1
00:00:09,589 --> 00:00:07,349
good afternoon everyone welcome to the

2
00:00:12,390 --> 00:00:09,599
pre-launch press conference for the

3
00:00:15,270 --> 00:00:12,400
falcon 9 and kotz 1 mission

4
00:00:17,029 --> 00:00:15,280
and here to discuss the falcon 9 and the

5
00:00:20,790 --> 00:00:17,039
upcoming mission

6
00:00:24,870 --> 00:00:20,800
is gwen shotwell president of spacex

7
00:00:30,070 --> 00:00:27,589
alan lindenmoyer manager of the cots

8
00:00:33,830 --> 00:00:30,080
program from the johnson space center in

9
00:00:37,750 --> 00:00:36,150
phil mcallister acting director of the

10
00:00:43,510 --> 00:00:37,760
commercial space flight development

11
00:00:48,069 --> 00:00:45,990
and mike mcelinen the falcon 9 launch

12
00:00:50,150 --> 00:00:48,079
weather officer from the 45th weather

13
00:00:52,150 --> 00:00:50,160

squadron department of the air force

14
00:00:54,150 --> 00:00:52,160
cape canaveral air force station good

15
00:00:57,110 --> 00:00:54,160
afternoon and we'll begin first with

16
00:00:59,750 --> 00:00:57,120
comments from spacex and gwen shotwell

17
00:01:01,110 --> 00:00:59,760
gwen thanks george well i'm happy to be

18
00:01:05,109 --> 00:01:01,120
here

19
00:01:07,990 --> 00:01:05,119
assume you know a bit about

20
00:01:09,990 --> 00:01:08,000
about spacex and the cot's mission that

21
00:01:12,149 --> 00:01:10,000
we're about to execute but let me just

22
00:01:14,149 --> 00:01:12,159
do a couple of quick highlights this is

23
00:01:17,109 --> 00:01:14,159
the first flight of an active dragon

24
00:01:19,910 --> 00:01:17,119
spacecraft and only the second flight of

25
00:01:21,590 --> 00:01:19,920
the spacex falcon 9 launch vehicle

26
00:01:24,070 --> 00:01:21,600
the first falcon 9

27
00:01:27,350 --> 00:01:24,080
flight made in flight was a success the

28
00:01:29,830 --> 00:01:27,360
target orbit was 250 kilometers circular

29
00:01:34,870 --> 00:01:29,840
34 and a half degrees inclination we hit

30
00:01:37,830 --> 00:01:34,880
a 249.1 by 250 3.1

31
00:01:39,190 --> 00:01:37,840
injection at a 34.49

32
00:01:41,030 --> 00:01:39,200
degree inclination so it was a

33
00:01:43,910 --> 00:01:41,040
bull's-eye we're hoping for uh for

34
00:01:46,550 --> 00:01:43,920
another one here upcoming

35
00:01:48,389 --> 00:01:46,560
as status on saturday

36
00:01:51,109 --> 00:01:48,399
our second attempt to

37
00:01:53,670 --> 00:01:51,119
do the static fire we were successful

38
00:01:56,069 --> 00:01:53,680

and so we were proceeding for a launch

39
00:01:58,789 --> 00:01:56,079
first thing tomorrow morning about 905

40
00:02:01,030 --> 00:01:58,799
so when i flew last night out of la on

41
00:02:03,350 --> 00:02:01,040
the red eye i assumed we'd be launching

42
00:02:05,270 --> 00:02:03,360
tomorrow as it turns out in the final

43
00:02:06,310 --> 00:02:05,280
review of the closeout photos this

44
00:02:08,070 --> 00:02:06,320
morning

45
00:02:10,150 --> 00:02:08,080
we found some indications on a second

46
00:02:12,309 --> 00:02:10,160
stage nozzle that we are

47
00:02:13,750 --> 00:02:12,319
spending some time investigating

48
00:02:15,910 --> 00:02:13,760
we're doing some tests and some root

49
00:02:18,710 --> 00:02:15,920
cause analysis right now but it looks

50
00:02:20,869 --> 00:02:18,720
like the first attempt of this flight is

51
00:02:22,550 --> 00:02:20,879
a no earlier than thursday

52
00:02:24,710 --> 00:02:22,560
if things look good

53
00:02:27,430 --> 00:02:24,720
if we do put on a new second stage

54
00:02:29,990 --> 00:02:27,440
nozzle the day we're shooting for friday

55
00:02:31,670 --> 00:02:30,000
or saturday flight of this week

56
00:02:33,910 --> 00:02:31,680
but i don't want to take that too much

57
00:02:34,869 --> 00:02:33,920
off track i would like to still go

58
00:02:38,070 --> 00:02:34,879
through

59
00:02:39,830 --> 00:02:38,080
the mission the highlights

60
00:02:43,270 --> 00:02:39,840
we'll start with the countdown begins at

61
00:02:44,309 --> 00:02:43,280
about t minus 2 hours and 35

62
00:02:45,830 --> 00:02:44,319
minutes

63
00:02:48,390 --> 00:02:45,840

that's with the chief engineer polling

64
00:02:51,350 --> 00:02:48,400
the stations the terminal count begins

65
00:02:52,790 --> 00:02:51,360
at t minus 10 minutes and we run through

66
00:02:54,790 --> 00:02:52,800
a number of

67
00:02:57,670 --> 00:02:54,800
operations on the vehicle

68
00:02:59,430 --> 00:02:57,680
liftoff obviously 2-0

69
00:03:01,670 --> 00:02:59,440
the first stage shutdown which is main

70
00:03:04,630 --> 00:03:01,680
engine cutoff occurs about two minutes

71
00:03:06,470 --> 00:03:04,640
and 58 seconds into flight about four

72
00:03:07,670 --> 00:03:06,480
seconds later by the way i have all this

73
00:03:08,869 --> 00:03:07,680
in the press kit you'll have all these

74
00:03:10,710 --> 00:03:08,879
details so you don't have to remember

75
00:03:11,750 --> 00:03:10,720
any of this i certainly wouldn't

76
00:03:14,869 --> 00:03:11,760
um

77
00:03:16,949 --> 00:03:14,879
the about four seconds later the uh the

78
00:03:19,509 --> 00:03:16,959
first stage separates the second stage

79
00:03:21,670 --> 00:03:19,519
engine starts about three minutes and

80
00:03:24,550 --> 00:03:21,680
nine seconds after liftoff

81
00:03:25,589 --> 00:03:24,560
we go through a series of operations on

82
00:03:30,789 --> 00:03:25,599
orbit

83
00:03:35,910 --> 00:03:33,830
and water landing at t plus three hours

84
00:03:38,470 --> 00:03:35,920
and nineteen minutes

85
00:03:41,430 --> 00:03:38,480
um that's all i had prepared for this

86
00:03:43,190 --> 00:03:41,440
i'm looking forward to your questions um

87
00:03:45,190 --> 00:03:43,200
actually let me first i wanted to show

88
00:03:47,030 --> 00:03:45,200

you a video uh that we had shooting this

89
00:03:49,750 --> 00:03:47,040
morning the falcon 9 was vertical on the

90
00:03:56,869 --> 00:03:49,760
pad so uh so it is pretty real uh so if

91
00:03:56,879 --> 00:04:07,509
it's about a minute long

92
00:04:10,710 --> 00:04:09,750
i think the only audio on the video is

93
00:04:20,870 --> 00:04:10,720
the wind

94
00:04:20,880 --> 00:04:50,469
so

95
00:04:56,790 --> 00:04:53,670
great george all right thank you gwen

96
00:04:59,350 --> 00:04:56,800
and now to alan lindenmoyer the manager

97
00:05:01,590 --> 00:04:59,360
of the cots program from the johnson

98
00:05:02,790 --> 00:05:01,600
space center in houston alan

99
00:05:04,310 --> 00:05:02,800
great thanks

100
00:05:06,790 --> 00:05:04,320
thanks gwen well it is certainly great

101
00:05:07,830 --> 00:05:06,800
to see the dragon and the falcon on the

102
00:05:09,029 --> 00:05:07,840
pad

103
00:05:10,710 --> 00:05:09,039
i should say

104
00:05:12,950 --> 00:05:10,720
a word about our program the nature of

105
00:05:15,029 --> 00:05:12,960
our program we started the program

106
00:05:17,670 --> 00:05:15,039
in 2006

107
00:05:19,110 --> 00:05:17,680
and it was an experiment in a new way of

108
00:05:21,430 --> 00:05:19,120
doing business

109
00:05:23,189 --> 00:05:21,440
with private industry

110
00:05:25,189 --> 00:05:23,199
and we weren't exactly sure how it was

111
00:05:28,629 --> 00:05:25,199
going to turn out but here we are today

112
00:05:30,550 --> 00:05:28,639
with a new launch vehicle on the pad and

113
00:05:32,469 --> 00:05:30,560

ready to complete its first

114
00:05:33,430 --> 00:05:32,479
demonstration flight so it is certainly

115
00:05:37,749 --> 00:05:33,440
very

116
00:05:40,150 --> 00:05:37,759
to see the progress and to be here

117
00:05:42,070 --> 00:05:40,160
for that started in 2006 and instead of

118
00:05:45,270 --> 00:05:42,080
our traditional approach where we laid

119
00:05:47,029 --> 00:05:45,280
out a a series of detailed requirements

120
00:05:49,189 --> 00:05:47,039
and issued

121
00:05:51,350 --> 00:05:49,199
a proposal for prime contract for

122
00:05:52,790 --> 00:05:51,360
developing a capability

123
00:05:54,550 --> 00:05:52,800
uh

124
00:05:55,990 --> 00:05:54,560
with with a rather extensive list of

125
00:05:57,909 --> 00:05:56,000
requirements we took a different

126
00:05:59,430 --> 00:05:57,919
approach and said

127
00:06:02,150 --> 00:05:59,440
let's talk about

128
00:06:03,990 --> 00:06:02,160
capabilities general capabilities what

129
00:06:06,230 --> 00:06:04,000
what we would like to see in new space

130
00:06:08,550 --> 00:06:06,240
transportation capabilities and then

131
00:06:10,469 --> 00:06:08,560
nasa just provided top level goals and

132
00:06:12,550 --> 00:06:10,479
objectives

133
00:06:15,590 --> 00:06:12,560
to the companies so that they could have

134
00:06:17,990 --> 00:06:15,600
maximum opportunity to innovate and

135
00:06:20,550 --> 00:06:18,000
and be free

136
00:06:21,590 --> 00:06:20,560
to to optimize their systems

137
00:06:25,350 --> 00:06:21,600
so

138
00:06:29,350 --> 00:06:27,110

spacex

139
00:06:32,790 --> 00:06:29,360
was offered one of those partnership

140
00:06:36,150 --> 00:06:32,800
agreements with nasa in in

141
00:06:38,550 --> 00:06:36,160
august of 2006 and nasa took on the role

142
00:06:40,710 --> 00:06:38,560
of a lead investor then

143
00:06:43,029 --> 00:06:40,720
instead of a customer for prime contract

144
00:06:45,670 --> 00:06:43,039
requirements we became a lead investor

145
00:06:47,990 --> 00:06:45,680
and we also are a technical consultant

146
00:06:50,469 --> 00:06:48,000
to spacex to offer assistance when

147
00:06:52,950 --> 00:06:50,479
needed and when requested

148
00:06:57,189 --> 00:06:52,960
and become more of

149
00:07:01,589 --> 00:06:59,350
we strongly encourage innovation

150
00:07:04,230 --> 00:07:01,599
hopefully leading to reduced cost to the

151
00:07:06,550 --> 00:07:04,240
access of space which of course we hope

152
00:07:08,309 --> 00:07:06,560
to open new markets and then make a

153
00:07:11,189 --> 00:07:08,319
space accessible to

154
00:07:13,830 --> 00:07:11,199
to many more people in the future and as

155
00:07:15,589 --> 00:07:13,840
well as leading to economic growth for

156
00:07:18,150 --> 00:07:15,599
the united states

157
00:07:20,790 --> 00:07:18,160
nasa would become a consumer of services

158
00:07:22,390 --> 00:07:20,800
then instead of a traditional customer

159
00:07:26,150 --> 00:07:22,400
for our contracts

160
00:07:27,990 --> 00:07:26,160
and in fact in december of 2008

161
00:07:30,390 --> 00:07:28,000
with the progress that was being made

162
00:07:32,550 --> 00:07:30,400
under the cots demonstration programs

163
00:07:35,029 --> 00:07:32,560

in a completely separate activity nasa

164
00:07:36,950 --> 00:07:35,039
awarded contracts to orbital sciences

165
00:07:38,870 --> 00:07:36,960
and spacex for the resupply of the

166
00:07:39,990 --> 00:07:38,880
international space station

167
00:07:42,469 --> 00:07:40,000
so

168
00:07:43,990 --> 00:07:42,479
we are very much looking forward to

169
00:07:47,189 --> 00:07:44,000
completing this demonstration and then

170
00:07:50,869 --> 00:07:49,670
which was worth 1.6 billion dollars and

171
00:07:53,749 --> 00:07:50,879
spacex

172
00:07:56,710 --> 00:07:53,759
is on contract for uh

173
00:07:58,230 --> 00:07:56,720
12 missions to certify the station over

174
00:08:00,469 --> 00:07:58,240
the next few years to service the

175
00:08:03,670 --> 00:08:00,479
station over the next few years

176
00:08:06,550 --> 00:08:03,680
in our program we measure progress

177
00:08:09,510 --> 00:08:06,560
and success by incremental milestones we

178
00:08:10,950 --> 00:08:09,520
laid out a series of 22 milestones

179
00:08:12,950 --> 00:08:10,960
