1
00:00:08,070 --> 00:00:05,990
good morning with the successful and

2
00:00:10,230 --> 00:00:08,080
spectacular launch of falcon 9 and

3
00:00:13,110 --> 00:00:10,240
dragon early this morning we're pleased

4
00:00:15,350 --> 00:00:13,120
to welcome you to the spacex crs4

5
00:00:17,430 --> 00:00:15,360
post-launch news conference

6
00:00:20,310 --> 00:00:17,440
here to share their thoughts on the

7
00:00:22,150 --> 00:00:20,320
success today are sam chamimi

8
00:00:23,750 --> 00:00:22,160
the international space station division

9
00:00:25,189 --> 00:00:23,760
director from nasa headquarters in

10
00:00:27,189 --> 00:00:25,199
washington

11
00:00:29,109 --> 00:00:27,199
and hans kunigsman

12
00:00:31,029 --> 00:00:29,119
spacex vice president of mission

13
00:00:32,310 --> 00:00:31,039

assurance and the chief engineer for

14
00:00:33,910 --> 00:00:32,320
today's launch

15
00:00:35,510 --> 00:00:33,920
we'll uh start off with some opening

16
00:00:37,270 --> 00:00:35,520
comments and then we'll be happy to take

17
00:00:39,910 --> 00:00:37,280
questions sam

18
00:00:41,430 --> 00:00:39,920
thank you uh first i want to say what a

19
00:00:43,670 --> 00:00:41,440
beautiful morning it was this morning

20
00:00:45,430 --> 00:00:43,680
put the spacex launch

21
00:00:46,950 --> 00:00:45,440
on a beautiful night sky you can even

22
00:00:49,670 --> 00:00:46,960
see the stars and

23
00:00:50,869 --> 00:00:49,680
and the uh falcon 9

24
00:00:52,310 --> 00:00:50,879
launch vehicle going through the

25
00:00:54,630 --> 00:00:52,320
constellation orion this morning it was

26
00:00:57,270 --> 00:00:54,640
a beautiful sight uh i want to thank the

27
00:01:00,150 --> 00:00:57,280
spacex team and all the nasa teams from

28
00:01:02,950 --> 00:01:00,160
around the country and cases and all the

29
00:01:05,350 --> 00:01:02,960
other scientific and researchers that

30
00:01:06,630 --> 00:01:05,360
are participating on this this flight

31
00:01:09,350 --> 00:01:06,640
and this mission

32
00:01:10,950 --> 00:01:09,360
this launch this from this morning kicks

33
00:01:13,750 --> 00:01:10,960
off a very busy month for us on the

34
00:01:15,590 --> 00:01:13,760
international space station

35
00:01:18,469 --> 00:01:15,600
coming up this week this thursday i

36
00:01:21,030 --> 00:01:18,479
believe we have a soyuz launch

37
00:01:24,310 --> 00:01:21,040
launching a new our new increment to the

38
00:01:26,310 --> 00:01:24,320

space station also we have a orbital

39
00:01:28,950 --> 00:01:26,320
crs launch coming up within a month and

40
00:01:31,350 --> 00:01:28,960
another progress flight as well as

41
00:01:34,390 --> 00:01:31,360
russian and u.s evas coming up in the

42
00:01:36,630 --> 00:01:34,400
next month or so um with that again i

43
00:01:38,550 --> 00:01:36,640
want to congratulate spacex and hans and

44
00:01:40,550 --> 00:01:38,560
his teams for our beautiful launch this

45
00:01:42,710 --> 00:01:40,560
morning and that's all i have yeah thank

46
00:01:46,389 --> 00:01:42,720
you thank you very much um nothing like

47
00:01:50,550 --> 00:01:48,069
just fantastic

48
00:01:52,389 --> 00:01:50,560
worked very hard yesterday and uh

49
00:01:54,469 --> 00:01:52,399
weather wasn't quite playing along and

50
00:01:55,910 --> 00:01:54,479
then today everything was was beautiful

51
00:01:59,429 --> 00:01:55,920
weather cleared up

52
00:02:01,109 --> 00:01:59,439
in time um rain dissipated and uh

53
00:02:03,190 --> 00:02:01,119
from from what i can tell at first

54
