1
00:00:07,749 --> 00:00:05,990
good afternoon and welcome to nasa's

2
00:00:09,350 --> 00:00:07,759
wallops flight facility in wallops on

3
00:00:11,350 --> 00:00:09,360
virginia i am nasa public affairs

4
00:00:13,110 --> 00:00:11,360
officer trent parado and this is the

5
00:00:14,390 --> 00:00:13,120
post-launch briefing for the orbital one

6
00:00:16,070 --> 00:00:14,400
mission for those of you who are lucky

7
00:00:17,750 --> 00:00:16,080
enough to be here at wallace or for

8
00:00:19,990 --> 00:00:17,760
those of you who watched from from home

9
00:00:21,429 --> 00:00:20,000
on nasa tv saw a beautiful launch of the

10
00:00:23,990 --> 00:00:21,439
orbital one mission as it began its

11
00:00:25,509 --> 00:00:24,000
international space station uh

12
00:00:27,910 --> 00:00:25,519
the route to the international space

13
00:00:30,070 --> 00:00:27,920

station at 107 pm today from from right

14
00:00:32,790 --> 00:00:30,080
here walt's island virginia you can

15
00:00:34,229 --> 00:00:32,800
follow the mission as uh as cygnus is on

16
00:00:35,350 --> 00:00:34,239
orbit and begins its uh route to the

17
00:00:38,310 --> 00:00:35,360
international space station at

18
00:00:39,350 --> 00:00:38,320
www.nasa.gov

19
00:00:41,350 --> 00:00:39,360
station

20
00:00:42,709 --> 00:00:41,360
uh here to talk about today's launch and

21
00:00:44,229 --> 00:00:42,719
a bit of what comes next we have a

22
00:00:45,910 --> 00:00:44,239
number of distinguished guests each will

23
00:00:47,750 --> 00:00:45,920
provide some brief remarks and then

24
00:00:49,990 --> 00:00:47,760
we'll go to questions and answers if you

25
00:00:52,069 --> 00:00:50,000
have questions for our panelists you can

26
00:00:54,790 --> 00:00:52,079
uh you can reach out to us online on

27
00:00:56,709 --> 00:00:54,800
twitter or google plus using the hashtag

28
00:00:58,709 --> 00:00:56,719
asknasa

29
00:01:01,110 --> 00:00:58,719
let me introduce our speakers to my left

30
00:01:03,189 --> 00:01:01,120
is robert lightfoot nasa associate

31
00:01:05,189 --> 00:01:03,199
administrator

32
00:01:08,630 --> 00:01:05,199
next we have frank culbertson executive

33
00:01:10,149 --> 00:01:08,640
vice president of orbital sciences

34
00:01:13,429 --> 00:01:10,159
and we have bill rebel director of

35
00:01:15,670 --> 00:01:13,439
nasa's wallops flight facility

36
00:01:17,749 --> 00:01:15,680
and with that we'll begin with robert

37
00:01:19,749 --> 00:01:17,759
okay thanks trent um good to see

38
00:01:20,630 --> 00:01:19,759

everybody here another very successful

39
00:01:21,990 --> 00:01:20,640
day

40
00:01:23,590 --> 00:01:22,000
at the wallops flight facility we're

41
00:01:24,870 --> 00:01:23,600
really excited about getting this

42
00:01:27,109 --> 00:01:24,880
mission off to

43
00:01:28,550 --> 00:01:27,119
in my opinion a tremendous start uh so

44
00:01:29,830 --> 00:01:28,560
congratulations frank to you and your

45
00:01:31,670 --> 00:01:29,840
team and bill to the team here at

46
00:01:33,030 --> 00:01:31,680
wallops for for getting us started on

47
00:01:34,149 --> 00:01:33,040
this next mission

48
00:01:35,830 --> 00:01:34,159
you know this wasn't without some

49
00:01:37,030 --> 00:01:35,840
challenges i think uh

50
00:01:39,270 --> 00:01:37,040
well while they had some challenges

51
00:01:40,710 --> 00:01:39,280
during the count today as we always do

52
00:01:42,789 --> 00:01:40,720
if you if you back up these guys were

53
00:01:44,469 --> 00:01:42,799
ready to fly back in december and we had

54
00:01:47,190 --> 00:01:44,479
the cooling loop problem on the station

55
00:01:48,950 --> 00:01:47,200
and the team in houston and the team on

56
00:01:51,190 --> 00:01:48,960
orbit uh went out and took care of that

57
00:01:52,630 --> 00:01:51,200
problem for us then we had i guess i

58
00:01:54,870 --> 00:01:52,640
would say some of the coldest weather

59
00:01:57,030 --> 00:01:54,880
we've had in decades that that managed

60
00:01:59,429 --> 00:01:57,040
to get us a day and then

61
00:02:00,709 --> 00:01:59,439
if what else would a solar flare coming

62
00:02:02,230 --> 00:02:00,719
our way

63
00:02:05,030 --> 00:02:02,240

but i think the team persevered through

64
00:02:07,190 --> 00:02:05,040
that and really hit a huge milestone for

65
00:02:09,350 --> 00:02:07,200
us from an agency perspective here today

66
00:02:11,350 --> 00:02:09,360
with this launch and the birthing on

67
00:02:12,470 --> 00:02:11,360
sunday of the cygnus spacecraft is going

68
00:02:14,550 --> 00:02:12,480
to be

69
00:02:16,630 --> 00:02:14,560
really an important event for us because

70
00:02:18,070 --> 00:02:16,640
in so doing and completing this mission

71
00:02:19,589 --> 00:02:18,080
this will give us two providers to the

72
00:02:21,830 --> 00:02:19,599
international space station to provide

73
00:02:23,430 --> 00:02:21,840
us the cargo and supplies that we need

74
00:02:24,949 --> 00:02:23,440
to do all the the research and the

75
00:02:27,030 --> 00:02:24,959
science and the technology that we want

76
00:02:28,869 --> 00:02:27,040
to that we want to use this this amazing

77
00:02:29,990 --> 00:02:28,879
laboratory for and coming on the heels

78
00:02:31,990 --> 00:02:30,000
of the announcement by the

79
00:02:33,030 --> 00:02:32,000
administration yesterday that we're

80
00:02:34,150 --> 00:02:33,040
talking about we're going to start

81
00:02:36,470 --> 00:02:34,160
working to extend the international

82
00:02:38,470 --> 00:02:36,480
space station to 2024 it's just great

83
00:02:40,390 --> 00:02:38,480
news for us to to actually take full

84
00:02:42,470 --> 00:02:40,400
advantage of that the just amazing

85
00:02:44,710 --> 00:02:42,480
orbiting platform we have up there to

86
00:02:47,030 --> 00:02:44,720
get us ready uh as an agency to take

87
00:02:48,390 --> 00:02:47,040
those next steps um beyond the earth

88
00:02:50,470 --> 00:02:48,400

orbit to the destinations we want to

89
00:02:52,390 --> 00:02:50,480
take people to so

90
00:02:54,229 --> 00:02:52,400
a key enabler to that strategy is having

91
00:02:55,830 --> 00:02:54,239
commercial partners that can provide us

92
00:02:57,430 --> 00:02:55,840
that cargo and today is a big step in

93
00:02:58,949 --> 00:02:57,440
that so with that i just want to

94
00:03:00,470 --> 00:02:58,959
congratulate the team here at wallops

95
00:03:02,390 --> 00:03:00,480
and congratulate the orbital team for

96
00:03:03,910 --> 00:03:02,400
doing that and and it's just a really

97
00:03:05,509 --> 00:03:03,920
exciting day for the agency and for the

98
00:03:07,110 --> 00:03:05,519
international space station as we move

99
00:03:08,550 --> 00:03:07,120
forward with that i'll turn over to the

100
00:03:10,309 --> 00:03:08,560
people that did the real work here frank

101
00:03:12,390 --> 00:03:10,319
you go ahead and start thank you very

102
00:03:13,190 --> 00:03:12,400
much robert it is a real pleasure to be

103
00:03:14,470 --> 00:03:13,200
here

104
00:03:16,470 --> 00:03:14,480
it's especially

105
00:03:17,589 --> 00:03:16,480
exciting to be at a post-launch press

106
00:03:19,509 --> 00:03:17,599
conference

107
00:03:22,550 --> 00:03:19,519
that's always good when you plan on

108
00:03:25,030 --> 00:03:22,560
doing that on this day um it was a

109
00:03:26,949 --> 00:03:25,040
challenging day as robert said and

110
00:03:28,550 --> 00:03:26,959
but this is what we do the space flight

111
00:03:30,630 --> 00:03:28,560