over uh

180
00:08:14,869 --> 00:08:12,960
the term of the agreement

181
00:08:17,749 --> 00:08:14,879
uh for a maximum

182
00:08:20,670 --> 00:08:17,759
payment of up to 278 million dollars and

183
00:08:23,189 --> 00:08:20,680
we have paid spacex

184
00:08:24,790 --> 00:08:23,199
253 million dollars for the 17

185
00:08:27,670 --> 00:08:24,800
milestones they've completed the date

186
00:08:30,550 --> 00:08:27,680
they have five left

187
00:08:33,190 --> 00:08:30,560
this first demonstration kotz mission is

188
00:08:35,029 --> 00:08:33,200

the next milestone

189
00:08:37,509 --> 00:08:35,039
and we're certainly looking forward to

190
00:08:39,430 --> 00:08:37,519
that so spacex has done great work over

191
00:08:41,750 --> 00:08:39,440
the years we certainly wish you the best

192
00:08:43,589 --> 00:08:41,760
of luck and and success in this

193
00:08:45,829 --> 00:08:43,599
demonstration mission

194
00:08:47,910 --> 00:08:45,839
thank you alan and now to phil

195
00:08:49,910 --> 00:08:47,920
mcallister the act direct acting

196
00:08:52,150 --> 00:08:49,920
director of the commercial space flight

197
00:08:54,550 --> 00:08:52,160
development office at nasa headquarters

198
00:08:55,829 --> 00:08:54,560
in washington phil

199
00:08:57,990 --> 00:08:55,839
thank you

200
00:09:00,710 --> 00:08:58,000
this is an extremely exciting milestone

201
00:09:03,110 --> 00:09:00,720
for both nasa and spacex

202
00:09:05,430 --> 00:09:03,120
we are getting closer to the time when

203
00:09:07,190 --> 00:09:05,440
we can successfully deliver cargo to the

204
00:09:09,190 --> 00:09:07,200
international space station and i

205
00:09:11,590 --> 00:09:09,200
certainly want to congratulate spacex on

206
00:09:13,269 --> 00:09:11,600
the progress that they have made to date

207
00:09:15,670 --> 00:09:13,279
we've got an extremely challenging year

208
00:09:17,910 --> 00:09:15,680
ahead with the remaining milestones

209
00:09:19,350 --> 00:09:17,920
but getting this far

210
00:09:20,949 --> 00:09:19,360
this fast

211
00:09:23,269 --> 00:09:20,959
has been a remarkable achievement so i

212
00:09:25,829 --> 00:09:23,279
want to i do want to congratulate spacex

213
00:09:28,630 --> 00:09:25,839

with the decision to extend the life of

214
00:09:31,190 --> 00:09:28,640
the international space station to 2020

215
00:09:34,389 --> 00:09:31,200
and potentially beyond and the imminent

216
00:09:36,790 --> 00:09:34,399
retirement of the space shuttle

217
00:09:38,790 --> 00:09:36,800
cargo delivery services to the iss has

218
00:09:40,470 --> 00:09:38,800
become more important than ever

219
00:09:42,470 --> 00:09:40,480
so we are definitely looking forward to

220
00:09:45,110 --> 00:09:42,480
the day where we will have multiple

221
00:09:48,230 --> 00:09:45,120
redundant capabilities for iss cargo

222
00:09:49,509 --> 00:09:48,240
transportation services

223
00:09:51,829 --> 00:09:49,519
we're also looking forward to this

224
00:09:53,910 --> 00:09:51,839
program as one of the milestones or one

225
00:09:55,910 --> 00:09:53,920
of the models that we're using

226
00:09:56,949 --> 00:09:55,920
in developing the commercial crew

227
00:09:59,509 --> 00:09:56,959
program

228
00:10:01,910 --> 00:09:59,519
nasa is planning on taking the next step

229
00:10:03,990 --> 00:10:01,920
with private industry to demonstrate

230
00:10:06,069 --> 00:10:04,000
this government a private sector

231
00:10:07,990 --> 00:10:06,079
partnership and the cuts program is

232
00:10:10,550 --> 00:10:08,000
definitely one of the models that we're

233
00:10:12,230 --> 00:10:10,560
using as an input and we plan to

234
00:10:14,870 --> 00:10:12,240
leverage the lessons learned that alan

235
00:10:16,790 --> 00:10:14,880
and his team have have have learned over

236
00:10:19,590 --> 00:10:16,800
the years and incorporate that into our

237
00:10:21,990 --> 00:10:19,600
planning for the commercial crew program

238
00:10:23,030 --> 00:10:22,000

but i do want to stress with this coming

239
00:10:25,509 --> 00:10:23,040
up flight

240
00:10:28,870 --> 00:10:25,519
this is a test flight

241
00:10:31,030 --> 00:10:28,880
space flight is very very difficult and

242
00:10:33,590 --> 00:10:31,040
his history is any guide there is

243
00:10:35,190 --> 00:10:33,600
undoubtedly going to be some anomalies

244
00:10:37,190 --> 00:10:35,200
as we go through the test program that

245
00:10:38,790 --> 00:10:37,200
is what the test program is designed for

246
00:10:40,630 --> 00:10:38,800
is to learn

247
00:10:42,550 --> 00:10:40,640
from nasa's standpoint if we get through

248
00:10:44,949 --> 00:10:42,560
this demonstration flight and we have a

249
00:10:47,350 --> 00:10:44,959
clear path to the second demonstration

250
00:10:49,990 --> 00:10:47,360
flight we will have

251
00:10:51,269 --> 00:10:50,000
we will have achieved a great success so

252
00:10:52,710 --> 00:10:51,279
we definitely want to learn from this

253
00:10:54,230 --> 00:10:52,720
flight

254
00:10:56,949 --> 00:10:54,240
we hope that everything is successful

255
00:10:58,069 --> 00:10:56,959
but as again as if history is any guide

256
00:11:00,630 --> 00:10:58,079
you're not going to have a completely

257
00:11:02,630 --> 00:11:00,640
test flight test a

258
00:11:04,630 --> 00:11:02,640
completely successful test light program

259
00:11:05,990 --> 00:11:04,640
there's only so much you can learn from

260
00:11:07,430 --> 00:11:06,000
modeling and simulation and ground

261
00:11:09,910 --> 00:11:07,440
testing eventually you have to fly these

262
00:11:13,190 --> 00:11:09,920
systems you have to flesh out and learn

263
00:11:15,829 --> 00:11:13,200

how they work in space and and move on

264
00:11:18,790 --> 00:11:15,839
get better get smarter but the key is no

265
00:11:20,870 --> 00:11:18,800
matter how this test flight goes uh nasa

266
00:11:22,710 --> 00:11:20,880
and spacex both are committed to the

267
00:11:24,790 --> 00:11:22,720
success of this program uh we're

268
00:11:26,310 --> 00:11:24,800
committed to this partnership so

269
00:11:28,630 --> 00:11:26,320
if there are any anomalies we are going

270
00:11:29,990 --> 00:11:28,640
to learn from them move forward and

271
00:11:32,710 --> 00:11:30,000
continue

272
00:11:33,590 --> 00:11:32,720
to demonstrate these systems as we move

273
00:11:34,550 --> 00:11:33,600
forward

274
00:11:35,990 --> 00:11:34,560
thank you

275
00:11:38,389 --> 00:11:36,000
hey thanks phil

276
00:11:40,230 --> 00:11:38,399
and now to mike mcaleena the falcon 9

277
00:11:43,110 --> 00:11:40,240
launch weather officer from the 45th

278
00:11:44,550 --> 00:11:43,120
weather squadron mike good afternoon

279
00:11:46,790 --> 00:11:44,560
what a difference today makes for the

280
00:11:48,630 --> 00:11:46,800
weather huh

281
00:11:50,550 --> 00:11:48,640
we had some cold air move in with a

282
00:11:52,150 --> 00:11:50,560
frontal boundary and as you can see with

283
00:11:54,629 --> 00:11:52,160
the satellite

284
00:11:56,870 --> 00:11:54,639
there's not a cloud to be looked for in

285
00:11:58,550 --> 00:11:56,880
the entire peninsula we do are seeing

286
00:12:00,550 --> 00:11:58,560
some cold air straight accumulates off

287
00:12:01,750 --> 00:12:00,560
the water and that's really the only

288
00:12:03,910 --> 00:12:01,760

cloud cover to speak of i don't think

289
00:12:05,910 --> 00:12:03,920
we're going to see much of a change over

290
00:12:09,509 --> 00:12:05,920
the next two or three days

291
00:12:10,470 --> 00:12:09,519
moving into the updated launch forecast

292
00:12:12,550 --> 00:12:10,480
you can see

293
00:12:13,990 --> 00:12:12,560
we weren't sure 8th or 9th but it looks

294
00:12:15,269 --> 00:12:14,000
like that the winds

295
00:12:18,069 --> 00:12:15,279
will start to diminish we're looking for

296
00:12:19,670 --> 00:12:18,079
another breezy and cool day tomorrow

297
00:12:22,310 --> 00:12:19,680
but by the time we get to thursday

298
00:12:24,389 --> 00:12:22,320
friday time frame we are looking for

299
00:12:27,430 --> 00:12:24,399
winds to lighten up still be out of the

300
00:12:29,590 --> 00:12:27,440
northwest uh 10 peak 15 or so

301
00:12:32,150 --> 00:12:29,600
temperatures will start to rebound into

302
00:12:35,829 --> 00:12:32,160
a more more florida-like weather

303
00:12:37,030 --> 00:12:35,839
and only a 10 chance of violation and

304
00:12:38,949 --> 00:12:37,040
that would be if the winds are a bit

305
00:12:40,389 --> 00:12:38,959
more northerly or even northeasterly

306
00:12:42,790 --> 00:12:40,399
that would cause some of those clouds

307
00:12:43,990 --> 00:12:42,800
that you saw just offshore to roll in

308
00:12:46,069 --> 00:12:44,000
might violate a flight through

309
00:12:48,470 --> 00:12:46,079
precipitation constraint

310
00:12:49,829 --> 00:12:48,480
moving into the atlantic for first stage

311
00:12:51,590 --> 00:12:49,839
recovery

312
00:12:53,190 --> 00:12:51,600
you can see

313
00:12:54,710 --> 00:12:53,200

quite a bit of wave heights are out

314
00:12:57,509 --> 00:12:54,720
there right now the ships are

315
00:13:00,550 --> 00:12:57,519
experiencing gale force winds and 15

316
00:13:01,990 --> 00:13:00,560
foot seas which would not allow recovery

317
00:13:04,790 --> 00:13:02,000
to take place

318
00:13:06,310 --> 00:13:04,800
the good news is a couple days slip and

319
00:13:09,670 --> 00:13:06,320
wind should start diminishing after

320
00:13:11,670 --> 00:13:09,680
today and waves will follow and

321
00:13:13,350 --> 00:13:11,680
for launch day we're looking for

322
00:13:15,350 --> 00:13:13,360
waves to be down in the seven to nine

323
00:13:17,910 --> 00:13:15,360
foot range which is right at the edge of

324
00:13:19,670 --> 00:13:17,920
the threshold for uh for safe recovery

325
00:13:22,069 --> 00:13:19,680
of the first stage so a couple days slip

326
00:13:23,990 --> 00:13:22,079
will help recover the first stage on the

327
00:13:25,990 --> 00:13:24,000
pacific side more importantly for this

328
00:13:27,590 --> 00:13:26,000
mission is the dragon recovery

329
00:13:29,750 --> 00:13:27,600
and uh looking like a much better

330
00:13:31,350 --> 00:13:29,760
conditions out in the pacific

331
00:13:33,430 --> 00:13:31,360
temperatures are about the same water

332
00:13:36,310 --> 00:13:33,440
temps about 10 degrees cooler however

333
00:13:39,110 --> 00:13:36,320
and waves there 9 to 11 feet and they do

334
00:13:41,189 --> 00:13:39,120
drop off or for friday

335
00:13:43,030 --> 00:13:41,199
after friday to maybe uh you know seven

336
00:13:44,870 --> 00:13:43,040
eight feet so recovery out there will be

337
00:13:47,030 --> 00:13:44,880
marginal but they don't have the same

338
00:13:50,150 --> 00:13:47,040

constraints as they do on the atlantic

339
00:13:51,110 --> 00:13:50,160
side so just in summary looks like we

340
00:13:52,949 --> 00:13:51,120
would have had a pretty good chance

341
00:13:55,110 --> 00:13:52,959
tomorrow a little bit gustier and cooler

342
00:13:56,230 --> 00:13:55,120
conditions but don't really see anything

343
00:13:58,470 --> 00:13:56,240
in the next three or four days it's

344
00:14:00,550 --> 00:13:58,480
going to hinder a launch attempt from

345
00:14:02,790 --> 00:14:00,560
the weather perspective thank you

346
00:14:05,189 --> 00:14:02,800
all right thank you mike we're ready now

347
00:14:06,629 --> 00:14:05,199
for questions please be sure to give

348
00:14:08,870 --> 00:14:06,639
your name an affiliation when the

349
00:14:12,949 --> 00:14:08,880
microphone comes to you and we'll start

350
00:14:18,430 --> 00:14:15,910
jay barbary with nbc uh i'm noticing