00:02:04,310 --> 00:02:03,200
glance um everything was was really

55
00:02:06,550 --> 00:02:04,320
perfect

56
00:02:08,550 --> 00:02:06,560
very good uh over insertion very nice

57
00:02:11,110 --> 00:02:08,560
flight

58
00:02:17,270 --> 00:02:14,710
propellant priming was perfect this time

59
00:02:20,949 --> 00:02:17,280
very nice orbit and solar rays deployed

60
00:02:23,670 --> 00:02:20,959
in time everything was basically on time

61
00:02:24,949 --> 00:02:23,680
we had success on the first stage too we

62
00:02:25,990 --> 00:02:24,959
had a couple of good burns on the first

63
00:02:27,510 --> 00:02:26,000

stage

64
00:02:30,470 --> 00:02:27,520
i don't have any

65
00:02:32,229 --> 00:02:30,480
significant details um just sketchy

66
00:02:34,470 --> 00:02:32,239
light here and light there

67
00:02:37,430 --> 00:02:34,480
details and i saw it on the video which

68
00:02:39,110 --> 00:02:37,440
always is exciting um

69
00:02:41,670 --> 00:02:39,120
and then on the second stage also we had

70
00:02:42,710 --> 00:02:41,680
a second burn that been very successful

71
00:02:44,869 --> 00:02:42,720
and

72
00:02:47,270 --> 00:02:44,879
deposited the stage basically in the

73
00:02:50,150 --> 00:02:47,280
reentry ellipse

74
00:02:51,190 --> 00:02:50,160
i think south of new zealand

75
00:02:53,270 --> 00:02:51,200
so

76
00:02:54,949 --> 00:02:53,280
from from the spacex team everybody is

77
00:02:56,229 --> 00:02:54,959
really happy everybody is

78
00:02:58,309 --> 00:02:56,239
delighted

79
00:03:00,309 --> 00:02:58,319
there's going to be a party

80
00:03:06,390 --> 00:03:00,319
and

81
00:03:10,070 --> 00:03:07,990
all right thank you let's uh take

82
00:03:12,309 --> 00:03:10,080
questions please wait for the microphone

83
00:03:14,550 --> 00:03:12,319
state your name and affiliation and to

84
00:03:17,589 --> 00:03:14,560
whom you're addressing the question

85
00:03:20,070 --> 00:03:17,599
um rob

86
00:03:23,270 --> 00:03:20,080
hi rob perlman with collectspace.com for

87
00:03:24,470 --> 00:03:23,280
hans um uh two quick questions one uh do

88
00:03:27,270 --> 00:03:24,480

you happen to know anything about the

89
00:03:30,149 --> 00:03:27,280
gnc bay door when that will open

90
00:03:31,830 --> 00:03:30,159
um and the thrusters when you'll get in

91
00:03:34,229 --> 00:03:31,840
your first burn in so thrusters are

92
00:03:35,670 --> 00:03:34,239
primed and and work and so that means

93
00:03:37,589 --> 00:03:35,680
they're already working

94
00:03:40,070 --> 00:03:37,599
and we got attitude control

95
00:03:43,430 --> 00:03:40,080
uh we integers communication

96
00:03:45,350 --> 00:03:43,440
um gnc bay drawer is um deployed in two

97
00:03:47,430 --> 00:03:45,360
hours 30 minutes after launch so that

98
00:03:50,070 --> 00:03:47,440
puts it at

99
00:03:50,869 --> 00:03:50,080
another hour basically

100
00:03:59,429 --> 00:03:50,879
i

101
00:04:04,390 --> 00:04:00,630
jason

102
00:04:05,750 --> 00:04:04,400
this one's for hans uh

103
00:04:07,589 --> 00:04:05,760
especially considering yesterday given

104
00:04:09,270 --> 00:04:07,599
the wonky florida weather we know that

105
00:04:12,710 --> 00:04:09,280
you know space flight's uh never really

106
00:04:14,309 --> 00:04:12,720
routine and the quick question i have is

107
00:04:16,710 --> 00:04:14,319
my understanding of crs is it's supposed

108
00:04:18,390 --> 00:04:16,720
to go through 2016 and you have eight

109
00:04:19,590 --> 00:04:18,400
missions remaining in that in that

110