is hard and you have to work the issues

112
00:03:31,910 --> 00:03:30,640
as they come your way and you've got to

113
00:03:33,670 --> 00:03:31,920

stay flexible you've got to be

114
00:03:35,509 --> 00:03:33,680
persistent and you've got to pay

115
00:03:36,789 --> 00:03:35,519
attention to detail no matter

116
00:03:39,190 --> 00:03:36,799
what kind of things are coming at you

117
00:03:42,149 --> 00:03:39,200
from the sun or from dfos which are not

118
00:03:44,869 --> 00:03:42,159
aliens i think but uh distance focused

119
00:03:47,430 --> 00:03:44,879
object over pressure problems or at

120
00:03:49,030 --> 00:03:47,440
least analysis uh but in the end uh i

121
00:03:51,030 --> 00:03:49,040
want to thank the

122
00:03:53,030 --> 00:03:51,040
wallops range officers the range safety

123
00:03:55,350 --> 00:03:53,040
officers the faa everybody who worked on

124
00:03:56,550 --> 00:03:55,360
this so hard including the people who

125
00:03:57,910 --> 00:03:56,560
were standing out in the cold deploying

126
00:03:59,350 --> 00:03:57,920
the balloons

127
00:04:00,949 --> 00:03:59,360
on a frequent basis so we could get

128
00:04:03,110 --> 00:04:00,959
analysis right down to the last second

129
00:04:04,390 --> 00:04:03,120
and it was pretty much the last second

130
00:04:07,190 --> 00:04:04,400
but it worked out and we were able to

131
00:04:08,869 --> 00:04:07,200
get a green and proceed with the launch

132
00:04:10,789 --> 00:04:08,879
i think we have some video that we can

133
00:04:11,589 --> 00:04:10,799
roll whenever it's ready to go i'll try

134
00:04:13,350 --> 00:04:11,599
to

135
00:04:15,910 --> 00:04:13,360
talk over it a little bit and

136
00:04:17,189 --> 00:04:15,920
and tell you what was going on uh as as

137
00:04:18,550 --> 00:04:17,199
we launched and then tell you a little

138
00:04:21,509 --> 00:04:18,560

bit about what's coming up in the next

139
00:04:23,270 --> 00:04:21,519
couple of days um the countdown uh went

140
00:04:25,510 --> 00:04:23,280
very smoothly

141
00:04:27,909 --> 00:04:25,520
once we got into the last 15 minutes the

142
00:04:29,510 --> 00:04:27,919
team was focused and ready to go

143
00:04:32,070 --> 00:04:29,520
all the instrumentation looked good and

144
00:04:33,990 --> 00:04:32,080
as we lifted off the teres was right on

145
00:04:36,870 --> 00:04:34,000
his trajectory

146
00:04:38,710 --> 00:04:36,880
accelerating as we expected and as you

147
00:04:40,070 --> 00:04:38,720
heard everything happened pretty much on

148
00:04:42,230 --> 00:04:40,080
time

149
00:04:44,469 --> 00:04:42,240
it accelerates for almost four minutes

150
00:04:46,550 --> 00:04:44,479
uh under the first stage with the two

151
00:04:48,230 --> 00:04:46,560
aj26 rockets

152
00:04:49,590 --> 00:04:48,240
and we want to thank our air jet

153
00:04:51,670 --> 00:04:49,600
partners for all the work they did to

154
00:04:53,350 --> 00:04:51,680
make sure those were ready and uh our

155
00:04:55,510 --> 00:04:53,360
ukrainian partners from uzunoi and used

156
00:04:58,390 --> 00:04:55,520
mosh who built the first stage

157
00:04:59,590 --> 00:04:58,400
and it worked as as planned

158
00:05:01,510 --> 00:04:59,600
we uh

159
00:05:04,870 --> 00:05:01,520
we heard it in the launch control center

160
00:05:07,029 --> 00:05:04,880
i heard that you all had a great uh

161
00:05:09,029 --> 00:05:07,039
sound show really uh as you were out at

162
00:05:10,790 --> 00:05:09,039
the uh at the visitors

163
00:05:13,270 --> 00:05:10,800

viewing site when the wind is out of the

164
00:05:14,790 --> 00:05:13,280
east you get all the acoustics and

165
00:05:16,950 --> 00:05:14,800
it really brings it home what's going on

166
00:05:18,230 --> 00:05:16,960
there's a lot of energy in these rockets

167
00:05:19,749 --> 00:05:18,240
and that's one of the challenging things

168
00:05:21,350 --> 00:05:19,759
with space flight is you are managing a

169
00:05:23,110 --> 00:05:21,360
lot of energy that's

170
00:05:25,590 --> 00:05:23,120
being transmitted very fast from

171
00:05:27,029 --> 00:05:25,600
potential to kinetic energy and it's all

172
00:05:28,790 --> 00:05:27,039
got to go right and it's got to happen

173
00:05:31,029 --> 00:05:28,800
at the right times and you've got to do

174
00:05:32,790 --> 00:05:31,039
it over about a 8 to 10 minute period in

175
00:05:34,629 --> 00:05:32,800
order to get into orbit you've got to

176
00:05:36,150 --> 00:05:34,639
accelerate to almost 18 000 miles an

177
00:05:38,710 --> 00:05:36,160
hour very quickly and you burn a lot of

178
00:05:40,550 --> 00:05:38,720
fuel during that time and and everything

179
00:05:42,629 --> 00:05:40,560
has to go right so everybody's paying

180
00:05:44,469 --> 00:05:42,639
very close attention at this time

181
00:05:46,629 --> 00:05:44,479
leading up to the launch

182
00:05:48,870 --> 00:05:46,639
we did have some challenges a lot of it

183
00:05:50,710 --> 00:05:48,880
was analytical in terms of understanding

184
00:05:52,790 --> 00:05:50,720
what was happening with the solar flare

185
00:05:53,830 --> 00:05:52,800
dealing with the low temperatures which

186
00:05:56,230 --> 00:05:53,840
were

187
00:05:57,510 --> 00:05:56,240
you can keep it rolling

188
00:05:58,870 --> 00:05:57,520

if we have more

189
00:06:00,550 --> 00:05:58,880
dealing with the low temperatures was a

190
00:06:02,790 --> 00:06:00,560
challenge because that's not something

191
00:06:05,189 --> 00:06:02,800
we expected on the eastern shore

192
00:06:06,550 --> 00:06:05,199
but we could deal with it and we did and

193
00:06:09,029 --> 00:06:06,560
the team worked together to keep things

194
00:06:10,309 --> 00:06:09,039
that needed to be warmed warmed and

195
00:06:12,469 --> 00:06:10,319
things that needed to be inspected and

196
00:06:14,230 --> 00:06:12,479
inspected and

197
00:06:16,309 --> 00:06:14,240
we were ready to go uh

198
00:06:17,430 --> 00:06:16,319
uh today and uh

199
00:06:19,670 --> 00:06:17,440
in fact we were almost ready to go

200
00:06:22,870 --> 00:06:19,680
yesterday but the the solar

201
00:06:25,749 --> 00:06:22,880
flare kept us on the ground

202
00:06:28,230 --> 00:06:25,759
once the first stage finishes its job uh

203
00:06:31,270 --> 00:06:28,240
we are almost outside the atmosphere

204
00:06:33,029 --> 00:06:31,280
over 100 kilometers and uh we separate

205
00:06:34,870 --> 00:06:33,039
the first and second stage separate the

206
00:06:36,469 --> 00:06:34,880
inner stage and then we ignite the

207
00:06:39,430 --> 00:06:36,479
second stage the second stage on this

208
00:06:40,950 --> 00:06:39,440
one is a caster 30b

209
00:06:42,550 --> 00:06:40,960
which is an upgraded version of the

210
00:06:44,870 --> 00:06:42,560
caster 30 we flew on the first two

211
00:06:46,950 --> 00:06:44,880
flights built by atk and we appreciate

212
00:06:49,990 --> 00:06:46,960
the hard work they put into that

213
00:06:51,510 --> 00:06:50,000

it again performed just as we expected

214
00:06:53,670 --> 00:06:51,520
right on the money for second stage and

215
00:06:55,029 --> 00:06:53,680
we ended up in orbit where we expected

216
00:06:56,950 --> 00:06:55,039
to be

217
00:06:58,870 --> 00:06:56,960
payload separation occurs about two

218
00:07:00,870 --> 00:06:58,880
minutes after we finished the first the

219
00:07:02,469 --> 00:07:00,880
second stage and that's when we all

220
00:07:04,550 --> 00:07:02,479
relax um

221
00:07:06,230 --> 00:07:04,560
you see uh the launch control team

