



1
00:00:07,400 --> 00:00:02,450
station this is Houston are you ready

2
00:00:11,060 --> 00:00:07,410
for the event Houston station we are

3
00:00:13,190 --> 00:00:11,070
ready to the event space.com this is

4
00:00:17,210 --> 00:00:13,200
Mission Control Houston please call

5
00:00:22,220 --> 00:00:17,220
station for a voice check station this

6
00:00:24,560 --> 00:00:22,230
is face calm how do you hear me and

7
00:00:27,589 --> 00:00:24,570
stations got you loud and clear welcome

8
00:00:29,359 --> 00:00:27,599
aboard Claire thank you so much for

9
00:00:35,240 --> 00:00:29,369
talking to us did you all have a good

10
00:00:36,799 --> 00:00:35,250
christmas and new years in space almost

11
00:00:38,420 --> 00:00:36,809
any day up here is a great day so they

12
00:00:40,280 --> 00:00:38,430
were there were wonderful holidays and

13
00:00:42,380 --> 00:00:40,290

the christmas holiday was made extra

14

00:00:44,240 --> 00:00:42,390

special because we've got we got our

15

00:00:48,619 --> 00:00:44,250

crewmates that joined us and doubled the

16

00:00:51,080 --> 00:00:48,629

crews eyes how are you all feeling about

17

00:00:52,850 --> 00:00:51,090

the upcoming SpaceX Dragon visit to the

18

00:00:59,990 --> 00:00:52,860

station is that a pretty significant

19

00:01:01,910 --> 00:01:00,000

milestone yeah we're excited about that

20

00:01:04,549 --> 00:01:01,920

any time you have a visiting vehicle

21

00:01:06,679 --> 00:01:04,559

come coming by that's a that's an

22

00:01:08,750 --> 00:01:06,689

exciting day and it's going to be packed

23

00:01:11,300 --> 00:01:08,760

with all kinds of supplies for us and

24

00:01:13,370 --> 00:01:11,310

it's sort of the first of many wagon

25

00:01:15,679 --> 00:01:13,380

train wagons coming up here to bring us

26

00:01:18,410 --> 00:01:15,689

supplies and one of the neat things

27

00:01:20,450 --> 00:01:18,420

about the SpaceX vehicle is that it will

28

00:01:23,420 --> 00:01:20,460

allow us to take significant payloads

29

00:01:26,270 --> 00:01:23,430

down which is a real important thing

30

00:01:28,969 --> 00:01:26,280

when since we no longer fly shuttles we

31

00:01:30,620 --> 00:01:28,979

can't take anything sizable back down

32

00:01:34,310 --> 00:01:30,630

from space station without just that

33

00:01:38,630 --> 00:01:34,320

burnin up and SpaceX will be our route

34

00:01:41,450 --> 00:01:38,640

to getting all these scientific samples

35

00:01:42,950 --> 00:01:41,460

and broke a piece of hardware that need

36

00:01:48,260 --> 00:01:42,960

to be refurbished it takes like that

37

00:01:50,090 --> 00:01:48,270

back to the ground well some of our

38

00:01:51,889 --> 00:01:50,100

readers here at space com have written

39

00:01:53,480 --> 00:01:51,899

in with some questions of their own for

40

00:01:56,420 --> 00:01:53,490

you guys so if you don't mind I'd like

41

00:01:58,459 --> 00:01:56,430

to ask some of these and whoever likes

42

00:02:01,429 --> 00:01:58,469

to can take a crack at answering our

43

00:02:02,959 --> 00:02:01,439

reader p Edward Murray wrote in to thank

44

00:02:05,630 --> 00:02:02,969

the commander for sharing that wonderful

45

00:02:07,310 --> 00:02:05,640

wonderful photo of Comet Lovejoy what

46

00:02:12,160 --> 00:02:07,320

was it like to see that amazing view of

47

00:02:15,070 --> 00:02:12,170

the comment Eclair

48

00:02:17,770 --> 00:02:15,080

was it was spectacular and I think I

49

00:02:19,330 --> 00:02:17,780

said this to the first folks at Detroit

50

00:02:22,089 --> 00:02:19,340

News and I talked about after it

51