00:04:21,670 --> 00:04:19,600
manifest

111
00:04:23,590 --> 00:04:21,680
is there any wiggle room on on nasa's

112
00:04:25,830 --> 00:04:23,600
part or is that a really a hard date or

113
00:04:27,909 --> 00:04:25,840

is that kind of a more nebulous date how

114
00:04:29,430 --> 00:04:27,919
does that that deadline work so um

115
00:04:31,590 --> 00:04:29,440
actually that's a good point so we did

116
00:04:34,150 --> 00:04:31,600
actually this mission in 14 days after

117
00:04:37,030 --> 00:04:34,160
the last mission yeah so that is that is

118
00:04:38,710 --> 00:04:37,040
um i'm actually amazed myself

119
00:04:40,790 --> 00:04:38,720
i know the team is really working very

120
00:04:43,030 --> 00:04:40,800
hard and and a lot of things have to go

121
00:04:44,870 --> 00:04:43,040
right in order to make those 14 days

122
00:04:47,110 --> 00:04:44,880
turn around but that obviously allows us

123
00:04:49,030 --> 00:04:47,120
to do a lot of missions if you keep that

124
00:04:50,790 --> 00:04:49,040
pace up and and

125
00:04:52,390 --> 00:04:50,800
i mean there's things we do right now we

126
00:04:53,510 --> 00:04:52,400
have a second working on the second

127
00:04:54,790 --> 00:04:53,520
launch pad

128
00:04:56,790 --> 00:04:54,800
uh here

129
00:04:58,950 --> 00:04:56,800
so there's there's ways to to speed

130
00:05:01,590 --> 00:04:58,960
things even up more and

131
00:05:04,230 --> 00:05:01,600
we're working on paralyzing

132
00:05:05,990 --> 00:05:04,240
integration even more so um having said

133
00:05:08,790 --> 00:05:06,000
that um

134
00:05:11,270 --> 00:05:08,800
we had actually in the last 12 month

135
00:05:13,029 --> 00:05:11,280
eight missions if i count everything

136
00:05:14,390 --> 00:05:13,039
together and that is uh

137
00:05:16,390 --> 00:05:14,400
also on the long term of course

138
00:05:18,629 --> 00:05:16,400

something that that we need to increase

139
00:05:20,469 --> 00:05:18,639
i don't see any problems in in putting

140
00:05:23,189 --> 00:05:20,479
those missions in

141
00:05:27,189 --> 00:05:25,350
at your conservative best house how

142
00:05:28,629 --> 00:05:27,199
frequently do you think spacex can

143
00:05:30,550 --> 00:05:28,639
follow up launch after launch is that

144
00:05:31,749 --> 00:05:30,560
two-week window what you think you could

145
00:05:33,510 --> 00:05:31,759
do or do you think maybe you can even

146
00:05:34,629 --> 00:05:33,520
shave time off that can't do this faster

147
00:05:36,629 --> 00:05:34,639
we can do it

148
00:05:39,430 --> 00:05:36,639
in the week um

149
00:05:42,629 --> 00:05:39,440
that's yes

150
00:05:47,189 --> 00:05:44,710
as long as you do do it parallel i don't

151
00:05:48,710 --> 00:05:47,199
see any technical issues here

152
00:05:51,110 --> 00:05:48,720
and the rather as you point out yes the

153
00:05:52,629 --> 00:05:51,120
weather might delay you there too but on

154
00:05:55,110 --> 00:05:52,639
the bright side it's also it's pretty

155
00:05:57,110 --> 00:05:55,120
dynamic so it's rarely that you have

156
00:05:59,830 --> 00:05:57,120
rain here for for like three or four

157
00:06:02,629 --> 00:05:59,840
days it comes and goes and i must also

158
00:06:04,950 --> 00:06:02,639
say the weather team is awesome um

159
00:06:06,870 --> 00:06:04,960
they they find the holes in the sky and

160
00:06:09,350 --> 00:06:06,880
work really hard to

161
00:06:11,830 --> 00:06:09,360
to uh to get us through the uh through

162
00:06:13,670 --> 00:06:11,840
the lightning and and uh

163