222
00:07:08,390 --> 00:07:06,240
paying attention to their consoles and

223
00:07:11,830 --> 00:07:08,400
going through the uh um

224
00:07:13,189 --> 00:07:11,840
their uh uh instrumentation uh watching

225
00:07:14,710 --> 00:07:13,199
what's happening a lot of people get

226
00:07:17,270 --> 00:07:14,720
excited when the first stage finishes

227
00:07:18,710 --> 00:07:17,280
and think yeah half the work's done

228
00:07:19,749 --> 00:07:18,720
and but you got to remember okay now

229
00:07:21,589 --> 00:07:19,759
we've got to do the second stage and

230
00:07:23,189 --> 00:07:21,599
then after the second stage you still

231
00:07:24,550 --> 00:07:23,199
got to get rid of that rocket and put

232
00:07:26,390 --> 00:07:24,560
that payload in orbit where it's

233
00:07:28,150 --> 00:07:26,400
supposed to be so that you can actually

234
00:07:29,830 --> 00:07:28,160
do what you intended to do which is to

235
00:07:31,909 --> 00:07:29,840
deliver cargo to the international space

236
00:07:35,270 --> 00:07:31,919
station and we are right on the money if

237
00:07:38,070 --> 00:07:35,280
not a little better we're in a 218 by

238
00:07:40,309 --> 00:07:38,080

280 kilometer orbit which is slightly

239
00:07:41,589 --> 00:07:40,319
higher than what we needed in order to

240
00:07:44,070 --> 00:07:41,599
be on target

241
00:07:45,670 --> 00:07:44,080
well above what we needed in order to do

242
00:07:46,950 --> 00:07:45,680
extra maneuvers in order to stay in

243
00:07:48,550 --> 00:07:46,960
orbit so

244
00:07:50,309 --> 00:07:48,560
we're in good shape frank demaro who's

245
00:07:53,670 --> 00:07:50,319
sitting back there and his team

246
00:07:55,670 --> 00:07:53,680
have taken control of the spacecraft the

247
00:07:58,309 --> 00:07:55,680
solar arrays are deployed the power is

248
00:08:00,390 --> 00:07:58,319
is up and and working the propulsion

249
00:08:03,350 --> 00:08:00,400
system is working and the spacecraft is

250
00:08:05,670 --> 00:08:03,360
under control and uh we'll do uh our

251
00:08:07,749 --> 00:08:05,680
first burn for uh

252
00:08:09,670 --> 00:08:07,759
continuing or beginning really the the

253
00:08:11,749 --> 00:08:09,680
uh phasing with the international space

254
00:08:13,670 --> 00:08:11,759
station so we can catch up with it and

255
00:08:16,070 --> 00:08:13,680
rendezvous with it in a couple of days

256
00:08:20,070 --> 00:08:16,080
that burn will occur at about i think 6

257
00:08:21,430 --> 00:08:20,080
30 6 23 tonight and

258
00:08:23,270 --> 00:08:21,440
and then we'll have a few more burns as

259
00:08:25,029 --> 00:08:23,280
we go over the next couple of days

260
00:08:27,350 --> 00:08:25,039
while we continue closing in on the

261
00:08:30,230 --> 00:08:27,360
station the actual rendezvous will begin

262
00:08:31,430 --> 00:08:30,240
at about 3 a.m sunday morning the 12th

263
00:08:33,909 --> 00:08:31,440

of january

264
00:08:36,230 --> 00:08:33,919
take about three hours for us to to get

265
00:08:38,829 --> 00:08:36,240
close to the station and then the actual

266
00:08:41,430 --> 00:08:38,839
capture will occur at about 6

267
00:08:43,269 --> 00:08:41,440
a.m sunday morning and that's another

268
00:08:44,790 --> 00:08:43,279
exciting time for us is

269
00:08:46,630 --> 00:08:44,800
as you get close to the station and

270
00:08:49,030 --> 00:08:46,640
watch the uh you know watch your

271
00:08:50,389 --> 00:08:49,040
spacecraft approach up the r bar getting

272
00:08:53,350 --> 00:08:50,399
closer and closer and bigger and bigger

273
00:08:54,870 --> 00:08:53,360
and you think i hope it has breaks and

274
00:08:57,430 --> 00:08:54,880
and the station crew knows what they're

275
00:08:59,509 --> 00:08:57,440
doing and they do and we do have brakes

276
00:09:00,790 --> 00:08:59,519
last time we stopped at about 10 meters

277
00:09:02,230 --> 00:09:00,800
and and they did a great job of

278
00:09:03,190 --> 00:09:02,240
grappling we expect it to be the same

279
00:09:04,790 --> 00:09:03,200
this time

280
00:09:06,550 --> 00:09:04,800
uh the crew will then birth us to the

281
00:09:08,550 --> 00:09:06,560
station and then they will probably will

282
00:09:09,829 --> 00:09:08,560
wait until the following day to actually

283
00:09:11,430 --> 00:09:09,839
open the hatch and get their christmas

284
00:09:13,590 --> 00:09:11,440
presents out

285
00:09:15,350 --> 00:09:13,600
but they will in fact open the hatch and

286
00:09:17,750 --> 00:09:15,360
find a nice picture of c gordon

287
00:09:20,150 --> 00:09:17,760
fullerton on the back bulkhead this is

288
00:09:23,030 --> 00:09:20,160

the ss gordon fullerton named in honor

289
00:09:25,590 --> 00:09:23,040
of one of my colleagues and and our

290
00:09:27,670 --> 00:09:25,600
friends at orbital uh gordon fullerton

291
00:09:30,070 --> 00:09:27,680
who was an astronaut and also a b-52

292
00:09:32,550 --> 00:09:30,080
pilot that uh at dryden space flight

293
00:09:34,949 --> 00:09:32,560
center who dropped our our first

294
00:09:37,829 --> 00:09:34,959
commercial rocket uh the pegasus from

295
00:09:39,350 --> 00:09:37,839
the underside of the b-52 so orbital has

296
00:09:41,829 --> 00:09:39,360
a long and productive relationship with

297
00:09:43,509 --> 00:09:41,839
gordon he passed away about a year ago

298
00:09:44,870 --> 00:09:43,519
and so we miss him but we wanted to

299
00:09:46,710 --> 00:09:44,880
honor his memory by naming the

300
00:09:47,990 --> 00:09:46,720
spacecraft after him

301
00:09:51,750 --> 00:09:48,000
um

302
00:09:54,310 --> 00:09:51,760
we've got about 460 kilograms of payload

303
00:09:57,509 --> 00:09:54,320
uh cargo on board this uh uh pressurized

304
00:09:59,829 --> 00:09:57,519
cargo module um about 400 almost 500

305
00:10:02,550 --> 00:09:59,839
kilograms of that is uh what we loaded

306
00:10:05,110 --> 00:10:02,560
late much of it was science payload and

307
00:10:08,389 --> 00:10:05,120
much of it was student science student

308
00:10:11,910 --> 00:10:08,399
experiments so uh the iss is doing its

309
00:10:14,230 --> 00:10:11,920
job to continue to ensure that the next

310
00:10:16,470 --> 00:10:14,240
generation is interested in space flight

311
00:10:18,470 --> 00:10:16,480
uh has the ability to do research in

312
00:10:19,829 --> 00:10:18,480
space to get them interested so that in

313
00:10:21,030 --> 00:10:19,839

about 15 or 20 years you'll have

314
00:10:23,350 --> 00:10:21,040
somebody a lot better looking and

315
00:10:26,230 --> 00:10:23,360
smarter than us up here to talk about

316
00:10:28,150 --> 00:10:26,240
what's going on in space and

317
00:10:29,030 --> 00:10:28,160
we we are proud to be a part of that and

318
00:10:31,430 --> 00:10:29,040
to

319
00:10:33,030 --> 00:10:31,440
assist the space station in continuing

320
00:10:35,509 --> 00:10:33,040
the research that's been going on for

321
00:10:37,190 --> 00:10:35,519
over 10 years and and continue to

322
00:10:39,030 --> 00:10:37,200
further the the boundaries of human

323
00:10:41,430 --> 00:10:39,040
knowledge and soon the boundaries of

324
00:10:43,030 --> 00:10:41,440
human exploration because the station if

325
00:10:45,030 --> 00:10:43,040
not actually will virtually be our

326
00:10:47,190 --> 00:10:45,040
stepping stone to the rest of the solar

327
00:10:48,949 --> 00:10:47,200
system and uh we're very proud to be a

328
00:10:50,470 --> 00:10:48,959
part of that i look forward to your

329
00:10:52,069 --> 00:10:50,480
