



**CHRISTOPHER
COGSWELL**

1
00:00:31,189 --> 00:00:19,870

[Music]

2
00:00:33,350 --> 00:00:31,830

hello

3
00:00:36,229 --> 00:00:33,360

and welcome to the show i'm martin

4
00:00:37,750 --> 00:00:36,239

willis your host we have chris cogswell

5
00:00:38,790 --> 00:00:37,760

on the show tonight he was on a couple

6
00:00:42,069 --> 00:00:38,800

years ago

7
00:00:44,310 --> 00:00:42,079

um he's really a very

8
00:00:45,670 --> 00:00:44,320

nice guy real fun to be on the show i'm

9
00:00:48,229 --> 00:00:45,680

glad he

10
00:00:50,229 --> 00:00:48,239

chose to uh come back when i asked him

11
00:00:52,869 --> 00:00:50,239

and he is the chair

12
00:00:53,830 --> 00:00:52,879

of the science advisory board of sky hub

13
00:00:57,029 --> 00:00:53,840

this is something

14

00:00:58,950 --> 00:00:57,039

fairly new which he has gotten into and

15

00:01:01,349 --> 00:00:58,960

skyhub is a worldwide

16

00:01:03,670 --> 00:01:01,359

basically a worldwide search for ufos

17

00:01:06,550 --> 00:01:03,680

using a global network

18

00:01:07,429 --> 00:01:06,560

of machine learning smart cameras and

19

00:01:10,550 --> 00:01:07,439

sensors

20

00:01:13,270 --> 00:01:10,560

sensor arrays built by you

21

00:01:14,310 --> 00:01:13,280

yes you with uh their open source

22

00:01:16,950 --> 00:01:14,320

software

23

00:01:18,469 --> 00:01:16,960

and this is actually the the largest

24

00:01:20,310 --> 00:01:18,479

they're trying to create the largest

25

00:01:23,910 --> 00:01:20,320

observational science

26

00:01:26,710 --> 00:01:23,920

project in history wow

27

00:01:28,550 --> 00:01:26,720

that's amazing um so i have to tell you

28

00:01:31,670 --> 00:01:28,560

one of the benefits of doing

29

00:01:33,429 --> 00:01:31,680

a show like this is sometimes i get to

30

00:01:36,630 --> 00:01:33,439

see things ahead of

31

00:01:38,310 --> 00:01:36,640

uh most people and um and not i'm not

32

00:01:39,510 --> 00:01:38,320

trying to sound like i'm bragging or

33

00:01:41,590 --> 00:01:39,520

anything like that i'm just

34

00:01:44,789 --> 00:01:41,600

i'm excited to tell you that i did get

35

00:01:47,990 --> 00:01:44,799

to watch the screener for the phenomenon

36

00:01:48,550 --> 00:01:48,000

and uh it totally lives up to the great

37

00:01:51,670 --> 00:01:48,560

work

38

00:01:53,830 --> 00:01:51,680

that you would expect from james fox

39

00:01:55,109 --> 00:01:53,840

if you watched out of the blue or i know

40

00:01:56,630 --> 00:01:55,119

what i saw

41

00:01:58,789 --> 00:01:56,640

films like that that he's done in the

42

00:02:01,590 --> 00:01:58,799

past and i'll tell you at the

43

00:02:02,789 --> 00:02:01,600

ending of the movie it's very very

44

00:02:06,630 --> 00:02:02,799

moving

45

00:02:07,990 --> 00:02:06,640

and if you're newish to the ufo field

46

00:02:09,669 --> 00:02:08,000

you're not going to want to miss this

47

00:02:12,470 --> 00:02:09,679

because uh there's a

48

00:02:13,830 --> 00:02:12,480

a lot you can learn by watching this and

49

00:02:15,670 --> 00:02:13,840

i'll tell you if you were

50

00:02:17,030 --> 00:02:15,680

if you were a skeptic you'd be thinking

51
00:02:19,110 --> 00:02:17,040
twice if uh

52
00:02:21,110 --> 00:02:19,120
you know i know how a skeptic is

53
00:02:24,550 --> 00:02:21,120
probably not going to watch

54
00:02:27,510 --> 00:02:24,560
a show about ufos uh just because

55
00:02:28,150 --> 00:02:27,520
but if some do they're gonna maybe think

56
00:02:30,229 --> 00:02:28,160
twice

57
00:02:31,430 --> 00:02:30,239
a little bit on some things that are

58
00:02:35,190 --> 00:02:31,440
just really

59
00:02:39,509 --> 00:02:35,200
undeniable so you can pre-order this

60
00:02:43,190 --> 00:02:39,519
now on apple tv um amazon prime

61
00:02:45,670 --> 00:02:43,200
uh vemmo and vudu

62
00:02:46,630 --> 00:02:45,680
and i gotta tell you i got uh contact

63
00:02:49,430 --> 00:02:46,640

today from

64

00:02:50,229 --> 00:02:49,440

someone from canada um and he says

65

00:02:52,630 --> 00:02:50,239

there's

66

00:02:54,630 --> 00:02:52,640

he can't because he's canadian he can't

67

00:02:57,509 --> 00:02:54,640

order it through amazon

68

00:02:57,990 --> 00:02:57,519

ca or anything like that he's tried uh

69

00:03:00,390 --> 00:02:58,000

uh

70

00:03:01,750 --> 00:03:00,400

all the other programs and he just can't

71

00:03:04,470 --> 00:03:01,760

get through being

72

00:03:05,589 --> 00:03:04,480

from canada and i'm sorry about that and

73

00:03:09,430 --> 00:03:05,599

that message

74

00:03:11,270 --> 00:03:09,440

i sent over to get to james fox

75

00:03:13,110 --> 00:03:11,280

and uh he's going to be looking into

76

00:03:16,229 --> 00:03:13,120

that see if he can solve that

77

00:03:19,030 --> 00:03:16,239

that problem i want to thank everyone

78

00:03:21,350 --> 00:03:19,040

that listens to the show and i also want

79

00:03:24,550 --> 00:03:21,360

to thank everyone behind the scenes

80

00:03:26,949 --> 00:03:24,560

that helps out tonight we do not have

81

00:03:28,309 --> 00:03:26,959

a phone screener we do not have a phone

82

00:03:29,589 --> 00:03:28,319

there is something wrong with the phone

83

00:03:31,589 --> 00:03:29,599

system

84

00:03:33,270 --> 00:03:31,599

hopefully that will be fixed by next

85

00:03:36,630 --> 00:03:33,280

week

86

00:03:38,710 --> 00:03:36,640

and so if you are going to ask questions

87

00:03:39,750 --> 00:03:38,720

in chat please do all caps so i don't

88

00:03:41,589 --> 00:03:39,760

miss them

89

00:03:43,190 --> 00:03:41,599

and please be kind to each other and

90

00:03:46,070 --> 00:03:43,200

chat

91

00:03:47,110 --> 00:03:46,080

so also we have a very active facebook

92

00:03:49,030 --> 00:03:47,120

page

93

00:03:50,550 --> 00:03:49,040

and this show is actually playing

94

00:03:53,750 --> 00:03:50,560

simulcast on facebook

95

00:03:57,750 --> 00:03:53,760

as well and that's at

96

00:03:59,429 --> 00:03:57,760

basically facebook slash podcast ufo.com

97

00:04:02,390 --> 00:03:59,439

there's about 20 some odd thousand

98

00:04:04,309 --> 00:04:02,400

people over there it's pretty active

99

00:04:05,589 --> 00:04:04,319

a lot of times there's new news put up

100

00:04:07,990 --> 00:04:05,599

there

101
00:04:09,830 --> 00:04:08,000
i want to thank everyone also that helps

102
00:04:10,789 --> 00:04:09,840
support the show i really couldn't do it

103
00:04:12,869 --> 00:04:10,799
without you

104
00:04:15,110 --> 00:04:12,879
and anyone can support the show for two

105
00:04:16,870 --> 00:04:15,120
dollars or more a month

106
00:04:20,229 --> 00:04:16,880
and you can find that on our patreon

107
00:04:22,469 --> 00:04:20,239
link over there at podcastufo.com

108
00:04:24,629 --> 00:04:22,479
and while you're there check out the

109
00:04:27,909 --> 00:04:24,639
latest blog by charles lear

110
00:04:29,909 --> 00:04:27,919
it's titled michigan ufos on radar and

111
00:04:33,030 --> 00:04:29,919
it's about a night back in

112
00:04:36,150 --> 00:04:33,040
march i guess it was march 8 1994

113
00:04:38,550 --> 00:04:36,160

meteorologist jack bushong

114

00:04:39,670 --> 00:04:38,560

was manning the national weather service

115

00:04:42,790 --> 00:04:39,680

office

116

00:04:45,590 --> 00:04:42,800

and he saw

117

00:04:47,110 --> 00:04:45,600

after he was contacted about some ufos

118

00:04:48,629 --> 00:04:47,120

he actually saw them on radar it's a

119

00:04:50,150 --> 00:04:48,639

very interesting story

120

00:04:51,909 --> 00:04:50,160

and as i mentioned here in the last

121

00:04:54,629 --> 00:04:51,919

number of shows

122

00:04:56,230 --> 00:04:54,639

charles lear the author of the blog is

123

00:04:58,310 --> 00:04:56,240

creating an audio blog that's going to

124

00:04:59,909 --> 00:04:58,320

be posted here in youtube also wherever