351
00:14:21,629 --> 00:14:18,440
that your launch inclination here is

352
00:14:24,710 --> 00:14:21,639
34.5 i believe instead of

353
00:14:27,750 --> 00:14:24,720
51.6 which is the inclination to the

354
00:14:30,470 --> 00:14:27,760
space station and i believe uh that that

355
00:14:33,670 --> 00:14:30,480
takes you over into northern europe

356
00:14:35,750 --> 00:14:33,680
i know you have faa approval to launch

357
00:14:37,430 --> 00:14:35,760
does that include approval to launch

358
00:14:40,470 --> 00:14:37,440
over uh europe

359
00:14:44,069 --> 00:14:40,480
because uh at nine minutes i believe

360
00:14:45,189 --> 00:14:44,079
that traveling at 17 500 miles an hour

361
00:14:47,910 --> 00:14:45,199
you could

362
00:14:49,430 --> 00:14:47,920
under the worst set of circumstances uh

363
00:14:52,230 --> 00:14:49,440

drop dragon

364
00:14:54,230 --> 00:14:52,240
on europe or close by or

365
00:14:56,069 --> 00:14:54,240
somewhere there i don't have a line to

366
00:14:57,430 --> 00:14:56,079
go out here but would you address that

367
00:14:59,670 --> 00:14:57,440
please sure

368
00:15:01,509 --> 00:14:59,680
the license that we have with the faa is

369
00:15:03,990 --> 00:15:01,519
comprehensive and it covers all phases

370
00:15:05,430 --> 00:15:04,000
of flight um so

371
00:15:16,310 --> 00:15:05,440
we

372
00:15:18,069 --> 00:15:16,320
you're talking about 12 missions that

373
00:15:21,030 --> 00:15:18,079
you have under contract with nasa

374
00:15:23,590 --> 00:15:21,040
already or these 12 cargo delivery

375
00:15:24,949 --> 00:15:23,600
missions not including any of

376
00:15:26,389 --> 00:15:24,959
the um

377
00:15:27,990 --> 00:15:26,399
the flights that you're doing here on

378
00:15:31,110 --> 00:15:28,000
test demonstration

379
00:15:33,430 --> 00:15:31,120
flights

380
00:15:36,550 --> 00:15:33,440
plus 12

381
00:15:39,430 --> 00:15:36,560
going with cargo and when do you expect

382
00:15:41,189 --> 00:15:39,440
under the best circumstances assuming

383
00:15:43,829 --> 00:15:41,199
that everything goes pretty well with

384
00:15:47,030 --> 00:15:43,839
your test to be able to let to deliver

385
00:15:48,470 --> 00:15:47,040
your first cargo to the iss

386
00:15:50,310 --> 00:15:48,480
okay there's a lot of questions there

387
00:15:52,550 --> 00:15:50,320
but hopefully i'll get them all

388
00:15:54,870 --> 00:15:52,560

the 12 flights under crs are separate

389
00:15:56,870 --> 00:15:54,880
and distinct for the cots flights

390
00:15:58,550 --> 00:15:56,880
the original program plan had three

391
00:16:00,470 --> 00:15:58,560
demonstration flights

392
00:16:02,150 --> 00:16:00,480
if we see success we're going to look to

393
00:16:04,470 --> 00:16:02,160
try to attempt to get to the station on

394
00:16:07,350 --> 00:16:04,480
the second flight

395
00:16:08,949 --> 00:16:07,360
but that's that's obviously decisions

396
00:16:10,710 --> 00:16:08,959
for a later day

397
00:16:12,710 --> 00:16:10,720
i think there was another question in

398
00:16:15,430 --> 00:16:12,720
there carrying cargo on that second

399
00:16:17,749 --> 00:16:15,440
flight uh possibly possibly we'll be

400
00:16:19,910 --> 00:16:17,759
carrying cargo so we anticipate uh

401
00:16:22,470 --> 00:16:19,920
completing the iss

402
00:16:24,629 --> 00:16:22,480
cots missions next year

403
00:16:26,949 --> 00:16:24,639
and executing a cargo mission under the

404
00:16:27,829 --> 00:16:26,959
crs contract as well

405
00:16:30,069 --> 00:16:27,839
so with

406
00:16:31,829 --> 00:16:30,079
atlantis flying this summer with enough

407
00:16:33,910 --> 00:16:31,839
to take

408
00:16:35,670 --> 00:16:33,920
supplies enough supplies to the space

409
00:16:37,110 --> 00:16:35,680
station for a year

410
00:16:39,910 --> 00:16:37,120
then uh

411
00:16:43,590 --> 00:16:39,920
you're talking about summer 2012 that

412
00:16:47,590 --> 00:16:43,600
you might be able to start delivering

413
00:16:49,350 --> 00:16:47,600

no next year 2011 2011 2011 is correct

414
00:16:51,590 --> 00:16:49,360
that's correct yeah it's up to nasa to

415
00:16:53,030 --> 00:16:51,600
plan the manifest but that's our plan

416
00:16:54,470 --> 00:16:53,040
okay thank you sir

417
00:16:58,550 --> 00:16:54,480
marcia

418
00:17:01,110 --> 00:16:58,560
uh question for miss shotwell then and

419
00:17:03,269 --> 00:17:01,120
ask a question um is there a cost

420
00:17:05,990 --> 00:17:03,279
attached to the upcoming flight

421
00:17:06,000 --> 00:17:09,990
sure

422
00:17:13,669 --> 00:17:11,189
are you you're asking am i going to

423
00:17:15,750 --> 00:17:13,679
share that uh yeah yeah we don't really

424
00:17:18,069 --> 00:17:15,760
talk about cost at spacex

425
00:17:20,710 --> 00:17:18,079
i can say that our pricing is on the web

426
00:17:22,309 --> 00:17:20,720
and it does cover

427
00:17:26,710 --> 00:17:22,319
the cost of the

428
00:17:30,630 --> 00:17:26,720
operations with some margin as well

429
00:17:32,950 --> 00:17:30,640
and for mr mcallister do you um

430
00:17:35,270 --> 00:17:32,960
do you believe that

431
00:17:37,830 --> 00:17:35,280
whether the flight goes good or bad can

432
00:17:39,830 --> 00:17:37,840
be a contributor to the anti-commercial

433
00:17:41,510 --> 00:17:39,840
forces out there i mean how important is

434
00:17:43,110 --> 00:17:41,520
it for this flight to succeed so you

435
00:17:44,150 --> 00:17:43,120
don't get all that

436
00:17:45,909 --> 00:17:44,160
uh

437
00:17:48,070 --> 00:17:45,919
questioning and debating and all that

438
00:17:50,150 --> 00:17:48,080

that's been going on so far for so many

439
00:17:51,430 --> 00:17:50,160
months right that's a that's a great

440
00:17:53,590 --> 00:17:51,440
point and that's why i wanted to

441
00:17:55,029 --> 00:17:53,600
emphasize that this is a test flight it

442
00:17:57,029 --> 00:17:55,039
is not uh

443
00:17:59,669 --> 00:17:57,039
it is not a

444
00:18:02,630 --> 00:17:59,679
in any way an indictment for against the

445
00:18:05,510 --> 00:18:02,640
overall program if you have anomalies we

446
00:18:06,870 --> 00:18:05,520
expect anomalies and again the purpose

447
00:18:09,270 --> 00:18:06,880
of the test flight is to learn so as

448
00:18:11,430 --> 00:18:09,280
long as we're learning and we have

449
00:18:14,230 --> 00:18:11,440
a clear path for demon demonstration

450
00:18:15,510 --> 00:18:14,240
flight 2 we would consider that success

451
00:18:17,510 --> 00:18:15,520
successful

452
00:18:19,430 --> 00:18:17,520
we're not going to know until the end of

453
00:18:21,669 --> 00:18:19,440
the program if if

454
00:18:23,750 --> 00:18:21,679
if we've been ultimately successful in

455
00:18:25,510 --> 00:18:23,760
achieving the capability of delivering

456
00:18:27,590 --> 00:18:25,520
these services to iss but what we can

457
00:18:30,630 --> 00:18:27,600
say is to date this has been a

458
00:18:32,710 --> 00:18:30,640
remarkably successful program um and

459
00:18:35,990 --> 00:18:32,720
again just to again to re-emphasize my

460
00:18:38,390 --> 00:18:36,000
earlier comments even if there is a a

461
00:18:40,390 --> 00:18:38,400
a even if we have a bad day for example

462
00:18:42,950 --> 00:18:40,400
for this first demonstration flight we

463
00:18:44,070 --> 00:18:42,960

expect to move forward we do not expect

464
00:18:44,950 --> 00:18:44,080
that to be

465
00:18:48,789 --> 00:18:44,960
a

466
00:18:50,470 --> 00:18:48,799
flights be successful for us to move

467
00:18:52,230 --> 00:18:50,480
forward uh we would never make that

468
00:18:53,669 --> 00:18:52,240
because we plan to learn from these move

469
00:18:55,990 --> 00:18:53,679
forward we're committed to these both

470
00:18:58,150 --> 00:18:56,000
nasa and spacex we would certainly like

471
00:19:00,230 --> 00:18:58,160
to achieve launch into orbit

472
00:19:03,270 --> 00:19:00,240
have the dragon separate and have a

473
00:19:05,510 --> 00:19:03,280
successful or a safe reentry those three

474
00:19:06,950 --> 00:19:05,520
things we would think are key

475
00:19:08,870 --> 00:19:06,960
for this demonstration flight it's

476
00:19:11,350 --> 00:19:08,880
definitely a big step above the maiden

477
00:19:12,710 --> 00:19:11,360
flight objectives that happened

478
00:19:13,830 --> 00:19:12,720
earlier this year

479
00:19:15,270 --> 00:19:13,840
but there's other things that we would

480
00:19:16,950 --> 00:19:15,280
like to test out and we'd like to get

481
00:19:20,870 --> 00:19:16,960
data on those things

482
00:19:22,870 --> 00:19:20,880
so i definitely want to de-emphasize the

483
00:19:25,750 --> 00:19:22,880
sort of precursor nature of this we're

484
00:19:28,870 --> 00:19:25,760
in terms of the overall program so far

485
00:19:30,549 --> 00:19:28,880
we're on very good track and we hope to

486
00:19:32,710 --> 00:19:30,559
learn a lot from this program again or

487
00:19:35,590 --> 00:19:32,720
this test flight and continue to move

488
00:19:37,029 --> 00:19:35,600

forward regardless of the outcome

489
00:19:41,350 --> 00:19:37,039
bobby

490
00:19:44,710 --> 00:19:43,270
issue in the reason for the delay and

491
00:19:47,430 --> 00:19:44,720
what you might need to do and then i've

492
00:19:49,909 --> 00:19:47,440
got a follow-up and a half

493
00:19:51,510 --> 00:19:49,919
i'll tell you what i can keep in mind um

494
00:19:53,029 --> 00:19:51,520
i'm sharing pretty preliminary

495
00:19:55,350 --> 00:19:53,039
information with you

496
00:19:57,990 --> 00:19:55,360
um they did in the in the inspection of

497
00:20:00,549 --> 00:19:58,000
the final close out photos this morning

498
00:20:02,149 --> 00:20:00,559
sometime after six when i landed and

499
00:20:05,430 --> 00:20:02,159
before 10

500
00:20:11,029 --> 00:20:07,750
so somewhere in that four hour period

501
00:20:13,190 --> 00:20:11,039
uh uh they determined that uh their

502
00:20:15,270 --> 00:20:13,200
indications in in i believe it was in a

503
00:20:17,510 --> 00:20:15,280
weld joint were such that we wanted to

504
00:20:19,430 --> 00:20:17,520
take some additional steps certainly to

505
00:20:21,510 --> 00:20:19,440
uh go ahead and actually look at it we

506
00:20:23,590 --> 00:20:21,520
brought the vehicle down

507
00:20:25,830 --> 00:20:23,600
to the horizontal this morning

508
00:20:27,750 --> 00:20:25,840
they did some visual inspection i

509
00:20:29,510 --> 00:20:27,760
believe it's back up vertical now and

510
00:20:32,630 --> 00:20:29,520
they're doing some thrust vector control

511
00:20:36,549 --> 00:20:34,310
what did you see believe it's porosity

512
00:20:37,350 --> 00:20:36,559
and potentially cracking i i've not seen

513
00:20:42,070 --> 00:20:37,360

the

514
00:20:43,750 --> 00:20:42,080
emails in in a well joint

515
00:20:46,390 --> 00:20:43,760
okay and again just to make sure i

516
00:20:48,630 --> 00:20:46,400
understand the earliest is on the

517
00:20:50,470 --> 00:20:48,640
earliest is thursday and if you have to

518
00:20:54,310 --> 00:20:50,480
replace the nozzle friday or friday or

519
00:20:57,669 --> 00:20:54,320
saturday yeah the follow-up for alan or

520
00:21:00,310 --> 00:20:57,679
um or phil um

521
00:21:01,909 --> 00:21:00,320
given how much of a political hot potato

522
00:21:04,310 --> 00:21:01,919
commercial space flight has become and

523
00:21:07,350 --> 00:21:04,320
given the success of cots i mean what is

524
00:21:09,350 --> 00:21:07,360
your thinking about adapting the model

525
00:21:11,909 --> 00:21:09,360
of you know not doing the requirements

526
00:21:14,470 --> 00:21:11,919
but doing capability for for adapting