questions i'll be happy to answer any of

330
00:10:54,630 --> 00:10:52,079
them and now i'm going to turn it over

331
00:10:56,230 --> 00:10:54,640
to our center director here uh

332
00:10:58,710 --> 00:10:56,240
mr bill robel

333
00:11:00,470 --> 00:10:58,720
thanks frank thanks a lot yeah so a

334
00:11:02,150 --> 00:11:00,480
great way to start out the new year

335
00:11:03,910 --> 00:11:02,160
certainly and we're looking forward to

336
00:11:06,630 --> 00:11:03,920
doing this a couple more times this year

337
00:11:08,630 --> 00:11:06,640
i think right and then as robert pointed

338
00:11:10,630 --> 00:11:08,640

out uh with an extension of four years

339
00:11:12,389 --> 00:11:10,640
maybe uh maybe a number of years down

340
00:11:14,310 --> 00:11:12,399
the road after that so that's all very

341
00:11:15,990 --> 00:11:14,320
good news

342
00:11:17,990 --> 00:11:16,000
obviously we're all smiles here a lot of

343
00:11:20,630 --> 00:11:18,000
happy engineers kind of across the area

344
00:11:22,069 --> 00:11:20,640
i just have to echo the congratulations

345
00:11:23,829 --> 00:11:22,079
to the teams

346
00:11:25,990 --> 00:11:23,839
they really worked hard at pulling this

347
00:11:27,110 --> 00:11:26,000
off obviously through some pretty tough

348
00:11:28,550 --> 00:11:27,120
weather

349
00:11:30,630 --> 00:11:28,560
and not all of it terrestrial-based

350
00:11:33,350 --> 00:11:30,640
right so uh it was

351
00:11:35,910 --> 00:11:33,360
just a great effort across the board um

352
00:11:37,430 --> 00:11:35,920
a couple of other things to see that are

353
00:11:39,590 --> 00:11:37,440
going to be taking place here at wallops

354
00:11:40,630 --> 00:11:39,600
in the in the coming months is that um

355
00:11:42,790 --> 00:11:40,640
you know we were part of one of the

356
00:11:45,030 --> 00:11:42,800
teams that was selected for the

357
00:11:46,949 --> 00:11:45,040
unmanned aerial systems test site

358
00:11:48,150 --> 00:11:46,959
designation by the faa

359
00:11:49,190 --> 00:11:48,160
so we're looking forward to the work

360
00:11:51,269 --> 00:11:49,200
that's going to come with that in the

361
00:11:52,710 --> 00:11:51,279
future and we've got some other

362
00:11:53,990 --> 00:11:52,720
interesting things also coming up this

363
00:11:56,150 --> 00:11:54,000

year but

364
00:11:57,430 --> 00:11:56,160
we're all smiles here as a result of the

365
00:11:58,470 --> 00:11:57,440
way things went here early this

366
00:12:00,150 --> 00:11:58,480
afternoon

367
00:12:01,590 --> 00:12:00,160
good job

368
00:12:02,870 --> 00:12:01,600
thank you gentlemen all right let's uh

369
00:12:04,310 --> 00:12:02,880
start with questions here in the

370
00:12:05,750 --> 00:12:04,320
audience's reminder if you're uh

371
00:12:07,430 --> 00:12:05,760
watching from home and you'd like to ask

372
00:12:09,829 --> 00:12:07,440
our panel question you need so using the

373
00:12:11,190 --> 00:12:09,839
hashtag ask nasa on google plus or

374
00:12:12,389 --> 00:12:11,200
twitter but we'll start right here at

375
00:12:18,230 --> 00:12:12,399
wallops to start with ken and then we'll

376
00:12:21,509 --> 00:12:19,829
hi hank cranberry universe today

377
00:12:23,110 --> 00:12:21,519
congratulations on a great launch it's

378
00:12:25,269 --> 00:12:23,120
really beautiful and a great way to

379
00:12:27,190 --> 00:12:25,279
start the new year exactly so my

380
00:12:29,190 --> 00:12:27,200
question is uh for frank and maybe bob

381
00:12:31,350 --> 00:12:29,200
um yeah we did get an extension

382
00:12:33,110 --> 00:12:31,360
announced yesterday so i'd like you to

383
00:12:34,389 --> 00:12:33,120
talk what what does this mean to you as

384
00:12:36,629 --> 00:12:34,399
an astronaut

385
00:12:38,629 --> 00:12:36,639
getting extension to the iss but also

386
00:12:40,790 --> 00:12:38,639
specifically in some detail

387
00:12:42,470 --> 00:12:40,800
the point that bill gerstenmaier made

388
00:12:45,190 --> 00:12:42,480

yesterday this lets the commercial

389
00:12:47,509 --> 00:12:45,200
providers and others

390
00:12:50,230 --> 00:12:47,519
plan for the long-term horizon so how

391
00:12:52,230 --> 00:12:50,240
will this specifically help orbital as a

392
00:12:53,910 --> 00:12:52,240
cargo carrier what would you like to do

393
00:12:56,870 --> 00:12:53,920
thank you well to answer your first

394
00:12:58,870 --> 00:12:56,880
question i think it's fantastic that the

395
00:13:00,470 --> 00:12:58,880
administration is committed to to moving

396
00:13:01,590 --> 00:13:00,480
towards extending the station i know

397
00:13:03,509 --> 00:13:01,600
they've got to work with the partners

398
00:13:04,829 --> 00:13:03,519
and there's a lot to be done yet but

399
00:13:06,790 --> 00:13:04,839
it's a move in the right

400
00:13:08,470 --> 00:13:06,800
direction i mean

401
00:13:10,710 --> 00:13:08,480
in my opinion if i had my way we'd fly

402
00:13:12,629 --> 00:13:10,720
until 2050. now congress would have to

403
00:13:13,990 --> 00:13:12,639
agree to that i guess but

404
00:13:15,670 --> 00:13:14,000
there's really no reason to stop

405
00:13:16,870 --> 00:13:15,680
operations on the space station until it

406
00:13:18,550 --> 00:13:16,880
completely

407
00:13:20,069 --> 00:13:18,560
is no longer usable and i think it'll be

408
00:13:22,710 --> 00:13:20,079
usable for a long time because it's very

409
00:13:24,949 --> 00:13:22,720
well built very well maintained and uh

410
00:13:26,389 --> 00:13:24,959
and nasa and the engineers understand it

411
00:13:28,949 --> 00:13:26,399
very well and i think they're operating

412
00:13:31,750 --> 00:13:28,959
it superbly the best thing about it is

413
00:13:33,750 --> 00:13:31,760

it's now a research center and uh and it

414
00:13:36,230 --> 00:13:33,760
is really starting to ramp up it's not

415
00:13:37,670 --> 00:13:36,240
there yet it's finished as a station and

416
00:13:39,509 --> 00:13:37,680
as a laboratory but the research

417
00:13:41,910 --> 00:13:39,519
capability is just starting to to move

418
00:13:42,949 --> 00:13:41,920
in the right direction so extending it

419
00:13:44,710 --> 00:13:42,959
gives

420
00:13:47,110 --> 00:13:44,720
not only commercial companies but

421
00:13:48,790 --> 00:13:47,120
researchers the idea that yes i can do

422
00:13:50,069 --> 00:13:48,800
long-term research on the station

423
00:13:51,430 --> 00:13:50,079
because it'll be there for another 10

424
00:13:53,670 --> 00:13:51,440
years and i can get some significant

425
00:13:55,110 --> 00:13:53,680
data and i think that's really important

426
00:13:56,870 --> 00:13:55,120
for them to understand that it's going

427
00:13:58,389 --> 00:13:56,880
to be backed for that long and they

428
00:14:00,230 --> 00:13:58,399
won't get cut short

429
00:14:03,509 --> 00:14:00,240
in the middle of preparing an experiment

430
00:14:05,110 --> 00:14:03,519
or or flying it so i think that that

431
00:14:06,790 --> 00:14:05,120
first of all uh demonstrates the

432
00:14:09,269 --> 00:14:06,800
commitment of the government to

433
00:14:10,629 --> 00:14:09,279
continuing into nasa but also presents a

434
00:14:11,509 --> 00:14:10,639
lot of opportunities for a number of

435
00:14:13,430 --> 00:14:11,519
people

436
00:14:15,110 --> 00:14:13,440
as far as what it means for us and other

437
00:14:17,590 --> 00:14:15,120
commercial companies is that yes it does

438
00:14:19,750 --> 00:14:17,600

allow us to plan long term for what we

