720
dragon uh was one that had come to us

28
00:01:21,350 --> 00:01:19,040
previously back in 2014 on um crs4

29
00:01:23,109 --> 00:01:21,360
let's see it's been the space station is

30
00:01:25,749 --> 00:01:23,119
in excellent shape ready to receive

31
00:01:27,270 --> 00:01:25,759
dragon it's been a busy couple of days

32
00:01:29,830 --> 00:01:27,280
and a busy weekend

33
00:01:33,030 --> 00:01:29,840
yesterday the crew members for 49 s did

34
00:01:35,030 --> 00:01:33,040
safely land in kazakhstan this morning

35
00:01:36,789 --> 00:01:35,040
the on-orbit crew

36
00:01:38,310 --> 00:01:36,799
packed finished packing cygnus and

37
00:01:39,910 --> 00:01:38,320
closed the hatch

38
00:01:42,069 --> 00:01:39,920

tomorrow they'll unbirth cygnus and

39
00:01:44,149 --> 00:01:42,079
that'll clear the way for dragon to come

40
00:01:45,910 --> 00:01:44,159
back to space station on monday at 10

41
00:01:49,350 --> 00:01:45,920
a.m eastern

42
00:01:52,149 --> 00:01:49,360
thank you okay thank you hans i'm super

43
00:01:54,310 --> 00:01:52,159
happy as always after a good launch

44
00:01:56,870 --> 00:01:54,320
and i do want to really thank nasa for

45
00:01:59,429 --> 00:01:56,880
the opportunity to bring up cargo and uh

46
00:02:01,590 --> 00:01:59,439
and and and do what we uh what we love

47
00:02:03,990 --> 00:02:01,600
to do launching rockets and deploying

48
00:02:05,830 --> 00:02:04,000
spacecraft and um

49
00:02:09,270 --> 00:02:05,840
also like to uh like the opportunity to

50
00:02:11,029 --> 00:02:09,280
thank the team falcon19 did super great

51
00:02:14,070 --> 00:02:11,039
today

52
00:02:16,309 --> 00:02:14,080
and uh pat team work worked awesome

53
00:02:17,670 --> 00:02:16,319
dragon team is uh it's very busy right

54
00:02:20,390 --> 00:02:17,680
now i'm pretty sure they're doing

55
00:02:22,630 --> 00:02:20,400
they're doing excellent and then 41st

56
00:02:25,110 --> 00:02:22,640
spaceping and the faa that

57
00:02:26,390 --> 00:02:25,120
support us uh you know in a very great

58
00:02:28,150 --> 00:02:26,400
way today too

59
00:02:29,750 --> 00:02:28,160
so and and in particular the person i

60
00:02:30,949 --> 00:02:29,760
would like to thank is my micheline this

61
00:02:32,630 --> 00:02:30,959
was not uh

62
00:02:34,150 --> 00:02:32,640
not here at this press conference but

63
00:02:37,110 --> 00:02:34,160

who was at the other press conference

64
00:02:38,550 --> 00:02:37,120
for opening the skies and clearing the

65
00:02:41,670 --> 00:02:38,560
the clouds and

66
00:02:43,830 --> 00:02:41,680
making making it possible to launch

67
00:02:45,110 --> 00:02:43,840
through the florida afternoon summer

68
00:02:47,750 --> 00:02:45,120
afternoon

69
00:02:51,670 --> 00:02:50,229
dragon is on orbit the solar arrays are

70
00:02:53,750 --> 00:02:51,680
deployed

71
00:02:55,670 --> 00:02:53,760
they're working working well they're you

72
00:02:56,710 --> 00:02:55,680
know pointing to the sun and producing

73
00:02:59,509 --> 00:02:56,720
power

74
00:03:01,509 --> 00:02:59,519
um we will we will open the guidance and

75
00:03:04,550 --> 00:03:01,519
control door um

76
00:03:05,750 --> 00:03:04,560
a little bit later today and then

77
00:03:07,750 --> 00:03:05,760
as

78
00:03:09,030 --> 00:03:07,760
you already heard um dragon is going to

79
00:03:11,830 --> 00:03:09,040
birth

80
00:03:12,710 --> 00:03:11,840
with the station on monday morning uh

81
00:03:15,589 --> 00:03:12,720
yeah

82
00:03:17,830 --> 00:03:15,599
10 10 a.m exactly

83
00:03:21,270 --> 00:03:17,840
and the falcon 9 second stage has been

84
00:03:23,110 --> 00:03:21,280
deorbited it it landed

85
00:03:24,949 --> 00:03:23,120
in the ocean south

86
00:03:28,229 --> 00:03:24,959
west of australia

87
00:03:30,830 --> 00:03:28,239
and from what i can tell the mission was

88
00:03:33,830 --> 00:03:30,840

excellent and a great success and had

89
00:03:36,550 --> 00:03:33,840
no no hiccups

90
00:03:38,390 --> 00:03:36,560
the countdown was very smooth very quiet

91
00:03:40,149 --> 00:03:38,400
i had the opportunity to be back in my

92
00:03:42,149 --> 00:03:40,159
chief engineer role today

93
00:03:44,229 --> 00:03:42,159
and i really enjoyed it enjoyed it

94
00:03:45,830 --> 00:03:44,239
greatly and it was great fun maybe i do

95
00:03:46,949 --> 00:03:45,840
this again

96
00:03:50,550 --> 00:03:46,959
so

97
00:03:54,390 --> 00:03:52,630