00:02:23,890 --> 00:02:22,099
happened it was just one of those one of

52
00:02:25,390 --> 00:02:23,900
those cases were just very lucky to be

53
00:02:28,630 --> 00:02:25,400
in a certain position at a certain time

54
00:02:30,640 --> 00:02:28,640
I we had we had just finished a night

55
00:02:32,830 --> 00:02:30,650
pass and we're coming over Australia and

56
00:02:35,530 --> 00:02:32,840
the Sun was about ready to come up and

57
00:02:37,479 --> 00:02:35,540
there was this incredibly bright dark

58
00:02:39,759 --> 00:02:37,489
green glow that was at least from my

59
00:02:41,830 --> 00:02:39,769
perspective glow that was extending up

60
00:02:44,350 --> 00:02:41,840
from where the Sun was about to emerge

61
00:02:47,320 --> 00:02:44,360
above Earth slim and at the time I had

62
00:02:48,940 --> 00:02:47,330
no idea what it was and I didn't even

63
00:02:51,430 --> 00:02:48,950

have the presence of mind to take but

64

00:02:53,800 --> 00:02:51,440

just a very quick camera shot that day

65

00:02:55,720 --> 00:02:53,810

and it was the next morning that I

66

00:02:57,460 --> 00:02:55,730

realised and learned from from Houston

67

00:02:59,020 --> 00:02:57,470

the specialist there that it was a

68

00:03:02,320 --> 00:02:59,030

comment that wasn't expected to survive

69

00:03:03,940 --> 00:03:02,330

a close pass to the Sun and over the

70

00:03:05,470 --> 00:03:03,950

next several days we just had some

71

00:03:10,509 --> 00:03:05,480

wonderful opportunities to get some

72

00:03:12,580 --> 00:03:10,519

great imagery of it me well another rear

73

00:03:14,800 --> 00:03:12,590

named will beam wrote in to ask how does

74

00:03:26,550 --> 00:03:14,810

microgravity and being in space affect

75

00:03:33,750 --> 00:03:30,660

yes well so far my dreaming is still

76

00:03:37,500 --> 00:03:33,760

like like on earth in the first days you

77

00:03:39,360 --> 00:03:37,510

arrive you don't sleep that good I mean

78

00:03:43,410 --> 00:03:39,370

actually you don't want to sleep it's

79

00:03:45,570 --> 00:03:43,420

too exciting to be to be here but yeah

80

00:03:47,460 --> 00:03:45,580

the dreams themselves didn't change in

81

00:03:53,580 --> 00:03:47,470

my case maybe the others have other

82

00:03:57,000 --> 00:03:53,590

experiences when when I'm on earth I

83

00:03:59,250 --> 00:03:57,010

offered dream about flying and now that

84

00:04:02,490 --> 00:03:59,260

I'm up here and I can fly i'll be

85

00:04:04,380 --> 00:04:02,500

dreaming about walking and I guess it

86

00:04:10,039 --> 00:04:04,390

just shows that even in your dreams

87

00:04:15,030 --> 00:04:13,320

later named Elizabeth burn wrote to ask

88

00:04:26,870 --> 00:04:15,040

if any of you have made any new year's

89

00:04:30,260 --> 00:04:29,060

great question and we're just kind of

90

00:04:31,880 --> 00:04:30,270

looking at each other we've been so busy

91

00:04:33,830 --> 00:04:31,890

even through the holidays here would

92

00:04:36,920 --> 00:04:33,840

hand over and and so forth that we

93

00:04:38,720 --> 00:04:36,930

really hadn't at least I and Andre and

94

00:04:40,700 --> 00:04:38,730

Dunn hadn't really had a chance to make

95

00:04:43,460 --> 00:04:40,710

any new year's resolutions i guess if we

96

00:04:45,830 --> 00:04:43,470

had one to make it would be to find time

97

00:04:49,100 --> 00:04:45,840

to spend a little bit more quality time

98

00:04:50,870 --> 00:04:49,110

in the windows in the cupola and in some

99

00:04:56,930 --> 00:04:50,880

of the nadir facing windows to look at

100

00:04:59,480 --> 00:04:56,940