439
00:14:21,590 --> 00:14:19,760
might be able to do providing a service

440
00:14:23,350 --> 00:14:21,600
for nasa in the future

441
00:14:25,350 --> 00:14:23,360
and also gives us a chance to to be

442
00:14:27,269 --> 00:14:25,360
innovative and maybe invest in some

443
00:14:28,629 --> 00:14:27,279
improvements on how we can do this to

444
00:14:29,829 --> 00:14:28,639
make it more cost effective more

445
00:14:32,230 --> 00:14:29,839
efficient

446
00:14:34,629 --> 00:14:32,240
turnaround time quicker go more often

447
00:14:36,629 --> 00:14:34,639
go more often go a lot more often robert

448
00:14:40,310 --> 00:14:36,639
and

449
00:14:42,150 --> 00:14:40,320
don't even feel like they have to

450
00:14:44,790 --> 00:14:42,160
compete for those next few extensions

451
00:14:46,150 --> 00:14:44,800
we'll just we'll just keep going

452
00:14:47,590 --> 00:14:46,160
that's our position but we have to see

453
00:14:49,430 --> 00:14:47,600
what the government does

454
00:14:51,910 --> 00:14:49,440
but it really does give us the chance to

455
00:14:53,269 --> 00:14:51,920
uh to think long term and and make sure

456
00:14:55,430 --> 00:14:53,279
that we can get some return on our

457
00:14:57,590 --> 00:14:55,440
investment and that it actually does

458
00:15:00,310 --> 00:14:57,600
present a business opportunity that can

459
00:15:01,990 --> 00:15:00,320
expand not just uh to the station but to

460
00:15:04,870 --> 00:15:02,000
other uses in space flights such as

461
00:15:07,030 --> 00:15:04,880
exploration uh asteroids mars wherever

462
00:15:09,189 --> 00:15:07,040
we're going and uh and we hope it will

463
00:15:12,150 --> 00:15:09,199

move it'll uh transfer into other

464
00:15:13,990 --> 00:15:12,160
civilian uses and uh in space for maybe

465
00:15:16,710 --> 00:15:14,000
other stations we'll follow this one and

466
00:15:18,470 --> 00:15:16,720
we'll be able to participate in that

467
00:15:19,670 --> 00:15:18,480
thank you steve

468
00:15:20,949 --> 00:15:19,680
did you want it

469
00:15:23,590 --> 00:15:20,959
yeah the only thing i would donate i

470
00:15:25,590 --> 00:15:23,600
would add on ken is that frank said it

471
00:15:27,910 --> 00:15:25,600
right when he said this the station is

472
00:15:29,269 --> 00:15:27,920
really our stepping stone and and if you

473
00:15:31,590 --> 00:15:29,279
think of if you use that analogy of

474
00:15:33,030 --> 00:15:31,600
stepping stones the next stone we need

475
00:15:34,310 --> 00:15:33,040
we need to use this stone to know what

476
00:15:36,150 --> 00:15:34,320
the next stone looks like right so we

477
00:15:37,829 --> 00:15:36,160
can get ready whether that's research

478
00:15:39,910 --> 00:15:37,839
whether it's the what it does the human

479
00:15:41,269 --> 00:15:39,920
body the things we're learning today you

480
00:15:43,110 --> 00:15:41,279
don't want to

481
00:15:44,310 --> 00:15:43,120
jump off that's that

482
00:15:46,150 --> 00:15:44,320
platform

483
00:15:47,910 --> 00:15:46,160
before you before you're ready and and

484
00:15:49,910 --> 00:15:47,920
so we're learning every day how to live

485
00:15:51,110 --> 00:15:49,920
and operate in space and fortunately

486
00:15:52,870 --> 00:15:51,120
we're close to home and if something

487
00:15:54,470 --> 00:15:52,880
comes up we can get home

488
00:15:56,230 --> 00:15:54,480

the further we go the more we need to

489
00:15:57,910 --> 00:15:56,240
know about how to operate in space what

490
00:15:59,590 --> 00:15:57,920
kind of protection we need what kind of

491
00:16:02,230 --> 00:15:59,600
research we need for the astronauts but

492
00:16:03,670 --> 00:16:02,240
also what kind of systems do we need and

493
00:16:05,030 --> 00:16:03,680
these guys are putting systems up there

494
00:16:07,269 --> 00:16:05,040
that allow us to just

495
00:16:08,870 --> 00:16:07,279
test more and more get more time because

496
00:16:09,990 --> 00:16:08,880
when we get further away we can't get

497
00:16:11,189 --> 00:16:10,000
home as quick and so those are the kind

498
00:16:12,629 --> 00:16:11,199
of things that we get to do and with

499
00:16:15,110 --> 00:16:12,639
this extension i can now make those

500
00:16:16,870 --> 00:16:15,120
investments as an agency not just us but

501
00:16:18,870 --> 00:16:16,880
our academic partners our industry

502
00:16:20,550 --> 00:16:18,880
partners yeah the launch the launch

503
00:16:22,550 --> 00:16:20,560
market is part of this as these guys

504
00:16:24,150 --> 00:16:22,560
have shown today but it's also the the

505
00:16:25,749 --> 00:16:24,160
researchers the scientists even

506
00:16:27,749 --> 00:16:25,759
universities now can do that i mean if

507
00:16:29,350 --> 00:16:27,759
you saw the excitement today

508
00:16:31,110 --> 00:16:29,360
of the of the kids and the students that

509
00:16:32,790 --> 00:16:31,120
were out at the viewing area where i was

510
00:16:34,629 --> 00:16:32,800
for just being able to

511
00:16:36,949 --> 00:16:34,639
to take a cubesat a four inch by four

512
00:16:39,350 --> 00:16:36,959
inch cube that's that they've worked on

513
00:16:40,470 --> 00:16:39,360

and they just launched today that's i

514
00:16:42,310 --> 00:16:40,480
mean that's

515
00:16:43,509 --> 00:16:42,320
pretty cool i mean that is exactly what

516
00:16:44,790 --> 00:16:43,519
we need to be doing and that's the

517
00:16:46,550 --> 00:16:44,800
people that are as frank said are going

518
00:16:47,189 --> 00:16:46,560
to take our jobs and as long as they

519
00:16:48,470 --> 00:16:47,199
know that's going to be there for a

520
00:16:50,230 --> 00:16:48,480
while this gives them that chance to

521
00:16:52,550 --> 00:16:50,240
train and learn and do the research that

522
00:16:54,230 --> 00:16:52,560
we need to take people further so that

523
00:16:55,829 --> 00:16:54,240
it is the stepping stone and it's really

524
00:16:57,749 --> 00:16:55,839
important for us to have this extension

525
00:16:59,990 --> 00:16:57,759
i spoke to them yesterday they were very

526
00:17:01,350 --> 00:17:00,000
excited yeah i think we all envy them

527
00:17:03,110 --> 00:17:01,360
yes

528
00:17:05,669 --> 00:17:03,120
i think we do

529
00:17:07,510 --> 00:17:05,679
stephen thanks trent uh stephen clark

530
00:17:10,870 --> 00:17:07,520
with space flight now a couple of

531
00:17:12,069 --> 00:17:10,880
questions for uh frank and robert uh

532
00:17:13,590 --> 00:17:12,079
first uh

533
00:17:16,549 --> 00:17:13,600
for frank uh

534
00:17:18,549 --> 00:17:16,559
the iss extension to 2024

535
00:17:19,990 --> 00:17:18,559
and uh

536
00:17:23,429 --> 00:17:20,000
your current contract runs through the

537
00:17:24,949 --> 00:17:23,439
2016 timeframe i understand

538
00:17:26,710 --> 00:17:24,959

a lot more flights potentially for

539
00:17:29,990 --> 00:17:26,720
cygnus and antares

540
00:17:30,789 --> 00:17:30,000
so beyond 2016 as you get your cadence

541
00:17:33,110 --> 00:17:30,799
down

542
00:17:34,870 --> 00:17:33,120
what sort of cost savings you expect to

543
00:17:38,070 --> 00:17:34,880
be able to offer nasa

544
00:17:40,230 --> 00:17:38,080
from the 1.9 billion crs

545
00:17:41,110 --> 00:17:40,240
contract and also for mr lightfoot when

546
00:17:42,870 --> 00:17:41,120
do you

547
00:17:44,950 --> 00:17:42,880
plan to

548
00:17:47,750 --> 00:17:44,960
re-compete or extend

549
00:17:49,430 --> 00:17:47,760
spacex orbital new providers how how do

550
00:17:51,430 --> 00:17:49,440