we agree thank you hans

98
00:03:55,350 --> 00:03:54,400
okay at this time we'll take questions

99
00:03:56,949 --> 00:03:55,360
and

100
00:03:59,670 --> 00:03:56,959
for those of you who are following on

101
00:04:03,910 --> 00:03:59,680
social media please use the hashtag

102
00:04:05,429 --> 00:04:03,920
asknasa emily from our nasa social media

103
00:04:07,670 --> 00:04:05,439
group is here to

104
00:04:09,429 --> 00:04:07,680
facilitate getting your questions out if

105
00:04:11,110 --> 00:04:09,439
you're in the room please raise your

106
00:04:13,509 --> 00:04:11,120
hand if you have a question

107
00:04:15,190 --> 00:04:13,519
wait for the radio microphone state your

108
00:04:16,949 --> 00:04:15,200
name and affiliation

109
00:04:19,030 --> 00:04:16,959
and to whom you're addressing your

110
00:04:22,390 --> 00:04:19,040
question and we'll go ahead and take

111
00:04:24,390 --> 00:04:22,400
questions uh chris here in the front row

112
00:04:26,790 --> 00:04:24,400
uh chris gebhardt with nasa space flight

113
00:04:28,469 --> 00:04:26,800

um with one for both of you um for hans

114
00:04:30,469 --> 00:04:28,479
i'm wondering if you can talk a little

115
00:04:32,310 --> 00:04:30,479
bit about recovery operations for the

116
00:04:33,990 --> 00:04:32,320
booster i understand this is the first

117
00:04:35,670 --> 00:04:34,000
time you're going to start streamlining

118
00:04:38,550 --> 00:04:35,680
some of those processes for recovering

119
00:04:40,550 --> 00:04:38,560
the booster once it's landed

120
00:04:43,189 --> 00:04:40,560
and for the nasa question um can you

121
00:04:45,670 --> 00:04:43,199
talk a little bit about cygnus um being

122
00:04:50,390 --> 00:04:45,680
unbirthed about a month ahead of when it

123
00:04:54,230 --> 00:04:52,710
okay so i mean i think thanks for that

124
00:04:55,590 --> 00:04:54,240
question because i i

125
00:04:57,990 --> 00:04:55,600
should also mention the first stage

126
00:04:59,430 --> 00:04:58,000
landed really really well on the landing

127
00:05:01,990 --> 00:04:59,440
zone run um

128
00:05:05,189 --> 00:05:02,000
from what i can tell was a

129
00:05:07,510 --> 00:05:05,199
an excellent centered landing and uh

130
00:05:09,749 --> 00:05:07,520
and um we're gonna you know take the

131
00:05:11,749 --> 00:05:09,759
next couple days to uh

132
00:05:13,350 --> 00:05:11,759
to save it break it over and then bring

133
00:05:14,469 --> 00:05:13,360
it in the hangar and

134
00:05:16,070 --> 00:05:14,479
inspect it

135
00:05:18,310 --> 00:05:16,080
as you pointed out um we're gonna

136
00:05:20,150 --> 00:05:18,320
streamline it so it's gonna be um

137
00:05:21,189 --> 00:05:20,160
uh less inspections probably than the

138
00:05:23,270 --> 00:05:21,199

first one

139
00:05:24,790 --> 00:05:23,280
and um and then we got to decide what we

140
00:05:26,629 --> 00:05:24,800
do with that uh with this particular

141
00:05:28,950 --> 00:05:26,639
booster

142
00:05:31,430 --> 00:05:28,960
okay oh go ahead sorry with respect to

143
00:05:33,189 --> 00:05:31,440
cygnus um yeah it's just demonstrating

144
00:05:35,189 --> 00:05:33,199
its operational flexibility so a few

145
00:05:37,510 --> 00:05:35,199
months ago it came up and delivered

146
00:05:41,110 --> 00:05:37,520
about 3000 kilograms worth of

147
00:05:43,510 --> 00:05:41,120
cargo resupply and research and um based

148
00:05:44,870 --> 00:05:43,520
on its um it's we got everything out we

149
00:05:46,790 --> 00:05:44,880
got everything back in it's completely

150
00:05:48,870 --> 00:05:46,800
packed it's full of disposal as well as

151
00:05:50,629 --> 00:05:48,880
a few other experiments so because it's

152
00:05:53,110 --> 00:05:50,639
full we decided since we had this one

153
00:05:55,590 --> 00:05:53,120
day opportunity after the launch scrub

154
00:05:57,670 --> 00:05:55,600
on the first to go ahead and unbirth

155
00:05:59,510 --> 00:05:57,680
cygnus now it's got two experiments it's

156
00:06:01,110 --> 00:05:59,520
doing after

157
00:06:02,629 --> 00:06:01,120
post unbirth

158
00:06:03,909 --> 00:06:02,639
so it's going to stick around in orbit

159
00:06:05,670 --> 00:06:03,919
for about a week so it's going to do the

160
00:06:07,830 --> 00:06:05,680
sapphire experiment as well as deploy

161
00:06:10,469 --> 00:06:07,840
some nanoracks external deployers

162
00:06:11,590 --> 00:06:10,479
external payloads