527
00:21:16,710 --> 00:21:14,480
that over for commercial crew or do you

528
00:21:19,350 --> 00:21:16,720
have to go more to a traditional model

529
00:21:22,549 --> 00:21:19,360
of requirements uh or do you see some

530
00:21:25,270 --> 00:21:22,559
kind of of of in between and then also

531
00:21:26,870 --> 00:21:25,280
because it's an issue here um

532
00:21:28,950 --> 00:21:26,880
you know there's concern

533
00:21:30,630 --> 00:21:28,960
is the future of the commercial space

534
00:21:34,310 --> 00:21:30,640
flight program going to be managed out

535
00:21:37,510 --> 00:21:36,390
okay um in terms of the first part of

536
00:21:39,190 --> 00:21:37,520
the question

537
00:21:40,390 --> 00:21:39,200
um

538
00:21:41,590 --> 00:21:40,400

i've already forgotten the first part of

539
00:21:43,590 --> 00:21:41,600
the question i was starting to answer

540
00:21:45,750 --> 00:21:43,600
the second part

541
00:21:47,909 --> 00:21:45,760
whatever you feel uh oh as a precursor

542
00:21:50,549 --> 00:21:47,919
right right right yeah um

543
00:21:52,950 --> 00:21:50,559
again as i said in my intro enter in our

544
00:21:55,270 --> 00:21:52,960
intro remarks the cots

545
00:21:56,710 --> 00:21:55,280
cargo program is one of the programs

546
00:21:58,870 --> 00:21:56,720
that we are using

547
00:22:00,630 --> 00:21:58,880
um as input into the commercial crew

548
00:22:03,110 --> 00:22:00,640
program it has a lot of the features

549
00:22:05,590 --> 00:22:03,120
that we want for commercial crew it

550
00:22:08,549 --> 00:22:05,600
allows flexibility

551
00:22:10,710 --> 00:22:08,559
it allows the commercial partners to

552
00:22:12,230 --> 00:22:10,720
design the systems with a lot of freedom

553
00:22:14,230 --> 00:22:12,240
and we think those are good things the

554
00:22:17,430 --> 00:22:14,240
cost effectiveness of the program has

555
00:22:19,830 --> 00:22:17,440
key has been a key aspect

556
00:22:22,070 --> 00:22:19,840
i just uh it's it's almost uh

557
00:22:24,470 --> 00:22:22,080
unbelievable that we would get this far

558
00:22:25,590 --> 00:22:24,480
for less than a 300 million development

559
00:22:27,909 --> 00:22:25,600
effort

560
00:22:30,310 --> 00:22:27,919
in four years both of those things are

561
00:22:31,909 --> 00:22:30,320
remarkable and an anomaly in terms of

562
00:22:34,470 --> 00:22:31,919
any historical development that i'm

563
00:22:36,950 --> 00:22:34,480

aware of uh in terms of traditional nasa

564
00:22:38,789 --> 00:22:36,960
development so there's clear things that

565
00:22:40,549 --> 00:22:38,799
we would like to incorporate into the

566
00:22:42,470 --> 00:22:40,559
commercial crew program

567
00:22:44,549 --> 00:22:42,480
that being said commercial crew is

568
00:22:45,909 --> 00:22:44,559
different than cargo we're carrying

569
00:22:47,909 --> 00:22:45,919
people

570
00:22:49,590 --> 00:22:47,919
there's human spaceflight certification

571
00:22:50,710 --> 00:22:49,600
requirements and standards that have to

572
00:22:52,549 --> 00:22:50,720
apply

573
00:22:55,590 --> 00:22:52,559
so nasa is still

574
00:22:58,149 --> 00:22:55,600
in the process of developing the optimal

575
00:23:00,549 --> 00:22:58,159
acquisition strategy for commercial crew

576
00:23:03,510 --> 00:23:00,559
and we're working on that right now and

577
00:23:05,830 --> 00:23:03,520
we hope to be able to

578
00:23:07,510 --> 00:23:05,840
get a consensus on that and release that

579
00:23:09,750 --> 00:23:07,520
information

580
00:23:11,190 --> 00:23:09,760
soon uh

581
00:23:12,630 --> 00:23:11,200
probably within the next six months we

582
00:23:14,950 --> 00:23:12,640
should have a defined acquisition

583
00:23:16,390 --> 00:23:14,960
strategy on commercial crew so but

584
00:23:17,909 --> 00:23:16,400
there's other features we were also

585
00:23:19,350 --> 00:23:17,919
looking at the launch services program

586
00:23:20,710 --> 00:23:19,360
there's some things that they do very

587
00:23:22,470 --> 00:23:20,720
very well

588
00:23:23,350 --> 00:23:22,480

that we could leverage for commercial

589
00:23:26,230 --> 00:23:23,360
crew

590
00:23:27,669 --> 00:23:26,240
as well as the constellation program uh

591
00:23:29,190 --> 00:23:27,679
that was the most recent one that we've

592
00:23:31,190 --> 00:23:29,200
done for human space flight we learned a

593
00:23:32,310 --> 00:23:31,200
lot of things in constellation program

594
00:23:34,630 --> 00:23:32,320
that we'd like to leverage and even

595
00:23:37,350 --> 00:23:34,640
going back to shuttle so

596
00:23:38,230 --> 00:23:37,360
we're hopefully going to get the best

597
00:23:41,830 --> 00:23:38,240
and

598
00:23:44,230 --> 00:23:41,840
design the optimal commercial crew

599
00:23:46,789 --> 00:23:44,240
program for what we're trying to do

600
00:23:49,590 --> 00:23:46,799
so right now the cargo program is being

601
00:23:51,269 --> 00:23:49,600
managed by alan and we don't anticipate

602
00:23:53,110 --> 00:23:51,279
changing that model

603
00:23:56,070 --> 00:23:53,120
allen and his team are at jsc but they

604
00:23:58,310 --> 00:23:56,080
use people from across the agency

605
00:24:00,870 --> 00:23:58,320
for commercial crew the leed center has

606
00:24:03,029 --> 00:24:00,880
been assigned for to ksc for commercial

607
00:24:04,710 --> 00:24:03,039
crew going forward and if you've been

608
00:24:06,230 --> 00:24:04,720
following the commercial crew program we

609
00:24:07,590 --> 00:24:06,240
currently have a

610
00:24:10,070 --> 00:24:07,600
agreement out on the streets the

611
00:24:12,070 --> 00:24:10,080
commercial crew development round two

612
00:24:13,830 --> 00:24:12,080
set of agreements uh the announcement

613
00:24:16,149 --> 00:24:13,840

for proposals were released and

614
00:24:18,230 --> 00:24:16,159
proposals are due in later this month

615
00:24:21,830 --> 00:24:18,240
and when we sign those agreements they

616
00:24:23,510 --> 00:24:21,840
will be managed out of the ksc office

617
00:24:25,430 --> 00:24:23,520
irene thanks

618
00:24:27,830 --> 00:24:25,440
um irene kloutz with reuters and

619
00:24:30,230 --> 00:24:27,840
aviation week um gwen i had a couple

620
00:24:33,430 --> 00:24:30,240
questions for you um the first is what

621
00:24:35,430 --> 00:24:33,440
is the targeted altitude for dragon and

622
00:24:36,710 --> 00:24:35,440
could you please take us through

623
00:24:39,510 --> 00:24:36,720
the um

624
00:24:41,510 --> 00:24:39,520
the on orbit mission objectives are you

625
00:24:43,510 --> 00:24:41,520
going to be changing orbit firing

626
00:24:44,950 --> 00:24:43,520
thrusters like how many times just kind

627
00:24:46,710 --> 00:24:44,960
of a little

628
00:24:49,350 --> 00:24:46,720
maybe a little play by play of what you

629
00:24:51,350 --> 00:24:49,360
hope to accomplish in space and then

630
00:24:54,070 --> 00:24:51,360
related to that is i understand your

631
00:24:56,950 --> 00:24:54,080
plan was to cut off your web stream

632
00:24:59,990 --> 00:24:56,960
after the rocket goes out of view which

633
00:25:01,990 --> 00:25:00,000
is good for camera people but for text

634
00:25:04,310 --> 00:25:02,000
people we kind of like incite the whole

635
00:25:05,750 --> 00:25:04,320
through the whole process and are you

636
00:25:07,669 --> 00:25:05,760
going to be able to

637
00:25:10,390 --> 00:25:07,679
give us any kind of real-time

638
00:25:11,669 --> 00:25:10,400

information of how the mission's going

639
00:25:14,470 --> 00:25:11,679
thanks

640
00:25:16,950 --> 00:25:14,480
okay irene your first question was the

641
00:25:18,630 --> 00:25:16,960
altitude uh 300 kilometers for this

642
00:25:21,269 --> 00:25:18,640
particular mission

643
00:25:22,950 --> 00:25:21,279
uh your your second question was oh kind

644
00:25:24,870 --> 00:25:22,960
of a play-by-play on what were what

645
00:25:27,430 --> 00:25:24,880
we're trying to do with uh with dragon

646
00:25:29,750 --> 00:25:27,440
on orbit um clearly we want to separate

647
00:25:32,149 --> 00:25:29,760
it from the second stage

648
00:25:35,909 --> 00:25:32,159
have it operate under its own power do

649
00:25:37,830 --> 00:25:35,919
some maneuvering uh do telemetry um

650
00:25:39,430 --> 00:25:37,840
operate the guidance navigation and

651
00:25:41,430 --> 00:25:39,440
exercise the guidance navigation and

652
00:25:44,310 --> 00:25:41,440
control system this is also in your

653
00:25:46,470 --> 00:25:44,320
press packet by the way

654
00:25:48,950 --> 00:25:46,480
conduct a deorbit burn

655
00:25:50,870 --> 00:25:48,960
re-enter safely

656
00:25:54,630 --> 00:25:50,880
and then obviously we'd like to pick it

657
00:25:55,990 --> 00:25:54,640
up out of the pacific ocean as well

658
00:25:58,549 --> 00:25:56,000
and you had a third question on the

659
00:26:00,390 --> 00:25:58,559
webcast uh yes just as far as if you're

660
00:26:02,630 --> 00:26:00,400
going to if this is going to be uh

661
00:26:04,789 --> 00:26:02,640
transparent to anybody that's following

662
00:26:07,430 --> 00:26:04,799
the mission as far as what you're doing

663
00:26:10,870 --> 00:26:07,440

between uh after a couple of minutes i

664
00:26:13,830 --> 00:26:10,880
guess after launch until splashdown

665
00:26:16,149 --> 00:26:13,840
uh well i know well i i should defer

666
00:26:18,950 --> 00:26:16,159
this question to kirsten brost our

667
00:26:20,870 --> 00:26:18,960
communications manager um our webcasts

668
00:26:24,230 --> 00:26:20,880
in the past have uh

669
00:26:25,510 --> 00:26:24,240
have shown the uh the orbit insertion uh

670
00:26:28,230 --> 00:26:25,520
certainly we did that for the first

671
00:26:32,070 --> 00:26:28,240
falcon 9 flight um i i don't know what

672
00:26:34,870 --> 00:26:32,080
the plan is for post uh dragon insertion

673
00:26:37,269 --> 00:26:34,880
uh and then uh splashdown are our

674
00:26:39,510 --> 00:26:37,279
typical is to be pretty open so let me

675
00:26:40,870 --> 00:26:39,520
just follow up with kirsten and we'll

676
00:26:41,990 --> 00:26:40,880
get back with you before i leave here

677
00:26:43,830 --> 00:26:42,000
today okay

678
00:26:45,669 --> 00:26:43,840
okay i think we're pretty public about

679
00:26:47,430 --> 00:26:45,679
these things so

680
00:26:50,310 --> 00:26:47,440
we'll we'll see

681
00:26:54,549 --> 00:26:52,230
bill harwood cbs well i'll just follow

682
00:26:56,390 --> 00:26:54,559
up on that um you are open but not in a

683
00:26:58,470 --> 00:26:56,400
real-time sense it's it's many many

684
00:27:00,710 --> 00:26:58,480
hours after the fact that we find out

685
00:27:02,070 --> 00:27:00,720
even basic things about your missions i

686
00:27:04,149 --> 00:27:02,080
mean hours and hours and hours and hours

687
00:27:06,070 --> 00:27:04,159
now i realize that you guys are busy

688
00:27:08,149 --> 00:27:06,080

running the mission and you know looking

689
00:27:10,149 --> 00:27:08,159
at data but but

690
00:27:11,909 --> 00:27:10,159
i'm just curious is that a is that a

691
00:27:13,750 --> 00:27:11,919
manpower issue for you it's obviously

692
00:27:15,110 --> 00:27:13,760
philosophical i would guess with elon

693
00:27:15,830 --> 00:27:15,120
the way he wants to run your business

694
00:27:17,830 --> 00:27:15,840
but

695
00:27:19,430 --> 00:27:17,840
uh i think what irene was asking was

696
00:27:21,190 --> 00:27:19,440
real time and now you know real-time

697
00:27:23,430 --> 00:27:21,200
data during these missions and so that

698
00:27:24,870 --> 00:27:23,440
people have some idea of what's going on

699
00:27:26,870 --> 00:27:24,880
while it's going on can you address that