125

00:05:03,670 --> 00:04:59,919

you get your podcast

126

00:05:06,790 --> 00:05:03,680

um it's going to be in that feed as well

127

00:05:10,230 --> 00:05:06,800

and let's see um i think

128

00:05:13,270 --> 00:05:10,240

that is going to just about do it for

129

00:05:16,070 --> 00:05:13,280

us and let me do a little

130

00:05:18,070 --> 00:05:16,080

of an adjustment here and actually you

131

00:05:19,990 --> 00:05:18,080

can see on youtube you can see my green

132

00:05:20,790 --> 00:05:20,000

screen i had a better green screen

133

00:05:23,270 --> 00:05:20,800

background

134

00:05:24,790 --> 00:05:23,280

but it kind of like went berserk just as

135

00:05:25,430 --> 00:05:24,800

i was starting the show so i changed it

136

00:05:27,270 --> 00:05:25,440

to

137

00:05:28,550 --> 00:05:27,280

looks like i'm in the garden here i'm

138

00:05:30,150 --> 00:05:28,560

going to be working on that making it

139

00:05:30,790 --> 00:05:30,160

better and now for now we're bringing

140

00:05:33,909 --> 00:05:30,800

our guest

141

00:05:36,070 --> 00:05:33,919

chris cogswell welcome to the show hey

142

00:05:38,469 --> 00:05:36,080

martin thanks so much for having me

143

00:05:39,189 --> 00:05:38,479

thank you i guess it's been two years at

144

00:05:42,230 --> 00:05:39,199

times

145

00:05:44,230 --> 00:05:42,240

flying a lot has happened yeah i guess

146

00:05:46,310 --> 00:05:44,240

so it's been it's been a while

147

00:05:47,909 --> 00:05:46,320

more more than i expected it had been

148

00:05:48,790 --> 00:05:47,919

actually time flies when you're having

149

00:05:51,670 --> 00:05:48,800

fun i guess

150

00:05:53,749 --> 00:05:51,680

yeah a lot's happened in this uh in the

151

00:05:55,909 --> 00:05:53,759

ufo field it seems like

152

00:05:58,070 --> 00:05:55,919

you know there's something going on

153

00:05:59,990 --> 00:05:58,080

almost on a weekly basis

154

00:06:01,590 --> 00:06:00,000

that is uh that is true yeah stuff

155

00:06:02,950 --> 00:06:01,600

happens um

156

00:06:05,670 --> 00:06:02,960

oh my goodness i don't know stuff just

157

00:06:07,350 --> 00:06:05,680

goes crazy you know stuff

158

00:06:09,830 --> 00:06:07,360

stuff happens all the time here so it's

159

00:06:12,150 --> 00:06:09,840

pretty intense but we are we're excited

160

00:06:12,870 --> 00:06:12,160

to be uh helping out as as much as we

161

00:06:14,390 --> 00:06:12,880

can so

162

00:06:16,150 --> 00:06:14,400

right and we're gonna be talking about

163

00:06:17,189 --> 00:06:16,160

that now you went to the same school my

164

00:06:21,029 --> 00:06:17,199

son did it first

165

00:06:22,870 --> 00:06:21,039

unh and uh and uh yeah wildcats

166

00:06:24,950 --> 00:06:22,880

yeah we go wildcats there we go we're

167

00:06:27,350 --> 00:06:24,960

like to here

168

00:06:28,309 --> 00:06:27,360

and uh you got your phd i forget where

169

00:06:29,749 --> 00:06:28,319

did you get that

170

00:06:32,309 --> 00:06:29,759

i got my phd from northeastern

171

00:06:35,749 --> 00:06:32,319

university oh nice school great school

172

00:06:37,510 --> 00:06:35,759

yeah and and uh and what did what did

173

00:06:40,469 --> 00:06:37,520

you get the phd in

174

00:06:42,390 --> 00:06:40,479

my phd is in chemical engineering so my

175

00:06:43,909 --> 00:06:42,400

my thesis focused on the creation of

176

00:06:45,510 --> 00:06:43,919

nanomaterials so we worked on things

177

00:06:48,790 --> 00:06:45,520

called metal organic frameworks

178

00:06:52,309 --> 00:06:48,800

and layered zeolites so think

179

00:06:53,990 --> 00:06:52,319

uh layers of stuff one to two nanometers

180

00:06:56,390 --> 00:06:54,000

thick stacked on top of each other and

181

00:06:58,469 --> 00:06:56,400

engineered for specific purposes so

182

00:06:59,990 --> 00:06:58,479

yeah well anyone could do that yeah it's

183

00:07:02,230 --> 00:07:00,000

you know what it's actually funny i

184

00:07:03,990 --> 00:07:02,240

i always joke with people if you read my

185

00:07:05,270 --> 00:07:04,000

thesis it sounds so complicated or some

186

00:07:06,550 --> 00:07:05,280

of the papers that i've published

187

00:07:08,950 --> 00:07:06,560

it sounds very complicated but

188

00:07:11,670 --> 00:07:08,960

ultimately if you can bake a cake you

189

00:07:13,350 --> 00:07:11,680

can bake it in a material

190

00:07:14,790 --> 00:07:13,360

that's good to know we might all have to

191

00:07:18,390 --> 00:07:14,800

do that at some point here we go

192

00:07:20,309 --> 00:07:18,400

you never know so basically can you tell

193

00:07:21,589 --> 00:07:20,319

us your background for the i i've

194

00:07:23,189 --> 00:07:21,599

mentioned this almost every show i have

195

00:07:25,510 --> 00:07:23,199

a lot of new listeners

196

00:07:26,790 --> 00:07:25,520

and uh someone most people or a lot of

197

00:07:28,790 --> 00:07:26,800

people that listen to the show have

198

00:07:30,070 --> 00:07:28,800

never heard you before really don't know

199

00:07:32,790 --> 00:07:30,080

how you get into the ufo

200

00:07:34,950 --> 00:07:32,800

topic or other topics so you talk about

201
00:07:36,550 --> 00:07:34,960
quite a few things on your show the mad

202
00:07:38,629 --> 00:07:36,560
scientist is that what that's called

203
00:07:40,629 --> 00:07:38,639
matt scientist podcast the mad scientist

204
00:07:43,029 --> 00:07:40,639
podcast yeah so

205
00:07:43,670 --> 00:07:43,039
i kind of got involved i guess you know

206
00:07:47,350 --> 00:07:43,680
because

207
00:07:49,909 --> 00:07:47,360
specifically

208
00:07:51,270 --> 00:07:49,919
um so my family is originally my mom's

209
00:07:53,430 --> 00:07:51,280
side of the family at least the side

210
00:07:56,550 --> 00:07:53,440
that i kind of grew up with and around

211
00:08:00,390 --> 00:07:56,560
is originally from italy and so my mom

212
00:08:02,070 --> 00:08:00,400
has in her family they have a lot of

213
00:08:03,589 --> 00:08:02,080

like anyone who's family is from you

214

00:08:05,589 --> 00:08:03,599

know they're immigrants from other

215

00:08:08,390 --> 00:08:05,599

countries i think there's a lot of

216

00:08:09,749 --> 00:08:08,400

um a lot of kind of different cultures

217

00:08:12,710 --> 00:08:09,759

and things and kind of

218

00:08:13,510 --> 00:08:12,720

is standard to say the normal middle

219

00:08:16,309 --> 00:08:13,520

america

220

00:08:17,270 --> 00:08:16,319

view of things and part of that is a

221

00:08:20,550 --> 00:08:17,280

very heavy

222

00:08:23,589 --> 00:08:20,560

emphasis on spirituality and

223

00:08:25,270 --> 00:08:23,599

on not even just spirituality but i

224

00:08:27,430 --> 00:08:25,280

would almost say superstition

225

00:08:29,430 --> 00:08:27,440

that there is you know my grandma had a

226

00:08:31,830 --> 00:08:29,440

lot of ideas about stuff that worked

227

00:08:33,509 --> 00:08:31,840

that probably didn't work but she swear

228

00:08:36,949 --> 00:08:33,519

swore they did so you know

229

00:08:39,029 --> 00:08:36,959

things like um she would make every day

230

00:08:40,389 --> 00:08:39,039

for herself kind of a concoction of like

231

00:08:43,350 --> 00:08:40,399

lemons and yogurt

232

00:08:44,470 --> 00:08:43,360

and onion and like you know herbs and

233

00:08:46,070 --> 00:08:44,480

stuff and whatever

234

00:08:47,509 --> 00:08:46,080

and she would eat that every morning

235

00:08:49,509 --> 00:08:47,519

despite it tasting terrible because she

236

00:08:51,430 --> 00:08:49,519

was like this is what's keeping me alive

237

00:08:53,350 --> 00:08:51,440

is she still alive like at 100 something

238

00:08:55,750 --> 00:08:53,360

she's my grandma passed away

239

00:08:57,350 --> 00:08:55,760

actually a couple of years ago now but

240

00:08:59,190 --> 00:08:57,360

she was like 95.