163
00:06:13,830 --> 00:06:11,600

uh ken

164
00:06:16,309 --> 00:06:13,840
hi ken cramer from universe today in the

165
00:06:19,270 --> 00:06:16,319
northeast astronomy forum for um

166
00:06:21,430 --> 00:06:19,280
for hanson for nasa for hunts um

167
00:06:22,790 --> 00:06:21,440
can you talk about um any improvements

168
00:06:24,629 --> 00:06:22,800
that you have made you've learned

169
00:06:26,070 --> 00:06:24,639
lessons from from landing we talked

170
00:06:27,510 --> 00:06:26,080
about that a little bit before that you

171
00:06:28,870 --> 00:06:27,520
learned a couple i wonder if you have

172
00:06:29,749 --> 00:06:28,880
applied any

173
00:06:32,150 --> 00:06:29,759
um

174
00:06:34,629 --> 00:06:32,160
to this to this boot to this booster

175
00:06:36,629 --> 00:06:34,639
like the grid fins changing or the paint

176
00:06:38,710 --> 00:06:36,639
on the side or anything else to the

177
00:06:41,990 --> 00:06:38,720
engine that you can tell about about any

178
00:06:44,309 --> 00:06:42,000
engines and um for the for for nasa the

179
00:06:46,469 --> 00:06:44,319
how long um crew supplies we have now uh

180
00:06:49,110 --> 00:06:46,479
with this mission for the astronauts uh

181
00:06:51,749 --> 00:06:49,120
on the iss

182
00:06:53,909 --> 00:06:51,759
so um on this one the there's a visible

183
00:06:55,909 --> 00:06:53,919
change on the landing zone we um paint

184
00:06:57,510 --> 00:06:55,919
the deck

185
00:07:00,629 --> 00:06:57,520
with something that is more conductive

186
00:07:02,790 --> 00:07:00,639
that's the one you can see when you

187
00:07:07,110 --> 00:07:02,800
watch the camera on the first stage

188
00:07:10,550 --> 00:07:07,120

um other than that um we we fine-tune

189
00:07:13,110 --> 00:07:10,560
um minor parts and components

190
00:07:14,550 --> 00:07:13,120
um not not overall a whole lot of

191
00:07:16,230 --> 00:07:14,560
changes

192
00:07:19,749 --> 00:07:16,240
nothing good

193
00:07:23,670 --> 00:07:21,830
okay and with respect to uh consumables

194
00:07:25,270 --> 00:07:23,680
on board we're in really good shape on

195
00:07:27,350 --> 00:07:25,280
board right now it's uh greater than six

196
00:07:29,189 --> 00:07:27,360
months i think in all categories there

197
00:07:31,110 --> 00:07:29,199
is some food going up and i get those

198
00:07:33,110 --> 00:07:31,120
exact numbers for you afterwards

199
00:07:35,110 --> 00:07:33,120
but but really the utility of

200
00:07:37,189 --> 00:07:35,120
spacex and the spacex mission is science

201
00:07:38,710 --> 00:07:37,199
so we have literally tons of science

202
00:07:41,830 --> 00:07:38,720
going up on this so it's been focused

203
00:07:43,350 --> 00:07:41,840
more towards utilization and research

204
00:07:46,150 --> 00:07:43,360
but but we're in good shape as far as

205
00:07:47,749 --> 00:07:46,160
consumables on board

206
00:07:49,110 --> 00:07:47,759
okay we'll take a question here then

207
00:07:51,110 --> 00:07:49,120
then we'll go to the phone for a

208
00:07:53,350 --> 00:07:51,120
question and then uh emily has a couple

209
00:07:54,869 --> 00:07:53,360
of social media questions we'll take hi

210
00:07:56,629 --> 00:07:54,879
stephen clark from space flight now a

211
00:07:58,550 --> 00:07:56,639
couple of questions uh one for each of

212
00:08:01,029 --> 00:07:58,560
you i guess for hans

213
00:08:03,350 --> 00:08:01,039

with the two-day weather delay um

214
00:08:05,029 --> 00:08:03,360
does that impact your launch date

215
00:08:08,070 --> 00:08:05,039
mid-june at all

216
00:08:09,189 --> 00:08:08,080
for bulgaria set and for um

217
00:08:11,270 --> 00:08:09,199
vin

218
00:08:15,189 --> 00:08:11,280
can you talk a little bit about

219
00:08:17,909 --> 00:08:15,199
your status on crs-2 the crs-2 providers

220
00:08:19,909 --> 00:08:17,919
have you turned on any missions uh or

221
00:08:21,189 --> 00:08:19,919
ordered any missions uh

222
00:08:23,430 --> 00:08:21,199
from any of the three providers that you

223
00:08:24,830 --> 00:08:23,440
have under crs-2 yet and if so which

224
00:08:27,589 --> 00:08:24,840
ones

225
00:08:29,350 --> 00:08:27,599
thanks so with respect to the bulgaria

226
00:08:31,670 --> 00:08:29,360
then the next launch basically um it's

227
00:08:33,990 --> 00:08:31,680
still mid mid-june we gotta we gotta

228
00:08:36,630 --> 00:08:34,000
evaluate um if if anything moves um but