you pursue that mechanism working and

551
00:17:52,710 --> 00:17:51,440
when you plan to do it thanks well if

552
00:17:55,590 --> 00:17:52,720
robert answers first i might be able to

553
00:17:57,750 --> 00:17:55,600
get you a better answer

554
00:18:00,150 --> 00:17:57,760
well and i think for us part of the

555
00:18:01,590 --> 00:18:00,160
whole we have an acquisition strategy

556
00:18:03,669 --> 00:18:01,600
we'll go through as an agency in terms

557
00:18:05,029 --> 00:18:03,679
of how we go purchase these services in

558
00:18:06,710 --> 00:18:05,039
the future

559
00:18:09,350 --> 00:18:06,720
one of the key

560
00:18:11,430 --> 00:18:09,360
parts of that strategy is how long

561
00:18:13,430 --> 00:18:11,440
right and so we just got that yesterday

562
00:18:14,710 --> 00:18:13,440
so we'll be folding that into our

563
00:18:16,630 --> 00:18:14,720

process for

564
00:18:17,750 --> 00:18:16,640
for the for any extension that we do in

565
00:18:19,830 --> 00:18:17,760
terms of the

566
00:18:21,510 --> 00:18:19,840
the service provider so we're just now i

567
00:18:23,830 --> 00:18:21,520
mean this was part of our strategy was

568
00:18:25,830 --> 00:18:23,840
to get be first know we're going to try

569
00:18:27,110 --> 00:18:25,840
to go to 2024 and then that'll fold into

570
00:18:29,029 --> 00:18:27,120
our acquisition strategy as we go

571
00:18:30,710 --> 00:18:29,039
forward so we know we got till 16 we've

572
00:18:32,549 --> 00:18:30,720
got flights with orbital and with spacex

573
00:18:34,630 --> 00:18:32,559
already on the books and this this will

574
00:18:35,830 --> 00:18:34,640
actually begin to shape our strategy as

575
00:18:37,190 --> 00:18:35,840
we go forward we just haven't gotten

576
00:18:38,950 --> 00:18:37,200
that far yet

577
00:18:40,310 --> 00:18:38,960
yeah the variables are the same for both

578
00:18:41,909 --> 00:18:40,320
sides of the equation whether you're the

579
00:18:43,909 --> 00:18:41,919
customer or the provider and that's

580
00:18:46,549 --> 00:18:43,919
understanding uh what's available how

581
00:18:47,909 --> 00:18:46,559
long you want to go and and then uh

582
00:18:48,870 --> 00:18:47,919
what what

583
00:18:52,390 --> 00:18:48,880
what is

584
00:18:53,750 --> 00:18:52,400
also possible in terms of reducing costs

585
00:18:54,950 --> 00:18:53,760
i can't tell you in front of these guys

586
00:18:56,470 --> 00:18:54,960
what kind of numbers we might be

587
00:18:58,310 --> 00:18:56,480
thinking about but

588
00:19:00,390 --> 00:18:58,320

we definitely will go to more of a

589
00:19:02,070 --> 00:19:00,400
production mode rather than development

590
00:19:03,350 --> 00:19:02,080
mode on the spacecraft and the rocket

591
00:19:05,029 --> 00:19:03,360
and we've already demonstrated that in

592
00:19:07,270 --> 00:19:05,039
the company with our commercial

593
00:19:10,789 --> 00:19:07,280
satellites that we provide for comsats

594
00:19:12,390 --> 00:19:10,799
and and for science use and and other um

595
00:19:14,470 --> 00:19:12,400
other purposes where we just turn them

596
00:19:15,990 --> 00:19:14,480
out of the factory with modifications as

597
00:19:18,630 --> 00:19:16,000
necessary for the customer and we can

598
00:19:20,230 --> 00:19:18,640
really we really can get very efficient

599
00:19:22,070 --> 00:19:20,240
with that if we can do the same design

600
00:19:24,470 --> 00:19:22,080
over and over and that's what we would

601
00:19:27,430 --> 00:19:24,480
intend to do for the next phase of

602
00:19:29,430 --> 00:19:27,440
crs services

603
00:19:31,510 --> 00:19:29,440
we would like to see

604
00:19:33,350 --> 00:19:31,520
nasa tell us as quickly as possible what

605
00:19:35,830 --> 00:19:33,360
they want to do because the sooner we

606
00:19:37,750 --> 00:19:35,840
know the the sooner we can get other

607
00:19:39,590 --> 00:19:37,760
vendors other suppliers on contract and

608
00:19:41,990 --> 00:19:39,600
get our plans in place to to give them

609
00:19:43,830 --> 00:19:42,000
the most cost effective solution but uh

610
00:19:46,310 --> 00:19:43,840
but definitely this extension i think

611
00:19:47,990 --> 00:19:46,320
will help move things along

612
00:19:49,830 --> 00:19:48,000
okay robert and then we'll take one from

613
00:19:51,750 --> 00:19:49,840

social

614
00:19:53,350 --> 00:19:51,760
hi robert pullman with collectspace.com

615
00:19:55,510 --> 00:19:53,360
with a question for frank

616
00:19:57,830 --> 00:19:55,520
looking at the more immediate future at

617
00:19:59,430 --> 00:19:57,840
the two flights for the later this year

618
00:20:00,870 --> 00:19:59,440
can you give an update on where you are

619
00:20:02,149 --> 00:20:00,880
with the hardware for that for those

620
00:20:04,870 --> 00:20:02,159
flights um

621
00:20:06,870 --> 00:20:04,880
both antares and cygnus sure

622
00:20:08,470 --> 00:20:06,880
our next flight is planned for early may

623
00:20:11,510 --> 00:20:08,480
may 1st i think is the current planned

624
00:20:12,950 --> 00:20:11,520
date the next one is in early october

625
00:20:14,549 --> 00:20:12,960
we actually have

626
00:20:16,870 --> 00:20:14,559
virtually all the hardware for most of

627
00:20:19,270 --> 00:20:16,880
the for both of those flights either

628
00:20:21,190 --> 00:20:19,280
here or in process

629
00:20:23,270 --> 00:20:21,200
the long pole on the antares is the

630
00:20:25,270 --> 00:20:23,280
engines finishing the atp acceptance

631
00:20:28,070 --> 00:20:25,280
testing stennis and getting the engines

632
00:20:29,510 --> 00:20:28,080
delivered here uh we've got other cores

633
00:20:31,350 --> 00:20:29,520
on the way here so we'll actually have i

634
00:20:33,110 --> 00:20:31,360
think four cores here

635
00:20:35,350 --> 00:20:33,120
in about two weeks

636
00:20:36,950 --> 00:20:35,360
which will take us into the next year

637
00:20:38,870 --> 00:20:36,960
on the entire side

638
00:20:40,870 --> 00:20:38,880

we have the first

639
00:20:44,070 --> 00:20:40,880
we've got the spacecraft

640
00:20:45,990 --> 00:20:44,080
completed through orb 3 and orb 4 and 5

641
00:20:48,630 --> 00:20:46,000
are in work and

642
00:20:50,310 --> 00:20:48,640
and the pcms have actually uh been

643
00:20:52,310 --> 00:20:50,320
completed up through about orb six

644
00:20:54,470 --> 00:20:52,320
that's the pressurized cargo module with

645
00:20:56,070 --> 00:20:54,480
the last two uh going through final

646
00:20:57,909 --> 00:20:56,080
assembly now

647
00:21:00,710 --> 00:20:57,919
and then the subsystems are either on

648
00:21:02,390 --> 00:21:00,720
order or on dock and so we're in very

649
00:21:05,990 --> 00:21:02,400
good shape in terms of availability of

650
00:21:10,070 --> 00:21:08,630
we'll take a question from social okay

651
00:21:12,549 --> 00:21:10,080
wonderful our first question from social

652
00:21:14,149 --> 00:21:12,559
media comes from twitter user jupiterfix

653
00:21:16,310 --> 00:21:14,159
could cygnus make a four orbit

654
00:21:19,029 --> 00:21:16,320
rendezvous profile and docked to the iss

655
00:21:22,149 --> 00:21:19,039
in six plus hours

656
00:21:24,789 --> 00:21:23,510
my program manager is sitting back there

657
00:21:26,870 --> 00:21:24,799
and the challenge i've given the team is

658
00:21:29,029 --> 00:21:26,880
to get there in one day so we're working

659
00:21:31,110 --> 00:21:29,039
on that this really is just our first

660
00:21:32,710 --> 00:21:31,120
contract delivery flight so