planet Earth from here Brandon Murray

101
00:05:01,370 --> 00:04:59,490
asks just how bad is the space junk

102
00:05:18,110 --> 00:05:01,380
issue in relation to the safety of the

103
00:05:20,480 --> 00:05:18,120
ISS and its crew at a space debris it's

104
00:05:23,030 --> 00:05:20,490
of course an issue in space but not so

105
00:05:25,100 --> 00:05:23,040
much for the for the station a lot of

106
00:05:27,170 --> 00:05:25,110
the debris is that at different

107
00:05:30,620 --> 00:05:27,180
altitudes than where the space station

108
00:05:33,710 --> 00:05:30,630
is and on top of that a lot of the big

109
00:05:37,010 --> 00:05:33,720
pieces are followed by a ground and so

110
00:05:39,170 --> 00:05:37,020
if any thing is coming close to us we

111
00:05:43,490 --> 00:05:39,180
can even make evasive maneuvers this is

112
00:05:44,960 --> 00:05:43,500
very rare and it's very conservative but

113
00:05:51,080 --> 00:05:44,970

that's all we are in a very safe

114

00:05:53,930 --> 00:05:51,090

condition here at this altitude and

115

00:06:02,630 --> 00:05:53,940

Robert J carhartt asks are there any job

116

00:06:04,040 --> 00:06:02,640

opportunities up there Wow we're just

117

00:06:06,680 --> 00:06:04,050

saying I think there's an awful lot of

118

00:06:07,790 --> 00:06:06,690

work to do number one and and whereas a

119

00:06:09,470 --> 00:06:07,800

lot of folks want to fly in space

120

00:06:10,610 --> 00:06:09,480

station would love to be astronauts and

121

00:06:12,560 --> 00:06:10,620

cosmonauts and I would absolutely

122

00:06:14,000 --> 00:06:12,570

encourage them to do that I think the

123

00:06:15,200 --> 00:06:14,010

future is very bright for young folks

124

00:06:18,080 --> 00:06:15,210

right now that are looking to get into

125

00:06:19,520 --> 00:06:18,090

this business but we need legions of

126

00:06:21,350 --> 00:06:19,530

folks on the ground that helped design

127

00:06:22,670 --> 00:06:21,360

these vehicles that helped design and

128

00:06:25,160 --> 00:06:22,680

operate that let a lot of these

129

00:06:26,900 --> 00:06:25,170

experiments remotely and are helping

130

00:06:28,940 --> 00:06:26,910

to build the next generation of rockets

131

00:06:30,980 --> 00:06:28,950

and spaceships to carry us beyond

132

00:06:33,320 --> 00:06:30,990

low-earth orbit so I for one am very

133

00:06:35,270 --> 00:06:33,330

optimistic about the future and I think

134

00:06:37,730 --> 00:06:35,280

it's a great great opportunity for young

135

00:06:38,330 --> 00:06:37,740

folks right now to join the force and

136

00:06:44,390 --> 00:06:38,340

help us

137

00:06:46,790 --> 00:06:44,400

the road a reader named Jeffrey Dean

138

00:06:48,710 --> 00:06:46,800

root writes into to ask what are some

139

00:06:50,600 --> 00:06:48,720

examples of some of the science research

140

00:06:52,400 --> 00:06:50,610

you're doing on the space station that

141

00:07:01,090 --> 00:06:52,410

will help prepare us for manned missions

142

00:07:04,100 --> 00:07:01,100

beyond low-earth orbit okay well well

143

00:07:06,200 --> 00:07:04,110

one set of experiments that we're

144

00:07:08,659 --> 00:07:06,210

working on our experiments we do on our

145

00:07:10,360 --> 00:07:08,669

self their human experiments and Andre

146

00:07:14,120 --> 00:07:10,370

is a living example of that right now

147

00:07:17,390 --> 00:07:14,130

where he's covered with little pieces of

148

00:07:19,730 --> 00:07:17,400

computer and pumps and pains that

149

00:07:22,520 --> 00:07:19,740

continuously monitor his blood pressure

150

00:07:23,659 --> 00:07:22,530