229
00:08:38,310 --> 00:08:36,640
that's currently that's not um

230
00:08:39,269 --> 00:08:38,320
not planned for

231
00:08:41,029 --> 00:08:39,279
um

232
00:08:43,029 --> 00:08:41,039
i guess that was all the questions you

233
00:08:45,509 --> 00:08:43,039
had from me right okay

234
00:08:47,190 --> 00:08:45,519
yeah let's see uh with respect to crs2

235
00:08:48,550 --> 00:08:47,200
yeah all three of our vendors are in

236
00:08:51,110 --> 00:08:48,560
very good shape

237
00:08:52,710 --> 00:08:51,120
they've all completed their first three

238
00:08:53,750 --> 00:08:52,720

iss integration reviews that was a

239
00:08:56,310 --> 00:08:53,760
kickoff

240
00:08:57,910 --> 00:08:56,320
that was requirements review and then

241
00:08:59,350 --> 00:08:57,920
preliminary design type review and all

242
00:09:00,310 --> 00:08:59,360
of them making progress towards the

243
00:09:01,590 --> 00:09:00,320
dates

244
00:09:03,030 --> 00:09:01,600
that they need to for the iss

245
00:09:05,030 --> 00:09:03,040
integration portion

246
00:09:07,269 --> 00:09:05,040
we have turned on one mission so far in

247
00:09:08,949 --> 00:09:07,279
crs2 and that's an orbital atk mission

248
00:09:11,829 --> 00:09:08,959
and that was just due to mission needs

249
00:09:13,590 --> 00:09:11,839
based on when their crs1

250
00:09:15,750 --> 00:09:13,600
when we look at the overall fleet of

251
00:09:18,310 --> 00:09:15,760
resupply vehicles out in that time frame

252
00:09:20,870 --> 00:09:18,320
and what capabilities they are there are

253
00:09:25,269 --> 00:09:20,880
and where crs1 timing ends up and we've

254
00:09:29,110 --> 00:09:27,269
okay let's go to the telephone and take

255
00:09:31,750 --> 00:09:29,120
a call from james dean from florida

256
00:09:32,870 --> 00:09:31,760
today james

257
00:09:35,910 --> 00:09:32,880
all right thanks so much i had a couple

258
00:09:37,509 --> 00:09:35,920
questions for hans first on flight rate

259
00:09:39,190 --> 00:09:37,519
you mentioned before

260
00:09:40,870 --> 00:09:39,200
the launch how that's improving i wonder

261
00:09:42,550 --> 00:09:40,880
if you could comment on

262
00:09:44,710 --> 00:09:42,560
you know what is enabling you to to

263
00:09:45,750 --> 00:09:44,720

sustain this this pace you've achieved

264
00:09:47,910 --> 00:09:45,760
so far

265
00:09:49,509 --> 00:09:47,920
this year and um

266
00:09:51,190 --> 00:09:49,519
i i think if schedules were to hold you

267
00:09:52,710 --> 00:09:51,200
have a particularly busy stretch coming

268
00:09:54,310 --> 00:09:52,720
up with launches from

269
00:09:56,470 --> 00:09:54,320
both coasts is that a particular

270
00:09:57,750 --> 00:09:56,480
challenge for you

271
00:10:00,710 --> 00:09:57,760
sorry i'm not sure i captured the

272
00:10:02,150 --> 00:10:00,720
question totally

273
00:10:04,550 --> 00:10:02,160
yeah

274
00:10:06,550 --> 00:10:04,560
james can you please ask that again uh

275
00:10:09,110 --> 00:10:06,560
your audio is just a little bit uh low

276
00:10:11,190 --> 00:10:09,120
here for us to hear

277
00:10:12,630 --> 00:10:11,200
okay i'm sorry i'll try again uh hans i

278
00:10:14,710 --> 00:10:12,640
wonder if you could comment on your

279
00:10:16,069 --> 00:10:14,720
flight rate so far this year what is

280
00:10:17,190 --> 00:10:16,079
enabling you

281
00:10:19,509 --> 00:10:17,200
to

282
00:10:21,910 --> 00:10:19,519
sustain this pace that you're at right

283
00:10:24,230 --> 00:10:21,920
now and you have a busy stretch coming

284
00:10:26,230 --> 00:10:24,240
up with launches from both coasts is

285
00:10:27,910 --> 00:10:26,240
that going to be a particular challenge

286
00:10:29,910 --> 00:10:27,920
for you coming up soon

287
00:10:31,430 --> 00:10:29,920
uh okay um yeah

288
00:10:32,949 --> 00:10:31,440

thank you that's a that's actually an

289
00:10:36,069 --> 00:10:32,959
excellent question um

290
00:10:38,870 --> 00:10:36,079
so a lot of that is um turning things

291
00:10:39,750 --> 00:10:38,880
into routine i would say and learning

292
00:10:41,990 --> 00:10:39,760
um

293
00:10:45,030 --> 00:10:42,000
just to deal with this operation better

294
00:10:47,110 --> 00:10:45,040
and better every time

295
00:10:49,190 --> 00:10:47,120
the situation that we launched from both

296
00:10:50,710 --> 00:10:49,200
coasts is something that uh

297
00:10:53,110 --> 00:10:50,720
is uh

298