241

00:09:00,710 --> 00:08:59,200

all right see everyone she works so

242

00:09:02,630 --> 00:09:00,720

maybe it works i don't know

243

00:09:04,389 --> 00:09:02,640

what i mean i really i should get out of

244

00:09:07,430 --> 00:09:04,399

the podcast game and get into the

245

00:09:09,110 --> 00:09:07,440

curdled yogurt game clearly you know uh

246

00:09:12,310 --> 00:09:09,120

dr cogswell's magic

247

00:09:14,230 --> 00:09:12,320

lemon uh formula you know but uh

248

00:09:16,150 --> 00:09:14,240

but so for through her and then through

249

00:09:17,750 --> 00:09:16,160

my mom who my mom has always kind of

250

00:09:19,910 --> 00:09:17,760

been open to

251
00:09:21,590 --> 00:09:19,920
you know spirituality and new age ideas

252
00:09:23,030 --> 00:09:21,600
and things like that and also was always

253
00:09:25,670 --> 00:09:23,040
really into sci-fi

254
00:09:26,790 --> 00:09:25,680
and horror movies and all that when i

255
00:09:31,110 --> 00:09:26,800
was a kid

256
00:09:33,030 --> 00:09:31,120
um you know she was really open to me

257
00:09:34,550 --> 00:09:33,040
reading about like new religions and new

258
00:09:37,030 --> 00:09:34,560
ideas and stuff like that

259
00:09:38,790 --> 00:09:37,040
and and as a little kid who was really

260
00:09:39,990 --> 00:09:38,800
interested in science fiction and

261
00:09:43,030 --> 00:09:40,000
science

262
00:09:46,230 --> 00:09:43,040
the ufo topic was kind of a no-brainer

263
00:09:48,389 --> 00:09:46,240

because it was you know of those

264

00:09:51,910 --> 00:09:48,399

subjects we can think of as being

265

00:09:55,590 --> 00:09:51,920

sort of uh 40 and mysterious whatever

266

00:09:57,269 --> 00:09:55,600

the ufo subject is the closest uh

267

00:09:59,030 --> 00:09:57,279

in my mind has always been the closest

268

00:10:00,710 --> 00:09:59,040

to being real you know what i mean

269

00:10:01,590 --> 00:10:00,720

there's the best evidence for it in my

270

00:10:04,550 --> 00:10:01,600

mind

271

00:10:06,470 --> 00:10:04,560

um and so i always loved the topic and

272

00:10:08,389 --> 00:10:06,480

just sort of got

273

00:10:10,470 --> 00:10:08,399

you know once i ordered once i had that

274

00:10:14,389 --> 00:10:10,480

first book and heard the first story

275

00:10:17,430 --> 00:10:14,399

uh there was no going back yeah

276

00:10:19,430 --> 00:10:17,440

yeah there are there's so many there's

277

00:10:21,190 --> 00:10:19,440

so many compelling stories

278

00:10:22,870 --> 00:10:21,200

this really you know it can't be denied

279

00:10:25,509 --> 00:10:22,880

the edge i was just kind of reminded

280

00:10:27,030 --> 00:10:25,519

of that after i watched james fox you

281

00:10:30,630 --> 00:10:27,040

know latest movie

282

00:10:31,509 --> 00:10:30,640

that there's just so many in that movie

283

00:10:35,110 --> 00:10:31,519

there's just

284

00:10:38,069 --> 00:10:35,120

uh and it's quite a compilation of of uh

285

00:10:40,630 --> 00:10:38,079

you know sightings and witnesses and

286

00:10:42,310 --> 00:10:40,640

there wasn't one witness in that

287

00:10:43,910 --> 00:10:42,320

entire movie that i thought well you

288

00:10:44,389 --> 00:10:43,920

know maybe i don't believe him i'm i

289

00:10:46,310 --> 00:10:44,399

mean they're

290

00:10:47,829 --> 00:10:46,320

all so believable there's really

291

00:10:51,590 --> 00:10:47,839

something happening

292

00:10:52,069 --> 00:10:51,600

and uh undeniable sure yeah it's hard

293

00:10:54,069 --> 00:10:52,079

you know

294

00:10:56,310 --> 00:10:54,079

that's the one thing to me that has

295

00:10:59,910 --> 00:10:56,320

always been so interesting is

296

00:11:01,269 --> 00:10:59,920

and it's part of why i got involved in

297

00:11:02,150 --> 00:11:01,279

you know so your listeners may not know

298

00:11:03,350 --> 00:11:02,160

this so i got

299

00:11:05,910 --> 00:11:03,360

i originally got involved in this

300

00:11:06,550 --> 00:11:05,920

subject actually at unh doing philosophy

301
00:11:10,310 --> 00:11:06,560
research

302
00:11:12,150 --> 00:11:10,320
on science and technology and and why

303
00:11:13,350 --> 00:11:12,160
certain scientific ideas are accepted

304
00:11:15,670 --> 00:11:13,360
and others aren't

305
00:11:17,590 --> 00:11:15,680
and then i went to grad school obviously

306
00:11:19,990 --> 00:11:17,600
and in grad school i missed

307
00:11:21,430 --> 00:11:20,000
talking about this sort of subject so i

308
00:11:23,430 --> 00:11:21,440
decided to

309
00:11:25,030 --> 00:11:23,440
start my podcast which is the mad

310
00:11:27,190 --> 00:11:25,040
scientist podcast

311
00:11:28,389 --> 00:11:27,200
and on that show we talk about kind of

312
00:11:29,829 --> 00:11:28,399
the scientific

313
00:11:32,069 --> 00:11:29,839

you know ideas and philosophy and

314

00:11:33,750 --> 00:11:32,079

everything else behind these subjects

315

00:11:36,310 --> 00:11:33,760

and one thing we always talk about on

316

00:11:38,870 --> 00:11:36,320

the show is the fact that you know

317

00:11:40,790 --> 00:11:38,880

if you have a single weird event case or

318

00:11:43,110 --> 00:11:40,800

even like just a cluster of cases

319

00:11:44,150 --> 00:11:43,120

that it's interesting but still

320

00:11:46,630 --> 00:11:44,160

explainable

321

00:11:49,750 --> 00:11:46,640

but when you have something like the ufo

322

00:11:52,949 --> 00:11:49,760

subject which appears to span

323

00:11:54,629 --> 00:11:52,959

decades upon decades of of information

324

00:11:56,150 --> 00:11:54,639

thousands of people every year report

325

00:11:57,829 --> 00:11:56,160

something um

326

00:11:59,509 --> 00:11:57,839

you know families have consistent

327

00:12:01,350 --> 00:11:59,519

experiences over time

328

00:12:02,949 --> 00:12:01,360

it is very interesting and i think very

329

00:12:04,790 --> 00:12:02,959

compelling um

330

00:12:07,269 --> 00:12:04,800

and part of the reason why i became

331

00:12:10,310 --> 00:12:07,279

involved in groups like say sky hub

332

00:12:12,870 --> 00:12:10,320

or even the scu before it or even the

333

00:12:15,990 --> 00:12:12,880

little bit that i was at move on

334

00:12:19,030 --> 00:12:16,000

the goal has always been to try and

335

00:12:19,910 --> 00:12:19,040

use big data methodologies and data

336

00:12:22,949 --> 00:12:19,920

analytics

337

00:12:23,509 --> 00:12:22,959

to cut through the noise you know you

338

00:12:26,710 --> 00:12:23,519

can

339

00:12:29,030 --> 00:12:26,720

disbelieve

340

00:12:30,790 --> 00:12:29,040

a single case even if the witness is

341

00:12:32,069 --> 00:12:30,800

stellar even if there's evidence for the

342

00:12:34,629 --> 00:12:32,079

case right

343

00:12:36,310 --> 00:12:34,639

but what you can't ignore is a continued

344

00:12:38,310 --> 00:12:36,320

pattern of cases

345

00:12:40,550 --> 00:12:38,320

that to me is really the goal with these

346

00:12:44,150 --> 00:12:40,560

subjects like this

347

00:12:47,430 --> 00:12:44,160

yeah i mean you're right i mean just for

348

00:12:49,110 --> 00:12:47,440

70 years you know uh and long before

349

00:12:52,550 --> 00:12:49,120

that but i mean like a steady

350

00:12:55,030 --> 00:12:52,560

70 years more or less now with your

351
00:12:56,389 --> 00:12:55,040
your your background and you just talked

352
00:12:59,990 --> 00:12:56,399
about your thesis

353
00:13:01,910 --> 00:13:00,000
um the let's just say like uh

354
00:13:03,509 --> 00:13:01,920
nano metamaterials i don't even know if

355
00:13:06,710 --> 00:13:03,519
that's quite the right

356
00:13:09,750 --> 00:13:06,720
term but um would you think that if

357
00:13:11,750 --> 00:13:09,760
we had crash material

358
00:13:13,910 --> 00:13:11,760
like that it's been talked about you

359
00:13:16,389 --> 00:13:13,920
know quite a bit lately in the news and

360
00:13:17,030 --> 00:13:16,399
you know the new york times and all that

361
00:13:20,629 --> 00:13:17,040
um

362
00:13:21,670 --> 00:13:20,639
if we actually had a crashed vehicle is

363
00:13:23,829 --> 00:13:21,680

that what we'd look for

364

00:13:25,430 --> 00:13:23,839

something very strange that would have

365

00:13:30,069 --> 00:13:25,440

to be manufactured

366

00:13:31,590 --> 00:13:30,079

and or could it you know i mean

367

00:13:34,870 --> 00:13:31,600

they could be using the same material we

368

00:13:35,670 --> 00:13:34,880

would use also yeah so that's a really

369

00:13:37,190 --> 00:13:35,680

it's a really

370

00:13:39,750 --> 00:13:37,200

good question and it's a very

371

00:13:40,790 --> 00:13:39,760

complicated it has a lot of parts it has

372

00:13:44,470 --> 00:13:40,800

a lot of moving parts

373

00:13:48,230 --> 00:13:47,030

you know the example i give is just

374

00:13:50,629 --> 00:13:48,240

imagine

375

00:13:52,629 --> 00:13:50,639

you know if we think that as a

376

00:13:53,910 --> 00:13:52,639

civilization or a species that is able

377

00:13:58,550 --> 00:13:53,920

to travel here

378

00:14:01,350 --> 00:13:58,560

from far away um they would have to be

379

00:14:02,629 --> 00:14:01,360

thousands of years advanced from us even

380

00:14:04,389 --> 00:14:02,639

given the curve of the way the

381