and from that but it's actually beat to

151
00:07:26,840 --> 00:07:23,669
beat blood pressure and from that you

152
00:07:29,810 --> 00:07:26,850
can determine the cardiac work that your

153
00:07:32,659 --> 00:07:29,820
heart is putting out for whatever mode

154
00:07:34,550 --> 00:07:32,669
of exercise you happen to be doing so so

155
00:07:36,950 --> 00:07:34,560
that's one experiment that we're we're

156
00:07:38,570 --> 00:07:36,960
doing in terms of the human life studies

157
00:07:40,520 --> 00:07:38,580
the other things that we're doing up

158
00:07:43,820 --> 00:07:40,530
here is what I refer to as engineering

159
00:07:47,240 --> 00:07:43,830
research it's mundane things like how to

160
00:07:49,790 --> 00:07:47,250
make a toilet that works and how to take

161
00:07:52,159 --> 00:07:49,800
your urine from that you collected your

162
00:07:54,500 --> 00:07:52,169
toilet and process that and make it back

163
00:07:58,040 --> 00:07:54,510

into drinking water and we're doing that

164

00:08:01,370 --> 00:07:58,050

right now on station we've got three big

165

00:08:03,200 --> 00:08:01,380

chunks of equipment one's a toilet one's

166

00:08:05,089 --> 00:08:03,210

a processor and the others a galley and

167

00:08:07,250 --> 00:08:05,099

they're all hooked together and you'll

168

00:08:10,400 --> 00:08:07,260

go into the toilet and the machines will

169

00:08:12,409 --> 00:08:10,410

were and whined and grumble and then you

170

00:08:15,469 --> 00:08:12,419

go and make yourself a bag of coffee and

171

00:08:18,589 --> 00:08:15,479

and it's it's the kind of technology we

172

00:08:20,719 --> 00:08:18,599

need to have if we're going to go away

173

00:08:26,960 --> 00:08:20,729

from Planet Earth for long periods of

174

00:08:28,460 --> 00:08:26,970

time John Reed asks given the chance

175

00:08:34,180 --> 00:08:28,470

would any of you volunteer for a

176

00:08:38,440 --> 00:08:34,190

two-year mission to Mars I for one

177

00:08:50,410 --> 00:08:40,330

yes me too I would like to bring my

178

00:08:52,900 --> 00:08:50,420

family to sign me up so we know that the

179

00:08:54,310 --> 00:08:52,910

space struggle is retired by now but do

180

00:09:00,850 --> 00:08:54,320

you anticipate this year will be any

181

00:09:02,620 --> 00:09:00,860

less busy on the space station well all

182

00:09:05,320 --> 00:09:02,630

of us said that had the privilege and

183

00:09:08,260 --> 00:09:05,330

pleasure to fly on the shuttle all feel

184

00:09:10,090 --> 00:09:08,270

a little bit upset that we've lost that

185

00:09:11,860 --> 00:09:10,100

great asset but the fact is the shuttles

186

00:09:13,780 --> 00:09:11,870

done the thing that it was exquisitely

187

00:09:15,970 --> 00:09:13,790

well designed to do and that is to build

188

00:09:19,060 --> 00:09:15,980

a nearly million pound space station in

189

00:09:20,320 --> 00:09:19,070

low-earth orbit so in addition to Hubble

190

00:09:22,030 --> 00:09:20,330

and many of the other things that is

191

00:09:24,190 --> 00:09:22,040

done one of the key things that the

192

00:09:26,890 --> 00:09:24,200

Hubble was unique to do was to be able

193

00:09:28,870 --> 00:09:26,900

to actually launch huge payloads bring

194

00:09:30,850 --> 00:09:28,880

them up here with with an onboard

195

00:09:33,430 --> 00:09:30,860

robotic arm and an onboard EV a

196

00:09:35,860 --> 00:09:33,440

capability spacewalk capability allow us

197

00:09:37,630 --> 00:09:35,870

to build this incredible facility now

198

00:09:39,070 --> 00:09:37,640

that now that the job for us is to