00:10:54,949 --> 00:10:53,120
somewhat new for us we've had this in

299
00:10:57,750 --> 00:10:54,959
and and you know with a little bit of

300
00:11:00,230 --> 00:10:57,760
separation in the past um

301
00:11:02,949 --> 00:11:00,240
and uh we've uh we've set up the teams

302
00:11:05,590 --> 00:11:02,959
to be able to cope with that and uh

303
00:11:08,630 --> 00:11:05,600
basically have the ability to uh

304
00:11:10,230 --> 00:11:08,640
to launch from both sides uh within you

305
00:11:12,829 --> 00:11:10,240
know a short

306
00:11:21,430 --> 00:11:15,590
period okay um we have another caller on

307
00:11:26,150 --> 00:11:24,310
hi uh first off congratulations on the

308
00:11:27,110 --> 00:11:26,160
successful reuse of the the dragon

309
00:11:28,710 --> 00:11:27,120
capsule

310
00:11:30,630 --> 00:11:28,720
uh i was wondering now that you've

311
00:11:32,710 --> 00:11:30,640
achieved both the uh the first reuse of

312
00:11:35,190 --> 00:11:32,720
the first stage and the dragon capsule

313
00:11:35,990 --> 00:11:35,200

uh has nasa given any interest in using

314
00:11:45,030 --> 00:11:36,000
a

315
00:11:47,750 --> 00:11:45,040
question goes to you right yes so um so

316
00:11:50,230 --> 00:11:47,760
we are uh that that question has been

317
00:11:52,629 --> 00:11:50,240
posed we we are looking at it

318
00:11:55,430 --> 00:11:52,639
uh we are we're evaluating every aspect

319
00:11:58,069 --> 00:11:55,440
of it very carefully and there is no

320
00:11:59,990 --> 00:11:58,079
schedule yet when we might

321
00:12:01,750 --> 00:12:00,000
go down that path but but we're looking

322
00:12:02,710 --> 00:12:01,760
at it

323
00:12:06,069 --> 00:12:02,720
okay

324
00:12:08,230 --> 00:12:06,079
see how things are shaping up on social

325
00:12:10,150 --> 00:12:08,240
media emily do you have some questions

326
00:12:11,750 --> 00:12:10,160
yeah thanks mike uh this question is

327
00:12:13,269 --> 00:12:11,760
from mary robinette and she wants to

328
00:12:15,190 --> 00:12:13,279
know with the successful reuse of the

329
00:12:16,949 --> 00:12:15,200
dragon capsule and falcon 9's beautiful

330
00:12:18,790 --> 00:12:16,959
landing what's the next milestone you're

331
00:12:20,230 --> 00:12:18,800
aiming for

332
00:12:28,629 --> 00:12:20,240
um

333
00:12:30,629 --> 00:12:28,639
milestones coming up with falcon heavy

334
00:12:33,750 --> 00:12:30,639
and and crew dragon um

335
00:12:36,150 --> 00:12:33,760
uh both later this year so um

336
00:12:38,629 --> 00:12:36,160
uh that keeps us busy

337
00:12:39,990 --> 00:12:38,639
and um

338
00:12:42,790 --> 00:12:40,000

yeah what's i would say those are the

339
00:12:43,910 --> 00:12:42,800
the two the two major major milestones

340
00:12:45,750 --> 00:12:43,920
coming up

341
00:12:48,949 --> 00:12:45,760
it's so that that's actually those are

342
00:12:52,389 --> 00:12:50,310
great there are two more questions from

343
00:12:53,750 --> 00:12:52,399
social media this one's from joe foster

344
00:12:56,790 --> 00:12:53,760
how many missions do you think you can

345
00:12:59,269 --> 00:12:56,800
continue to reuse a dragon capsule

346
00:13:01,910 --> 00:12:59,279
so we we

347
00:13:03,990 --> 00:13:01,920
we planned for multiple missions um to

348
00:13:04,790 --> 00:13:04,000
be to be able to use dragon

349
00:13:06,230 --> 00:13:04,800
and

350
00:13:08,629 --> 00:13:06,240
when this dragon comes back we will

351
00:13:10,629 --> 00:13:08,639
evaluate and see if we um

352
00:13:12,949 --> 00:13:10,639
you know i described this last time you

353
00:13:15,110 --> 00:13:12,959
have this is like uh every component has

354
00:13:16,790 --> 00:13:15,120
a life and then every mission takes a

355
00:13:18,870 --> 00:13:16,800
little bit off and you have to have a

356
00:13:22,550 --> 00:13:18,880
certain life remaining basically in

357
00:13:24,310 --> 00:13:22,560
order to do the next mission with margin

358
00:13:26,150 --> 00:13:24,320
and and it depends a little bit on how

359
00:13:28,629 --> 00:13:26,160
that how that works out

360
00:13:31,030 --> 00:13:28,639
um if i had to guess probably a couple

361
00:13:33,910 --> 00:13:32,710
this last one's from matt camper he

362
00:13:36,870 --> 00:13:33,920
wants to know how did it feel to be the

363
00:13:37,350 --> 00:13:36,880

100th launch from 39a today

364
00:13:40,230 --> 00:13:37,360
great

365
00:13:41,829 --> 00:13:40,240
[Laughter]

