



Episode 15: Jedi Masters of Launchery

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@NASAKennedy
#NASARocketRanch

New episodes every month!

1
00:00:04,960 --> 00:00:02,929
we just had a new name get attributed to

2
00:00:08,600 --> 00:00:04,970
us and it was it's called the Jedi

3
00:00:12,999 --> 00:00:08,610
Masters of launcher II program chief

4
00:00:22,640 --> 00:00:13,009
engineer verify no constraints belong to

5
00:00:24,679 --> 00:00:22,650
for over 20 years NASA's launch services

6
00:00:26,720 --> 00:00:24,689
program has been the workhorse of

7
00:00:29,179 --> 00:00:26,730
uncrewed Space Flight enabling

8
00:00:32,269 --> 00:00:29,189
exploration of Pluto the Sun the earth

9
00:00:34,520 --> 00:00:32,279
and other worlds next on the rocket

10
00:00:37,069 --> 00:00:34,530
range all right I am here in the booth

11
00:00:41,530 --> 00:00:37,079
now with Amanda correct if I get this

12
00:00:43,910 --> 00:00:41,540
wrong I'm sorry MIT's kovitch I'm sorry

13
00:00:47,450 --> 00:00:43,920

and Chuck Duvall

14

00:00:50,389 --> 00:00:47,460

so Amanda truck thanks for joining me

15

00:00:52,040 --> 00:00:50,399

so Amanda you are the the title is

16

00:00:54,170 --> 00:00:52,050

manager for the launch services program

17

00:00:56,959 --> 00:00:54,180

is that correct it depends on what piece

18

00:00:58,160 --> 00:00:56,969

of paper you look at I'd say program

19

00:01:00,410 --> 00:00:58,170

manager of the NASA launch services

20

00:01:04,700 --> 00:01:00,420

program or director of launch services

21

00:01:07,429 --> 00:01:04,710

or it's been many things okay and then

22

00:01:09,679 --> 00:01:07,439

Chuck your specific role is deputy

23

00:01:11,630 --> 00:01:09,689

program manager or number two number two

24

00:01:14,330 --> 00:01:11,640

I've heard that's your name I've also

25

00:01:16,820 --> 00:01:14,340

heard a man if somebody told me I think

26

00:01:19,310 --> 00:01:16,830

the story goes that you stole Chuck's

27

00:01:21,020 --> 00:01:19,320

desk at some point is that is that an

28

00:01:24,740 --> 00:01:21,030

accurate telling of the story not just

29

00:01:27,770 --> 00:01:24,750

my desk the whole office know I was

30

00:01:30,020 --> 00:01:27,780

given his desk by the boss cuz he was

31

00:01:32,630 --> 00:01:30,030

gone for several months and I didn't

32

00:01:35,090 --> 00:01:32,640

have nowhere to sit so I got his desk

33

00:01:36,440 --> 00:01:35,100

she didn't turn out so it started yeah I

34

00:01:38,060 --> 00:01:36,450

didn't turn it down right it was a hole

35

00:01:40,039 --> 00:01:38,070

so here I was coming over there to this

36

00:01:41,510 --> 00:01:40,049

new job thinking I was gonna be in some

37

00:01:43,340 --> 00:01:41,520

little cubicle and I get this great big

38

00:01:45,020 --> 00:01:43,350

office of a branch chief I'm like this

39

00:01:46,880 --> 00:01:45,030

is great I'll take it

40

00:01:49,730 --> 00:01:46,890

I was on a source port I came back and

41

00:01:52,399 --> 00:01:49,740

my doors open I was like oh that's like

42

00:01:55,690 --> 00:01:52,409

oh there's somebody every logo says hey

43

00:01:58,179 --> 00:01:55,700

here's nowhere I gave you the office do

44

00:02:00,620 --> 00:01:58,189

so should I find another job

45

00:02:03,200 --> 00:02:00,630

alright so it's pretty obvious that you

46

00:02:04,850 --> 00:02:03,210

to go a good ways back so let's kind of

47

00:02:06,440 --> 00:02:04,860

walk back if you would each kind of just

48

00:02:08,449 --> 00:02:06,450

tell me a little bit about kind of how

49

00:02:10,580 --> 00:02:08,459

you got to where you are today cuz you

50

00:02:12,120 --> 00:02:10,590

have a pretty cool job but it didn't it

51
00:02:13,710 --> 00:02:12,130
what you didn't get there overnight

52
00:02:16,590 --> 00:02:13,720
now you want to start you want me to

53
00:02:19,110 --> 00:02:16,600
start you can start me start okay let's

54
00:02:21,210 --> 00:02:19,120
see so I started out there how long do

55
00:02:23,160 --> 00:02:21,220
you want me to go back here let's go

56
00:02:24,690 --> 00:02:23,170
with like what's your degree two hours

57
00:02:26,040 --> 00:02:24,700
worth or out there yeah I'm not quite

58
00:02:28,590 --> 00:02:26,050
that well okay not that long

59
00:02:30,570 --> 00:02:28,600
so I graduated from Georgia Tech a long

60
00:02:31,770 --> 00:02:30,580
time ago I won't say what you're with an

61
00:02:33,960 --> 00:02:31,780
industrial engineering degree which is

62
00:02:35,850 --> 00:02:33,970
way different than what most people at

63
00:02:38,700 --> 00:02:35,860

the Space Center have or had at the time

64

00:02:42,000 --> 00:02:38,710

and I started in shuttle in logistics

65

00:02:43,860 --> 00:02:42,010

actually and I went from logistics after

66

00:02:46,350 --> 00:02:43,870

about five years in logistics um I got

67

00:02:48,120 --> 00:02:46,360

my masters at UCF and engineering gonna

68

00:02:50,850 --> 00:02:48,130

instrument yeah go nights yeah go

69

00:02:52,530 --> 00:02:50,860

jackets I should have said that and so I

70

00:02:54,510 --> 00:02:52,540

got that degree and then I went to

71

00:02:56,280 --> 00:02:54,520

shuttle operations where we started up

72

00:02:58,620 --> 00:02:56,290

an industrial engineering group that was

73

00:03:02,670 --> 00:02:58,630

helping improve shuttle ops and then

74

00:03:04,650 --> 00:03:02,680

from there I went to be an intern on the

75

00:03:05,910 --> 00:03:04,660

fourth floor at that well it was a

76

00:03:07,470 --> 00:03:05,920

fourth floor at that time it's a seventh

77

00:03:11,490 --> 00:03:07,480

floor now yeah that's our executive

78

00:03:13,170 --> 00:03:11,500

suite exactly executive suite so I went

79

00:03:15,090 --> 00:03:13,180

up there to be the intern - Roy bridges

80

00:03:17,520 --> 00:03:15,100

who was a newly appointed center

81

00:03:20,550 --> 00:03:17,530

director at the time and while I was

82

00:03:22,590 --> 00:03:20,560

interning up there the program launch

83

00:03:25,350 --> 00:03:22,600

services program was transitioned down

84

00:03:28,290 --> 00:03:25,360

to Kennedy from Goddard and at that time

85

00:03:30,900 --> 00:03:28,300

Louis now Glenn and partially Marshall

86

00:03:32,520 --> 00:03:30,910

so transition during that time and when

87

00:03:34,710 --> 00:03:32,530

I finished my internship I went over -

88

00:03:36,600 --> 00:03:34,720

it wasn't called LSP then it was called

89

00:03:39,390 --> 00:03:36,610

expendable launch vehicles I think was

90

00:03:41,160 --> 00:03:39,400

that right yeah elby's so I went over

91

00:03:43,830 --> 00:03:41,170

there which was a I didn't even know

92

00:03:45,390 --> 00:03:43,840

that there was anything other than

93

00:03:47,280 --> 00:03:45,400

shuttle when you were on the shuttle

94

00:03:49,170 --> 00:03:47,290

program human spaceflight pretty much

95

00:03:50,940 --> 00:03:49,180

everything is all about Johnson and

96

00:03:52,200 --> 00:03:50,950

Marshall and Kennedy and you didn't even

97

00:03:54,270 --> 00:03:52,210

know there were science missions just

98

00:03:55,500 --> 00:03:54,280

said there's other launches on the Cape

99

00:03:58,080 --> 00:03:55,510

side and I thought the best kept secret

100

00:03:59,400 --> 00:03:58,090

over there yeah like nobody even knew

101
00:04:01,230 --> 00:03:59,410
about it on the Kennedy side and I

102
00:04:02,760 --> 00:04:01,240
thought I thought well I'll try it but

103
00:04:04,680 --> 00:04:02,770
I've no idea what I'm doing I was ray

104
00:04:08,040 --> 00:04:04,690
Lugo who convinced me to go over there

105
00:04:10,140 --> 00:04:08,050
he was quite the recruiter so I went

106
00:04:11,340 --> 00:04:10,150
over to to there and I helped transition

107
00:04:14,190 --> 00:04:11,350
the program writing a bunch of the

108
00:04:16,560 --> 00:04:14,200
documentation helping work with Goddard

109
00:04:18,900 --> 00:04:16,570
moving things down to Kennedy and then

110
00:04:20,190 --> 00:04:18,910
after that I became a mission manager

111
00:04:22,650 --> 00:04:20,200
where I got to work on some really neat

112
00:04:24,990 --> 00:04:22,660
missions leading a mission team and then

113
00:04:25,950 --> 00:04:25,000

from there I went to be the chief of

114

00:04:27,960 --> 00:04:25,960

that office

115

00:04:29,939 --> 00:04:27,970

and then from there I went to be the

116

00:04:32,309 --> 00:04:29,949

deputy program manager number two -

117

00:04:33,870 --> 00:04:32,319

Steve Francois and then I became program

118

00:04:35,820 --> 00:04:33,880

manager after that it was a path that

119

00:04:38,309 --> 00:04:35,830

was a crooked path a straight a

120

00:04:40,350 --> 00:04:38,319

roundabout way but yeah I have a great

121

00:04:41,760 --> 00:04:40,360

job now it's really a lot of fun yeah

122

00:04:43,469 --> 00:04:41,770

we'll come back - what exactly does you

123

00:04:43,830 --> 00:04:43,479

do these days in just a minute but check

124

00:04:46,230 --> 00:04:43,840

on him

125

00:04:48,870 --> 00:04:46,240

[Music]