199

00:09:41,140 --> 00:09:39,080

actually put it to use to answer all

200

00:09:42,700 --> 00:09:41,150

these questions so that we can go back

201
00:09:45,280 --> 00:09:42,710
to the moon and space we can go on to

202
00:09:47,650 --> 00:09:45,290
Mars asteroids and so forth and Space

203
00:09:50,530 --> 00:09:47,660
Station is for a lot of the u.s. science

204
00:09:52,150 --> 00:09:50,540
is very well designed and very well

205
00:09:54,490 --> 00:09:52,160
equipped to do that but now we've got a

206
00:09:57,130 --> 00:09:54,500
very busy road ahead of us between now

207
00:09:59,410 --> 00:09:57,140
and 2020 or perhaps as late as 2028 to

208
00:10:03,220 --> 00:09:59,420
answer all those questions we can we can

209
00:10:09,000 --> 00:10:03,230
take the next steps well thank you all

210
00:10:13,030 --> 00:10:11,320
Clara thank you soo pleasure talking

211
00:10:15,790 --> 00:10:13,040
with you today and all the best to you

212
00:10:18,670 --> 00:10:15,800
and your readers station this is Houston

213
00:10:20,560 --> 00:10:18,680

ACR that concludes the space com portion

214

00:10:26,230 --> 00:10:20,570

of the event please stand by for a voice

215

00:10:34,910 --> 00:10:28,640

station this is Fox News Radio how do

216

00:10:36,050 --> 00:10:34,920

you hear me Fox News International Space

217

00:10:40,580 --> 00:10:36,060

Station we've got you loud and clear

218

00:10:42,760 --> 00:10:40,590

welcome aboard Evan well thank you very

219

00:10:44,870 --> 00:10:42,770

much good to talk to you all again and

220

00:10:46,670 --> 00:10:44,880

hope everything is going well up there

221

00:10:49,280 --> 00:10:46,680

first of all I have to ask you we're

222

00:10:50,660 --> 00:10:49,290

seeing a video feed of you and commander

223

00:10:58,690 --> 00:10:50,670

Burbank mr. Pettit you have something

224

00:11:03,380 --> 00:11:01,700

it's it's called an eboard it's

225

00:11:05,900 --> 00:11:03,390

something that pilots wear when you're

226

00:11:08,950 --> 00:11:05,910

sitting in an airplane so you have a pad

227

00:11:12,410 --> 00:11:08,960

of paper and a pencil at your disposal

228

00:11:14,330 --> 00:11:12,420

here in weightlessness it serves as a

229

00:11:16,520 --> 00:11:14,340

tool belt at least for me so I've got

230

00:11:18,920 --> 00:11:16,530

the pad in the paper and I carry a pair

231

00:11:24,140 --> 00:11:18,930

of scissors two different flashlights

232

00:11:26,540 --> 00:11:24,150

and a multi-purpose tool so that way

233

00:11:31,180 --> 00:11:26,550

when I come up to something I'm prepared

234

00:11:36,800 --> 00:11:31,190

to either repair it work on it eat it or

235

00:11:39,830 --> 00:11:36,810

take notes about it so that's where you

236

00:11:41,000 --> 00:11:39,840

keep your lunch gentlemen I have a

237

00:11:44,660 --> 00:11:41,010

question especially for you commander

238

00:11:48,170 --> 00:11:44,670

Burbank you know the dragon from SpaceX

239

00:11:49,790 --> 00:11:48,180

is scheduled to arrive you know maybe in

240

00:11:52,550 --> 00:11:49,800

about a month this is going to be the

241

00:11:54,920 --> 00:11:52,560

first non state-sponsored non taxpayer

242

00:11:56,540 --> 00:11:54,930

ship if you will it's the ship you and

243

00:11:59,390 --> 00:11:56,550

your colleagues would likely use to get

244

00:12:01,040 --> 00:11:59,400

from the ayah to and from the ISS how

245

00:12:02,360 --> 00:12:01,050

exciting is something like this you know

246

00:12:04,220 --> 00:12:02,370

we've moved away from the

247

00:12:06,440 --> 00:12:04,230

taxpayer-funded ship that's going to do