700
00:27:29,350 --> 00:27:26,880
and i have a question for phil yeah let

701
00:27:31,029 --> 00:27:29,360
me let me do my best to help out here uh

702
00:27:35,350 --> 00:27:31,039
there's no question that we we don't

703
00:27:37,110 --> 00:27:35,360
have a muzzle on the data by

704
00:27:39,510 --> 00:27:37,120
by design

705
00:27:41,430 --> 00:27:39,520
in some cases we have to delay some feed

706
00:27:45,110 --> 00:27:41,440
because of itar but we don't want to use

707
00:27:47,269 --> 00:27:45,120
that excuse when it's inappropriate

708
00:27:49,190 --> 00:27:47,279
i know on the static fire on friday the

709
00:27:51,110 --> 00:27:49,200
attempt we were just

710
00:27:53,430 --> 00:27:51,120
release i know we were slow in getting

711
00:27:55,029 --> 00:27:53,440
out information on friday uh we fixed

712
00:27:57,029 --> 00:27:55,039
that on saturday i think we got a

713
00:27:57,990 --> 00:27:57,039

statement out uh within just a couple of

714
00:28:00,149 --> 00:27:58,000
minutes

715
00:28:02,389 --> 00:28:00,159
of uh of the first attempt and the

716
00:28:04,310 --> 00:28:02,399
second attempt on saturday so we're

717
00:28:06,549 --> 00:28:04,320
working it i

718
00:28:09,430 --> 00:28:06,559
we don't have like i say we don't have a

719
00:28:12,950 --> 00:28:09,440
muzzle a plan to muzzle so maybe it must

720
00:28:14,870 --> 00:28:12,960
be a personnel issue

721
00:28:16,549 --> 00:28:14,880
or lack of personnel i should say not a

722
00:28:18,389 --> 00:28:16,559
personnel issue they'll throwing in one

723
00:28:20,149 --> 00:28:18,399
under the bus

724
00:28:22,870 --> 00:28:20,159
and and we'll continue to work on it i

725
00:28:25,269 --> 00:28:22,880
mean we we webcast the entire first

726
00:28:27,510 --> 00:28:25,279
flight of falcon 9. that's that was

727
00:28:28,710 --> 00:28:27,520
pretty bold since uh history would say

728
00:28:31,029 --> 00:28:28,720
that that was not going to be a

729
00:28:33,350 --> 00:28:31,039
particularly successful flight

730
00:28:34,549 --> 00:28:33,360
so i bear with us be patient we're not

731
00:28:36,230 --> 00:28:34,559
trying to be

732
00:28:38,470 --> 00:28:36,240
secretive about this

733
00:28:39,909 --> 00:28:38,480
i just i don't know about because i we

734
00:28:41,269 --> 00:28:39,919
haven't gotten there yet i don't know

735
00:28:43,350 --> 00:28:41,279
about what kind of data is going to be

736
00:28:45,830 --> 00:28:43,360
available for the dragon operations on

737
00:28:47,430 --> 00:28:45,840
orbit in real time but we'll get there

738
00:28:49,269 --> 00:28:47,440

we'll definitely get there we'll do our

739
00:28:50,470 --> 00:28:49,279
best i i hear the criticism and we'll

740
00:28:52,789 --> 00:28:50,480
work it

741
00:28:54,710 --> 00:28:52,799
and a a kind of a related question for

742
00:28:56,870 --> 00:28:54,720
phil um when you're talking about using

743
00:28:58,630 --> 00:28:56,880
cots as a model for commercial crew down

744
00:29:00,549 --> 00:28:58,640
the road and how you do that

745
00:29:01,990 --> 00:29:00,559
um the same question a transparency

746
00:29:03,750 --> 00:29:02,000
question when people are involved in its

747
00:29:05,830 --> 00:29:03,760
taxpayer money i mean the one complaint

748
00:29:07,110 --> 00:29:05,840
i hear about spacex is not that the

749
00:29:08,230 --> 00:29:07,120
hardware is

750
00:29:10,149 --> 00:29:08,240
anything's wrong with the hardware it's

751
00:29:11,110 --> 00:29:10,159
that they're this is from nasa people

752
00:29:12,710 --> 00:29:11,120
now

753
00:29:14,870 --> 00:29:12,720
is that they don't have any insight into

754
00:29:16,870 --> 00:29:14,880
what's going on i mean how much insight

755
00:29:17,669 --> 00:29:16,880
does nasa require in the commercial crew

756
00:29:19,909 --> 00:29:17,679
world

757
00:29:22,230 --> 00:29:19,919
um as you proceed forward in terms of

758
00:29:24,310 --> 00:29:22,240
the free flow of information etc right

759
00:29:26,630 --> 00:29:24,320
that's that's another good question we

760
00:29:29,029 --> 00:29:26,640
require as much insight as we need to

761
00:29:32,310 --> 00:29:29,039
get to have confidence that these

762
00:29:34,549 --> 00:29:32,320
systems are safe to fly um

763
00:29:36,950 --> 00:29:34,559

nasa astronauts and nasa-sponsored

764
00:29:39,269 --> 00:29:36,960
astronauts on these systems so there's

765
00:29:40,389 --> 00:29:39,279
not a numerical equation associated with

766
00:29:43,430 --> 00:29:40,399
that

767
00:29:45,190 --> 00:29:43,440
but we do need uh significant insight

768
00:29:47,669 --> 00:29:45,200
into the true nature of these systems

769
00:29:49,590 --> 00:29:47,679
and right now the planning that we have

770
00:29:51,350 --> 00:29:49,600
done to date we've released some of that

771
00:29:53,350 --> 00:29:51,360
information about how we plan to do the

772
00:29:54,470 --> 00:29:53,360
insight oversight it's still preliminary

773
00:29:56,789 --> 00:29:54,480
and we're still putting the final

774
00:29:59,269 --> 00:29:56,799
touches on it but unquestionably we are

775
00:30:00,549 --> 00:29:59,279
going to want to know um

776
00:30:02,389 --> 00:30:00,559
very well

777
00:30:04,950 --> 00:30:02,399
how these opera how these systems

778
00:30:06,710 --> 00:30:04,960
perform and operate and ultimately at

779
00:30:07,830 --> 00:30:06,720
the end of the day nasa is the one

780
00:30:09,110 --> 00:30:07,840
that's going to be providing the

781
00:30:11,350 --> 00:30:09,120
certification

782
00:30:12,389 --> 00:30:11,360
on these systems for human space flight

783
00:30:14,710 --> 00:30:12,399
so again

784
00:30:16,789 --> 00:30:14,720
nasa needs to have sufficient insight so

785
00:30:19,029 --> 00:30:16,799
that we have confidence that we can

786
00:30:21,350 --> 00:30:19,039
apply that certification successfully so

787
00:30:22,789 --> 00:30:21,360
again the onus is still on nasa for

788
00:30:24,950 --> 00:30:22,799

human space flight a lot of the

789
00:30:27,110 --> 00:30:24,960
responsibility is more on our commercial

790
00:30:28,630 --> 00:30:27,120
providers in these

791
00:30:30,950 --> 00:30:28,640
partnership models in terms of

792
00:30:33,269 --> 00:30:30,960
responsibility but at the end of the day

793
00:30:35,190 --> 00:30:33,279
nasa will still have the responsibility

794
00:30:37,350 --> 00:30:35,200
to either certify or not and in order to

795
00:30:39,269 --> 00:30:37,360
do that we need to have insight

796
00:30:40,710 --> 00:30:39,279
so it's sort of a philosophical answer

797
00:30:41,669 --> 00:30:40,720
to your question we don't again don't

798
00:30:43,909 --> 00:30:41,679
have a

799
00:30:46,070 --> 00:30:43,919
calculated numerical answer but we

800
00:30:48,950 --> 00:30:46,080
intend to be very

801
00:30:51,190 --> 00:30:48,960
very involved and

802
00:30:52,549 --> 00:30:51,200
insightful in our approach well just a

803
00:30:53,830 --> 00:30:52,559
really quick related follow are you

804
00:30:55,510 --> 00:30:53,840
satisfied that you have the insights you

805
00:30:56,710 --> 00:30:55,520
need for cuts

806
00:30:58,710 --> 00:30:56,720
are you comfortable with the way things

807
00:31:01,029 --> 00:30:58,720
are going i'll alan answer that because

808
00:31:03,110 --> 00:31:01,039
in fact i i wanted to clarify your

809
00:31:05,750 --> 00:31:03,120
comment that said uh we don't have

810
00:31:08,710 --> 00:31:05,760
insight and in fact

811
00:31:10,149 --> 00:31:08,720
we we we do have insight in fact uh

812
00:31:11,669 --> 00:31:10,159
since since the day we signed the

813
00:31:13,350 --> 00:31:11,679

agreement we've had

814
00:31:16,149 --> 00:31:13,360
a team together working very closely

815
00:31:18,470 --> 00:31:16,159
with spacex a small team uh not not the

816
00:31:19,750 --> 00:31:18,480
large numbers that that you might

817
00:31:21,350 --> 00:31:19,760
might

818
00:31:22,149 --> 00:31:21,360
otherwise think but we did have small

819
00:31:23,669 --> 00:31:22,159
team

820
00:31:26,070 --> 00:31:23,679
uh

821
00:31:28,070 --> 00:31:26,080
providing insight and we have done that

822
00:31:29,750 --> 00:31:28,080
on a daily basis now with spacex and

823
00:31:31,990 --> 00:31:29,760
then when we approach the larger

824
00:31:34,230 --> 00:31:32,000
milestones we we bring in a larger team

825
00:31:35,750 --> 00:31:34,240
and we reach back throughout the agency

826
00:31:38,950 --> 00:31:35,760
for the experts we need to review the

827
00:31:41,190 --> 00:31:38,960
data packs and and evaluate the progress

828
00:31:43,350 --> 00:31:41,200
being made with spacex and i and i have

829
00:31:45,190 --> 00:31:43,360
to say spacex has been very open with us

830
00:31:46,549 --> 00:31:45,200
on providing all the information we

831
00:31:49,430 --> 00:31:46,559
requested and

832
00:31:51,110 --> 00:31:49,440
and has never hesitated in in sharing

833
00:31:52,789 --> 00:31:51,120
information with us so

834
00:31:54,870 --> 00:31:52,799
we've had a great uh

835
00:31:56,549 --> 00:31:54,880
partnership in terms of the technical

836
00:31:58,549 --> 00:31:56,559
insight

837
00:32:02,470 --> 00:31:58,559
and that has not been been a problem for

838
00:32:06,230 --> 00:32:04,630

james dean from florida today with a

839
00:32:08,230 --> 00:32:06,240
question to follow up first for michelle

840
00:32:09,990 --> 00:32:08,240
well um

841
00:32:11,509 --> 00:32:10,000
during the the maiden flight i believe

842
00:32:13,830 --> 00:32:11,519
elon put a

843
00:32:15,909 --> 00:32:13,840
percentage gas on on the successful

844
00:32:19,669 --> 00:32:15,919
flight at something like 70 percent

845
00:32:21,830 --> 00:32:19,679
uh what is your uh percentage

846
00:32:23,509 --> 00:32:21,840
guess for this upcoming mission on the

847
00:32:26,549 --> 00:32:23,519
chances of a successful flight fully

848
00:32:30,789 --> 00:32:28,389
well history would say that we're going

849
00:32:32,710 --> 00:32:30,799
to have a substantial issue in one of

850
00:32:34,630 --> 00:32:32,720
the first of the three flights that's

851
00:32:36,630 --> 00:32:34,640
just empirical it has nothing to do with

852
00:32:38,549 --> 00:32:36,640
our process or our

853
00:32:41,029 --> 00:32:38,559
our uh hopes

854
00:32:43,669 --> 00:32:41,039
um if i want to have a cloud over my

855
00:32:45,509 --> 00:32:43,679
head i put the success at uh the same

856
00:32:48,230 --> 00:32:45,519
percentage 70 percent

857
00:32:50,149 --> 00:32:48,240
uh given uh that we did successfully get

858
00:32:51,509 --> 00:32:50,159
falcon 9 to orbit on its made in flight

859
00:32:54,310 --> 00:32:51,519
my guess is it ramped up pretty

860
00:32:55,909 --> 00:32:54,320
substantially um but i'm not a

861
00:32:57,430 --> 00:32:55,919
statistician so i don't necessarily want

862
00:33:00,789 --> 00:32:57,440
to put a number but it isn't any lower

863
00:33:05,909 --> 00:33:03,190

as a follow-up for for you and or mr

864
00:33:08,950 --> 00:33:05,919
linda moyer specifically when

865
00:33:10,789 --> 00:33:08,960
have you targeted the first crs mission

866
00:33:12,950 --> 00:33:10,799
on on your manifest and could you give a

867
00:33:14,389 --> 00:33:12,960
numerical confidence level in the

868
00:33:15,669 --> 00:33:14,399
chances of

869
00:33:17,190 --> 00:33:15,679
meeting that

870
00:33:18,070 --> 00:33:17,200
whatever that current date is and i'm

871
00:33:19,430 --> 00:33:18,080
asking

872
00:33:20,789 --> 00:33:19,440
in the context of a couple of things

873
00:33:23,110 --> 00:33:20,799
first if you listen to the shuttle

874
00:33:25,110 --> 00:33:23,120