126

00:04:51,749 --> 00:04:48,880

mine's a little bit straighter path I I

127

00:04:53,400 --> 00:04:51,759

started out as a summer student at the

128

00:04:56,070 --> 00:04:53,410

Space Center until I could get some

129

00:04:57,300 --> 00:04:56,080

engineering courses at the local

130

00:04:59,279 --> 00:04:57,310

community college Brevard Community

131

00:05:03,300 --> 00:04:59,289

College at the time and then I went on

132

00:05:05,279 --> 00:05:03,310

to UCF go night there you go but I was

133

00:05:06,960 --> 00:05:05,289

in the I got to be in the co-op program

134

00:05:08,850 --> 00:05:06,970

so I would go to school for a semester

135

00:05:10,290 --> 00:05:08,860

and then I'd work for a semester it's

136

00:05:12,839 --> 00:05:10,300

now called pathways for those that might

137

00:05:16,760 --> 00:05:12,849

be interested right so in 1984 I got a

138

00:05:20,279 --> 00:05:16,770

call if I wanted to go work in the e lv

139

00:05:23,010 --> 00:05:20,289

project in the telemetry lab of hangar

140

00:05:27,800 --> 00:05:23,020

AE and I said sir certainly especially

141

00:05:35,040 --> 00:05:32,370

yeah that's me so I've been in LV ever

142

00:05:37,170 --> 00:05:35,050

since and you know yo Vegas probably

143

00:05:39,990 --> 00:05:37,180

changed its names three or four times in

144

00:05:42,950 --> 00:05:40,000

the duration I've been there so I

145

00:05:45,029 --> 00:05:42,960

started as a co-op student finally

146

00:05:47,189 --> 00:05:45,039

graduated you know it was a little bit

147

00:05:50,219 --> 00:05:47,199

lengthened because of being in the co-op

148

00:05:53,490 --> 00:05:50,229

program but I became full-time in 1989

149

00:05:56,339 --> 00:05:53,500

and worked missions you know from day

150

00:05:59,070 --> 00:05:56,349

one and just loved the diversity of all

151
00:06:01,469 --> 00:05:59,080
the different missions and projects and

152
00:06:04,350 --> 00:06:01,479
partners that we worked with and being

153
00:06:06,540 --> 00:06:04,360
off the radar like Amanda had said we

154
00:06:11,879 --> 00:06:06,550
were a small group back then and only

155
00:06:14,219 --> 00:06:11,889
did launch and then so I was working for

156
00:06:17,879 --> 00:06:14,229
about 10 years before the program

157
00:06:20,159 --> 00:06:17,889
started to transition which was quite

158
00:06:22,860 --> 00:06:20,169
the step for us because we only knew the

159
00:06:25,200 --> 00:06:22,870
last three or four months of the entire

160
00:06:27,270 --> 00:06:25,210
mission flow all we did was launch right

161
00:06:30,480 --> 00:06:27,280
and we didn't fully understand what

162
00:06:32,159 --> 00:06:30,490
Lewis and Goddard were doing four years

163
00:06:34,019 --> 00:06:32,169

prior to that we just knew they weren't

164

00:06:36,180 --> 00:06:34,029

brought us their satellites and we

165

00:06:38,490 --> 00:06:36,190

launched them for them so it was a big

166

00:06:40,770 --> 00:06:38,500

step to get the entire program I know

167

00:06:42,960 --> 00:06:40,780

being part of that group we weren't

168

00:06:46,980 --> 00:06:42,970

really sure if we were equipped to do

169

00:06:50,490 --> 00:06:46,990

that but Rea you know had the foresight

170

00:06:54,140 --> 00:06:50,500

and as well as a few other folks at

171

00:06:59,130 --> 00:06:54,150

headquarters that led the transition and

172

00:07:01,110 --> 00:06:59,140

you know we since have become LSP we

173

00:07:04,140 --> 00:07:01,120

obviously recruited good people from

174

00:07:06,480 --> 00:07:04,150

Kennedy and Lewis and Goddard to form

175

00:07:09,630 --> 00:07:06,490

you know what's what's been the nucleus

176
00:07:14,490 --> 00:07:09,640
of LSP so it's been a you know a great

177
00:07:16,710 --> 00:07:14,500
run since I I you know started as a

178
00:07:19,530 --> 00:07:16,720
systems engineer I became a branch chief

179
00:07:22,290 --> 00:07:19,540
branch chief of the avionics group I had

180
00:07:24,510 --> 00:07:22,300
the opportunity to become or shadow the

181
00:07:26,610 --> 00:07:24,520
launch director position and then became

182
00:07:28,200 --> 00:07:26,620
a launch director and then senior launch

183
00:07:31,470 --> 00:07:28,210
director for ten years which I always

184
00:07:35,270 --> 00:07:31,480
say that's been and is the best job in

185
00:07:37,680 --> 00:07:35,280
LSP if not the entire agency and then

186
00:07:39,720 --> 00:07:37,690
and then for whatever reason I'm not

187
00:07:42,600 --> 00:07:39,730
quite sure oh it's almost 10 years now I

188
00:07:48,270 --> 00:07:42,610

left the launch director position to go

189

00:07:49,680 --> 00:07:48,280

to the front office so yes I paved the

190

00:07:53,490 --> 00:07:49,690

way for Tim done to him if you're

191

00:07:57,930 --> 00:07:53,500

listening in a while since you thanked

192

00:07:58,920 --> 00:07:57,940

me for getting out of your way so that's

193

00:08:02,550 --> 00:07:58,930

an interesting idea

194

00:08:04,950 --> 00:08:02,560

the idea of of rising up to get out of

195

00:08:06,300 --> 00:08:04,960

someone's away is that is that something

196

00:08:09,870 --> 00:08:06,310

that you say or is that something that

197

00:08:14,010 --> 00:08:09,880

is really meaningful that's an

198

00:08:15,750 --> 00:08:14,020

interesting question because when I was

199

00:08:18,719 --> 00:08:15,760

the mission management branch chief or

200

00:08:20,430 --> 00:08:18,729

office chief that's when ray Lugo had an

201
00:08:22,350 --> 00:08:20,440
opportunity to go to Glenn Research

202
00:08:24,060 --> 00:08:22,360
Center and I think be deputy center

203
00:08:26,280 --> 00:08:24,070
director there and they talked to a

204
00:08:28,409 --> 00:08:26,290
bunch of us about applying for his

205
00:08:30,030 --> 00:08:28,419
position because they wanted to be able

206
00:08:33,810 --> 00:08:30,040
to get someone from LSP to be in that

207
00:08:35,880 --> 00:08:33,820
job and so I don't think any of us

208
00:08:38,219 --> 00:08:35,890
really wanted to leave the jobs we had

209
00:08:40,110 --> 00:08:38,229
because we really liked him but for me

210
00:08:44,040 --> 00:08:40,120
personally I got to thinking about well

211
00:08:46,380 --> 00:08:44,050
I'm in this job that is supervising a

212
00:08:48,270 --> 00:08:46,390
bunch of mission managers who are

213
00:08:50,190 --> 00:08:48,280

looking at the mission teams launching

214

00:08:51,720 --> 00:08:50,200

all these spacecraft and if I'm not

215

00:08:52,150 --> 00:08:51,730

willing to take the next step forward

216

00:08:54,310 --> 00:08:52,160

then

217

00:08:57,160 --> 00:08:54,320

I probably need to find a way to step

218

00:08:59,740 --> 00:08:57,170

aside so that somebody else can have my

219

00:09:01,600 --> 00:08:59,750

job because probably it would make sense

220

00:09:04,450 --> 00:09:01,610

for me to try and help the organization

221

00:09:07,150 --> 00:09:04,460

at another level I never envisioned

222

00:09:09,820 --> 00:09:07,160

doing that and I think it took a lot of

223

00:09:12,730 --> 00:09:09,830

pressure from Ray at the time to get any

224

00:09:15,310 --> 00:09:12,740

of us to apply for that but it was kind

225

00:09:17,230 --> 00:09:15,320

of a feeling of I probably need to find

226

00:09:19,690 --> 00:09:17,240

a way to let other people come up

227

00:09:19,870 --> 00:09:19,700

through the program it was the same for

228

00:09:22,780 --> 00:09:19,880

me

229

00:09:25,180 --> 00:09:22,790

it was a factor that played into it it

230

00:09:27,730 --> 00:09:25,190

was a tough decision for me because I I

231

00:09:29,590 --> 00:09:27,740

truly loved the job I was in and I felt

232