248

00:12:08,300 --> 00:12:06,450

this essentially this taxi and trucking

249

00:12:13,130 --> 00:12:08,310

route what what does that like to be

250

00:12:14,960 --> 00:12:13,140

there for this well I think for all of

251
00:12:17,090 --> 00:12:14,970
us were very excited about it number one

252
00:12:18,890 --> 00:12:17,100
for the sake of the space station that's

253
00:12:21,560 --> 00:12:18,900
critical capability it's the ability to

254
00:12:23,480 --> 00:12:21,570
resupply station and to return critical

255
00:12:24,800 --> 00:12:23,490
hardware payloads or hardware that's

256
00:12:27,110 --> 00:12:24,810
failed that we need to get on the ground

257
00:12:29,390 --> 00:12:27,120
to analyze and perhaps refurbish but to

258
00:12:31,400 --> 00:12:29,400
be able to do that and down the road it

259
00:12:34,070 --> 00:12:31,410
also affords capability to actually

260
00:12:35,480 --> 00:12:34,080
deliver crew to space station to and

261
00:12:36,600 --> 00:12:35,490
from space station it's one of several

262
00:12:38,670 --> 00:12:36,610
companies that are actually

263
00:12:40,590 --> 00:12:38,680

working on that right now so for all of

264

00:12:42,870 --> 00:12:40,600

us involved in that I think that's very

265

00:12:45,630 --> 00:12:42,880

very exciting and anytime we have a

266

00:12:48,180 --> 00:12:45,640

visiting vehicle be it a shuttle be it a

267

00:12:50,610 --> 00:12:48,190

cargo vehicle be at a Japanese HTV or

268

00:12:53,310 --> 00:12:50,620

European a TV or progress vehicles all

269

00:12:54,630 --> 00:12:53,320

those things are exciting their dynamic

270

00:12:56,610 --> 00:12:54,640

events there's something from the

271

00:12:59,069 --> 00:12:56,620

operational standpoint as pilots and

272

00:13:02,100 --> 00:12:59,079

engineers that we're all very interested

273

00:13:05,009 --> 00:13:02,110

in all the vehicles that come to space

274

00:13:08,639 --> 00:13:05,019

station right now like dragon like the

275

00:13:10,350 --> 00:13:08,649

HTV and like the Cygnus the orbital

276
00:13:12,000 --> 00:13:10,360
sciences Cygnus vehicles that docked to

277
00:13:14,340 --> 00:13:12,010
the forward part of station actually

278
00:13:15,690 --> 00:13:14,350
don't doc autonomously we actually will

279
00:13:18,150 --> 00:13:15,700
capture them they'll fly up to space

280
00:13:20,100 --> 00:13:18,160
station and essentially formation fly

281
00:13:21,690 --> 00:13:20,110
with space station would command them to

282
00:13:23,250 --> 00:13:21,700
free drift and we'll use those space

283
00:13:25,769 --> 00:13:23,260
station's robotic arm to grapple them

284
00:13:28,050 --> 00:13:25,779
and attach them to space station so it's

285
00:13:32,220 --> 00:13:28,060
an it's from the standpoint of a pilot

286
00:13:34,800 --> 00:13:32,230
that is a fun interesting very dynamic

287
00:13:36,389 --> 00:13:34,810
kind of activity and we're all very much

288
00:13:38,370 --> 00:13:36,399

looking forward to it it's also the

289

00:13:43,470 --> 00:13:38,380

start of a new era having commercial

290

00:13:44,939 --> 00:13:43,480

vehicles that come to station you talk

291

00:13:47,939 --> 00:13:44,949

about the start of a new year and

292

00:13:49,889 --> 00:13:47,949

commercial vehicles if you could um wax

293

00:13:51,750 --> 00:13:49,899

historic for me if you think you know we

294

00:13:53,610 --> 00:13:51,760

in any type of human exploration

295

00:13:55,860 --> 00:13:53,620

throughout our history you know the the

296

00:13:57,030 --> 00:13:55,870

government sent a vehicle first and once

297