00:14:05,990 --> 00:14:04,399

technology progresses here

382

00:14:07,509 --> 00:14:06,000

we would think that it would it would

383

00:14:08,870 --> 00:14:07,519

have to be at least a couple thousand

384

00:14:11,910 --> 00:14:08,880

years

385

00:14:13,990 --> 00:14:11,920

uh potentially if we just think about

386

00:14:15,189 --> 00:14:14,000

let's do something relatively simple a

387

00:14:19,910 --> 00:14:15,199

cd-rom

388

00:14:23,110 --> 00:14:19,920

someone a hundred years ago

389

00:14:23,829 --> 00:14:23,120

right so just a laserdisc cd-rom they

390

00:14:26,550 --> 00:14:23,839

would have

391

00:14:29,030 --> 00:14:26,560

no idea what it was for right they would

392

00:14:31,030 --> 00:14:29,040

have no there'd be no concept even about

393

00:14:32,069 --> 00:14:31,040

this is for storing information or this

394

00:14:34,230 --> 00:14:32,079

is for

395

00:14:35,829 --> 00:14:34,240

um you know as far as they're aware it

396

00:14:38,150 --> 00:14:35,839

maybe is a kind of mirror

397

00:14:39,030 --> 00:14:38,160

maybe it's like a flying like it's a toy

398

00:14:41,509 --> 00:14:39,040

like right there

399

00:14:42,790 --> 00:14:41,519

it's hard to grasp even the point of the

400

00:14:45,030 --> 00:14:42,800

material

401
00:14:47,430 --> 00:14:45,040
but what they would be able to tell is

402
00:14:49,590 --> 00:14:47,440
that the material has clearly

403
00:14:51,590 --> 00:14:49,600
been engineered in some way so what i

404
00:14:54,389 --> 00:14:51,600
mean by that is for example

405
00:14:55,110 --> 00:14:54,399
the um the layers the layer itself of

406
00:14:58,150 --> 00:14:55,120
the material

407
00:15:01,269 --> 00:14:58,160
very

408
00:15:02,710 --> 00:15:01,279
specifically built right in a way that

409
00:15:05,110 --> 00:15:02,720
we don't anticipate would happen in

410
00:15:06,629 --> 00:15:05,120
nature there may be

411
00:15:08,550 --> 00:15:06,639
um properties of the material for

412
00:15:12,389 --> 00:15:08,560
example on a laser

413
00:15:14,629 --> 00:15:12,399

or on a disk rather on a cd-rom the um

414

00:15:15,430 --> 00:15:14,639

the surface has been polished to such an

415

00:15:17,110 --> 00:15:15,440

extent

416

00:15:18,870 --> 00:15:17,120

and it's been made defect-free as

417

00:15:20,150 --> 00:15:18,880

defect-free as we can

418

00:15:22,230 --> 00:15:20,160

um that is something that we don't

419

00:15:23,829 --> 00:15:22,240

expect to occur in nature so

420

00:15:25,189 --> 00:15:23,839

i would argue that if we're looking at a

421

00:15:26,389 --> 00:15:25,199

crashed material or if we're looking at

422

00:15:27,590 --> 00:15:26,399

a crashed vehicle

423

00:15:29,990 --> 00:15:27,600

we probably would be looking for

424

00:15:30,870 --> 00:15:30,000

materials and so although we may not

425

00:15:34,550 --> 00:15:30,880

know what they're

426

00:15:36,550 --> 00:15:34,560

used for what their application is

427

00:15:37,990 --> 00:15:36,560

we should be able to tell at least these

428

00:15:39,430 --> 00:15:38,000

have been engineered these have been

429

00:15:41,430 --> 00:15:39,440

made in a way that we don't expect to

430

00:15:43,749 --> 00:15:41,440

happen on earth yeah

431

00:15:45,749 --> 00:15:43,759

but you know uh and i hear a lot of

432

00:15:48,790 --> 00:15:45,759

times when people are speculating that

433

00:15:50,230 --> 00:15:48,800

you know there's almost like we know

434

00:15:52,150 --> 00:15:50,240

about all the elements so

435

00:15:54,470 --> 00:15:52,160

these elements could be used anywhere

436

00:15:55,829 --> 00:15:54,480

you know from anywhere in the universe

437

00:15:57,910 --> 00:15:55,839

or they could be from right here so

438

00:16:00,150 --> 00:15:57,920

there's no way of knowing but uh

439

00:16:01,910 --> 00:16:00,160

you know i would imagine that it's

440

00:16:03,350 --> 00:16:01,920

possible that there are some elements

441

00:16:05,990 --> 00:16:03,360

that we haven't discovered yet

442

00:16:08,069 --> 00:16:06,000

i mean in or elements in parts of the

443

00:16:11,189 --> 00:16:08,079

universe that may not be

444

00:16:12,470 --> 00:16:11,199

uh here so besides just so okay the

445

00:16:14,710 --> 00:16:12,480

elements

446

00:16:16,230 --> 00:16:14,720

there are we anticipate that there would

447

00:16:18,949 --> 00:16:16,240

be elements above say

448

00:16:19,509 --> 00:16:18,959

element i think it's like 118 which are

449

00:16:20,870 --> 00:16:19,519

stable

450

00:16:23,030 --> 00:16:20,880

it's called the island of stability

451

00:16:24,629 --> 00:16:23,040

which is this idea in atomic

452

00:16:26,389 --> 00:16:24,639

chemistry and kind of nuclear physics

453

00:16:28,790 --> 00:16:26,399

nuclear chemistry

454

00:16:30,230 --> 00:16:28,800

that these elements would be more stable

455

00:16:31,189 --> 00:16:30,240

than say the radioactive elements we

456

00:16:33,030 --> 00:16:31,199

know today

457

00:16:34,470 --> 00:16:33,040

right there is a limit though on how

458

00:16:35,990 --> 00:16:34,480

stable something could be

459

00:16:37,990 --> 00:16:36,000

but there are some theories out there

460

00:16:39,990 --> 00:16:38,000

that maybe there is chemistry

461

00:16:42,150 --> 00:16:40,000

of these super heavy elements right for

462

00:16:43,269 --> 00:16:42,160

example that's one potential thing

463

00:16:45,350 --> 00:16:43,279

but we don't even have to get that

464

00:16:47,749 --> 00:16:45,360

complicated um we

465

00:16:49,590 --> 00:16:47,759

don't you know when a meteorite crashes

466

00:16:49,990 --> 00:16:49,600

on earth today or when a piece of space

467

00:16:52,710 --> 00:16:50,000

debris

468

00:16:53,269 --> 00:16:52,720

crashes on the earth today researchers

469

00:16:55,030 --> 00:16:53,279

on earth

470

00:16:56,790 --> 00:16:55,040

actually get that material and then

471

00:16:59,910 --> 00:16:56,800

they'll study it for

472

00:17:00,870 --> 00:16:59,920

crystal structures alloys material

473

00:17:02,710 --> 00:17:00,880

phases

474

00:17:05,110 --> 00:17:02,720

things like that which don't normally

475

00:17:06,789 --> 00:17:05,120

occur on the surface of the earth

476

00:17:09,270 --> 00:17:06,799

right so that's actually how a lot of

477

00:17:12,549 --> 00:17:09,280

research into things like say

478

00:17:14,309 --> 00:17:12,559

metal or rather magnets today occur

479

00:17:15,669 --> 00:17:14,319

or other kind of high performance

480

00:17:17,429 --> 00:17:15,679

materials or alloys

481

00:17:18,710 --> 00:17:17,439

are not really alloys they're crystal

482

00:17:19,829 --> 00:17:18,720

structures or semi-crystalline

483

00:17:22,390 --> 00:17:19,839

structures

484

00:17:23,990 --> 00:17:22,400

we look to see are there combinations

485

00:17:26,150 --> 00:17:24,000

that occur someplace else

486

00:17:27,990 --> 00:17:26,160

that don't normally occur on earth right

487

00:17:32,310 --> 00:17:28,000

and what i mean by what i mean by

488

00:17:35,110 --> 00:17:32,320

um what i mean by say a combination

489

00:17:35,669 --> 00:17:35,120

is something like um actually this might

490

00:17:38,470 --> 00:17:35,679

be a good

491

00:17:39,350 --> 00:17:38,480

a good chance to show my screen yeah

492

00:17:41,430 --> 00:17:39,360

sure

493

00:17:42,870 --> 00:17:41,440

so just remember you can choose the

494

00:17:44,390 --> 00:17:42,880

window or tap

495

00:17:46,310 --> 00:17:44,400

perfect yeah actually let me let me

496

00:17:49,430 --> 00:17:46,320

share my screen here

497

00:17:49,990 --> 00:17:49,440

and i'm going to do the whole screen and

498

00:17:51,750 --> 00:17:50,000

nothing but

499

00:17:53,350 --> 00:17:51,760

share this the whole screen is nothing

500

00:17:55,909 --> 00:17:53,360

but the screen right

501
00:17:56,950 --> 00:17:55,919
okay you ready great yep i'm ready all

502
00:17:59,510 --> 00:17:56,960
right

503
00:18:01,190 --> 00:17:59,520
um okay let me just uh switch these two

504
00:18:03,669 --> 00:18:01,200
hang on

505
00:18:05,029 --> 00:18:03,679
let's not let me do it wonder why so

506
00:18:07,909 --> 00:18:05,039
miniaturize yourself

507
00:18:08,390 --> 00:18:07,919
um if you can you'll see a place where

508
00:18:12,830 --> 00:18:08,400
you can

509
00:18:16,150 --> 00:18:12,840
pop yourself out uh down at the bottom

510
00:18:20,310 --> 00:18:16,160
um i don't want to remove you yeah

511
00:18:22,710 --> 00:18:20,320
let me see if i can uh there we go

512
00:18:23,350 --> 00:18:22,720
okay are we good yep we're good perfect

513
00:18:26,630 --> 00:18:23,360

okay great

514

00:18:27,350 --> 00:18:26,640

so um this is for example the crystal

515

00:18:29,669 --> 00:18:27,360

structure of

516

00:18:30,630 --> 00:18:29,679

sodium chloride which is just table salt

517

00:18:32,310 --> 00:18:30,640

right

518

00:18:34,230 --> 00:18:32,320

and you'll notice that these sodium and

519

00:18:36,870 --> 00:18:34,240

chloride ions

520

00:18:37,830 --> 00:18:36,880

they actually exist um in a repetitive

521

00:18:39,029 --> 00:18:37,840

structure

522

00:18:41,190 --> 00:18:39,039

right because it's a crystal it's a

523

00:18:42,070 --> 00:18:41,200

crystalline structure but you can