366
00:13:42,870 --> 00:13:41,839
okay uh chris has a question here in the

367
00:13:45,430 --> 00:13:42,880
front row

368
00:13:48,069 --> 00:13:45,440
uh yeah for hans um what's the status of

369
00:13:49,590 --> 00:13:48,079
building the new landing pads at lz1 in

370
00:13:51,269 --> 00:13:49,600
preparation for falcon heavy later this

371
00:13:53,509 --> 00:13:51,279
year that's an excellent question i

372
00:13:56,550 --> 00:13:53,519
should have actually driven by that

373
00:13:59,750 --> 00:13:58,150
i don't think we're done with that yet

374
00:14:01,910 --> 00:13:59,760
but i think we started building it i

375
00:14:03,110 --> 00:14:01,920
mean it's just uh i i'm sorry i didn't i

376
00:14:09,509 --> 00:14:03,120
didn't have the time to drive by and

377
00:14:14,870 --> 00:14:11,509
stephen

378
00:14:16,790 --> 00:14:14,880
now again um

379
00:14:19,189 --> 00:14:16,800
your next mission i understand is sort

380
00:14:20,629 --> 00:14:19,199
of a longer mission for you bulgaria

381
00:14:21,590 --> 00:14:20,639
said i think it's something like six

382
00:14:24,150 --> 00:14:21,600
hours

383
00:14:26,710 --> 00:14:24,160
uh to spacecraft separation uh based on

384
00:14:28,710 --> 00:14:26,720
what i've heard from your customer

385
00:14:31,829 --> 00:14:28,720
um uh can you talk a little bit about

386
00:14:33,189 --> 00:14:31,839
that mission profile and and uh

387
00:14:35,189 --> 00:14:33,199
what's required to do that sort of

388
00:14:37,030 --> 00:14:35,199

injection

389
00:14:39,189 --> 00:14:37,040
uh are you sure

390
00:14:41,509 --> 00:14:39,199
um because i

391
00:14:43,509 --> 00:14:41,519
i didn't hear that so far and uh i would

392
00:14:44,949 --> 00:14:43,519
i would like you i would be

393
00:14:47,509 --> 00:14:44,959
you know i would have paid attention to

394
00:14:49,590 --> 00:14:47,519
that and um and looked into this more

395
00:14:51,350 --> 00:14:49,600
deeply but um

396
00:14:53,350 --> 00:14:51,360
i have to admit i i don't have the

397
00:14:55,430 --> 00:14:53,360
information on this

398
00:14:57,590 --> 00:14:55,440
it's it's it's from uh bulgaria said

399
00:14:58,710 --> 00:14:57,600
they did a journalist presentation uh

400
00:15:01,509 --> 00:14:58,720
last week

401
00:15:04,069 --> 00:15:01,519
um can we come back to you and maybe see

402
00:15:07,030 --> 00:15:04,079
if we can clarify that sure because i'd

403
00:15:10,310 --> 00:15:08,310
okay uh ken

404
00:15:11,430 --> 00:15:10,320
hi ken kramer again for hans um i was

405
00:15:13,670 --> 00:15:11,440
just wondering

406
00:15:16,230 --> 00:15:13,680
the dragon d you have considered using

407
00:15:17,990 --> 00:15:16,240
this as a as an orbiting science lab in

408
00:15:20,790 --> 00:15:18,000
the past i wonder do you have any any

409
00:15:21,990 --> 00:15:20,800
missions any plans any customers to fly

410
00:15:23,110 --> 00:15:22,000
the dragon

411
00:15:26,550 --> 00:15:23,120
in orbit

412
00:15:29,829 --> 00:15:28,230
i know i know we did we did consider

413
00:15:31,509 --> 00:15:29,839

that and i know we we worked on that but

414
00:15:33,670 --> 00:15:31,519
i don't know what the the current status

415
00:15:38,710 --> 00:15:33,680
on this project is whether we uh we will

416
00:15:41,670 --> 00:15:40,230
okay we're uh we're going to get the

417
00:15:44,389 --> 00:15:41,680
microphone to question here in the

418
00:15:46,550 --> 00:15:44,399
second row hi um mary ellen john from