00:06:14,870 --> 00:06:13,680

any any danger zones on the clouds so

164
00:06:17,029 --> 00:06:14,880
it's uh

165
00:06:18,309 --> 00:06:17,039
it's working very well

166
00:06:22,230 --> 00:06:18,319
and most of the mission don't have the

167
00:06:29,270 --> 00:06:24,309
james

168
00:06:31,430 --> 00:06:29,280
people who are just taking note of the

169
00:06:33,430 --> 00:06:31,440
commercial crew award

170
00:06:34,790 --> 00:06:33,440
maybe seeing tonight's launch

171
00:06:36,629 --> 00:06:34,800
obviously we realized there's a lot of

172
00:06:37,909 --> 00:06:36,639
work going on on the dragon

173
00:06:39,430 --> 00:06:37,919
uh you'll be launching from a different

174
00:06:41,029 --> 00:06:39,440
pad but

175
00:06:43,830 --> 00:06:41,039
other than that it was like what people

176
00:06:45,909 --> 00:06:43,840
saw tonight kind of similar to uh what

177
00:06:47,189 --> 00:06:45,919
they will see when astronauts are on

178
00:06:48,870 --> 00:06:47,199
board or could you just speak to like

179
00:06:49,990 --> 00:06:48,880
just you know how

180
00:06:52,710 --> 00:06:50,000
yeah i think it's going to be very

181
00:06:55,029 --> 00:06:52,720
similar i mean um it's still two-stage

182
00:06:58,070 --> 00:06:55,039
rockets so um that's going to be very

183
00:07:00,469 --> 00:06:58,080
similar the orbit is is typical for

184
00:07:03,749 --> 00:07:00,479
for an orbit to this base station

185
00:07:05,189 --> 00:07:03,759
whether you go man or just cargo

186
00:07:07,589 --> 00:07:05,199
and we were a little bit meant to this

187
00:07:09,510 --> 00:07:07,599
time right

188
00:07:10,629 --> 00:07:09,520

and uh and so i think this is pretty

189
00:07:12,629 --> 00:07:10,639
much uh

190
00:07:13,990 --> 00:07:12,639
what what you you will see general i

191
00:07:15,270 --> 00:07:14,000
actually have to admit i've never seen

192
00:07:19,670 --> 00:07:15,280
it from the outside

193
00:07:23,110 --> 00:07:21,749
just with respect to the booster again i

194
00:07:25,110 --> 00:07:23,120
just wanted to

195
00:07:27,270 --> 00:07:25,120
make sure i understood it

196
00:07:29,029 --> 00:07:27,280
is there an attempt to

197
00:07:30,790 --> 00:07:29,039
retrieve it or were you not even trying

198
00:07:32,550 --> 00:07:30,800
that this time if you have boats out

199
00:07:34,790 --> 00:07:32,560
there or yeah yeah there's a boat out

200
00:07:36,550 --> 00:07:34,800
there and the boat is getting telemetry

201
00:07:38,870 --> 00:07:36,560
um it will do a sweep tomorrow but we

202
00:07:40,950 --> 00:07:38,880
don't expect to um to have a stage

203
00:07:43,189 --> 00:07:40,960
floating um there

204
00:07:44,550 --> 00:07:43,199
i actually don't know i mean the um i

205
00:07:46,629 --> 00:07:44,560
know that they saw a landing burn

206
00:07:49,189 --> 00:07:46,639
there's there they saw a light um which

207
00:07:50,629 --> 00:07:49,199
is the the engine firing but um i have

208
00:07:52,390 --> 00:07:50,639
no further information at this point in

209
00:07:53,589 --> 00:07:52,400
time it takes a while for the boat to

210
00:07:57,350 --> 00:07:53,599
come back

211
00:08:01,589 --> 00:07:59,749
any further questions

212
00:08:03,029 --> 00:08:01,599
right here in the front row

213
00:08:04,790 --> 00:08:03,039

hi my name is jeffrey shapiro i'm with

214
00:08:06,550 --> 00:08:04,800
the washington times and it's a little

215
00:08:07,990 --> 00:08:06,560
more of a broader question probably i'm

216
00:08:09,749 --> 00:08:08,000
playing catch up with everyone else here