524

00:18:43,990 --> 00:18:42,080

imagine

525

00:18:45,909 --> 00:18:44,000

that if instead of it being sodium

526

00:18:49,430 --> 00:18:45,919

chlorine sodium chlorine

527

00:18:51,830 --> 00:18:49,440

it was say sodium nothing

528

00:18:53,590 --> 00:18:51,840

chlorine nothing sodium right so you can

529

00:18:56,310 --> 00:18:53,600

have different permutations

530

00:18:57,590 --> 00:18:56,320

of the same of the same molecule or of

531

00:19:00,630 --> 00:18:57,600

the same crystal

532

00:19:01,270 --> 00:19:00,640

that form in different ways so and that

533

00:19:03,909 --> 00:19:01,280

would give us

534

00:19:04,870 --> 00:19:03,919

different um what's the word that would

535

00:19:06,549 --> 00:19:04,880

give us different

536

00:19:08,150 --> 00:19:06,559

ultimate properties of the final

537

00:19:10,390 --> 00:19:08,160

material

538

00:19:12,549 --> 00:19:10,400

so even though we might know all the

539

00:19:13,669 --> 00:19:12,559

elements we can't possibly know

540

00:19:16,070 --> 00:19:13,679

all of the different ways that they'll

541

00:19:17,830 --> 00:19:16,080

be put together ah and so

542

00:19:20,070 --> 00:19:17,840

and even in solid materials that are

543

00:19:22,070 --> 00:19:20,080

simple right so sodium chloride

544

00:19:23,990 --> 00:19:22,080

we know that it has this phase let's say

545

00:19:27,510 --> 00:19:24,000

right so we can do here like

546

00:19:30,710 --> 00:19:27,520

phase diagram let's say steel

547

00:19:34,310 --> 00:19:30,720

right so we know for example steel

548

00:19:36,630 --> 00:19:34,320

is a certain structure right important

549

00:19:37,990 --> 00:19:36,640

all of these different uh phases here

550

00:19:40,950 --> 00:19:38,000

right gamma or austenite

551
00:19:41,990 --> 00:19:40,960
steel um here we have alpha plus iron

552
00:19:44,310 --> 00:19:42,000
carbon steel

553
00:19:45,669 --> 00:19:44,320
or ferrite steel right depending on the

554
00:19:48,630 --> 00:19:45,679
conditions

555
00:19:49,990 --> 00:19:48,640
steel ends up becoming different solid

556
00:19:52,870 --> 00:19:50,000
structures

557
00:19:55,029 --> 00:19:52,880
and so this is for example an area where

558
00:19:57,510 --> 00:19:55,039
we might expect there to be

559
00:20:00,150 --> 00:19:57,520
um new materials that we would get from

560
00:20:03,430 --> 00:20:00,160
say a crashed saucer or something

561
00:20:05,669 --> 00:20:03,440
would be okay maybe we have a good idea

562
00:20:07,669 --> 00:20:05,679
that this is how iron behaves in these

563
00:20:09,270 --> 00:20:07,679

regions of temperature and pressure

564

00:20:11,830 --> 00:20:09,280

right or temperature and composition in

565

00:20:12,470 --> 00:20:11,840

this case but maybe there's a region

566

00:20:14,549 --> 00:20:12,480

someplace

567

00:20:16,390 --> 00:20:14,559

here for example you know we've never

568

00:20:18,070 --> 00:20:16,400

studied all of these areas

569

00:20:19,990 --> 00:20:18,080

on this graph right so there might be

570

00:20:22,149 --> 00:20:20,000

places that are

571

00:20:23,830 --> 00:20:22,159

uh that come up with what are called new

572

00:20:25,270 --> 00:20:23,840

thermodynamic phases

573

00:20:27,510 --> 00:20:25,280

of these crystals or these solid

574

00:20:28,390 --> 00:20:27,520

structures that we don't anticipate

575

00:20:31,430 --> 00:20:28,400

occurring

576

00:20:31,990 --> 00:20:31,440

on earth you know so i see there might

577

00:20:33,590 --> 00:20:32,000

be

578

00:20:35,110 --> 00:20:33,600

imagine the temperature if we're at very

579

00:20:36,710 --> 00:20:35,120

very high temperatures

580

00:20:38,310 --> 00:20:36,720

there might be completely different

581

00:20:39,909 --> 00:20:38,320

phases of steel

582

00:20:42,149 --> 00:20:39,919

that we've never discovered we've never

583

00:20:43,750 --> 00:20:42,159

worked on before just because we've

584

00:20:45,590 --> 00:20:43,760

never tried it so

585

00:20:47,590 --> 00:20:45,600

you know we anyone who tells you we know

586

00:20:48,950 --> 00:20:47,600

everything about the earth right now

587

00:20:51,190 --> 00:20:48,960

we know everything about science we know

588

00:20:52,870 --> 00:20:51,200

whatever you know peop

589

00:20:54,950 --> 00:20:52,880

people have been claiming that we know

590

00:20:57,430 --> 00:20:54,960

everything about the physical world

591

00:20:58,070 --> 00:20:57,440

since ancient greece and they've never

592

00:21:00,149 --> 00:20:58,080

been right

593

00:21:02,230 --> 00:21:00,159

and they will never be right you know

594

00:21:04,549 --> 00:21:02,240

there's always something new to learn so

595

00:21:05,510 --> 00:21:04,559

yeah it's a good it's a great question

596

00:21:08,549 --> 00:21:05,520

though

597

00:21:09,750 --> 00:21:08,559

yeah well i i i think it is it is

598

00:21:12,230 --> 00:21:09,760

interesting when you

599

00:21:13,190 --> 00:21:12,240

you really think about um you know you

600

00:21:14,470 --> 00:21:13,200

just mentioned the different

601
00:21:17,830 --> 00:21:14,480
temperatures and things

602
00:21:20,230 --> 00:21:17,840
like that uh that can cause uh

603
00:21:21,669 --> 00:21:20,240
uh but also that you're saying that

604
00:21:23,270 --> 00:21:21,679
things could be put together

605
00:21:26,070 --> 00:21:23,280
in different ways that we're just not

606
00:21:28,310 --> 00:21:26,080
familiar with is that kind of word um

607
00:21:30,230 --> 00:21:28,320
absolutely yeah yes absolutely you know

608
00:21:31,110 --> 00:21:30,240
the another good example from baking

609
00:21:33,669 --> 00:21:31,120
again because i'm

610
00:21:35,510 --> 00:21:33,679
i'm a simple man i love cake and pies

611
00:21:37,909 --> 00:21:35,520
and everything else right i love baking

612
00:21:39,190 --> 00:21:37,919
so another good example of baking is you

613
00:21:43,430 --> 00:21:39,200

can imagine

614

00:21:44,789 --> 00:21:43,440

you can have flour eggs milk and butter

615

00:21:45,909 --> 00:21:44,799

but you can put them together in

616

00:21:47,750 --> 00:21:45,919

different ways and bake them at

617

00:21:50,630 --> 00:21:47,760

different temperatures and times and

618

00:21:52,230 --> 00:21:50,640

and and everything else and you can get

619

00:21:53,029 --> 00:21:52,240

completely different results right you

620

00:21:57,830 --> 00:21:53,039

can get

621

00:21:59,990 --> 00:21:57,840

let in regular cake and

622

00:22:01,110 --> 00:22:00,000

whatever right um creams and all this

623

00:22:03,270 --> 00:22:01,120

other kind of stuff

624

00:22:04,549 --> 00:22:03,280

so really when it comes to making

625

00:22:06,310 --> 00:22:04,559

materials

626

00:22:08,390 --> 00:22:06,320

it is a lot more complicated than just

627

00:22:09,350 --> 00:22:08,400

the elements put together right it's the

628

00:22:11,270 --> 00:22:09,360

elements

629

00:22:13,270 --> 00:22:11,280

it's the time that you give them to

630

00:22:14,789 --> 00:22:13,280

build it's the temperature it's the

631

00:22:16,870 --> 00:22:14,799

pressure it's the

632

00:22:18,070 --> 00:22:16,880

mixture ratios it's all of those other

633

00:22:20,310 --> 00:22:18,080

things right

634

00:22:21,190 --> 00:22:20,320

um so yeah no there are there are loads

635

00:22:22,549 --> 00:22:21,200

of other

636

00:22:25,350 --> 00:22:22,559

phases of material that we haven't

637

00:22:26,789 --> 00:22:25,360

discovered yet all right well i it looks

638

00:22:28,549 --> 00:22:26,799

like someone in the chat room's getting

639

00:22:31,029 --> 00:22:28,559

right into your

640

00:22:31,909 --> 00:22:31,039

skyhub i want to talk about that he has

641

00:22:34,470 --> 00:22:31,919

a question for you

642

00:22:35,510 --> 00:22:34,480

about the cameras but let's uh why don't

643

00:22:37,110 --> 00:22:35,520

we jump into that

644

00:22:38,630 --> 00:22:37,120

we got plenty plenty of time to talk

645

00:22:41,909 --> 00:22:38,640

about all kinds of things

646

00:22:45,029 --> 00:22:41,919

but uh let's talk about sky hub and

647

00:22:47,510 --> 00:22:45,039

and how that all began uh the founder

648

00:22:48,710 --> 00:22:47,520

contacted you or how did that happen

649

00:22:50,310 --> 00:22:48,720

yeah so skyhub

650

00:22:51,830 --> 00:22:50,320

actually it's funny there have been for

651
00:22:54,710 --> 00:22:51,840
a long time there have been

652
00:22:55,350 --> 00:22:54,720
a couple of well for a long time um

653
00:22:57,110 --> 00:22:55,360
there have been

654
00:22:58,950 --> 00:22:57,120
efforts in the past to do something

655
00:23:01,350 --> 00:22:58,960
similar to what skyhub is doing now

656
00:23:02,710 --> 00:23:01,360
right yeah um so actually the first one

657
00:23:03,510 --> 00:23:02,720
of the first systems that was built to

658
00:23:05,750 --> 00:23:03,520
do this

659
00:23:07,830 --> 00:23:05,760
was called a baker none camera system

660
00:23:10,070 --> 00:23:07,840
and that was built in like the 1960s

661
00:23:11,510 --> 00:23:10,080
1950s by nasa

662
00:23:13,830 --> 00:23:11,520
and what they were trying to do was

663
00:23:14,950 --> 00:23:13,840

actually to study um the motion of

664

00:23:16,149 --> 00:23:14,960

satellites