program guys and all the way up to mr

875
00:33:27,350 --> 00:33:25,120
meyer

876
00:33:28,389 --> 00:33:27,360
there's a lot of messages about

877
00:33:31,509 --> 00:33:28,399
likely

878
00:33:34,310 --> 00:33:31,519
delays and and some pessimism that these

879
00:33:36,470 --> 00:33:34,320
flights are actually going to occur

880
00:33:37,430 --> 00:33:36,480
late next year even early 2012 obviously

881
00:33:39,190 --> 00:33:37,440
therefore

882
00:33:40,149 --> 00:33:39,200
suggesting an extra shuttle flight would

883
00:33:43,830 --> 00:33:40,159
be helpful

884
00:33:46,389 --> 00:33:43,840
and in addition last but not least

885
00:33:48,470 --> 00:33:46,399
would additional cots funding

886
00:33:53,430 --> 00:33:48,480
be essential to making any given

887
00:34:00,710 --> 00:33:56,710
yeah we plan on having uh the next

888
00:34:03,110 --> 00:34:00,720

dragon uh ready flight ready in the

889
00:34:05,029 --> 00:34:03,120
late spring early summer of next year

890
00:34:07,669 --> 00:34:05,039
there is a tremendous amount of data

891
00:34:09,030 --> 00:34:07,679
exchange and test reviewing that occurs

892
00:34:11,109 --> 00:34:09,040
after that

893
00:34:12,869 --> 00:34:11,119
so when the liftoff occurs it's hard to

894
00:34:15,669 --> 00:34:12,879
predict especially if that vehicle is

895
00:34:17,349 --> 00:34:15,679
the one that's going to station

896
00:34:21,430 --> 00:34:17,359
we currently have

897
00:34:25,109 --> 00:34:21,440
our first crs flight scheduled i believe

898
00:34:26,550 --> 00:34:25,119
late november of next year

899
00:34:28,149 --> 00:34:26,560
and

900
00:34:29,750 --> 00:34:28,159
again i'm not a statistician i don't

901
00:34:32,149 --> 00:34:29,760
want to put a percentage to that but i

902
00:34:34,149 --> 00:34:32,159
can tell you spacex is all in

903
00:34:37,030 --> 00:34:34,159
on trying on getting dragon to station

904
00:34:39,270 --> 00:34:37,040
next year um there's pessimism it's a

905
00:34:41,589 --> 00:34:39,280
new program we've experienced delays in

906
00:34:43,589 --> 00:34:41,599
the past but uh

907
00:34:46,310 --> 00:34:43,599
uh getting falcon 9 to orbit early this

908
00:34:47,909 --> 00:34:46,320
summer was enormously helpful you take

909
00:34:50,470 --> 00:34:47,919
the majority of the launch vehicle

910
00:34:52,149 --> 00:34:50,480
questions out not all obviously since

911
00:34:53,349 --> 00:34:52,159
history um

912
00:34:55,190 --> 00:34:53,359
and then now we need to get dragon

913
00:34:56,950 --> 00:34:55,200

flying so uh

914
00:34:58,310 --> 00:34:56,960
like i said we're all in getting uh

915
00:35:01,349 --> 00:34:58,320
dragging to the station next year at

916
00:35:03,670 --> 00:35:01,359
least once and hopefully twice

917
00:35:05,990 --> 00:35:03,680
right here in the back

918
00:35:07,589 --> 00:35:06,000
so could either of you adjust whether

919
00:35:10,069 --> 00:35:07,599
additional funding

920
00:35:11,349 --> 00:35:10,079
as per was proposed in the you know fy

921
00:35:12,390 --> 00:35:11,359
11 budget

922
00:35:16,230 --> 00:35:12,400
is

923
00:35:17,829 --> 00:35:16,240
how helpful it would be to maintain your

924
00:35:18,550 --> 00:35:17,839
schedule

925
00:35:20,470 --> 00:35:18,560
right

926
00:35:22,150 --> 00:35:20,480
well the

927
00:35:24,710 --> 00:35:22,160
current program

928
00:35:27,270 --> 00:35:24,720
i believe is fully executable

929
00:35:29,190 --> 00:35:27,280
as we have currently planned but as you

930
00:35:31,030 --> 00:35:29,200
know the starting with the augustine

931
00:35:32,630 --> 00:35:31,040
commission and then worked its way into

932
00:35:35,030 --> 00:35:32,640
the president's budget and now into the

933
00:35:37,270 --> 00:35:35,040
nasa authorization bill

934
00:35:39,190 --> 00:35:37,280
discussed adding additional funding to

935
00:35:41,270 --> 00:35:39,200
increase the chances of success of these

936
00:35:42,310 --> 00:35:41,280
scots demonstration missions

937
00:35:45,349 --> 00:35:42,320
and

938
00:35:47,270 --> 00:35:45,359

we have

939
00:35:49,990 --> 00:35:47,280
studied that and of course nasa believes

940
00:35:52,550 --> 00:35:50,000
very strongly in a very robust

941
00:35:54,310 --> 00:35:52,560
and comprehensive test program

942
00:35:57,270 --> 00:35:54,320
to reduce

943
00:36:01,109 --> 00:35:57,280
technical risks and a new development

944
00:36:03,829 --> 00:36:01,119
of spacecraft capability like this so

945
00:36:05,349 --> 00:36:03,839
given the direction to

946
00:36:07,430 --> 00:36:05,359
possibly add additional funding should

947
00:36:09,910 --> 00:36:07,440
that be appropriated we have discussed

948
00:36:12,550 --> 00:36:09,920
additional testing with the rendezvous

949
00:36:14,710 --> 00:36:12,560
and the radar systems that could reduce

950
00:36:18,470 --> 00:36:14,720
some of the risk in the

951
00:36:20,390 --> 00:36:18,480
iss proximity operations we talk about

952
00:36:23,109 --> 00:36:20,400
adding perhaps some thermal vacuum

953
00:36:24,710 --> 00:36:23,119
testing of the solar array which is

954
00:36:27,670 --> 00:36:24,720
something that was not currently planned

955
00:36:32,230 --> 00:36:27,680
but that would be a test that would

956
00:36:36,390 --> 00:36:34,470
of the solar array which is necessary

957
00:36:39,750 --> 00:36:36,400
for the iss

958
00:36:46,150 --> 00:36:43,109
as well as some additional testing on uh

959
00:36:48,390 --> 00:36:46,160
full dragon vehicle uh emi and emc

960
00:36:49,990 --> 00:36:48,400
testing so this is the type thing that

961
00:36:51,910 --> 00:36:50,000
we would add

962
00:36:53,670 --> 00:36:51,920
should we be provided with additional

963
00:36:54,710 --> 00:36:53,680

funding we do think that would reduce

964
00:36:56,470 --> 00:36:54,720
risk

965
00:36:58,069 --> 00:36:56,480
and increase the overall chance of

966
00:37:00,230 --> 00:36:58,079
success of these cuts demonstration

967
00:37:01,750 --> 00:37:00,240
missions and let me let me just add one

968
00:37:04,230 --> 00:37:01,760
thing to that

969
00:37:07,270 --> 00:37:04,240
if we were to add these additional

970
00:37:09,430 --> 00:37:07,280
milestones it's for new content

971
00:37:10,870 --> 00:37:09,440
again the once we made the decision to

972
00:37:12,950 --> 00:37:10,880
extend the life of the space station

973
00:37:14,950 --> 00:37:12,960
again these cargo resupply services

974
00:37:17,109 --> 00:37:14,960
became more important to nasa than ever

975
00:37:19,030 --> 00:37:17,119
so when we looked at the the portfolio

976
00:37:20,950 --> 00:37:19,040
of capabilities and the risk associated

977
00:37:22,630 --> 00:37:20,960
with the cots we said for for nasa's

978
00:37:24,310 --> 00:37:22,640
purposes we felt like it was in our

979
00:37:26,470 --> 00:37:24,320
interest to provide some additional

980
00:37:28,870 --> 00:37:26,480
funding for additional milestones this

981
00:37:30,710 --> 00:37:28,880
is new content it's not cost growth on

982
00:37:33,270 --> 00:37:30,720
the original agreements this new content

983
00:37:35,510 --> 00:37:33,280
so we're asking our our cots partners

984
00:37:36,470 --> 00:37:35,520
orbital and spacex for

985
00:37:40,870 --> 00:37:36,480
new

986
00:37:43,349 --> 00:37:40,880
to be executed to reduce our overall

987
00:37:45,030 --> 00:37:43,359
risk and so i just wanted to make that

988
00:37:46,790 --> 00:37:45,040

that distinction it's not for cost

989
00:37:48,790 --> 00:37:46,800
growth it's to reduce nasa's risk

990
00:37:50,790 --> 00:37:48,800
associated and there's risk associated

991
00:37:52,470 --> 00:37:50,800
with any development program so more

992
00:37:54,150 --> 00:37:52,480
money is always better

993
00:37:56,310 --> 00:37:54,160
you can always use more money to reduce

994
00:37:57,589 --> 00:37:56,320
our risks but when we decided to

995
00:37:59,109 --> 00:37:57,599
increase the life of the space station

996
00:38:00,630 --> 00:37:59,119
that's when we felt like the

997
00:38:02,950 --> 00:38:00,640
augmentation milestones would be a good

998
00:38:04,950 --> 00:38:02,960
idea so it was sort of a package in the

999
00:38:06,550 --> 00:38:04,960
presence fy11 budget requests the

1000
00:38:07,750 --> 00:38:06,560
extension and the augmentation

1001
00:38:11,030 --> 00:38:07,760
milestones they were sort of the

1002
00:38:12,790 --> 00:38:11,040
philosophy strategically went together

1003
00:38:19,109 --> 00:38:12,800
okay i'll come right over here on the

1004
00:38:23,109 --> 00:38:21,510
it's a question to feel but can you give

1005
00:38:25,430 --> 00:38:23,119
your name please your affiliation sorry

1006
00:38:27,030 --> 00:38:25,440
i'm guillain-barre with french tv um

1007
00:38:29,190 --> 00:38:27,040
you've talked about trying to create

1008
00:38:32,390 --> 00:38:29,200
sort of multiple redundant capabilities

1009
00:38:34,150 --> 00:38:32,400
to go and have access to iss and if we

1010
00:38:35,910 --> 00:38:34,160
take the master of 2020 it's more a

1011
00:38:38,870 --> 00:38:35,920
micro question can you lay out the

1012
00:38:40,310 --> 00:38:38,880
vision of nasa of what you know how open

1013
00:38:43,829 --> 00:38:40,320

space

1014
00:38:45,670 --> 00:38:43,839
best model for you do you have a number

1015
00:38:48,069 --> 00:38:45,680
of many sort of companies you could you

1016
00:38:50,310 --> 00:38:48,079
know bring up cargo or commercial

1017
00:38:52,230 --> 00:38:50,320
flights up there and when if you could

1018
00:38:54,230 --> 00:38:52,240
project to 2020 where do you think

1019
00:38:57,109 --> 00:38:54,240
spacex should be or what would you like

1020
00:38:59,190 --> 00:38:57,119
it to be um both cargo commercial

1021
00:39:01,430 --> 00:38:59,200
wherever you want to take it

1022
00:39:04,630 --> 00:39:01,440
yeah for for nasa's purposes we would

1023
00:39:05,990 --> 00:39:04,640
like to see an extremely robust uh u.s

1024
00:39:07,990 --> 00:39:06,000
industry uh

1025
00:39:11,670 --> 00:39:08,000
and international industry to provide

1026
00:39:13,910 --> 00:39:11,680
cargo and crew capability to iss to

1027
00:39:15,990 --> 00:39:13,920
really maximize the benefit of this very

1028
00:39:17,990 --> 00:39:16,000
impressive facility it's

1029
00:39:19,349 --> 00:39:18,000
it's been a very strong commitment on

1030
00:39:20,950 --> 00:39:19,359
the part of the united states and our

1031
00:39:23,349 --> 00:39:20,960
international partners to get that

1032
00:39:25,109 --> 00:39:23,359
facility up it's extremely capable and

1033
00:39:26,950 --> 00:39:25,119
we want to get the maximum utility out

1034
00:39:29,750 --> 00:39:26,960
of that in order to do that you need a

1035
00:39:31,430 --> 00:39:29,760
very robust set of systems to be able to

1036
00:39:33,349 --> 00:39:31,440
deliver crew and cargo

1037
00:39:35,270 --> 00:39:33,359
i think we're well on our way with cargo

1038
00:39:37,270 --> 00:39:35,280

so far and i do want to congratulate

1039
00:39:39,430 --> 00:39:37,280
alan on the job that he has done we

1040
00:39:40,230 --> 00:39:39,440
really didn't know

1041
00:39:43,190 --> 00:39:40,240
what

1042
00:39:45,670 --> 00:39:43,200
thought of this

1043
00:39:47,510 --> 00:39:45,680
we had some ideas and so far it's been

1044
00:39:49,990 --> 00:39:47,520
just remarkably successful so i want to

1045
00:39:51,270 --> 00:39:50,000
congratulate alan and also spacex again

1046
00:39:54,069 --> 00:39:51,280
so i think we're well on their way for

1047
00:39:56,470 --> 00:39:54,079
cargo delivery services for crew we we

1048
00:39:59,349 --> 00:39:56,480
do believe that competition is critical