00:13:58,800 --> 00:13:57,040

they figured out how to get there and

298

00:14:00,810 --> 00:13:58,810

back pretty safely they open it up to

299

00:14:02,370 --> 00:14:00,820

private industries what one thinks of

300

00:14:06,480 --> 00:14:02,380

perhaps maybe the Dutch West Indies

301
00:14:08,400 --> 00:14:06,490
company is this is this phase of space

302
00:14:10,920 --> 00:14:08,410
flight just like that I mean are we

303
00:14:20,220 --> 00:14:10,930
really moving into the the real use of

304
00:14:23,009 --> 00:14:20,230
space yeah I think this is a like like

305
00:14:25,710 --> 00:14:23,019
you said like like the the the shipping

306
00:14:28,740 --> 00:14:25,720
in the past this is the same thing we

307
00:14:30,800 --> 00:14:28,750
will see the commercial companies taking

308
00:14:33,290 --> 00:14:30,810
off for industries taking over and

309
00:14:36,180 --> 00:14:33,300
agency is doing what they're meant to do

310
00:14:40,230 --> 00:14:36,190
exploring so they will look ahead and go

311
00:14:43,369 --> 00:14:40,240
to to new reasons new areas while the

312
00:14:50,210 --> 00:14:43,379
commercial companies take over the

313
00:14:51,679 --> 00:14:50,220

a the known ground by now mr. Karzai I

314

00:14:54,079 --> 00:14:51,689

hear that you got Mike you about the

315

00:14:55,849 --> 00:14:54,089

Dutch part of exploration with the Dutch

316

00:14:57,439 --> 00:14:55,859

West Indies corporation that you know

317

00:14:59,449 --> 00:14:57,449

you your presence on the space station

318

00:15:01,460 --> 00:14:59,459

really demonstrates the international

319

00:15:03,499 --> 00:15:01,470

mission there and and there are many

320

00:15:05,749 --> 00:15:03,509

here in the US that might not realize

321

00:15:07,699 --> 00:15:05,759

that Europe has a vibrant space program

322

00:15:15,019 --> 00:15:07,709

what would you like Americans to know

323

00:15:18,409 --> 00:15:15,029

about your work up there well actually

324

00:15:21,139 --> 00:15:18,419

Europe is indeed a small partner but

325

00:15:24,289 --> 00:15:21,149

very intensively involved in space

326

00:15:27,649 --> 00:15:24,299

station where a lot of the modules are

327

00:15:29,389 --> 00:15:27,659

built in Europe also our famously cupola

328

00:15:31,039 --> 00:15:29,399

to look out the window with a lot of the

329

00:15:33,079 --> 00:15:31,049

connecting modules a lot of the

330

00:15:35,599 --> 00:15:33,089

equipment what is very nice is that we

331

00:15:37,639 --> 00:15:35,609

mix it up so we have European equipment

332

00:15:41,119 --> 00:15:37,649

built European equipment in the u.s. lab

333

00:15:43,309 --> 00:15:41,129

and us equipment in the Columbus module

334

00:15:46,069 --> 00:15:43,319

so that's very nice and actually Europe

335

00:15:49,299 --> 00:15:46,079

is very well integrated in in the whole

336

00:15:52,069 --> 00:15:49,309

u.s. segment like the Japanese are and

337

00:15:54,919 --> 00:15:52,079

yeah I think it's it's nice to know for

338

00:16:05,400 --> 00:15:54,929

Americans that the Europeans build

339

00:16:12,689 --> 00:16:09,990

and the the cupola I've so I've been

340

00:16:14,579 --> 00:16:12,699

told is probably just the the crown

341

00:16:16,410 --> 00:16:14,589

jewel of it the all three of you have

342

00:16:17,999 --> 00:16:16,420

you had a chance to sit in it and take a

343

00:16:19,530 --> 00:16:18,009

look at what does it look like for you

344

00:16:20,939 --> 00:16:19,540

know for some of us who who might not

345

00:16:26,129 --> 00:16:20,949

ever get to see that view at least not

346