665

00:23:18,070 --> 00:23:16,159

right because this was the first time

666

00:23:19,669 --> 00:23:18,080

that this had happened we suddenly have

667

00:23:21,669 --> 00:23:19,679

things flying in the sky above us all

668

00:23:23,270 --> 00:23:21,679

the time in near-earth atmosphere

669

00:23:24,870 --> 00:23:23,280

so they would develop these systems to

670

00:23:26,470 --> 00:23:24,880

try to try to track

671

00:23:27,990 --> 00:23:26,480

how those objects are moving in in the

672

00:23:29,830 --> 00:23:28,000

sky um

673

00:23:31,190 --> 00:23:29,840

over time obviously the technology

674

00:23:33,430 --> 00:23:31,200

that's needed for this

675

00:23:34,310 --> 00:23:33,440

has gotten better and better and better

676

00:23:37,350 --> 00:23:34,320

so

677

00:23:38,549 --> 00:23:37,360

the um the system that we use today at

678

00:23:41,750 --> 00:23:38,559

sky hub

679

00:23:44,789 --> 00:23:41,760

is a you know

680

00:23:47,669 --> 00:23:44,799

the computer itself is very small it is

681

00:23:48,149 --> 00:23:47,679

maybe about three inches by four inches

682

00:23:50,230 --> 00:23:48,159

uh

683

00:23:51,350 --> 00:23:50,240

large so it's a very small system it's a

684

00:23:53,110 --> 00:23:51,360

very small unit

685

00:23:54,870 --> 00:23:53,120

um i actually have one running right now

686

00:23:56,230 --> 00:23:54,880

just right on my windowsill

687

00:23:57,510 --> 00:23:56,240

um currently that's why i'm looking at

688

00:23:58,070 --> 00:23:57,520

it to be like how big is that thing

689

00:24:01,430 --> 00:23:58,080

about three

690

00:24:04,630 --> 00:24:01,440

by five um and you know so

691

00:24:05,990 --> 00:24:04,640

this effort essentially though really

692

00:24:09,350 --> 00:24:06,000

kind of started

693

00:24:10,950 --> 00:24:09,360

um as the brainchild

694

00:24:12,950 --> 00:24:10,960

of a couple of folks on our team

695

00:24:14,310 --> 00:24:12,960

currently so the

696

00:24:16,070 --> 00:24:14,320

the people that kind of really put this

697

00:24:18,710 --> 00:24:16,080

together right now

698

00:24:20,070 --> 00:24:18,720

are steve mcdaniel corey gaspard and

699

00:24:22,070 --> 00:24:20,080

then adam allen

700

00:24:23,510 --> 00:24:22,080

um who actually were working in another

701
00:24:25,190 --> 00:24:23,520
group previous to this

702
00:24:26,870 --> 00:24:25,200
but decided to kind of break off and do

703
00:24:29,430 --> 00:24:26,880
their own thing um

704
00:24:30,470 --> 00:24:29,440
and so steve and corey are really the

705
00:24:32,950 --> 00:24:30,480
the kind of

706
00:24:33,510 --> 00:24:32,960
uh steve cory and al and adam i should

707
00:24:36,149 --> 00:24:33,520
say

708
00:24:38,310 --> 00:24:36,159
are the the co-founders of this group um

709
00:24:40,310 --> 00:24:38,320
steve is the lead software developer

710
00:24:42,310 --> 00:24:40,320
corey is the lead web developer or web

711
00:24:44,149 --> 00:24:42,320
developer and then adam it does legal

712
00:24:45,510 --> 00:24:44,159
affairs and data licensing for us

713
00:24:47,110 --> 00:24:45,520

and then as we were as they were

714

00:24:48,470 --> 00:24:47,120

building their team they actually

715

00:24:49,830 --> 00:24:48,480

approached me a couple of times and

716

00:24:50,950 --> 00:24:49,840

asked would you want to be

717

00:24:52,390 --> 00:24:50,960

you know on the team would you want to

718

00:24:53,990 --> 00:24:52,400

be chair of the science advisory board

719

00:24:55,590 --> 00:24:54,000

would you want to do these other things

720

00:24:57,430 --> 00:24:55,600

and actually the first couple of times i

721

00:24:59,190 --> 00:24:57,440

i turned them down because i was like

722

00:25:01,110 --> 00:24:59,200

well you're making a lot of promises but

723

00:25:01,430 --> 00:25:01,120

i want to see some results right i want

724

00:25:04,549 --> 00:25:01,440

to

725

00:25:05,190 --> 00:25:04,559

does this thing work does it work um and

726

00:25:08,630 --> 00:25:05,200

they have

727

00:25:11,669 --> 00:25:08,640

that in fact it does work and

728

00:25:13,669 --> 00:25:11,679

not only um not only does it work but

729

00:25:15,269 --> 00:25:13,679

someone who is as bad with computers as

730

00:25:16,149 --> 00:25:15,279

i am can put one together and have it

731

00:25:19,750 --> 00:25:16,159

running

732

00:25:21,750 --> 00:25:19,760

so um we're we're pretty excited so

733

00:25:23,190 --> 00:25:21,760

anyways they asked me to take part in

734

00:25:25,350 --> 00:25:23,200

this and i accepted

735

00:25:26,390 --> 00:25:25,360

and since then now we have been uh kind

736

00:25:27,830 --> 00:25:26,400

of moving forward

737

00:25:29,669 --> 00:25:27,840

we've added onto the team a couple of

738

00:25:31,830 --> 00:25:29,679

other people as we go forward here

739

00:25:33,510 --> 00:25:31,840

um richard hoff has been helping us with

740

00:25:35,110 --> 00:25:33,520

machining and design of the actual

741

00:25:38,549 --> 00:25:35,120

enclosures themselves

742

00:25:41,909 --> 00:25:38,559

so the system the the kind of computer

743

00:25:43,830 --> 00:25:41,919

um the cameras the gps the sensor

744

00:25:47,029 --> 00:25:43,840

modules all of those things

745

00:25:49,669 --> 00:25:47,039

are um we wanted to use as

746

00:25:51,190 --> 00:25:49,679

uh basically as cheap options as we

747

00:25:53,590 --> 00:25:51,200

could while they're still

748

00:25:54,390 --> 00:25:53,600

formidable enough to do what we want

749

00:25:55,830 --> 00:25:54,400

them to do

750

00:25:57,590 --> 00:25:55,840

they still have the computing power we

751

00:26:00,950 --> 00:25:57,600

need and they're still able to kind of

752

00:26:04,310 --> 00:26:00,960

exist out there in the elements

753

00:26:07,430 --> 00:26:04,320

yeah well these can be in in and out

754

00:26:09,190 --> 00:26:07,440

the any any elements like in alaska or

755

00:26:11,830 --> 00:26:09,200

someplace like that

756

00:26:12,870 --> 00:26:11,840

um so we haven't tested them in alaska

757

00:26:15,350 --> 00:26:12,880

yet

758

00:26:17,029 --> 00:26:15,360

but the goal would be here that they

759

00:26:19,830 --> 00:26:17,039

would be able to withstand

760

00:26:20,310 --> 00:26:19,840

um kind of average ranges of temperature

761

00:26:26,630 --> 00:26:20,320

and

762

00:26:29,830 --> 00:26:26,640

things like that so

763

00:26:32,390 --> 00:26:29,840

currently we have them running um

764

00:26:34,710 --> 00:26:32,400

in so we have a couple in texas we have

765

00:26:37,269 --> 00:26:34,720

one here in massachusetts where i am

766

00:26:39,029 --> 00:26:37,279

we have one in delaware um and then we

767

00:26:40,630 --> 00:26:39,039

have one in austria and i want to say we

768

00:26:43,909 --> 00:26:40,640

have one in france as well

769

00:26:45,269 --> 00:26:43,919

so far wow um the team we haven't

770

00:26:47,110 --> 00:26:45,279

officially launched yet

771

00:26:48,870 --> 00:26:47,120

these are all tests uh these are all

772

00:26:51,190 --> 00:26:48,880

test devices right now

773

00:26:52,789 --> 00:26:51,200

i see um to do this um however as

774

00:26:54,149 --> 00:26:52,799

someone in the chat actually smartly has

775

00:26:57,269 --> 00:26:54,159

pointed out already

776
00:26:59,590 --> 00:26:57,279
we are essentially utilizing um the goal

777
00:27:00,710 --> 00:26:59,600
so let me start from the beginning here

778
00:27:03,990 --> 00:27:00,720
a little bit more

779
00:27:06,070 --> 00:27:04,000
uh successfully i'll say um one of the

780
00:27:08,870 --> 00:27:06,080
main problems with

781
00:27:10,870 --> 00:27:08,880
the ufo subject for a long time has been

782
00:27:11,990 --> 00:27:10,880
when there have been serious efforts to

783
00:27:15,350 --> 00:27:12,000
collect data

784
00:27:16,950 --> 00:27:15,360
the data ends up going into a black box

785
00:27:18,870 --> 00:27:16,960
so for example if we think about you

786
00:27:20,789 --> 00:27:18,880
know

787
00:27:22,310 --> 00:27:20,799
large organizations that actually study

788
00:27:24,149 --> 00:27:22,320

you know ufo cases

789

00:27:26,070 --> 00:27:24,159

that data never makes its way out there

790

00:27:27,350 --> 00:27:26,080

to the public and it's really hard to

791

00:27:30,389 --> 00:27:27,360

get access to

792

00:27:32,389 --> 00:27:30,399

um on the other hand when there have

793

00:27:35,430 --> 00:27:32,399

been scientific efforts to do this work

794

00:27:35,990 --> 00:27:35,440

say through um through the government or

795

00:27:37,909 --> 00:27:36,000

through

796

00:27:40,310 --> 00:27:37,919

you know organizations or universities

797

00:27:41,830 --> 00:27:40,320

or whatever again that data has never

798

00:27:43,110 --> 00:27:41,840

really been made available to the

799

00:27:46,470 --> 00:27:43,120

average person

800

00:27:49,510 --> 00:27:46,480

so the goal here is um

801
00:27:52,230 --> 00:27:49,520
the goal here is to create a open source

802
00:27:53,750 --> 00:27:52,240
data science platform where people can

803
00:27:55,669 --> 00:27:53,760
build these themselves

804
00:27:57,110 --> 00:27:55,679
they can then capture the video

805
00:27:59,430 --> 00:27:57,120