1049
00:40:01,030 --> 00:39:59,359
in any services so we would like to have

1050
00:40:04,390 --> 00:40:01,040
two or more

1051
00:40:05,750 --> 00:40:04,400
crew capable services in in the 2020

1052
00:40:08,710 --> 00:40:05,760
time frame

1053
00:40:11,670 --> 00:40:08,720
we'll have to see if that's enabled by

1054
00:40:14,069 --> 00:40:11,680
by the government and commercial market

1055
00:40:15,589 --> 00:40:14,079
uh but ideally we would like to have

1056
00:40:17,109 --> 00:40:15,599
routine

1057
00:40:18,150 --> 00:40:17,119
cost-effective

1058
00:40:20,710 --> 00:40:18,160
space

1059
00:40:23,109 --> 00:40:20,720
transportation services to low-earth

1060
00:40:24,309 --> 00:40:23,119
orbit by 2020. that's what that's that's

1061
00:40:25,990 --> 00:40:24,319
the goal that's something we've been

1062
00:40:27,910 --> 00:40:26,000
talking about in the space community for

1063
00:40:30,150 --> 00:40:27,920

years and i believe this commercial crew

1064
00:40:33,190 --> 00:40:30,160
program is the next step to helping make

1065
00:40:37,270 --> 00:40:34,790
follow-up

1066
00:40:38,790 --> 00:40:37,280
it was forced basically you know right

1067
00:40:41,190 --> 00:40:38,800
sure um

1068
00:40:43,589 --> 00:40:41,200
by 2020 uh we'll be servicing the

1069
00:40:46,710 --> 00:40:43,599
international space station with cargo

1070
00:40:47,510 --> 00:40:46,720
on regularly uh hopefully with crew as

1071
00:40:49,349 --> 00:40:47,520
well

1072
00:40:51,589 --> 00:40:49,359
we'll be flying other commercial crewed

1073
00:40:52,470 --> 00:40:51,599
missions beyond the international space

1074
00:40:54,390 --> 00:40:52,480
station

1075
00:40:57,270 --> 00:40:54,400
um

1076
00:40:58,230 --> 00:40:57,280
to other destinations in low earth orbit

1077
00:41:00,230 --> 00:40:58,240
and

1078
00:41:02,630 --> 00:41:00,240
hopefully some some bigger things as

1079
00:41:06,150 --> 00:41:02,640
well but we certainly want to focus on

1080
00:41:10,309 --> 00:41:06,160
low earth orbit cargo and crew

1081
00:41:13,349 --> 00:41:12,230
jason ryan with spacevidcast universe

1082
00:41:15,589 --> 00:41:13,359
today i was wondering given the

1083
00:41:18,069 --> 00:41:15,599
significance of this first cot's mission

1084
00:41:20,790 --> 00:41:18,079
is um anything been done to mark either

1085
00:41:22,870 --> 00:41:20,800
the dragon or the falcon 9 or perhaps

1086
00:41:24,870 --> 00:41:22,880
some kind of little symbolic thing

1087
00:41:29,190 --> 00:41:24,880
placed inside the dragon to annotate

1088
00:41:36,630 --> 00:41:31,750

we've got thousands of patches

1089
00:41:40,309 --> 00:41:38,230
okay right here

1090
00:41:42,710 --> 00:41:40,319
hi robert perlman with collectspace.com

1091
00:41:44,790 --> 00:41:42,720
uh sort of a follow-up to that um can

1092
00:41:46,630 --> 00:41:44,800
you talk a little bit about the dragon's

1093
00:41:47,990 --> 00:41:46,640
cargo does it have ballast to simulate

1094
00:41:50,069 --> 00:41:48,000
the same type of weight it would have on

1095
00:41:52,069 --> 00:41:50,079
a supply mission or additional

1096
00:41:53,829 --> 00:41:52,079
instrumentation for you to collect on

1097
00:41:55,190 --> 00:41:53,839
this flight and i have a follow-up

1098
00:41:57,270 --> 00:41:55,200
thanks

1099
00:41:59,589 --> 00:41:57,280
you know i i i'm going to be guessing

1100
00:42:01,270 --> 00:41:59,599
here i think we do have some ballast on

1101
00:42:02,630 --> 00:42:01,280
this flight but i want to follow up i

1102
00:42:05,510 --> 00:42:02,640
don't want to i don't want to lead you

1103
00:42:08,870 --> 00:42:05,520
straight we do we do have uh patches uh

1104
00:42:10,309 --> 00:42:08,880
in the in the dragon um

1105
00:42:13,349 --> 00:42:10,319
let me let me follow up i don't want to

1106
00:42:18,550 --> 00:42:16,630
then in regards to recovery operations

1107
00:42:20,550 --> 00:42:18,560
can you just describe a little bit about

1108
00:42:22,309 --> 00:42:20,560
how many ships you'll be deploying what

1109
00:42:23,910 --> 00:42:22,319
type of ships they are where you're

1110
00:42:26,550 --> 00:42:23,920
staging them

1111
00:42:27,670 --> 00:42:26,560
and if you hope to get descent imagery

1112
00:42:29,109 --> 00:42:27,680
are you going to have

1113
00:42:31,430 --> 00:42:29,119

are you going to hope to see parachute

1114
00:42:32,950 --> 00:42:31,440
deploy or see it

1115
00:42:34,309 --> 00:42:32,960
lower to the ocean or

1116
00:42:37,910 --> 00:42:34,319
just come upon it once it's already in

1117
00:42:41,589 --> 00:42:40,069
that's a lot of detail and not that i'm

1118
00:42:44,150 --> 00:42:41,599
not willing to give it i just don't know

1119
00:42:46,069 --> 00:42:44,160
if i can give it accurately

1120
00:42:48,230 --> 00:42:46,079
alan you may know more we're leveraging

1121
00:42:49,589 --> 00:42:48,240
both commercial and nasa assets alan

1122
00:42:51,829 --> 00:42:49,599
will probably have more detailed

1123
00:42:53,589 --> 00:42:51,839
information than i do i believe we've

1124
00:42:55,349 --> 00:42:53,599
got two boats

1125
00:42:58,470 --> 00:42:55,359
on the east coast

1126
00:43:01,030 --> 00:42:58,480
one boat on the west coast we've got a

1127
00:43:03,109 --> 00:43:01,040
couple of p3 aircraft

1128
00:43:05,349 --> 00:43:03,119
that we want to cover telemetry of

1129
00:43:07,430 --> 00:43:05,359
dragon during reentry

1130
00:43:09,030 --> 00:43:07,440
we'll be getting tdrs links as well for

1131
00:43:10,390 --> 00:43:09,040
telemetry

1132
00:43:13,109 --> 00:43:10,400
we're trying to get as much data as we

1133
00:43:14,790 --> 00:43:13,119
can obviously um

1134
00:43:17,270 --> 00:43:14,800
alan do you have any follow-up for that

1135
00:43:18,950 --> 00:43:17,280
well uh spacex is completely responsible

1136
00:43:20,790 --> 00:43:18,960
for the recovery and leasing the ships

1137
00:43:23,589 --> 00:43:20,800
and all the recovery operations for the

1138
00:43:26,550 --> 00:43:23,599

dragon but we nasa are

1139
00:43:29,829 --> 00:43:26,560
providing some navy p3 aircraft

1140
00:43:32,309 --> 00:43:29,839
to assist with imagery during the entry

1141
00:43:35,589 --> 00:43:32,319
and as well as some

1142
00:43:38,470 --> 00:43:35,599
telemetry to make sure we

1143
00:43:40,790 --> 00:43:38,480
get as much information as we can to

1144
00:43:43,589 --> 00:43:40,800
support this this new phase of this

1145
00:43:44,710 --> 00:43:43,599
demonstration mission

1146
00:43:49,430 --> 00:43:44,720
dan

1147
00:43:51,589 --> 00:43:49,440
kind of clean up on the end of that

1148
00:43:52,390 --> 00:43:51,599
question and then and ask one of my own

1149
00:43:54,950 --> 00:43:52,400
uh

1150
00:43:56,710 --> 00:43:54,960
so would we see any of that imagery live

1151
00:44:10,309 --> 00:43:56,720
on the webcast

1152
00:44:14,150 --> 00:44:13,030
a question and a follow-up here if i may

1153
00:44:17,990 --> 00:44:14,160
um

1154
00:44:20,309 --> 00:44:18,000
well when would the first

1155
00:44:21,750 --> 00:44:20,319
launch of astronauts

1156
00:44:24,230 --> 00:44:21,760
be possible and i know there are no

1157
00:44:26,630 --> 00:44:24,240
contracts for this yet so under the best

1158
00:44:29,750 --> 00:44:26,640
case scenario how how early could you

1159
00:44:31,829 --> 00:44:29,760
how soon could that be

1160
00:44:33,589 --> 00:44:31,839
thirty two and a half to three years

1161
00:44:35,990 --> 00:44:33,599
after uh

1162
00:44:38,870 --> 00:44:36,000
after a program is initiated is is the

1163
00:44:43,670 --> 00:44:38,880

earliest possible for astronauts

1164
00:44:47,109 --> 00:44:45,589
this launch as far as a

1165
00:44:50,230 --> 00:44:47,119
cost question

1166
00:44:52,550 --> 00:44:50,240
is there is it a private public private

1167
00:44:54,150 --> 00:44:52,560
slash public venture or is this launch

1168
00:44:56,870 --> 00:44:54,160
all nasa's money

1169
00:44:58,870 --> 00:44:56,880
all cots money given that this uh

1170
00:45:01,030 --> 00:44:58,880
demonstration flight is executed under

1171
00:45:03,190 --> 00:45:01,040
the cots program it is most definitely a

1172
00:45:05,030 --> 00:45:03,200
public-private partnership

1173
00:45:07,670 --> 00:45:05,040
nasa's contributed

1174
00:45:08,870 --> 00:45:07,680
a total of 278 million

1175
00:45:11,109 --> 00:45:08,880
we've spent

1176
00:45:14,230 --> 00:45:11,119
well over 600 million

1177
00:45:17,829 --> 00:45:14,240
at spacex getting to this point so

1178
00:45:19,510 --> 00:45:17,839
from my perspective it was an incredible

1179
00:45:21,349 --> 00:45:19,520
by nasa it seems to me it's got to be

1180
00:45:24,390 --> 00:45:21,359
one of the highlighted success stories

1181
00:45:27,670 --> 00:45:24,400
of a public-private partnership

1182
00:45:29,190 --> 00:45:27,680
keep in mind if we overrun this program

1183
00:45:30,710 --> 00:45:29,200
we have to come up with the money

1184
00:45:32,710 --> 00:45:30,720
through investment

1185
00:45:34,710 --> 00:45:32,720
to cover the cost which is dramatically

1186
00:45:37,109 --> 00:45:34,720
different from taxpayers funding cost

1187
00:45:39,270 --> 00:45:37,119
type contracts whereas if the contractor

1188
00:45:41,990 --> 00:45:39,280

overruns taxpayers have to pay the

1189
00:45:43,430 --> 00:45:42,000
overruns it's not the case in this

1190
00:45:45,190 --> 00:45:43,440
for this program and i think that's

1191
00:45:46,790 --> 00:45:45,200
exactly why this program was set up that

1192
00:45:48,950 --> 00:45:46,800
way

1193
00:45:51,349 --> 00:45:48,960
to limit the government's exposure just

1194
00:45:53,990 --> 00:45:51,359
very quickly if i may that 278 is for

1195
00:45:55,510 --> 00:45:54,000
this mission only no the 278 million is

1196
00:45:57,190 --> 00:45:55,520
for the development

1197
00:45:59,990 --> 00:45:57,200
as well as the demonstration flights

1198
00:46:02,630 --> 00:46:00,000
under the cots program

1199
00:46:04,630 --> 00:46:02,640
you're right here in the front

1200
00:46:06,950 --> 00:46:04,640
uh jim siegel celebration independent

1201
00:46:08,950 --> 00:46:06,960
newspaper i have a question for gwen i

1202
00:46:12,470 --> 00:46:08,960
was looking at the press release there's

1203
00:46:14,790 --> 00:46:12,480
a a statement by your ceo elon

1204
00:46:17,990 --> 00:46:14,800
that says um

1205
00:46:20,550 --> 00:46:18,000
uh the program uh will be or make

1206
00:46:22,309 --> 00:46:20,560
possible a return to the fast pace of

1207
00:46:23,990 --> 00:46:22,319
progress that took place during the

1208
00:46:26,390 --> 00:46:24,000
apollo era

1209
00:46:28,630 --> 00:46:26,400
that suggests either the use of proven

1210
00:46:32,550 --> 00:46:28,640
technology or

1211
00:46:34,230 --> 00:46:32,560
more efficient processes or shortcuts or

1212
00:46:36,309 --> 00:46:34,240
something and i wonder if you give us

1213
00:46:38,470 --> 00:46:36,319

some examples of some of the elements of

1214
00:46:41,030 --> 00:46:38,480
the program that make that kind of

1215
00:46:43,349 --> 00:46:41,040
statement possible

1216
00:46:45,510 --> 00:46:43,359
sure i don't want to get into

1217
00:46:48,309 --> 00:46:45,520
how other programs are

1218
00:46:50,550 --> 00:46:48,319
slower than us i'd rather talk about

1219
00:46:53,589 --> 00:46:50,560
some milestones that we've hit that have

1220
00:46:56,069 --> 00:46:53,599
just demonstrated to be faster

1221
00:46:58,870 --> 00:46:56,079
for instance building up the pad at

1222
00:47:02,710 --> 00:46:58,880
launch complex 40. i believe we got the

1223
00:47:04,630 --> 00:47:02,720
right of entry in october of 2007.