419
00:15:48,389 --> 00:15:46,560
wave report space hans

420
00:15:50,230 --> 00:15:48,399
there's um some question about the

421
00:15:52,629 --> 00:15:50,240
damage that if there was any damage done

422
00:15:57,590 --> 00:15:52,639
to the dragon on the previous flight and

423
00:16:02,230 --> 00:15:59,110
on the previous flight you mean the

424
00:16:05,110 --> 00:16:02,240
flight before this flight the um ts so

425
00:16:05,990 --> 00:16:05,120
this dragon flew on crs-4

426
00:16:07,509 --> 00:16:06,000
and

427
00:16:10,310 --> 00:16:07,519
from what i can tell there was no

428
00:16:12,629 --> 00:16:10,320
particular damage when i say it takes

429
00:16:14,949 --> 00:16:12,639
lives of of components that's just

430
00:16:16,629 --> 00:16:14,959
normal operation that's basically just a

431
00:16:18,949 --> 00:16:16,639
shaking and rattling that you have

432
00:16:21,269 --> 00:16:18,959
during during launches and

433
00:16:23,509 --> 00:16:21,279
and it's not another particular damage

434
00:16:24,710 --> 00:16:23,519
per se that's what this the part is

435
00:16:26,790 --> 00:16:24,720
designed for

436
00:16:29,829 --> 00:16:26,800
i'm not aware of any damage to dragon on

437
00:16:31,749 --> 00:16:29,839
its then beyond that that usage

438
00:16:35,030 --> 00:16:31,759

uh the overall you know just the the

439
00:16:37,030 --> 00:16:35,040
normal normal usage on on last flight

440
00:16:39,269 --> 00:16:37,040
and then on the salt water front

441
00:16:43,269 --> 00:16:39,279
we've made steady progress to um

442
00:16:45,990 --> 00:16:45,030
just being in a salty atmosphere is

443
00:16:50,389 --> 00:16:46,000
usually

444
00:16:52,230 --> 00:16:50,399
uh already uh pretty pretty bad so um my

445
00:16:54,629 --> 00:16:52,240
understanding is right now that we've

446
00:16:57,670 --> 00:16:54,639
cleaned this up pretty well and

447
00:17:00,949 --> 00:16:57,680
and and that allows us to use more and

448
00:17:03,670 --> 00:17:02,230
okay

449
00:17:05,829 --> 00:17:03,680
emily do you have any other questions

450
00:17:07,429 --> 00:17:05,839
that you'd like to ask at this time all

451
00:17:09,350 --> 00:17:07,439
right uh then we'll wrap things up with

452
00:17:10,390 --> 00:17:09,360
a final question from sawyer

453
00:17:12,470 --> 00:17:10,400
thank you very much mike sawyer

454
00:17:14,710 --> 00:17:12,480
rosenstein with talking space uh for

455
00:17:16,230 --> 00:17:14,720
hans with the launches picking up now

456
00:17:18,630 --> 00:17:16,240
with there being more of them and with

457
00:17:21,270 --> 00:17:18,640
block five being capable of doing barge

458
00:17:23,189 --> 00:17:21,280
or land landings uh can you talk a

459
00:17:24,710 --> 00:17:23,199
little bit about the process for example

460
00:17:27,189 --> 00:17:24,720
two weeks coming up between launches in

461
00:17:28,470 --> 00:17:27,199
the decision process on barge versus

462
00:17:30,310 --> 00:17:28,480
land landings

463
00:17:32,390 --> 00:17:30,320

so the barge versus land landing is

464
00:17:33,830 --> 00:17:32,400
always driven by

465
00:17:35,750 --> 00:17:33,840
i want to say how much fuel you have

466
00:17:37,510 --> 00:17:35,760
left after your main mission

467
00:17:39,750 --> 00:17:37,520
and if you have enough fuel left you you

468
00:17:41,830 --> 00:17:39,760
return to the land that's um in

469
00:17:43,990 --> 00:17:41,840
generally easier for us and saves money

470