themselves if they want

806
00:28:00,870 --> 00:27:59,440
they can upload them onto our system so

807
00:28:02,630 --> 00:28:00,880
that we can analyze them

808
00:28:04,549 --> 00:28:02,640
and have them kind of come together into

809
00:28:06,789 --> 00:28:04,559
one larger system

810
00:28:08,710 --> 00:28:06,799
and then that data as we go through it

811
00:28:10,470 --> 00:28:08,720
will be made available to the public

812
00:28:12,149 --> 00:28:10,480
right so the goal here eventually is

813
00:28:14,470 --> 00:28:12,159

that if we have one of these things

814

00:28:16,710 --> 00:28:14,480

running and it's out there in the fields

815

00:28:18,310 --> 00:28:16,720

you'll be able to get that data right

816

00:28:20,310 --> 00:28:18,320

you you watching right now

817

00:28:21,750 --> 00:28:20,320

on this video you in the chat will be

818

00:28:23,750 --> 00:28:21,760

able to log on to that system and

819

00:28:25,510 --> 00:28:23,760

see the data that's coming in um that's

820

00:28:25,750 --> 00:28:25,520

really the ultimate goal here is to make

821

00:28:29,350 --> 00:28:25,760

an

822

00:28:31,990 --> 00:28:29,360

open source um relatively inexpensive

823

00:28:33,190 --> 00:28:32,000

freely available database of software

824

00:28:35,669 --> 00:28:33,200

that people can install

825

00:28:38,149 --> 00:28:35,679

onto their linux machines so we use a

826

00:28:39,669 --> 00:28:38,159

jets and nano currently

827

00:28:41,029 --> 00:28:39,679

but they can follow along on the wiki

828

00:28:42,389 --> 00:28:41,039

they can get the information on how to

829

00:28:44,789 --> 00:28:42,399

build these things

830

00:28:46,230 --> 00:28:44,799

and then um it'll run based on the

831

00:28:48,549 --> 00:28:46,240

software that we've built

832

00:28:49,510 --> 00:28:48,559

and are going to deploy to the public

833

00:28:51,750 --> 00:28:49,520

now um

834

00:28:53,269 --> 00:28:51,760

i'm on your checking out your site now

835

00:28:55,110 --> 00:28:53,279

are you going to have

836

00:28:56,789 --> 00:28:55,120

like a system where someone can log in

837

00:28:58,470 --> 00:28:56,799

eventually

838

00:29:00,710 --> 00:28:58,480

or is that is just going to be plain

839

00:29:02,870 --> 00:29:00,720

open to you know i'm just thinking about

840

00:29:04,789 --> 00:29:02,880

how people can submit

841

00:29:06,630 --> 00:29:04,799

you know like if they become part of the

842

00:29:07,590 --> 00:29:06,640

part of the program or whatever someone

843

00:29:09,990 --> 00:29:07,600

wants to have a

844

00:29:11,510 --> 00:29:10,000

camera i mean i live in this great area

845

00:29:13,269 --> 00:29:11,520

up in maine on the coast

846

00:29:15,750 --> 00:29:13,279

where i can see the milky way it's so

847

00:29:16,149 --> 00:29:15,760

clear you know uh clear skies not saying

848

00:29:17,830 --> 00:29:16,159

that

849

00:29:20,870 --> 00:29:17,840

just because i can see the milky way i'm

850

00:29:22,789 --> 00:29:20,880

going to see ufos but

851
00:29:24,710 --> 00:29:22,799
no the so the goal would be basically

852
00:29:26,549 --> 00:29:24,720
it's okay the way that it works

853
00:29:28,630 --> 00:29:26,559
is let me show you my let me show my

854
00:29:30,549 --> 00:29:28,640
screen again actually sure you bet

855
00:29:34,070 --> 00:29:30,559
so people can kind of see what i'm going

856
00:29:40,389 --> 00:29:37,190
so you ready can i yep i'm ready

857
00:29:41,510 --> 00:29:40,399
okay okay so if people go to skyhub.org

858
00:29:43,350 --> 00:29:41,520
which is our website

859
00:29:45,430 --> 00:29:43,360
they can see here join the chat and then

860
00:29:47,110 --> 00:29:45,440
they can also download the source code

861
00:29:49,029 --> 00:29:47,120
so if they want to be part of the chat

862
00:29:50,549 --> 00:29:49,039
they just click on join the chat here

863
00:29:52,870 --> 00:29:50,559

and it'll it'll bring them to what is

864

00:29:54,310 --> 00:29:52,880

called rocket chat which is up here

865

00:29:56,870 --> 00:29:54,320

um and this is the tool that we

866

00:29:58,549 --> 00:29:56,880

currently are using right to do our chat

867

00:30:00,310 --> 00:29:58,559

um our chat stuff and all the work that

868

00:30:01,510 --> 00:30:00,320

we've actually been doing as we move

869

00:30:03,590 --> 00:30:01,520

forward

870

00:30:04,630 --> 00:30:03,600

if you want to learn how to build one of

871

00:30:07,190 --> 00:30:04,640

these things

872

00:30:09,510 --> 00:30:07,200

you would go here to resources and go

873

00:30:12,149 --> 00:30:09,520

here to the wiki page

874

00:30:13,669 --> 00:30:12,159

so on the skyhub wiki here we have a

875

00:30:14,870 --> 00:30:13,679

thing that says okay how you can get

876

00:30:17,110 --> 00:30:14,880

involved of course

877

00:30:19,269 --> 00:30:17,120

but we also have here guides so if you

878

00:30:21,350 --> 00:30:19,279

go to guides

879

00:30:23,269 --> 00:30:21,360

we have how to set up your tracker how

880

00:30:24,549 --> 00:30:23,279

to download and use the main interface

881

00:30:26,549 --> 00:30:24,559

for skyhub

882

00:30:28,310 --> 00:30:26,559

how to build your enclosure and then how

883

00:30:31,110 --> 00:30:28,320

to do final checks and tests

884

00:30:31,830 --> 00:30:31,120

before the tracker becomes deployed so

885

00:30:35,190 --> 00:30:31,840

to speak

886

00:30:36,389 --> 00:30:35,200

right so tracker setup here you can see

887

00:30:37,750 --> 00:30:36,399

here what we need so you need these

888

00:30:38,950 --> 00:30:37,760

internet cables you need the barrel

889

00:30:41,430 --> 00:30:38,960

jacks these screws

890

00:30:42,950 --> 00:30:41,440

etc etc but we talked about how to build

891

00:30:44,070 --> 00:30:42,960

this right so here we have the jets and

892

00:30:46,310 --> 00:30:44,080

nano platform

893

00:30:47,269 --> 00:30:46,320

you apply the fan then you can set up

894

00:30:50,310 --> 00:30:47,279

your psu

895

00:30:53,510 --> 00:30:50,320

or you can just use the power connected

896

00:30:56,070 --> 00:30:53,520

to your wall set up your sd card

897

00:30:57,430 --> 00:30:56,080

right and run the actual um nano system

898

00:31:00,710 --> 00:30:57,440

itself to begin with

899

00:31:02,549 --> 00:31:00,720

and then set up your gps right so

900

00:31:03,750 --> 00:31:02,559

what would this for just for the

901
00:31:06,470 --> 00:31:03,760
listener out there

902
00:31:08,070 --> 00:31:06,480
right now what would this uh pro what

903
00:31:10,230 --> 00:31:08,080
would be the approximate cost is

904
00:31:11,830 --> 00:31:10,240
to set this up for someone that is

905
00:31:13,990 --> 00:31:11,840
really interested in helping out

906
00:31:14,950 --> 00:31:14,000
yeah great question so the goal is to

907
00:31:18,630 --> 00:31:14,960
make the system

908
00:31:21,029 --> 00:31:18,640
cost about 300 now

909
00:31:22,149 --> 00:31:21,039
what we are that 300 though doesn't go

910
00:31:25,669 --> 00:31:22,159
to us right

911
00:31:28,149 --> 00:31:25,679
that 300 goes to getting the fan getting

912
00:31:29,430 --> 00:31:28,159
the ps getting the actual system itself

913
00:31:32,070 --> 00:31:29,440

getting all the cords you need getting

914

00:31:33,750 --> 00:31:32,080

the camera right all those other things

915

00:31:36,470 --> 00:31:33,760

the goal really or really the challenge

916

00:31:38,789 --> 00:31:36,480

i guess is building a system like this

917

00:31:39,509 --> 00:31:38,799

that is accessible enough to average

918

00:31:41,110 --> 00:31:39,519

people

919

00:31:42,389 --> 00:31:41,120

you know none of us on the team are

920

00:31:44,149 --> 00:31:42,399

millionaires right we don't have

921

00:31:45,190 --> 00:31:44,159

unlimited funds to build these things

922

00:31:49,029 --> 00:31:45,200

and everything else

923

00:31:51,430 --> 00:31:49,039

um you know the sky hub the sky hub um

924

00:31:53,190 --> 00:31:51,440

system right now that i have you know

925

00:31:54,710 --> 00:31:53,200

that money came out of my beer fund you

926
00:31:56,470 --> 00:31:54,720
know what i mean

927
00:31:58,630 --> 00:31:56,480
that's you know it's you know it's for

928
00:32:01,190 --> 00:31:58,640
the love of science though so it's fun

929
00:32:02,149 --> 00:32:01,200
but um you know it's we want it to be

930
00:32:04,470 --> 00:32:02,159
accessible to people

931
00:32:05,909 --> 00:32:04,480
so you can build it you can run it we'll

932
00:32:07,430 --> 00:32:05,919
help you troubleshoot we'll help you set

933
00:32:10,389 --> 00:32:07,440
it up all those other things

934
00:32:12,549 --> 00:32:10,399
but the bare minimum system that we

935
00:32:15,190 --> 00:32:12,559
suggest would be about 300

936
00:32:16,870 --> 00:32:15,200
now like i said though um if you have

937
00:32:17,509 --> 00:32:16,880
extra money lying around if you're you

938
00:32:23,909 --> 00:32:17,519

know a

939

00:32:25,509 --> 00:32:23,919

uh startup millionaire or whatever you

940

00:32:27,029 --> 00:32:25,519

can buy better system equipment right

941

00:32:28,870 --> 00:32:27,039

like you can buy a better camera

942

00:32:31,430 --> 00:32:28,880

you can buy a better gps you can buy a

943

00:32:34,549 --> 00:32:31,440