00:16:27,420 --> 00:16:26,139

with our own eyes speaking for myself

347

00:16:30,600 --> 00:16:27,430

I'd say it's it's pretty much

348

00:16:32,730 --> 00:16:30,610

breathtaking if you get a chance to fly

349

00:16:34,559 --> 00:16:32,740

in space and you look through four to

350

00:16:36,900 --> 00:16:34,569

six inches worth of glass say on a

351

00:16:39,269 --> 00:16:36,910

shuttle window for example it is

352

00:16:41,369 --> 00:16:39,279

absolutely spectacular it's almost

353

00:16:43,319 --> 00:16:41,379

indescribable I don't know that that

354

00:16:44,790 --> 00:16:43,329

people that fly in space necessarily are

355

00:16:46,590 --> 00:16:44,800

the ones that can best describe that

356

00:16:48,360 --> 00:16:46,600

experience if you get a chance to go

357

00:16:50,939 --> 00:16:48,370

outside and you get a chance to look at

358

00:16:54,150 --> 00:16:50,949

planet earth through a very thin

359

00:16:56,699 --> 00:16:54,160

polycarbonate visor and a navy a helmet

360

00:16:59,129 --> 00:16:56,709

that is another whole order of magnitude

361

00:17:00,900 --> 00:16:59,139

more impressive the cupola is very very

362

00:17:03,090 --> 00:17:00,910

close to that it's a place where on

363

00:17:05,730 --> 00:17:03,100

board space station you can essentially

364

00:17:08,730 --> 00:17:05,740

get a horizon of horizon thousands of

365

00:17:10,590 --> 00:17:08,740

miles view 360 degrees you can look

366

00:17:12,240 --> 00:17:10,600

straight nadir right down to Planet

367

00:17:15,960 --> 00:17:12,250

Earth but you can also see all the way

368

00:17:17,730 --> 00:17:15,970

around so it's really it's it's it's not

369

00:17:19,860 --> 00:17:17,740

comparable with anything else that we

370

00:17:22,470 --> 00:17:19,870

have short of actually going outside and

371

00:17:24,329 --> 00:17:22,480

doing a spacewalk and the cupola is a

372

00:17:27,360 --> 00:17:24,339

great place for us to stage cameras were

373

00:17:30,270 --> 00:17:27,370

doing some some really neat videos and

374

00:17:33,029 --> 00:17:30,280

high definition pictures of Aurora's and

375

00:17:34,740 --> 00:17:33,039

the comet and in earth observations the

376

00:17:36,810 --> 00:17:34,750

cameras we have right now are much

377

00:17:38,340 --> 00:17:36,820

faster much more capable and the cupola

378

00:17:43,380 --> 00:17:38,350

is just a wonderful place to do some of

379

00:17:45,060 --> 00:17:43,390

this well gentlemen I will let you get

380

00:17:48,000 --> 00:17:45,070

on with your day thank you so much for

381

00:17:49,590 --> 00:17:48,010

taking some time out and and coming to

382

00:17:51,600 --> 00:17:49,600

the microphone we really do appreciate

383

00:17:53,700 --> 00:17:51,610

hearing from you guys up there and it's

384

00:17:55,799 --> 00:17:53,710

certainly a cool thing to be able to sit

385

00:17:58,409 --> 00:17:55,809

at my desk and talk to you folks all the

386

00:17:59,700 --> 00:17:58,419

way up there please stay safe and we'll

387

00:18:01,500 --> 00:17:59,710

see on the ground when you come home

388

00:18:06,180 --> 00:18:01,510

hopefully you will enjoy the rest of

389

00:18:07,260 --> 00:18:06,190

your time I'm sure we will 11 thanks

390

00:18:09,180 --> 00:18:07,270

very much it was great to have you on

391

00:18:13,270 --> 00:18:09,190

board and all the best to you and your

392

00:18:15,220 --> 00:18:13,280

listeners station this is

393

00:18:20,920 --> 00:18:15,230

used in a CR that concludes the event

394

00:18:23,460 --> 00:18:20,930

thank you thank you space calm and fox