00:09:32,440 --> 00:09:29,600

like I was I was good at it you know

233

00:09:33,700 --> 00:09:32,450

when you're asked to go to the next

234

00:09:35,350 --> 00:09:33,710

level you know you have some doubts

235

00:09:37,540 --> 00:09:35,360

whether or not you can do that and the

236

00:09:39,850 --> 00:09:37,550

safe thing to do is to stay where you're

237

00:09:42,100 --> 00:09:39,860

at where you know you're successful but

238

00:09:45,040 --> 00:09:42,110

part of it was and I didn't know it was

239

00:09:46,540 --> 00:09:45,050

Tim at the time was to really you know

240

00:09:48,130 --> 00:09:46,550

get out of the way of somebody else I

241

00:09:50,050 --> 00:09:48,140

may have been holding someone back

242

00:09:52,870 --> 00:09:50,060

because I'd been in that position for 10

243

00:09:56,470 --> 00:09:52,880

years so it because of that and other

244

00:09:58,930 --> 00:09:56,480

factors it was time to move on and it is

245

00:10:00,520 --> 00:09:58,940

gratifying to see how great Tim is in

246

00:10:02,940 --> 00:10:00,530

that job and it makes me feel good that

247

00:10:05,290 --> 00:10:02,950

I you know I joke about it's the one

248

00:10:07,810 --> 00:10:05,300

selfless thing I've I've done

249

00:10:10,180 --> 00:10:07,820

he's like either way to let Tim shine

250

00:10:12,250 --> 00:10:10,190

yeah I would say the same about Albert

251
00:10:13,810 --> 00:10:12,260
moving into the job that I had he's done

252
00:10:15,970 --> 00:10:13,820
a way better job than I ever did in that

253
00:10:17,650 --> 00:10:15,980
position and he's excellent at it so if

254
00:10:19,810 --> 00:10:17,660
you give other people opportunities then

255
00:10:21,100 --> 00:10:19,820
they definitely excel yeah it's awesome

256
00:10:23,110 --> 00:10:21,110
and part of the reason why I asked that

257
00:10:24,790 --> 00:10:23,120
question of you both is because your

258
00:10:26,170 --> 00:10:24,800
effort ate your reputation is pretty

259
00:10:27,220 --> 00:10:26,180
sturdy when it comes to being good

260
00:10:29,410 --> 00:10:27,230
leaders and I think that that's

261
00:10:30,760 --> 00:10:29,420
something that can be overlooked there's

262
00:10:32,170 --> 00:10:30,770
almost it looks like you're climbing

263
00:10:33,730 --> 00:10:32,180

ladder but I think that there's more to

264

00:10:34,990 --> 00:10:33,740

it than that and I think that your

265

00:10:37,500 --> 00:10:35,000

answers speak to that so I appreciate

266

00:10:40,720 --> 00:10:37,510

that and obviously you're kind of

267

00:10:42,580 --> 00:10:40,730

carrying the baton of a program with a

268

00:10:46,720 --> 00:10:42,590

pretty excellent 20 plus year history

269

00:10:49,090 --> 00:10:46,730

now so give us kind of a really high

270

00:10:51,840 --> 00:10:49,100

level here's what LSP does and here's

271

00:10:53,980 --> 00:10:51,850

what we've done for 20 years

272

00:10:56,920 --> 00:10:53,990

mmm so I'd go back to your opening

273

00:10:59,320 --> 00:10:56,930

statement you said they've been

274

00:11:01,840 --> 00:10:59,330

launching rocket uncrewed rockets

275

00:11:03,790 --> 00:11:01,850

opening we would rather you said we've

276

00:11:05,920 --> 00:11:03,800

been launching robotic spacecraft for

277

00:11:07,600 --> 00:11:05,930

the agency for 20 years because

278

00:11:09,160 --> 00:11:07,610

we don't want to be seen as a secondary

279

00:11:12,040 --> 00:11:09,170

to the human spaceflight and be called

280

00:11:15,300 --> 00:11:12,050

uncute uncrewed right so so my apologies

281

00:11:17,620 --> 00:11:15,310

no no sir certainly a fair point and uh

282

00:11:19,090 --> 00:11:17,630

your reputation the reputation of the

283

00:11:21,160 --> 00:11:19,100

program is very strong as well so I

284

00:11:22,780 --> 00:11:21,170

don't want to create the impression with

285

00:11:26,890 --> 00:11:22,790

anybody that they're second class

286

00:11:31,120 --> 00:11:26,900

exactly I know yeah absolutely so for me

287

00:11:33,160 --> 00:11:31,130

the program is about finding a way to

288

00:11:34,900 --> 00:11:33,170

find the right rocket that matches up

289

00:11:36,670 --> 00:11:34,910

with the right satellite for the right

290

00:11:39,490 --> 00:11:36,680

place to get them where they need to go

291

00:11:42,490 --> 00:11:39,500

and we are we have spent 20 years

292

00:11:44,530 --> 00:11:42,500

building up expertise and all kinds of

293

00:11:46,330 --> 00:11:44,540

disciplines in business disciplines and

294

00:11:48,430 --> 00:11:46,340

technical disciplines rocket science

295

00:11:50,650 --> 00:11:48,440

disciplines everything across the board

296

00:11:52,750 --> 00:11:50,660

customer service in order to be able to

297

00:11:55,390 --> 00:11:52,760

make that happen and so I think a

298

00:11:56,770 --> 00:11:55,400

reputation now with our main customers

299

00:11:58,600 --> 00:11:56,780

who are science Mission Directorate is

300

00:12:00,340 --> 00:11:58,610

that we do what we say we're going to do

301
00:12:03,640 --> 00:12:00,350
and then we help them find the right to

302
00:12:06,100 --> 00:12:03,650
get to orbit I'll give one to Harding a

303
00:12:08,530 --> 00:12:06,110
shout out cuz she's the one that came up

304
00:12:11,620 --> 00:12:08,540
with the that we were right we are

305
00:12:13,540 --> 00:12:11,630
Earth's bridge to space so we are truly

306
00:12:16,380 --> 00:12:13,550
serving our customers who need to get

307
00:12:22,960 --> 00:12:16,390
you know either to another solar system

308
00:12:26,350 --> 00:12:22,970
planet Earth orbiting and we're equipped

309
00:12:31,410 --> 00:12:26,360
in a lot of ways to make that journey

310
00:12:37,300 --> 00:12:31,420
for them you know more successful easier

311
00:12:42,400 --> 00:12:37,310
just you know a better experience all

312
00:12:45,340 --> 00:12:42,410
around for them so so I was going to say

313
00:12:47,370 --> 00:12:45,350

we just had a new name get attributed to

314

00:12:50,050 --> 00:12:47,380

us and it was it's called the Jedi

315

00:12:51,310 --> 00:12:50,060

Masters of launcher II we thought that

316

00:12:52,930 --> 00:12:51,320

was really cool that was from somebody

317

00:12:54,880 --> 00:12:52,940

totally not associated with the space

318

00:13:01,260 --> 00:12:54,890

program that was giving us a leadership

319

00:13:06,580 --> 00:13:04,180

so as you as you think about carrying

320

00:13:09,310 --> 00:13:06,590

the baton now what do you view your

321

00:13:10,750 --> 00:13:09,320

roles as because obviously you kind of

322

00:13:12,940 --> 00:13:10,760

have both whether through a straight

323

00:13:15,580 --> 00:13:12,950

path or a more crooked one have come up

324

00:13:17,260 --> 00:13:15,590

through the program where you were more

325

00:13:19,750 --> 00:13:17,270

in the weeds on specific things so at

326

00:13:22,270 --> 00:13:19,760

this high level of director or manager

327

00:13:25,870 --> 00:13:22,280

and number two now what do you do

328

00:13:28,780 --> 00:13:25,880

functionally hmm let's see

329

00:13:31,150 --> 00:13:28,790

it doesn't really fall into one clean

330

00:13:34,210 --> 00:13:31,160

bucket of things that we do I think what

331

00:13:36,220 --> 00:13:34,220

we what we try to do is is work with the

332

00:13:40,150 --> 00:13:36,230

entire team to set a vision for where we

333

00:13:42,100 --> 00:13:40,160

went ahead and then get out of the way

334

00:13:43,690 --> 00:13:42,110

that's exactly right so you know our our

335

00:13:45,010 --> 00:13:43,700

goal really should be to work like six

336

00:13:46,720 --> 00:13:45,020

hours a day or something cuz everybody

337

00:13:48,220 --> 00:13:46,730