1224
00:47:06,630 --> 00:47:04,640
we started construction which means we

1225
00:47:09,349 --> 00:47:06,640
had our plans approved

1226
00:47:11,030 --> 00:47:09,359
and demolition complete i believe in may

1227
00:47:13,990 --> 00:47:11,040
of 2008

1228
00:47:16,790 --> 00:47:14,000
and we were ready to accept hardware at

1229
00:47:19,430 --> 00:47:16,800
the end of 2009

1230
00:47:22,950 --> 00:47:19,440
so very rapid development of launch

1231
00:47:28,390 --> 00:47:25,990
so that's just a one example of how

1232
00:47:29,750 --> 00:47:28,400
spacex has been able to to do things

1233
00:47:31,349 --> 00:47:29,760
very quickly i

1234
00:47:32,870 --> 00:47:31,359
i don't think there's any single reason

1235
00:47:34,309 --> 00:47:32,880
why we have

1236
00:47:36,470 --> 00:47:34,319
the fact that we do operate in a

1237
00:47:38,390 --> 00:47:36,480
commercial environment

1238
00:47:40,790 --> 00:47:38,400

we don't have to do the mother may i

1239
00:47:42,790 --> 00:47:40,800
cycle with a huge number of

1240
00:47:44,549 --> 00:47:42,800
organizations we basically have a set of

1241
00:47:46,630 --> 00:47:44,559
performance requirements

1242
00:47:47,829 --> 00:47:46,640
that we have to hit specifically for

1243
00:47:49,670 --> 00:47:47,839
cots

1244
00:47:50,790 --> 00:47:49,680
and interfacing with the international

1245
00:47:52,390 --> 00:47:50,800
space station those are firm

1246
00:47:55,109 --> 00:47:52,400
specifications and requirements that we

1247
00:47:55,829 --> 00:47:55,119
have to meet how we meet them is up to

1248
00:47:59,829 --> 00:47:55,839
us

1249
00:48:00,870 --> 00:47:59,839
so that cycle of permission and and uh

1250
00:48:03,109 --> 00:48:00,880
and

1251
00:48:05,589 --> 00:48:03,119
implementation based on permission is is

1252
00:48:08,230 --> 00:48:05,599
is cut dramatically short i don't like

1253
00:48:09,910 --> 00:48:08,240
to hear the concept of cutting corners

1254
00:48:11,349 --> 00:48:09,920
i would never characterized it that way

1255
00:48:14,069 --> 00:48:11,359
although obviously folks have used that

1256
00:48:17,910 --> 00:48:15,430
for

1257
00:48:19,670 --> 00:48:17,920
falcon 1 and falcon 9 we did enormous

1258
00:48:21,510 --> 00:48:19,680
amounts of ground testing i don't know

1259
00:48:22,950 --> 00:48:21,520
anyone that does static fires right now

1260
00:48:25,270 --> 00:48:22,960
of first stages

1261
00:48:27,190 --> 00:48:25,280
or second stages so not only we do we

1262
00:48:29,270 --> 00:48:27,200
acceptance test every component we've

1263
00:48:30,870 --> 00:48:29,280

qualified the vehicle as well so we do

1264
00:48:32,390 --> 00:48:30,880
acceptance tests of every component we

1265
00:48:34,150 --> 00:48:32,400
integrate them onto stages and we

1266
00:48:36,069 --> 00:48:34,160
acceptance test the stages i don't think

1267
00:48:38,150 --> 00:48:36,079
there's a vehicle flying that does that

1268
00:48:39,990 --> 00:48:38,160
so i bristle a little bit at the whole

1269
00:48:41,349 --> 00:48:40,000
concept of cutting corners

1270
00:48:44,710 --> 00:48:41,359
just because it's faster doesn't mean

1271
00:48:48,870 --> 00:48:46,710
all right ken chang your times this is

1272
00:48:50,630 --> 00:48:48,880
from his shot well um after the june

1273
00:48:52,549 --> 00:48:50,640
flight elon suggested that the first

1274
00:48:54,549 --> 00:48:52,559
demonstration flight would occur at the

1275
00:48:55,349 --> 00:48:54,559
end of summer so i was wondering if some

1276
00:48:56,150 --> 00:48:55,359
of the

1277
00:48:57,990 --> 00:48:56,160
um

1278
00:48:59,670 --> 00:48:58,000
issues with with the weather issues with

1279
00:49:01,829 --> 00:48:59,680
the first flight that's like the role of

1280
00:49:03,670 --> 00:49:01,839
the second stage that were more bigger

1281
00:49:05,670 --> 00:49:03,680
than them first looked and whether you

1282
00:49:07,589 --> 00:49:05,680
could talk about some of the

1283
00:49:09,349 --> 00:49:07,599
technical challenges that spacex

1284
00:49:10,950 --> 00:49:09,359
encountered and solved in getting ready

1285
00:49:14,150 --> 00:49:10,960
for the demonstration flight

1286
00:49:16,069 --> 00:49:14,160
sure i think we have our faa report our

1287
00:49:18,630 --> 00:49:16,079
closeout report from that flight out on

1288
00:49:19,589 --> 00:49:18,640

the web if not we will get a summary out

1289
00:49:20,790 --> 00:49:19,599
on the web

1290
00:49:23,670 --> 00:49:20,800
um

1291
00:49:25,829 --> 00:49:23,680
the uh the the delays from the late

1292
00:49:27,270 --> 00:49:25,839
summer to now are primarily associated

1293
00:49:29,910 --> 00:49:27,280
with creating getting the dragon

1294
00:49:32,069 --> 00:49:29,920
spacecraft ready falcon 9 has been ready

1295
00:49:33,430 --> 00:49:32,079
well except for obviously the issue we

1296
00:49:35,990 --> 00:49:33,440
found this morning

1297
00:49:38,069 --> 00:49:36,000
falcon 9 look to be ready far sooner

1298
00:49:40,630 --> 00:49:38,079
than now

1299
00:49:41,910 --> 00:49:40,640
we have a dragon is a very complicated

1300
00:49:47,510 --> 00:49:41,920
spacecraft

1301
00:49:49,670 --> 00:49:47,520
withstand the incredible heating and

1302
00:49:51,910 --> 00:49:49,680
pressure loads during reentry

1303
00:49:53,109 --> 00:49:51,920
it's very complex propulsion system

1304
00:49:56,069 --> 00:49:53,119
we've got eight

1305
00:49:58,150 --> 00:49:56,079
monomethylhydrazine and n2o4

1306
00:50:00,150 --> 00:49:58,160
thrusters which are dual redundant we've

1307
00:50:01,670 --> 00:50:00,160
got dual redundant drogue parachutes

1308
00:50:03,109 --> 00:50:01,680
dual redundant

1309
00:50:05,990 --> 00:50:03,119
mains

1310
00:50:07,990 --> 00:50:06,000
a guidance navigation and control system

1311
00:50:09,670 --> 00:50:08,000
that is designed to keep us in a tight

1312
00:50:11,750 --> 00:50:09,680
berthing box while the international

1313
00:50:13,750 --> 00:50:11,760

space station arm picks us up

1314
00:50:15,510 --> 00:50:13,760
we've got new avionics new lithium

1315
00:50:16,870 --> 00:50:15,520
batteries so it's a very complicated

1316
00:50:18,790 --> 00:50:16,880
spacecraft

1317
00:50:21,030 --> 00:50:18,800
and there's a lot of work to do and it

1318
00:50:23,190 --> 00:50:21,040
would be foolish for us to

1319
00:50:24,390 --> 00:50:23,200
launch that spacecraft sooner than it's

1320
00:50:26,309 --> 00:50:24,400
ready to go

1321
00:50:29,030 --> 00:50:26,319
so we're taking our time on this and

1322
00:50:30,549 --> 00:50:29,040
we're willing to take the hits

1323
00:50:31,910 --> 00:50:30,559
okay irene we're gonna take one final

1324
00:50:33,510 --> 00:50:31,920
question from you and then we're gonna

1325
00:50:35,910 --> 00:50:33,520
close out thanks

1326
00:50:37,829 --> 00:50:35,920
i'm ironing thoughts with reuters um

1327
00:50:39,910 --> 00:50:37,839
when what um

1328
00:50:41,670 --> 00:50:39,920
um what assurance is there that if you

1329
00:50:43,750 --> 00:50:41,680
lose control of the

1330
00:50:46,470 --> 00:50:43,760
dragon while it's in orbit or on its way

1331
00:50:48,390 --> 00:50:46,480
to orbit that it would not um threaten

1332
00:50:50,230 --> 00:50:48,400
any populated areas

1333
00:50:52,309 --> 00:50:50,240
uh what would happen in that scenario if

1334
00:50:53,829 --> 00:50:52,319
you lost control of it and um

1335
00:50:55,910 --> 00:50:53,839
could you just talk a little bit about

1336
00:50:57,589 --> 00:50:55,920
what you needed to demonstrate for the

1337
00:51:00,069 --> 00:50:57,599
faa to give you your

1338
00:51:02,470 --> 00:51:00,079

waiver slash license whatever you ended

1339
00:51:05,349 --> 00:51:02,480
up getting for permission to go ahead

1340
00:51:07,589 --> 00:51:05,359
and fly this thing thanks

1341
00:51:08,950 --> 00:51:07,599
sure um i'm going to have to keep this

1342
00:51:11,510 --> 00:51:08,960
at a high level because i don't

1343
00:51:13,910 --> 00:51:11,520
necessarily know all the details but uh

1344
00:51:15,829 --> 00:51:13,920
in order for the faa to license this

1345
00:51:18,710 --> 00:51:15,839
this launch this mission

1346
00:51:19,750 --> 00:51:18,720
uh they have to go through the detailed

1347
00:51:20,950 --> 00:51:19,760
design

1348
00:51:23,430 --> 00:51:20,960
uh

1349
00:51:25,349 --> 00:51:23,440
of the both the falcon 9 and dragon

1350
00:51:27,990 --> 00:51:25,359
analyze the trajectories run their own

1351
00:51:29,829 --> 00:51:28,000
risk assessments as to what could happen

1352
00:51:31,349 --> 00:51:29,839
if we lose control

1353
00:51:33,990 --> 00:51:31,359
and that's how we

1354
00:51:36,710 --> 00:51:34,000
uh end up with uh with the license the

1355
00:51:39,109 --> 00:51:36,720
approval the process is a is a

1356
00:51:40,549 --> 00:51:39,119
painstaking one uh it's not like they

1357
00:51:42,150 --> 00:51:40,559
take their word for

1358
00:51:44,150 --> 00:51:42,160
what we tell them they go and they do

1359
00:51:46,069 --> 00:51:44,160
their own independent analysis and say

1360
00:51:48,390 --> 00:51:46,079
that

1361
00:51:50,549 --> 00:51:48,400
we meet the expected

1362
00:51:52,870 --> 00:51:50,559
we meet the criteria uh to receive an

1363
00:51:54,470 --> 00:51:52,880

faa license

1364
00:51:56,069 --> 00:51:54,480
what would happen if you lose control of

1365
00:51:57,510 --> 00:51:56,079
dragon

1366
00:51:58,309 --> 00:51:57,520
um

1367
00:52:04,710 --> 00:51:58,319
i

1368
00:52:06,390 --> 00:52:04,720
attached we we would tumble and break up

1369
00:52:08,150 --> 00:52:06,400
um

1370
00:52:10,950 --> 00:52:08,160
during orbit

1371
00:52:12,630 --> 00:52:10,960
i'm sorry why it's in orbit

1372
00:52:14,710 --> 00:52:12,640
so in other words if you don't have a

1373
00:52:17,030 --> 00:52:14,720
controlled reentry what would happen

1374
00:52:18,790 --> 00:52:17,040
with the spacecraft

1375
00:52:22,630 --> 00:52:18,800
uh well hopefully the dragon will break

1376
00:52:23,829 --> 00:52:22,640
up if we don't have a controlled reentry

1377
00:52:25,430 --> 00:52:23,839
all right

1378
00:52:27,190 --> 00:52:25,440
quinn i'm going to

1379
00:52:30,390 --> 00:52:27,200
let you make some closing comments and

1380
00:52:31,910 --> 00:52:30,400
then we're going to close this out

1381
00:52:34,710 --> 00:52:31,920
i think we ended up covering all the

1382
00:52:36,870 --> 00:52:34,720
points uh that i wanted to as far as

1383
00:52:40,390 --> 00:52:36,880
some of the questions that came up um

1384
00:52:43,829 --> 00:52:40,400
but i did want to close with uh a huge

1385
00:52:45,670 --> 00:52:43,839
thanks to nasa spacex would not

1386
00:52:48,069 --> 00:52:45,680
look like we do today

1387
00:52:49,510 --> 00:52:48,079
without the support both the financial

1388
00:52:51,430 --> 00:52:49,520

and the technical support that we've

1389
00:52:55,589 --> 00:52:51,440
received from them they've been a

1390
00:52:59,510 --> 00:52:57,190
nasa has taken a lot of heat and

1391
00:53:01,030 --> 00:52:59,520
criticism recently and i just have to

1392
00:53:02,309 --> 00:53:01,040
say that the relationship has been

1393
00:53:04,150 --> 00:53:02,319
extraordinary

1394
00:53:06,390 --> 00:53:04,160
i think we've both learned a lot both

1395
00:53:09,030 --> 00:53:06,400
both teams have learned a lot and i just

1396
00:53:11,190 --> 00:53:09,040
wanted to thank them

1397
00:53:14,630 --> 00:53:11,200
all right gwen thank you very much

1398
00:53:17,349 --> 00:53:14,640
everyone please watch for any updates

1399
00:53:19,270 --> 00:53:17,359
that will be issued by nasa and spacex

1400
00:53:20,950 --> 00:53:19,280
in your notes to editors as far as what

1401
00:53:22,710 --> 00:53:20,960
our plans will be for when the next

1402
00:53:24,630 --> 00:53:22,720
launch attempt will be and what the plan

1403
00:53:26,230 --> 00:53:24,640
will be for launch day