661
00:21:34,470 --> 00:21:32,720
we're being a somewhat conservative but

662
00:21:36,630 --> 00:21:34,480
actually we're getting there in half the

663
00:21:38,789 --> 00:21:36,640

time we would have on the on the demo

664
00:21:39,909 --> 00:21:38,799
mission already and uh

665
00:21:41,510 --> 00:21:39,919
if the phasing were right we could

666
00:21:43,430 --> 00:21:41,520
probably do it in one day less it really

667
00:21:45,270 --> 00:21:43,440
depends on where the station is when we

668
00:21:47,830 --> 00:21:45,280
launch and

669
00:21:48,950 --> 00:21:47,840
and what how long it takes us to

670
00:21:50,950 --> 00:21:48,960
to

671
00:21:52,149 --> 00:21:50,960
finish all of the orbital adjustments

672
00:21:54,310 --> 00:21:52,159
but i really would like to get there in

673
00:21:56,710 --> 00:21:54,320
one day to to support the science

674
00:21:58,549 --> 00:21:56,720
program and and get the cargo on board

675
00:22:00,149 --> 00:21:58,559
as quickly as possible

676
00:22:01,830 --> 00:22:00,159
let's do one more wonderful our next

677
00:22:02,870 --> 00:22:01,840
question comes from twitter user greg

678
00:22:05,029 --> 00:22:02,880
beet

679
00:22:06,950 --> 00:22:05,039
did the caster 30b the new second stage

680
00:22:12,470 --> 00:22:06,960
perform as expected

681
00:22:15,190 --> 00:22:13,990
uh let's go to the phone line uh i

682
00:22:16,870 --> 00:22:15,200
understand we have a couple reporters

683
00:22:18,870 --> 00:22:16,880
there we'll start with uh tarek molly

684
00:22:24,149 --> 00:22:18,880
from space.com

685
00:22:24,159 --> 00:22:31,669
let's try a dan leone space news

686
00:22:34,630 --> 00:22:33,430
let's go back to wallops any questions

687
00:22:36,470 --> 00:22:34,640
here they told us there's gonna be a

688
00:22:39,350 --> 00:22:36,480

blackout with that solar flare

689
00:22:41,029 --> 00:22:39,360
yeah it could be solar flare

690
00:22:44,070 --> 00:22:41,039
any any further questions

691
00:22:48,070 --> 00:22:46,070
just a quick follow-up for uh maybe

692
00:22:50,710 --> 00:22:48,080
frank uh how long is this mission

693
00:22:52,310 --> 00:22:50,720
programmed to last uh 30 to 45 days

694
00:22:54,390 --> 00:22:52,320
what's the variable there

695
00:22:56,950 --> 00:22:54,400
30 to 45 days and the the variables

696
00:22:58,870 --> 00:22:56,960
really on nasa's side of the equation uh

697
00:23:01,510 --> 00:22:58,880
they've got another mission coming in

698
00:23:03,270 --> 00:23:01,520
february spacex uh they've also got a

699
00:23:05,110 --> 00:23:03,280
russian eva and a russian progress that

700
00:23:08,870 --> 00:23:05,120
are coming up and so they have to work

701
00:23:10,789 --> 00:23:08,880
all this traffic model together uh we uh

702
00:23:12,310 --> 00:23:10,799
we'll guarantee them at least 45 days up

703
00:23:14,870 --> 00:23:12,320
there if they want it right now i think

704
00:23:17,990 --> 00:23:14,880
it's what 40 days frank

705
00:23:19,669 --> 00:23:18,000
so we have some flexibility there

706
00:23:27,590 --> 00:23:19,679
i wanted to add one thing to a previous

707
00:23:30,230 --> 00:23:29,029
i know trent hates it when i do this but

708
00:23:31,430 --> 00:23:30,240
uh

709
00:23:33,190 --> 00:23:31,440
we were talking earlier about the

710
00:23:35,190 --> 00:23:33,200
extension and what that means and and we

711
00:23:37,270 --> 00:23:35,200
talked about the ability to get more

712
00:23:38,149 --> 00:23:37,280
science up there and to to make more

713
00:23:40,149 --> 00:23:38,159

plans

714
00:23:41,110 --> 00:23:40,159
i think another thing that we need to

715
00:23:43,110 --> 00:23:41,120
to

716
00:23:45,909 --> 00:23:43,120
push really hard for with commercial

717
00:23:46,789 --> 00:23:45,919
cargo commercial crew transportation and

718
00:23:48,470 --> 00:23:46,799
the other

719
00:23:50,870 --> 00:23:48,480
capabilities that are coming

720
00:23:52,310 --> 00:23:50,880
in the country is to fly more people to

721
00:23:54,390 --> 00:23:52,320
the space station on a more frequent

722
00:23:56,230 --> 00:23:54,400
basis now right now we're flying people

723
00:23:57,190 --> 00:23:56,240
for about six months at a time crews of

724
00:24:00,630 --> 00:23:57,200
three

725
00:24:02,149 --> 00:24:00,640
rotating in overlapping fashion and

726
00:24:04,230 --> 00:24:02,159
a cruise of six

727
00:24:06,390 --> 00:24:04,240
in overlapping fashion we may eventually

728
00:24:07,430 --> 00:24:06,400
get to seven but the more people we fly

729
00:24:09,909 --> 00:24:07,440
the more interest we'll get in the

730
00:24:11,669 --> 00:24:09,919
country and i think there's a a place

731
00:24:13,590 --> 00:24:11,679
for people who wanna who need to be up

732
00:24:14,789 --> 00:24:13,600
there for six to twelve months for a

733
00:24:16,070 --> 00:24:14,799
variety of reasons there's probably a

734
00:24:17,590 --> 00:24:16,080
place for people who could go up for a

735
00:24:19,350 --> 00:24:17,600
month finish their experiment and come

736
00:24:20,870 --> 00:24:19,360
home now i know all you need is a little

737
00:24:22,149 --> 00:24:20,880
more money for transportation systems

738
00:24:24,149 --> 00:24:22,159

robert but

739
00:24:25,750 --> 00:24:24,159
think about it in terms of how many

740
00:24:27,590 --> 00:24:25,760
people could then come back and tell

741
00:24:29,430 --> 00:24:27,600
people about what they've done and push

742
00:24:31,909 --> 00:24:29,440
the program and help help move it

743
00:24:34,470 --> 00:24:31,919
forward as well as how much experience

744
00:24:37,190 --> 00:24:34,480
could we continue to develop uh in this

745
00:24:38,870 --> 00:24:37,200
country in in uh space flight uh how

746
00:24:40,470 --> 00:24:38,880
many hours how many days could you spend

747
00:24:42,950 --> 00:24:40,480
in space and then how ready those people

748
00:24:45,190 --> 00:24:42,960
will be to do the long missions for

749
00:24:47,909 --> 00:24:45,200
exploration to the moon and mars and

750
00:24:49,830 --> 00:24:47,919
beyond so i really think that

751
00:24:52,390 --> 00:24:49,840
having a longer

752
00:24:53,669 --> 00:24:52,400
commitment by the station and uh in an

753
00:24:55,909 --> 00:24:53,679
encouraging

754
00:24:58,789 --> 00:24:55,919
industry to come up with more innovation

755
00:25:00,789 --> 00:24:58,799
on how to uh efficiently transport cargo

756
00:25:02,310 --> 00:25:00,799
and crew up there will help nasa then

757
00:25:04,630 --> 00:25:02,320
maybe transition to

758
00:25:06,149 --> 00:25:04,640
a higher traffic model for the uh for

759
00:25:09,750 --> 00:25:06,159
the crews themselves

760
00:25:13,269 --> 00:25:11,269
let's go back back to the phone line and

761
00:25:18,310 --> 00:25:13,279
see if we can get tarik uh malik go

762
00:25:20,870 --> 00:25:19,669
all right let's do a follow-up with ken

763
00:25:22,789 --> 00:25:20,880

here in the audience and then we'll

764
00:25:26,149 --> 00:25:22,799
we'll go back to social

765
00:25:27,830 --> 00:25:26,159
i follow up for frank um yeah ken kramer

766
00:25:30,149 --> 00:25:27,840
for us today talk a little bit about

767
00:25:31,510 --> 00:25:30,159
you've got the the larger cygnus

768
00:25:33,590 --> 00:25:31,520
cygnus uh

769
00:25:36,630 --> 00:25:33,600
cargo module what will that allow you to

770
00:25:38,789 --> 00:25:36,640
do as and also looking in the long term

771
00:25:40,630 --> 00:25:38,799
talk about the possibilities to to leave