else everybody else knows what they're

338

00:13:51,790 --> 00:13:48,230

suppose to do and they do all the work

339

00:13:53,530 --> 00:13:51,800

for us I think we would clear the way a

340

00:13:56,230 --> 00:13:53,540

lot of times for folks to be able to do

341

00:13:58,360 --> 00:13:56,240

their job we do a lot of the high-level

342

00:14:00,700 --> 00:13:58,370

interfacing to make sure that people

343

00:14:02,410 --> 00:14:00,710

understand what we do and we always seem

344

00:14:03,910 --> 00:14:02,420

to be struggling with what is launch

345

00:14:06,820 --> 00:14:03,920

services like the question you ask what

346

00:14:09,190 --> 00:14:06,830

do you guys even do on a day to day

347

00:14:11,140 --> 00:14:09,200

basis though it's it's really hard too

348

00:14:12,820 --> 00:14:11,150

hard to say what you do right you're

349

00:14:15,040 --> 00:14:12,830

solving problems and people have

350

00:14:17,710 --> 00:14:15,050

questions or wandering by

351

00:14:19,140 --> 00:14:17,720

we're big proponents of being in the

352

00:14:21,730 --> 00:14:19,150

office and being accessible to people

353

00:14:23,950 --> 00:14:21,740

anybody can come by and ask questions

354

00:14:26,190 --> 00:14:23,960

and we'll talk with them about about any

355

00:14:29,500 --> 00:14:26,200

of their issues that they have going on

356

00:14:31,660 --> 00:14:29,510

most things the calendars full right

357

00:14:34,240 --> 00:14:31,670

right but there are other days where

358

00:14:35,950 --> 00:14:34,250

it's not full and we're certainly not

359

00:14:39,670 --> 00:14:35,960

sitting around I mean there's there's a

360

00:14:42,040 --> 00:14:39,680

lot of drive-bys as as we call them but

361

00:14:44,020 --> 00:14:42,050

there's a lot of there's a lot of new

362

00:14:47,020 --> 00:14:44,030

work and different work than what's

363

00:14:50,800 --> 00:14:47,030

there what was there 20 or even 10 years

364

00:14:54,070 --> 00:14:50,810

ago in the program which was we were you

365

00:14:57,010 --> 00:14:54,080

know responsible for one mission end to

366

00:14:59,320 --> 00:14:57,020

end to get that satellite in orbit we've

367

00:15:02,020 --> 00:14:59,330

we've grown so much in our expertise

368

00:15:04,240 --> 00:15:02,030

that were asked by a lot of different

369

00:15:06,880 --> 00:15:04,250

parts of the agency to do different

370

00:15:10,900 --> 00:15:06,890

things so we have a whole advisory role

371

00:15:12,760 --> 00:15:10,910

that we play and that could be with the

372

00:15:15,430 --> 00:15:12,770

CRS program or it could be with an

373

00:15:18,220 --> 00:15:15,440

international partner that's working

374

00:15:20,860 --> 00:15:18,230

through Goddard let's say and some of it

375

00:15:23,380 --> 00:15:20,870

is one or two people are working on that

376

00:15:26,350 --> 00:15:23,390

project or 10 or 12 or working on it and

377

00:15:29,440 --> 00:15:26,360

then we've got 40 on a primary mission

378

00:15:32,500 --> 00:15:29,450

so there's such a variety now than when

379

00:15:33,340 --> 00:15:32,510

the program started that every day is

380

00:15:35,800 --> 00:15:33,350

different

381

00:15:38,230 --> 00:15:35,810

can you give me kind of a feeling so two

382

00:15:39,700 --> 00:15:38,240

things obviously Chuck you mentioned the

383

00:15:40,000 --> 00:15:39,710

team used to be a lot smaller than it is

384

00:15:42,700 --> 00:15:40,010

today

385

00:15:44,770 --> 00:15:42,710

so how big is your whole team and kind

386

00:15:47,950 --> 00:15:44,780

of talk me through what's the process

387

00:15:51,490 --> 00:15:47,960

look like from when a mission hits your

388

00:15:52,870 --> 00:15:51,500

radar to launch and and I guess beyond

389

00:15:56,730 --> 00:15:52,880

that if you guys have a responsibility

390

00:16:03,940 --> 00:15:56,740

beyond launch so civil servants we have

391

00:16:07,120 --> 00:16:03,950

matrix not just and that's across every

392

00:16:09,460 --> 00:16:07,130

element public affairs contracts

393

00:16:12,360 --> 00:16:09,470

resources procurement engineering

394

00:16:16,030 --> 00:16:12,370

engineering and then about 200 insurance

395

00:16:18,910 --> 00:16:16,040

contractor so about 450 total and know

396

00:16:21,010 --> 00:16:18,920

we were up we really operate badgeless

397

00:16:22,390 --> 00:16:21,020

so when you ask the question about how

398

00:16:23,950 --> 00:16:22,400

many civil servants are we have to stop

399

00:16:25,570 --> 00:16:23,960

for a second and think okay I know

400

00:16:27,070 --> 00:16:25,580

there's 450 people in the program so you

401
00:16:29,020 --> 00:16:27,080
subtract I think there's about 200 on

402
00:16:32,440 --> 00:16:29,030
contract so we got about 250 civil

403
00:16:35,290 --> 00:16:32,450
service doesn't you know and then we

404
00:16:39,010 --> 00:16:35,300
have up to right now we have over 70

405
00:16:42,160 --> 00:16:39,020
missions that are being processed so 450

406
00:16:45,040 --> 00:16:42,170
might sound a lot a lot to that's some

407
00:16:46,330 --> 00:16:45,050
of your missions right 70 like so not

408
00:16:48,280 --> 00:16:46,340
kind of everything you've done icon

409
00:16:51,970 --> 00:16:48,290
forward although all the ones that are

410
00:16:55,210 --> 00:16:51,980
yet to launch so that's that's a lot and

411
00:16:56,980 --> 00:16:55,220
it and it like I said it varies from you

412
00:16:58,870 --> 00:16:56,990
know it's a four to seven year process

413
00:17:01,390 --> 00:16:58,880

and we've been in on the ground floor

414

00:17:04,630 --> 00:17:01,400

all the way through post launch and

415

00:17:08,050 --> 00:17:04,640

making sure you know even after it's

416

00:17:12,030 --> 00:17:08,060

separated that it's a success to just a

417

00:17:14,199 --> 00:17:12,040

couple of people supporting JWST across

418

00:17:17,740 --> 00:17:14,209

across the pond because they've been

419

00:17:20,189 --> 00:17:17,750

asked by Goddard for some expertise or

420

00:17:24,370 --> 00:17:20,199

just sitting on a on a review and and

421

00:17:25,990 --> 00:17:24,380

lend an ear just to see if does include

422

00:17:28,179 --> 00:17:26,000

the CubeSat so right so if you add

423

00:17:29,860 --> 00:17:28,189

probably have 45 cube sets waiting to be

424

00:17:31,990 --> 00:17:29,870

manifested and there's about 40 that are

425

00:17:34,600 --> 00:17:32,000

on the manifest to fly so there's a good

426

00:17:35,890 --> 00:17:34,610

yeah all right so now let me ask you to

427

00:17:37,210 --> 00:17:35,900

go ahead and of dive in like so what's

428

00:17:39,280 --> 00:17:37,220

the process look like cuz obviously

429

00:17:41,320 --> 00:17:39,290

we're not talking about 70 missions

430

00:17:43,180 --> 00:17:41,330

flying next year right so there's a long

431

00:17:44,170 --> 00:17:43,190

process a long lead time here so from

432

00:17:46,090 --> 00:17:44,180

start to finish

433

00:17:47,290 --> 00:17:46,100

LSP and and we kind of have to

434

00:17:48,730 --> 00:17:47,300

generalize here because an

435

00:17:50,320 --> 00:17:48,740

some missions are different than others

436

00:17:52,630 --> 00:17:50,330

there's the huge sets there's advisory

437

00:17:55,330 --> 00:17:52,640

so sure full-fledged nasa's science

438

00:17:59,320 --> 00:17:55,340

mission okay what's that look like start

439

00:18:00,880 --> 00:17:59,330

to finish okay so like March 2020 I'm

440

00:18:02,770 --> 00:18:00,890

really excited for you guys it's another

441

00:18:05,050 --> 00:18:02,780

rover similar to curiosity's a

442

00:18:09,640 --> 00:18:05,060

helicopter on it with a helicopter on