00:17:46,630 --> 00:17:44,000
because we don't have to send the

471
00:17:48,950 --> 00:17:46,640
drone ship out there

472
00:17:51,270 --> 00:17:48,960
in general it seems that drone ship and

473
00:17:53,669 --> 00:17:51,280
land landing are equally

474
00:17:56,470 --> 00:17:53,679
um i don't want to say easy

475
00:17:59,190 --> 00:17:56,480
but for for the rocket itself it seems

476
00:18:00,470 --> 00:17:59,200
to be the same basically

477
00:18:02,549 --> 00:18:00,480
in terms of

478
00:18:05,029 --> 00:18:02,559
of of hitting the the deck and hitting

479
00:18:08,150 --> 00:18:05,039
the the the landing spot

480
00:18:11,029 --> 00:18:08,160
or rather landing on the right spot

481
00:18:12,950 --> 00:18:11,039
so the decision is literally just

482
00:18:14,390 --> 00:18:12,960
depending on how

483
00:18:16,710 --> 00:18:14,400
how much fuel you have left and that

484
00:18:18,470 --> 00:18:16,720
depends on the orbit on the satellite

485
00:18:21,510 --> 00:18:18,480
how heavy the satellite is what kind of

486
00:18:23,270 --> 00:18:21,520
mission it is and

487
00:18:25,590 --> 00:18:23,280
and all these these factors so we know

488
00:18:28,390 --> 00:18:25,600

this in generally we know this um

489
00:18:30,549 --> 00:18:28,400
a while before i mean it's not not the

490
00:18:31,830 --> 00:18:30,559
two weeks um you know this month ahead

491
00:18:33,750 --> 00:18:31,840
of time

492
00:18:35,510 --> 00:18:33,760
so then you're working your schedules to

493
00:18:37,669 --> 00:18:35,520
adjust to try and account for the

494
00:18:39,669 --> 00:18:37,679
payload for that as well yeah i mean the

495
00:18:42,390 --> 00:18:39,679
two weeks um at the at the end of the

496
00:18:44,630 --> 00:18:42,400
day um yeah we you need to get the

497
00:18:46,310 --> 00:18:44,640
vehicle and the payload ready and um and

498
00:18:47,270 --> 00:18:46,320
we have multiple places where we can do

499
00:18:49,669 --> 00:18:47,280
this now

500
00:18:52,310 --> 00:18:49,679
so it's

501
00:18:55,029 --> 00:18:53,190
okay

502
00:18:56,789 --> 00:18:55,039
thank you very much for coming

503
00:18:58,549 --> 00:18:56,799
before we leave i wanted to

504
00:19:01,350 --> 00:18:58,559
let you know a couple of

505
00:19:03,190 --> 00:19:01,360
notes on nasa television before dragon

506
00:19:05,909 --> 00:19:03,200
arrives at the space station as venn was

507
00:19:08,150 --> 00:19:05,919
talking about orbital atk's cygnus cargo

508
00:19:09,590 --> 00:19:08,160
spacecraft is set to depart the station

509
00:19:12,549 --> 00:19:09,600
tomorrow

510
00:19:14,310 --> 00:19:12,559
expedition 52 flight engineers uh peggy

511
00:19:16,789 --> 00:19:14,320
whitson and jack fisher will be

512
00:19:19,270 --> 00:19:16,799
operating the robot arm nasa television

513
00:19:22,150 --> 00:19:19,280

coverage starts at 8 30 a.m eastern time

514
00:19:24,390 --> 00:19:22,160
for an expected 9 10 a.m release

515
00:19:26,549 --> 00:19:24,400
and then on monday dragon makes its

516
00:19:28,390 --> 00:19:26,559
arrival nasa television coverage will

517
00:19:31,110 --> 00:19:28,400
begin at 8 30 a.m

518
00:19:32,549 --> 00:19:31,120
for an expected capture at about 10 a.m

519
00:19:34,549 --> 00:19:32,559
eastern time

520
00:19:39,830 --> 00:19:34,559
and for more information on the spacex

521
00:19:42,070 --> 00:19:39,840
crs 11 mission please visit www.nasa.gov

522
00:19:46,950 --> 00:19:42,080
spacex and more information about the