772
00:25:43,029 --> 00:25:40,640
a cygnus up there again in relation to

773
00:25:44,870 --> 00:25:43,039
the fact that iss is going to be there

774
00:25:46,789 --> 00:25:44,880
longer now so this may give you more

775
00:25:49,909 --> 00:25:46,799
incentive to develop a long duration

776
00:25:52,549 --> 00:25:49,919
sickness oh we're happy to do that

777
00:25:54,390 --> 00:25:52,559
yes the extended cygnus will fly our

778
00:25:58,230 --> 00:25:54,400
enhanced cygnus as we call it will fly

779
00:25:59,830 --> 00:25:58,240
on orb4 which will be early 2015. uh

780
00:26:02,630 --> 00:25:59,840
it'll be a meter longer it'll carry

781
00:26:04,230 --> 00:26:02,640
about 600 or 700 kilograms more of cargo

782
00:26:05,669 --> 00:26:04,240
than the current one

783
00:26:07,269 --> 00:26:05,679
which of course gives nasa more

784
00:26:10,630 --> 00:26:07,279
flexibility

785
00:26:11,990 --> 00:26:10,640
and and we think it'll also benefit the

786
00:26:13,990 --> 00:26:12,000
station greatly by being able to get

787
00:26:15,830 --> 00:26:14,000
more cargo up there and now we don't

788
00:26:19,029 --> 00:26:15,840

want to have the downside of saying well

789
00:26:20,789 --> 00:26:19,039
you carry more so you fly less often

790
00:26:22,710 --> 00:26:20,799
we just want them to do more up there so

791
00:26:24,310 --> 00:26:22,720
they'll need to need to use it but it

792
00:26:26,310 --> 00:26:24,320
also allows us to take heavier and

793
00:26:27,669 --> 00:26:26,320
denser cargo up there including water

794
00:26:30,149 --> 00:26:27,679
and batteries and things like that if

795
00:26:31,750 --> 00:26:30,159
needed as far as staying on orbit longer

796
00:26:33,510 --> 00:26:31,760
we've had discussions with nasa and

797
00:26:35,750 --> 00:26:33,520
other people actually about that with

798
00:26:37,909 --> 00:26:35,760
cygnus the spacecraft itself is based on

799
00:26:39,830 --> 00:26:37,919
the legacy of our commercial satellites

800
00:26:41,990 --> 00:26:39,840
are designed sometimes for as much as 15

801
00:26:43,909 --> 00:26:42,000
years and so we've got really robust

802
00:26:46,390 --> 00:26:43,919
components in the in the spacecraft with

803
00:26:48,789 --> 00:26:46,400
a lot of capability for for maneuvering

804
00:26:50,230 --> 00:26:48,799
and rendezvous as you've seen and so i

805
00:26:52,310 --> 00:26:50,240
think it could be used to support

806
00:26:54,230 --> 00:26:52,320
exploration it could be used to support

807
00:26:56,310 --> 00:26:54,240
long-duration missions elsewhere it

808
00:26:57,909 --> 00:26:56,320
could also be used to test

809
00:26:59,909 --> 00:26:57,919
systems on the station if nasa would

810
00:27:01,750 --> 00:26:59,919
like to do that they could attach a

811
00:27:03,590 --> 00:27:01,760
cygnus unload the cargo and then

812
00:27:04,870 --> 00:27:03,600
activate a life support system for

813
00:27:06,870 --> 00:27:04,880

example for

814
00:27:07,990 --> 00:27:06,880
testing for a trip to mars or wherever

815
00:27:09,269 --> 00:27:08,000
they'd like to go

816
00:27:10,789 --> 00:27:09,279
they could actually lock a crew in there

817
00:27:12,070 --> 00:27:10,799
for 12 months and see how they do you

818
00:27:13,990 --> 00:27:12,080
know and

819
00:27:16,870 --> 00:27:14,000
simulate a mars mission

820
00:27:17,909 --> 00:27:16,880
i'd do it yeah but but i think to to

821
00:27:19,430 --> 00:27:17,919
your question

822
00:27:20,950 --> 00:27:19,440
the extension allows us to start having

823
00:27:22,389 --> 00:27:20,960
those kind of discussions in a very

824
00:27:24,149 --> 00:27:22,399
serious way right because there's a lot

825
00:27:25,669 --> 00:27:24,159
of those i could there's a lot of those

826
00:27:27,430 --> 00:27:25,679
kind of examples

827
00:27:29,350 --> 00:27:27,440
and as long as they're all aligned with

828
00:27:31,190 --> 00:27:29,360
where we're heading from a perspective

829
00:27:32,149 --> 00:27:31,200
like frank said we're heading to take

830
00:27:33,909 --> 00:27:32,159
people

831
00:27:35,269 --> 00:27:33,919
further into space those are the kind of

832
00:27:37,350 --> 00:27:35,279
things the kind of discussions we'll be

833
00:27:38,789 --> 00:27:37,360
able to have now um

834
00:27:40,950 --> 00:27:38,799
in a much

835
00:27:42,389 --> 00:27:40,960
with a much longer term view of where we

836
00:27:44,789 --> 00:27:42,399
want to go so that's what's pretty

837
00:27:46,070 --> 00:27:44,799
exciting about it

838
00:27:47,510 --> 00:27:46,080

let's take two more and we'll let you

839
00:27:48,950 --> 00:27:47,520
guys get back to the space flight we'll

840
00:27:50,549 --> 00:27:48,960
take one from social and do a follow-up

841
00:27:51,669 --> 00:27:50,559
with robert go ahead jason

842
00:27:54,070 --> 00:27:51,679
wonderful this question comes from

843
00:27:55,669 --> 00:27:54,080
twitter user dean ripley does orbital

844
00:27:57,830 --> 00:27:55,679
sciences plan on the development of a

845
00:28:00,710 --> 00:27:57,840
human-rated cygnus module

846
00:28:01,990 --> 00:28:00,720
assuming the continued success of crs

847
00:28:04,710 --> 00:28:02,000
right now we're not working on human

848
00:28:06,389 --> 00:28:04,720
rating the cygnus itself um the i mean

849
00:28:07,909 --> 00:28:06,399
it has a certain amount of human rating

850
00:28:09,510 --> 00:28:07,919
in order to be able to fly to the space

851
00:28:11,510 --> 00:28:09,520
station but in terms of being able to

852
00:28:12,950 --> 00:28:11,520
launch people in it or to return people

853
00:28:14,630 --> 00:28:12,960
to earth it's not

854
00:28:17,510 --> 00:28:14,640
not currently in our plans we could make

855
00:28:20,310 --> 00:28:17,520
modifications but that's a ways away

856
00:28:24,070 --> 00:28:21,990
actually uh since the phone lines

857
00:28:26,549 --> 00:28:24,080
weren't working via the social media

858
00:28:29,830 --> 00:28:26,559
tariq malek from space.com

859
00:28:31,510 --> 00:28:29,840
a question for frank um how long is uh

860
00:28:33,350 --> 00:28:31,520
cygnus going to stay at the station do

861
00:28:36,149 --> 00:28:33,360
you have a

862
00:28:38,630 --> 00:28:36,159
target undocking day well about 40 days

863
00:28:40,310 --> 00:28:38,640

is the current plan uh we could stay 45

864
00:28:41,590 --> 00:28:40,320
and uh if nasa needed us to we could

865
00:28:43,190 --> 00:28:41,600
probably figure out a way to stay longer

866
00:28:46,310 --> 00:28:43,200
but currently 45 is what we're

867
00:28:48,149 --> 00:28:46,320
contracted for on this mission

868
00:28:51,190 --> 00:28:48,159
inventive like it okay that's going to

869
00:28:52,870 --> 00:28:51,200
do it um so as as frank said we have a

870
00:28:55,909 --> 00:28:52,880
uh we're looking ahead to rendezvous on

871
00:28:58,789 --> 00:28:55,919
sunday january 12th uh nasa tv coverage

872
00:29:00,549 --> 00:28:58,799
of that will begin at 5 00 a.m for a 602

873
00:29:02,310 --> 00:29:00,559
grapple uh

874
00:29:03,909 --> 00:29:02,320
nasty v coverage will continue at 7 00

875
00:29:05,909 --> 00:29:03,919
a.m for the installation by the

876
00:29:09,110 --> 00:29:05,919
expedition 38 crew

877
00:29:10,630 --> 00:29:09,120
as the as they birth cygnus so on behalf

878
00:29:12,470 --> 00:29:10,640
of everyone here at wallops i'm trim

879
00:29:13,830 --> 00:29:12,480
parado thank you so much please help me

880
00:29:21,669 --> 00:29:13,840
thank our our panelists for joining us