443

00:18:11,140 --> 00:18:09,650

board yes so the process I'll I'll go

444

00:18:11,590 --> 00:18:11,150

through and you just jump in if you

445

00:18:13,630 --> 00:18:11,600

don't mind

446

00:18:15,460 --> 00:18:13,640

so that I don't keep it too boring so um

447

00:18:18,190 --> 00:18:15,470

so we'll meet because I'm an industrial

448

00:18:20,910 --> 00:18:18,200

engineer it's got to be processors so so

449

00:18:22,960 --> 00:18:20,920

early on there's a science concepts that

450

00:18:24,430 --> 00:18:22,970

science Mission Directorate works with

451
00:18:26,110 --> 00:18:24,440
the Cadle surveys and they figure out

452
00:18:28,330 --> 00:18:26,120
what do we want to achieve in the next

453
00:18:30,490 --> 00:18:28,340
decade for certain types of science and

454
00:18:31,870 --> 00:18:30,500
so they decide what the science is then

455
00:18:33,340 --> 00:18:31,880
they put out usually put out an

456
00:18:35,070 --> 00:18:33,350
announcement of opportunity that says

457
00:18:38,290 --> 00:18:35,080
hey we have the science we want to do

458
00:18:40,630 --> 00:18:38,300
bid to it and so people come in they bid

459
00:18:43,630 --> 00:18:40,640
to it and during that process is when we

460
00:18:45,460 --> 00:18:43,640
we start so we provide an assessment of

461
00:18:47,170 --> 00:18:45,470
what launch vehicles might be in the

462
00:18:49,330 --> 00:18:47,180
market at the time that these spacecraft

463
00:18:51,280 --> 00:18:49,340

are going to fly this is like it could

464

00:18:53,380 --> 00:18:51,290

be five to eight years before they're

465

00:18:54,730 --> 00:18:53,390

gonna launch so this is a process way in

466

00:18:56,740 --> 00:18:54,740

advance and if you think about our

467

00:18:57,910 --> 00:18:56,750

current launch vehicle market we don't

468

00:18:59,470 --> 00:18:57,920

really even know what's going to be

469

00:19:02,410 --> 00:18:59,480

flying in five years right now right

470

00:19:04,260 --> 00:19:02,420

yeah crazy time right now right exactly

471

00:19:07,300 --> 00:19:04,270

you know we just finished Delta two

472

00:19:08,890 --> 00:19:07,310

Atlas five is on its way out for Vulcan

473

00:19:10,630 --> 00:19:08,900

and Blue Origin hasn't flown their new

474

00:19:12,460 --> 00:19:10,640

Glenn so so you're trying to predict

475

00:19:14,710 --> 00:19:12,470

based on what you have on contract and

476
00:19:16,210 --> 00:19:14,720
based on the market what to put in these

477
00:19:18,010 --> 00:19:16,220
announcements of opportunities so that

478
00:19:19,210 --> 00:19:18,020
the scientists can see what vehicles

479
00:19:21,640 --> 00:19:19,220
they might be flying on so that's really

480
00:19:23,440 --> 00:19:21,650
where our first entry point is in the

481
00:19:24,880 --> 00:19:23,450
process and that's usually done by

482
00:19:27,280 --> 00:19:24,890
Albert Sears group in the mission

483
00:19:28,900 --> 00:19:27,290
manager mission Management Group and so

484
00:19:30,220 --> 00:19:28,910
we start doing that and then as that

485
00:19:33,280 --> 00:19:30,230
process works through they eventually

486
00:19:35,740 --> 00:19:33,290
down select they pick a spacecraft and

487
00:19:37,510 --> 00:19:35,750
then at that point we start working with

488
00:19:39,070 --> 00:19:37,520

the spacecraft more directly to pull

489

00:19:41,410 --> 00:19:39,080

together what the requirements might be

490

00:19:43,000 --> 00:19:41,420

so that we can put a rocket out for bid

491

00:19:44,320 --> 00:19:43,010

when you see requirements give me a

492

00:19:46,090 --> 00:19:44,330

general idea or so

493

00:19:47,290 --> 00:19:46,100

so like the interfaces between the

494

00:19:49,960 --> 00:19:47,300

spacecraft and the launch people will

495

00:19:52,510 --> 00:19:49,970

say how big your spacecraft is X mass

496

00:19:54,720 --> 00:19:52,520

mass right words mentions where it's

497

00:19:57,700 --> 00:19:54,730

going yeah it's going very peculiar

498

00:19:58,270 --> 00:19:57,710

purges or yeah the size can it fit in

499

00:20:02,320 --> 00:19:58,280

common

500

00:20:04,390 --> 00:20:02,330

have right right so we start gathering

501
00:20:06,130 --> 00:20:04,400
all that information with them letting

502
00:20:07,210 --> 00:20:06,140
them understand what rockets can provide

503
00:20:09,130 --> 00:20:07,220
and they're telling us what their

504
00:20:10,750 --> 00:20:09,140
spacecraft is supposed to do we help

505
00:20:13,540 --> 00:20:10,760
them sometimes with design iterations

506
00:20:14,830 --> 00:20:13,550
because they may not know exactly how to

507
00:20:16,030 --> 00:20:14,840
design something because a lot of them

508
00:20:17,560 --> 00:20:16,040
have never been through the process

509
00:20:19,930 --> 00:20:17,570
before so we provide that stable

510
00:20:21,220 --> 00:20:19,940
interface for them so that so that we

511
00:20:23,710 --> 00:20:21,230
can give them the knowledge that we have

512
00:20:25,900 --> 00:20:23,720
so they go from that point where they're

513
00:20:27,760 --> 00:20:25,910

telling us what they might want and then

514

00:20:29,770 --> 00:20:27,770

we take all the requirements we put them

515

00:20:32,590 --> 00:20:29,780

out for bid to the contractors that we

516

00:20:35,260 --> 00:20:32,600

have on this indefinite delivery

517

00:20:38,080 --> 00:20:35,270

contract we put them out for bid bidders

518

00:20:39,850 --> 00:20:38,090

bid we go through a process six or eight

519

00:20:42,880 --> 00:20:39,860

months to be able to select the right

520

00:20:44,710 --> 00:20:42,890

rocket and then we make that selection

521

00:20:47,380 --> 00:20:44,720

and then we work with them from that

522

00:20:49,090 --> 00:20:47,390

point which is usually about 24 to 30

523

00:20:50,440 --> 00:20:49,100

months before their launch so that's

524

00:20:52,200 --> 00:20:50,450

when they're coming through their design

525

00:20:54,550 --> 00:20:52,210

process and they're trying to finalize

526

00:20:56,170 --> 00:20:54,560

their designs so that they can I think

527

00:20:58,090 --> 00:20:56,180

it's seat at the CDR point normally if

528

00:20:59,290 --> 00:20:58,100

when we make that selection so they're

529

00:21:00,700 --> 00:20:59,300

working at that point to then start

530

00:21:02,470 --> 00:21:00,710

building their spacecraft and so it's

531

00:21:03,730 --> 00:21:02,480

really important they know what rocket

532

00:21:05,650 --> 00:21:03,740

they're going to be flying on so they

533

00:21:06,820 --> 00:21:05,660

make sure they encompass the exact right

534

00:21:08,920 --> 00:21:06,830

environments that they're going to have

535

00:21:12,910 --> 00:21:08,930

and most of them are one-of-a-kind so

536

00:21:16,030 --> 00:21:12,920

it's it's truly like the first iteration

537

00:21:18,610 --> 00:21:16,040

of it so it's not like a communication

538

00:21:21,730 --> 00:21:18,620

bird words there's a production line so

539

00:21:23,830 --> 00:21:21,740

they they all are almost all unique

540

00:21:26,410 --> 00:21:23,840

other than goes and tea dress which is

541

00:21:29,260 --> 00:21:26,420

as you know close to a repeat mission as

542

00:21:32,410 --> 00:21:29,270

we get everything else is extremely

543

00:21:35,560 --> 00:21:32,420

unique so how it fits or if it fits in

544

00:21:38,620 --> 00:21:35,570

in the fairing how it fits how are you

545

00:21:41,650 --> 00:21:38,630

going to purge it where the doors are

546

00:21:43,810 --> 00:21:41,660

located all of those are like you know

547

00:21:45,820 --> 00:21:43,820

we do it for the first time each each

548

00:21:47,260 --> 00:21:45,830

and every time but so that I mean that