217
00:08:11,670 --> 00:08:09,759
but can you just in layman terms explain

218
00:08:13,670 --> 00:08:11,680
a little bit about the process now in

219
00:08:15,510 --> 00:08:13,680
terms of the dragon separation from the

220
00:08:17,110 --> 00:08:15,520
falcon 9 and the approach and the

221
00:08:19,589 --> 00:08:17,120
capture yeah

222
00:08:21,189 --> 00:08:19,599
so dragon um separated from the second

223
00:08:23,749 --> 00:08:21,199
stage second stage

224
00:08:25,670 --> 00:08:23,759
went down and deposited again and dragon

225
00:08:27,189 --> 00:08:25,680
will perform a series of maneuvers to

226
00:08:28,230 --> 00:08:27,199
basically lift the orbit and make it

227
00:08:29,909 --> 00:08:28,240
circular

228
00:08:31,510 --> 00:08:29,919
under the station it will catch up with

229
00:08:33,750 --> 00:08:31,520
the station in

230
00:08:35,829 --> 00:08:33,760
roughly 48 hours

231
00:08:37,829 --> 00:08:35,839
and when it arrives at the station it is

232
00:08:40,469 --> 00:08:37,839
below the station it's called the arbor

233
00:08:42,469 --> 00:08:40,479
it's basically a radial bar going down

234
00:08:44,310 --> 00:08:42,479
from the station and it will climb up

235
00:08:46,870 --> 00:08:44,320
that bar

236
00:08:49,110 --> 00:08:46,880
and at certain times it will perform

237
00:08:50,949 --> 00:08:49,120
checks checkouts and

238
00:08:52,550 --> 00:08:50,959

those are go no-go

239
00:08:55,269 --> 00:08:52,560
locations

240
00:08:57,269 --> 00:08:55,279
i believe the first one is at 250 meters

241
00:08:59,269 --> 00:08:57,279
below the station and then there's

242
00:09:01,750 --> 00:08:59,279
another one at 100 meters another one at

243
00:09:04,150 --> 00:09:01,760
30 meters and then the last one finally

244
00:09:06,550 --> 00:09:04,160
at 10 meters at 10 meters dragon will

245
00:09:09,670 --> 00:09:06,560
basically hover under the station

246
00:09:11,110 --> 00:09:09,680
and um if you know orbital mechanics the

247
00:09:12,790 --> 00:09:11,120
lower you are the faster you are

248
00:09:14,870 --> 00:09:12,800
actually so you have a tendency to fall

249
00:09:15,829 --> 00:09:14,880
forward so you you will see thrusters

250
00:09:17,829 --> 00:09:15,839
firing

251
00:09:20,710 --> 00:09:17,839
in the in the forward direction um

252
00:09:23,110 --> 00:09:20,720
continuously to keep dragon at that spot

253
00:09:26,710 --> 00:09:23,120
and then the um the station will use the

254
00:09:29,190 --> 00:09:26,720
robotic arm will grab grapple dragon and

255
00:09:31,190 --> 00:09:29,200
then we'll then we deactivate dragon so

256
00:09:33,350 --> 00:09:31,200
that the station can move it basically

257
00:09:35,670 --> 00:09:33,360
and they attach it to

258
00:09:38,470 --> 00:09:35,680
one of the nodes on harmony i believe i

259
00:09:42,070 --> 00:09:38,480
forgot the exact name

260
00:09:42,080 --> 00:09:44,870
start working

261
00:09:48,070 --> 00:09:45,910
okay

262
00:09:51,590 --> 00:09:48,080
well seeing no further questions um

263
00:09:53,829 --> 00:09:51,600

expanding on that the next spacex crs4

264
00:09:56,710 --> 00:09:53,839
televised event on nasa television

265
00:09:59,430 --> 00:09:56,720
begins 5 am on tuesday for the grapple

266
00:10:01,590 --> 00:09:59,440
which is scheduled to occur at 704 am on

267
00:10:03,590 --> 00:10:01,600
tuesday in the meantime you can keep up

268
00:10:06,790 --> 00:10:03,600
with the status of dragon at

269
00:10:11,269 --> 00:10:09,590
spacex and you can keep up with the