549

00:21:48,640 --> 00:21:47,270

also brings up another important

550

00:21:51,880 --> 00:21:48,650

important point to interrupt the whole

551
00:21:53,800 --> 00:21:51,890
process part of it is that because each

552
00:21:54,970 --> 00:21:53,810
one is unique and you know the timeline

553
00:21:56,530 --> 00:21:54,980
that we talked about five to eight years

554
00:21:58,060 --> 00:21:56,540
out some of these principle

555
00:21:59,560 --> 00:21:58,070
investigators have been working on the

556
00:22:01,870 --> 00:21:59,570
science for these missions their entire

557
00:22:03,760 --> 00:22:01,880
entire time that they have started

558
00:22:05,920 --> 00:22:03,770
through college and through their career

559
00:22:09,250 --> 00:22:05,930
so it could be 40 years yeah gravity

560
00:22:11,470 --> 00:22:09,260
probe be the guy working on it was

561
00:22:13,510 --> 00:22:11,480
it was literally 14 his whole life

562
00:22:16,120 --> 00:22:13,520
pretty much he had been working on the

563
00:22:18,220 --> 00:22:16,130

mission so so it's really for us it's

564

00:22:20,560 --> 00:22:18,230

really important that we do a good job

565

00:22:21,640 --> 00:22:20,570

of overseeing what's going on with the

566

00:22:23,650 --> 00:22:21,650

launch vehicle making sure that

567

00:22:25,000 --> 00:22:23,660

spacecraft can integrate because you

568

00:22:27,190 --> 00:22:25,010

can't you can't afford to lose that

569

00:22:33,789 --> 00:22:27,200

mission as if it's not pressure enough

570

00:22:35,590 --> 00:22:33,799

to success for a launch this guy is does

571

00:22:37,840 --> 00:22:35,600

it feel personal yeah when you think

572

00:22:39,520 --> 00:22:37,850

about like hey you're in charge of a

573

00:22:40,570 --> 00:22:39,530

program that's trying to get this guy's

574

00:22:42,760 --> 00:22:40,580

life work into space

575

00:22:45,700 --> 00:22:42,770

yes particular one was noteworthy for

576
00:22:49,450 --> 00:22:45,710
that reason and then also George Morrow

577
00:22:53,200 --> 00:22:49,460
of Goddard used this analogy one time in

578
00:22:56,320 --> 00:22:53,210
our off-site he said it's like we have a

579
00:22:59,409 --> 00:22:56,330
baby at Goddard and we've we've nurtured

580
00:23:02,049 --> 00:22:59,419
it but now it's time for us to give it

581
00:23:03,909 --> 00:23:02,059
up and we're nervous about that and

582
00:23:06,700 --> 00:23:03,919
we're handing it off to you and we need

583
00:23:10,659 --> 00:23:06,710
to know that you're gonna care for it

584
00:23:12,430 --> 00:23:10,669
like you know we did and and so that hit

585
00:23:16,120 --> 00:23:12,440
home it wasn't like it was lost on us

586
00:23:19,000 --> 00:23:16,130
but just that an al analogy was very

587
00:23:23,020 --> 00:23:19,010
very tangible yes and I think it's

588
00:23:24,820 --> 00:23:23,030

stayed with us thanks George so so we

589

00:23:26,710 --> 00:23:24,830

mentioned Mars 2020 coming up here

590

00:23:28,270 --> 00:23:26,720

really soon so thinking about other

591

00:23:30,340 --> 00:23:28,280

babies you're gonna have hand it off to

592

00:23:31,930 --> 00:23:30,350

you or are in the process of taking what

593

00:23:33,640 --> 00:23:31,940

are the ones you're excited about so

594

00:23:35,140 --> 00:23:33,650

obviously thinking a couple years out

595

00:23:38,680 --> 00:23:35,150

what what are you looking at I think we

596

00:23:41,830 --> 00:23:38,690

have nine or ten in the next 18 months

597

00:23:43,360 --> 00:23:41,840

yeah yeah yeah we do maybe a little one

598

00:23:46,030 --> 00:23:43,370

to look forward to before all of those

599

00:23:48,400 --> 00:23:46,040

big ones start is virgin orbit we've

600

00:23:50,200 --> 00:23:48,410

been working with them for a while to

601
00:23:51,640 --> 00:23:50,210
get a small launch vehicle capability in

602
00:23:53,740 --> 00:23:51,650
place we had rocket lab electron

603
00:23:55,630 --> 00:23:53,750
launched in December of last year that

604
00:23:58,060 --> 00:23:55,640
was that was the first government launch

605
00:24:00,010 --> 00:23:58,070
on an electron and that was it was

606
00:24:02,169 --> 00:24:00,020
really exciting for us it was really

607
00:24:03,700 --> 00:24:02,179
neat and so our next one would be Virgin

608
00:24:06,190 --> 00:24:03,710
orbit that is a rocket that's launched

609
00:24:07,539 --> 00:24:06,200
under an airplane and we have some coop

610
00:24:08,980 --> 00:24:07,549
sets on that to test that out so we're

611
00:24:11,039 --> 00:24:08,990
hoping to see that towards the end of

612
00:24:13,570 --> 00:24:11,049
this year as well sometime after icon

613
00:24:14,980 --> 00:24:13,580

for me I really I really am looking

614

00:24:17,020 --> 00:24:14,990

forward to March 2020 I don't want to

615

00:24:18,730 --> 00:24:17,030

beat that to death but it is really it

616

00:24:20,080 --> 00:24:18,740

is really cool so I I just talked to

617

00:24:22,210 --> 00:24:20,090

someone on the phone about it and they

618

00:24:23,049 --> 00:24:22,220

said that the scientist or maybe not so

619

00:24:28,299 --> 00:24:23,059

it

620

00:24:31,090 --> 00:24:28,309

the helicopter interesting yeah but

621

00:24:32,980 --> 00:24:31,100

there was a whole report on NPR recently

622

00:24:34,629 --> 00:24:32,990

that all they focused on was a

623

00:24:36,519 --> 00:24:34,639

helicopter because it's so exciting and

624

00:24:39,129 --> 00:24:36,529

and it's it's really it'll be really

625

00:24:42,100 --> 00:24:39,139

neat well yeah just track the public

626
00:24:44,379 --> 00:24:42,110
interest with that when wanted you know

627
00:24:48,190 --> 00:24:44,389
it's up there and starts tooling around

628
00:24:50,440 --> 00:24:48,200
there ran it'd be pretty cool other

629
00:24:53,889 --> 00:24:50,450
aspects are the missions that we've

630
00:24:56,200 --> 00:24:53,899
worked on better you know still in the

631
00:24:59,109 --> 00:24:56,210
public eye and returning science and

632
00:25:01,810 --> 00:24:59,119
stuff we even had a you know someone in

633
00:25:05,769 --> 00:25:01,820
the organization in a meeting yesterday

634
00:25:07,570 --> 00:25:05,779
and she she talked about how excited she

635
00:25:09,700 --> 00:25:07,580
gets when she's listening to the radio

636
00:25:12,070 --> 00:25:09,710
or NPR and they start talking about like

637
00:25:13,629 --> 00:25:12,080
osiris-rex in' and she's like oh I

638
00:25:16,180 --> 00:25:13,639

remember that we launched that you know

639

00:25:18,460 --> 00:25:16,190

and it's it's about to you know it's a

640

00:25:20,769 --> 00:25:18,470

round venue and it's about to go in for

641

00:25:21,659 --> 00:25:20,779

the sample in about a year so it's those

642

00:25:24,730 --> 00:25:21,669

kinds of things

643

00:25:27,090 --> 00:25:24,740

Parker going to the Sun and being able

644

00:25:29,769 --> 00:25:27,100

to talk so when we have outreach

645

00:25:31,810 --> 00:25:29,779

opportunities those are the fun things

646

00:25:33,430 --> 00:25:31,820

people love planetaries and stuff but

647

00:25:36,070 --> 00:25:33,440

all of the exciting missions there's

648

00:25:38,100 --> 00:25:36,080

always something you know that excites

649

00:25:41,549 --> 00:25:38,110

the public about about the science

650

00:25:44,889 --> 00:25:41,559

Landsat some of the we've got a few

651
00:25:47,560 --> 00:25:44,899
Earth observing coming either ocean or

652
00:25:50,320 --> 00:25:47,570
or land those those are coming those are

653
00:25:52,779 --> 00:25:50,330
pretty popular too solar orbiter in

654
00:25:55,869 --> 00:25:52,789
February that's a international

655
00:25:57,669 --> 00:25:55,879
partnership that we have and so the u.s.

656
00:25:59,350 --> 00:25:57,679
provided the rocket and the European

657
00:26:00,639 --> 00:25:59,360
Space Agency is providing the spacecraft

658
00:26:02,019 --> 00:26:00,649
so that one's going to be pretty

659
00:26:03,340 --> 00:26:02,029
exciting we'll have a lot of visitors

660
00:26:04,600 --> 00:26:03,350
here that they're going to see their

661
00:26:06,009 --> 00:26:04,610
spacecraft finally launch this one's

662
00:26:07,450 --> 00:26:06,019
been on contract for a really long time

663
00:26:08,529 --> 00:26:07,460

they've been working really hard on it

664

00:26:12,129 --> 00:26:08,539

and they're really looking forward to

665

00:26:14,590 --> 00:26:12,139

February's launch be neat as I as I

666

00:26:16,930 --> 00:26:14,600

think back on kind of the more recent

667

00:26:18,909 --> 00:26:16,940

history of rocketry and what looks like

668

00:26:21,279 --> 00:26:18,919

it's coming in the future the near

669

00:26:23,230 --> 00:26:21,289

future it seems like there's a huge

670

00:26:24,580 --> 00:26:23,240

shift in the landscape of available

671

00:26:26,470 --> 00:26:24,590

rockets

672

00:26:29,019 --> 00:26:26,480

obviously the launches themselves get

673

00:26:30,549 --> 00:26:29,029

people excited and it it feels like

674

00:26:31,990 --> 00:26:30,559

we're gonna have a very different pool

675

00:26:33,759 --> 00:26:32,000

of rockets here in the next couple years

676

00:26:36,580 --> 00:26:33,769

is that is that accurate and and how

677

00:26:39,850 --> 00:26:36,590

does that impact you all in your work

678

00:26:40,539 --> 00:26:39,860

it's very accurate in fact we're in our

679

00:26:44,320 --> 00:26:40,549

on-ramp

680

00:26:47,440 --> 00:26:44,330

period for our for our contract so every

681

00:26:51,250 --> 00:26:47,450

once a year we allow new bidders to come

682

00:26:53,680 --> 00:26:51,260

in and join the contract okay they have

683

00:26:55,330 --> 00:26:53,690

to then bid for each and every mission

684

00:26:57,370 --> 00:26:55,340

so sure they're just getting the right

685

00:26:59,860 --> 00:26:57,380

to be on the contract at this point and

686

00:27:02,409 --> 00:26:59,870

there some years go by where there's

687

00:27:08,769 --> 00:27:02,419

nobody interested in joining we've got a

688

00:27:14,769 --> 00:27:08,779

record number yeah pretty amazing so

689

00:27:16,360 --> 00:27:14,779

that tells you those kinds of things are

690

00:27:17,649 --> 00:27:16,370

really exciting for me when it's like we

691

00:27:19,200 --> 00:27:17,659

have a lot in the mix we can't talk

692

00:27:24,850 --> 00:27:19,210

about

693

00:27:26,649 --> 00:27:24,860

we're popular yeah so it's probably it's

694

00:27:27,940 --> 00:27:26,659

almost unprecedented in terms of how

695

00:27:30,700 --> 00:27:27,950

many new rockets are going to be out

696

00:27:32,649 --> 00:27:30,710

there in all different of the vehicle

697

00:27:35,320 --> 00:27:32,659

classes to so you we talked about rocket

698

00:27:37,330 --> 00:27:35,330

lab we talked about virgin orbit you

699

00:27:38,799 --> 00:27:37,340

think about blue origins bringing on the

700

00:27:41,919 --> 00:27:38,809

new Glenn which is going to be a huge

701
00:27:43,269 --> 00:27:41,929
capability ula has had rockets for many

702
00:27:45,130 --> 00:27:43,279
years between Boeing and Lockheed

703
00:27:47,409 --> 00:27:45,140
they've got a new rocket coming online

704
00:27:50,080 --> 00:27:47,419
Northrop Grumman has a new rocket coming

705
00:27:52,029 --> 00:27:50,090
online fire flies a new company that

706
00:27:53,230 --> 00:27:52,039
just took over the Delta 2 complex out

707
00:27:55,149 --> 00:27:53,240
at Vandenberg that's going to be

708
00:27:57,820 --> 00:27:55,159
launching rockets you have brand new

709
00:28:00,039 --> 00:27:57,830
ones and then incumbents that aren't

710
00:28:01,450 --> 00:28:00,049
changing there right right it's a pretty

711
00:28:02,740 --> 00:28:01,460
amazing collection of what we're gonna

712
00:28:04,180 --> 00:28:02,750
have now I'm not sure how many

713
00:28:05,620 --> 00:28:04,190

satellites are out there to be launching

714

00:28:08,680 --> 00:28:05,630

all of these so we'll have to watch and

715

00:28:11,289 --> 00:28:08,690

see which which one actually makes it

716

00:28:14,799 --> 00:28:11,299

which ones actually make it sure yeah so

717

00:28:18,070 --> 00:28:14,809

is there is there growth for LSP beyond

718

00:28:21,330 --> 00:28:18,080

simply volume of throughput or is that

719

00:28:24,340 --> 00:28:21,340

really how LSP grows into the future

720

00:28:27,970 --> 00:28:24,350

that's a good question I think when we

721

00:28:30,039 --> 00:28:27,980

think about LSP classic LSP it's really

722

00:28:31,570 --> 00:28:30,049

and it still is the core of our business

723

00:28:33,310 --> 00:28:31,580

are the science missions I mean that's

724

00:28:36,460 --> 00:28:33,320

that's why we exist that's why we

725

00:28:38,440 --> 00:28:36,470

started but the agency has expanded into

726
00:28:41,409 --> 00:28:38,450
so many other areas that are now using

727
00:28:42,639 --> 00:28:41,419
commercial rockets that it may not

728
00:28:44,919 --> 00:28:42,649
necessarily be the throughput of

729
00:28:46,600 --> 00:28:44,929
missions that we by end to end but the

730
00:28:49,930 --> 00:28:46,610
throughput of the type of service that

731
00:28:50,230 --> 00:28:49,940
we provide the agency is growing so if

732
00:28:52,360 --> 00:28:50,240
you

733
00:28:55,240 --> 00:28:52,370
get the new Artemis program boots on the

734
00:28:58,840 --> 00:28:55,250
moon 2024 going to Mars we're right now

735
00:29:01,270 --> 00:28:58,850
in the throes of teaching people what

736
00:29:03,490 --> 00:29:01,280
LSP does who don't usually deal with LSB

737
00:29:05,020 --> 00:29:03,500
and don't know what we have to offer so

738
00:29:07,110 --> 00:29:05,030

that we can make sure that we provide

739

00:29:10,510 --> 00:29:07,120

some service for their launch vehicles

740

00:29:13,150 --> 00:29:10,520

so let me ask this question because when

741

00:29:16,060 --> 00:29:13,160

I I know pretty well what LSP does and

742

00:29:18,670 --> 00:29:16,070

when I heard Moon 2024 and saw some of

743

00:29:20,710 --> 00:29:18,680

the manifest imaging come in the plans

744

00:29:23,910 --> 00:29:20,720

I was like I think LSP is about to get

745

00:29:27,010 --> 00:29:23,920

busier did you did you feel similarly

746

00:29:28,620 --> 00:29:27,020

well I think we felt the way I hope

747

00:29:30,910 --> 00:29:28,630

we're going to get some of that work

748

00:29:32,770 --> 00:29:30,920

because they are purchasing them a

749

00:29:35,550 --> 00:29:32,780

different way than normal they're buying

750

00:29:37,450 --> 00:29:35,560

an end-to-end service where typically

751

00:29:39,010 --> 00:29:37,460

science will come to us with their

752

00:29:40,660 --> 00:29:39,020

spacecraft and then we'll go buy them a

753

00:29:42,880 --> 00:29:40,670

launch vehicle in this case they're

754

00:29:45,580 --> 00:29:42,890

having the spacecraft portion of that

755

00:29:49,090 --> 00:29:45,590

buy the entire service and so what we

756

00:29:50,830 --> 00:29:49,100

are trying to manage is how do we still

757

00:29:52,630 --> 00:29:50,840

provide our mission assurance on a

758

00:29:53,080 --> 00:29:52,640

rocket that is being bought a different

759

00:29:55,630 --> 00:29:53,090

way

760

00:29:56,890 --> 00:29:55,640

and so so we do actually we are a little

761

00:29:59,170 --> 00:29:56,900

bit concerned we had a strategic

762

00:30:01,660 --> 00:29:59,180

off-site with management in May and we

763

00:30:03,280 --> 00:30:01,670

talked about how busy we're getting and

764

00:30:06,310 --> 00:30:03,290

we don't really want to grow the

765

00:30:07,810 --> 00:30:06,320

organization in size we'd rather become

766

00:30:10,330 --> 00:30:07,820

more efficient at things and then use

767

00:30:12,070 --> 00:30:10,340

the resources that we have to be able to

768

00:30:13,720 --> 00:30:12,080

do the work on the new programs but

769

00:30:16,000 --> 00:30:13,730

there is a there's a ton of work I'd say

770

00:30:17,320 --> 00:30:16,010

like you said that manifest the number

771

00:30:19,420 --> 00:30:17,330

of commercial rockets on there is

772

00:30:22,030 --> 00:30:19,430

incredible and they're all going to be

773

00:30:24,220 --> 00:30:22,040

new rockets the only one right now that

774

00:30:25,750 --> 00:30:24,230

has flown really as the as the Falcon

775

00:30:27,580 --> 00:30:25,760

Heavy right and it's only phone three

776

00:30:29,320 --> 00:30:27,590

times and there are no other rockets

777

00:30:30,730 --> 00:30:29,330

that are capable of taking these big

778

00:30:33,190 --> 00:30:30,740

masses to the moon right now other than

779

00:30:35,650 --> 00:30:33,200

SLS of course right but if there's one

780

00:30:38,920 --> 00:30:35,660

group that has the expertise and

781

00:30:42,760 --> 00:30:38,930

knowledge of either you know the current

782

00:30:44,470 --> 00:30:42,770

rockets or you know the derivatives it's

783

00:30:46,840 --> 00:30:44,480

us so we're a capability that should

784

00:30:49,390 --> 00:30:46,850

should be used and should be a big part

785

00:30:52,930 --> 00:30:49,400

of it in our minds but we do have to

786

00:30:55,150 --> 00:30:52,940

balance that work with you know the

787

00:30:59,500 --> 00:30:55,160

science which is why we're really here

788

00:31:02,080 --> 00:30:59,510

right cool so as you both individually

789

00:31:03,490 --> 00:31:02,090

look to the future is there is there

790

00:31:10,750 --> 00:31:03,500

something else is there another love

791

00:31:13,330 --> 00:31:10,760

LUP is there again oh boy then maybe

792

00:31:14,920 --> 00:31:13,340

it's retirement time I don't know one of

793

00:31:17,590 --> 00:31:14,930

the things that comes up a lot and now

794

00:31:21,790 --> 00:31:17,600

in these strategic off sites that we

795

00:31:25,030 --> 00:31:21,800

have is because a large majority of the

796

00:31:28,450 --> 00:31:25,040

management within LSP all started

797

00:31:31,930 --> 00:31:28,460

together 20 years ago we're all close to

798

00:31:34,690 --> 00:31:31,940

retirement age together and so the

799

00:31:37,300 --> 00:31:34,700

discussion quickly turns to we can't

800

00:31:39,370 --> 00:31:37,310

talk about when people are going but

801
00:31:43,480 --> 00:31:39,380
it's definitely something that's on the

802
00:31:46,900 --> 00:31:43,490
agenda of succession planning because we

803
00:31:49,720 --> 00:31:46,910
are all able in the next five years and

804
00:31:52,930 --> 00:31:49,730
if there's a mass exodus what are we

805
00:31:57,190 --> 00:31:52,940
leaving behind are we are we leaving and

806
00:31:59,290 --> 00:31:57,200
and educating the people behind us well

807
00:32:02,530 --> 00:31:59,300
enough to for them to take our place and

808
00:32:06,790 --> 00:32:02,540
keep the program running like it is so

809
00:32:09,190 --> 00:32:06,800
that's that's a constant agenda item at

810
00:32:10,990 --> 00:32:09,200
our meetings now I honestly think I have

811
00:32:12,700 --> 00:32:11,000
like the best job in the agency and I

812
00:32:14,020 --> 00:32:12,710
don't I don't see why you would want to

813
00:32:16,210 --> 00:32:14,030

go anywhere else I mean where else can

814

00:32:17,590 --> 00:32:16,220

you work with all the science missions

815

00:32:19,750 --> 00:32:17,600

all the customers that we have all the

816

00:32:22,390 --> 00:32:19,760

people that we interact with the NRO the

817

00:32:25,090 --> 00:32:22,400

Air Force everybody I'm every day is a

818

00:32:26,800 --> 00:32:25,100

challenge so I I see it as well sometime

819

00:32:29,350 --> 00:32:26,810

in that five years maybe there's some

820

00:32:31,060 --> 00:32:29,360

changes in LSP but we'll see I've been

821

00:32:38,080 --> 00:32:31,070

in e lv my whole career I'm certainly

822

00:32:42,430 --> 00:32:38,090

not going to change I'm not gonna step

823

00:32:43,930 --> 00:32:42,440

out of the way well very good I think

824

00:32:46,240 --> 00:32:43,940

you both very much obviously you guys

825

00:32:48,010 --> 00:32:46,250

put in a ton of time and effort I'm sure

826

00:32:50,290 --> 00:32:48,020

blood sweat and tears um

827

00:32:52,120 --> 00:32:50,300

so good luck the next 18 months or so

828

00:32:55,300 --> 00:32:52,130

especially obviously we'll be keeping a

829

00:32:57,460 --> 00:32:55,310

close eye on your work as new new and

830

00:32:59,380 --> 00:32:57,470

improved rockets take flight all right

831

00:33:01,780 --> 00:32:59,390

sounds great thank you thanks for having

832

00:33:06,140 --> 00:33:04,130

I'm Joshua Santora and that's our show

833

00:33:08,630 --> 00:33:06,150

thanks for stopping by the rocket ranch

834

00:33:11,060 --> 00:33:08,640

and special thanks to our guests Amanda

835

00:33:14,000 --> 00:33:11,070

Miscavige and Chuck Duvall to learn more

836

00:33:15,890 --> 00:33:14,010

about LSP visit nasa.gov/slash/launch

837

00:33:17,300 --> 00:33:15,900

services and to learn more about

838

00:33:20,290 --> 00:33:17,310

everything going on at the Kennedy Space

839

00:33:22,640 --> 00:33:20,300

Center go to [nasa.gov slash Kennedy](https://nasa.gov/Kennedy)

840

00:33:23,840 --> 00:33:22,650

check out NASA's other podcasts to learn

841

00:33:26,510 --> 00:33:23,850

more about what's happening at all of

842

00:33:28,670 --> 00:33:26,520

our centers at [nasa.gov slash podcasts](https://nasa.gov/podcasts) a

843

00:33:30,860 --> 00:33:28,680

special shout out to our producer John

844

00:33:33,440 --> 00:33:30,870

Sackman our Selman Lorne may 3 a

845

00:33:35,840 --> 00:33:33,450

determine else tone and special thanks

846

00:33:37,940 --> 00:33:35,850

to Mary McLaughlin and remember on the

847

00:33:39,030 --> 00:33:37,950

rocket ranch even the sky isn't the