better computer to run this thing on

944

00:32:36,549 --> 00:32:34,559

all of that is also possible but

945

00:32:39,190 --> 00:32:36,559

we want to have a minimum standard

946

00:32:40,549 --> 00:32:39,200

whereby the vast majority of people

947

00:32:41,990 --> 00:32:40,559

can buy the stuff they can put it

948

00:32:42,630 --> 00:32:42,000

together themselves and they can run

949

00:32:46,710 --> 00:32:42,640

this

950

00:32:48,630 --> 00:32:46,720

stuff is kind of out of the box right

951
00:32:51,830 --> 00:32:48,640
it's supposed to be plug and play

952
00:32:54,870 --> 00:32:51,840
what we are actually giving though is

953
00:32:56,070 --> 00:32:54,880
the um the software itself

954
00:32:57,750 --> 00:32:56,080
right so if you go to our git lab

955
00:32:59,269 --> 00:32:57,760
repository you can see all of the

956
00:33:01,750 --> 00:32:59,279
software all the code

957
00:33:02,470 --> 00:33:01,760
that we our team has built essentially

958
00:33:05,750 --> 00:33:02,480
right it's

959
00:33:07,430 --> 00:33:05,760
it's quite a bit um of code the the team

960
00:33:10,549 --> 00:33:07,440
has been working really hard

961
00:33:12,149 --> 00:33:10,559
um and there's a lot there but once

962
00:33:14,149 --> 00:33:12,159
you've run it essentially

963
00:33:16,310 --> 00:33:14,159

um you can then access your skyhub

964

00:33:18,149 --> 00:33:16,320

system and then you can basically

965

00:33:19,830 --> 00:33:18,159

uh you can basically run the camera

966

00:33:23,669 --> 00:33:19,840

itself

967

00:33:28,230 --> 00:33:26,630

no i have not okay someone uh was asking

968

00:33:29,909 --> 00:33:28,240

it's some type of system someone was

969

00:33:32,789 --> 00:33:29,919

asking why you wouldn't use that

970

00:33:33,590 --> 00:33:32,799

um so i it's nothing i'm familiar with

971

00:33:35,269 --> 00:33:33,600

so yeah so

972

00:33:37,269 --> 00:33:35,279

most of the reason why we're using kind

973

00:33:38,149 --> 00:33:37,279

of what we're using actually is because

974

00:33:40,789 --> 00:33:38,159

it will connect

975

00:33:42,470 --> 00:33:40,799

nice and easily to the sensor platforms

976

00:33:44,630 --> 00:33:42,480

that we're hoping to utilize

977

00:33:45,520 --> 00:33:44,640

so right now the current system so let

978

00:33:47,909 --> 00:33:45,530

me go here

979

00:33:50,230 --> 00:33:47,919

[Music]

980

00:33:51,590 --> 00:33:50,240

here so sensor array right let me just

981

00:33:53,590 --> 00:33:51,600

mention this to um

982

00:33:54,870 --> 00:33:53,600

i'd say about eighty percent of the

983

00:33:56,870 --> 00:33:54,880

listens to the show is

984

00:33:59,110 --> 00:33:56,880

probably through the audio podcast so

985

00:34:02,310 --> 00:33:59,120

i'm gonna have a link in the show notes

986

00:34:03,909 --> 00:34:02,320

to the skyhub.org so you can check out

987

00:34:04,789 --> 00:34:03,919

everything that uh chris is talking

988

00:34:07,909 --> 00:34:04,799

about right now

989

00:34:09,190 --> 00:34:07,919

yeah really really good call there so um

990

00:34:10,149 --> 00:34:09,200

the reason we're using the stuff that

991

00:34:13,270 --> 00:34:10,159

we're using currently

992

00:34:13,990 --> 00:34:13,280

is because we are we are in development

993

00:34:16,629 --> 00:34:14,000

currently

994

00:34:18,950 --> 00:34:16,639

with building further sensor systems

995

00:34:20,950 --> 00:34:18,960

right so example here this wit motion

996

00:34:23,589 --> 00:34:20,960

does um kind of the motion or the

997

00:34:25,669 --> 00:34:23,599

movement of the box itself right

998

00:34:27,030 --> 00:34:25,679

some of these here temperature sensors

999

00:34:28,310 --> 00:34:27,040

are eventually we're hoping to have

1000

00:34:30,310 --> 00:34:28,320

things like infrared

1001

00:34:31,510 --> 00:34:30,320

um or other radio signals or

1002

00:34:32,869 --> 00:34:31,520

electromagnetic

1003

00:34:35,349 --> 00:34:32,879

spectrum signals that we can do we have

1004

00:34:36,550 --> 00:34:35,359

gps we have these other expansions and

1005

00:34:38,389 --> 00:34:36,560

things like that so there's a lot of

1006

00:34:39,750 --> 00:34:38,399

sensors that we can play with here

1007

00:34:41,990 --> 00:34:39,760

um we're thinking about like stuff like

1008

00:34:44,310 --> 00:34:42,000

geophones and uh

1009

00:34:46,310 --> 00:34:44,320

you know geiger counters and all the

1010

00:34:49,510 --> 00:34:46,320

kind of sensors you can think of

1011

00:34:51,990 --> 00:34:49,520

but really for the first system here um

1012

00:34:52,790 --> 00:34:52,000

it's it's simple right it's a camera it

1013

00:34:56,149 --> 00:34:52,800

is a

1014

00:34:57,349 --> 00:34:56,159

uh a gps uh dongle essentially and it's

1015

00:34:59,750 --> 00:34:57,359

the computer itself

1016

00:35:01,349 --> 00:34:59,760

that's the base level system you need

1017

00:35:03,430 --> 00:35:01,359

now the ultimate goal

1018

00:35:05,109 --> 00:35:03,440

of the system here so let me show you a

1019

00:35:06,950 --> 00:35:05,119

little bit about

1020

00:35:08,390 --> 00:35:06,960

so this is what we envision the ultimate

1021

00:35:09,750 --> 00:35:08,400

enclosure will look like

1022

00:35:11,750 --> 00:35:09,760

um there actually is one of these

1023

00:35:12,550 --> 00:35:11,760

already in existence living out in

1024

00:35:14,950 --> 00:35:12,560

austria

1025

00:35:16,470 --> 00:35:14,960

um which is really cool but so if you

1026
00:35:18,310 --> 00:35:16,480
look at the system here so this is a

1027
00:35:21,190 --> 00:35:18,320
fisheye camera

1028
00:35:22,870 --> 00:35:21,200
and then this is a pzt camera what the

1029
00:35:24,790 --> 00:35:22,880
software actually does is as

1030
00:35:26,630 --> 00:35:24,800
an object comes into the field of view

1031
00:35:28,870 --> 00:35:26,640
of the fisheye camera

1032
00:35:31,270 --> 00:35:28,880
it treats that as a point source and

1033
00:35:33,430 --> 00:35:31,280
then it will tell the pzt camera

1034
00:35:36,150 --> 00:35:33,440
to point over to that point source and

1035
00:35:38,310 --> 00:35:36,160
then track it as it moves across the sky

1036
00:35:40,550 --> 00:35:38,320
currently what works right now or what

1037
00:35:41,750 --> 00:35:40,560
is in the first release of the system at

1038
00:35:44,150 --> 00:35:41,760

this point in time

1039

00:35:45,829 --> 00:35:44,160

is the fisheye camera so in other words

1040

00:35:46,470 --> 00:35:45,839

if you build one of these your fisheye

1041

00:35:49,349 --> 00:35:46,480

camera

1042

00:35:50,790 --> 00:35:49,359

will be able to capture objects as they

1043

00:35:52,950 --> 00:35:50,800

come into the field of view

1044

00:35:55,829 --> 00:35:52,960

track them and then we're actually able

1045

00:35:56,310 --> 00:35:55,839

to pull the data out of that and do some

1046

00:35:58,550 --> 00:35:56,320

um

1047

00:36:00,870 --> 00:35:58,560

image analysis essentially to get things

1048

00:36:02,630 --> 00:36:00,880

like say a velocity and acceleration etc

1049

00:36:04,550 --> 00:36:02,640

um all of that is kind of still in

1050

00:36:07,190 --> 00:36:04,560

development past the v1 release

1051
00:36:08,069 --> 00:36:07,200
but the simple v1 release is the camera

1052
00:36:10,069 --> 00:36:08,079
system can track

1053
00:36:11,430 --> 00:36:10,079
objects it'll be able to tell this is

1054
00:36:13,270 --> 00:36:11,440
something out of the ordinary

1055
00:36:14,550 --> 00:36:13,280
or this is something of interest and

1056
00:36:16,870 --> 00:36:14,560
then it can actually upload it to the

1057
00:36:19,829 --> 00:36:16,880
cloud automatically for us

1058
00:36:21,190 --> 00:36:19,839
ah i'm going to just pop up quickly um

1059
00:36:23,670 --> 00:36:21,200
this right here

1060
00:36:24,470 --> 00:36:23,680
uh let's see yeah here let me stop

1061
00:36:27,270 --> 00:36:24,480
sharing

1062
00:36:27,829 --> 00:36:27,280
my yeah so uh this is uh what this

1063
00:36:30,870 --> 00:36:27,839

person

1064

00:36:32,790 --> 00:36:30,880

in in chat said it's called beagle bone

1065

00:36:35,190 --> 00:36:32,800

i never heard of it it's a learning uh

1066

00:36:37,109 --> 00:36:35,200

ai it's uh also crowd source

1067

00:36:38,230 --> 00:36:37,119

i you know i don't know if it's

1068

00:36:41,190 --> 00:36:38,240

something you can

1069

00:36:42,630 --> 00:36:41,200

uh you know make work through this but

1070

00:36:44,630 --> 00:36:42,640

anyway it's just a suggestion

1071

00:36:45,910 --> 00:36:44,640

oh okay yeah the listeners yeah really

1072

00:36:47,589 --> 00:36:45,920

good really good question a really good

1073

00:36:49,510 --> 00:36:47,599

suggestion there so actually

1074

00:36:51,270 --> 00:36:49,520

um the other reason that we're using the

1075

00:36:52,069 --> 00:36:51,280

the jets and nano is that it's a nvidia

1076

00:36:53,750 --> 00:36:52,079

platform

1077

00:36:55,990 --> 00:36:53,760

so it already has a lot of out of the

1078

00:36:57,670 --> 00:36:56,000

box software for things like say

1079

00:37:00,069 --> 00:36:57,680

tracking of objects as they move

1080

00:37:01,670 --> 00:37:00,079

across the screen and things like that

1081

00:37:05,109 --> 00:37:01,680

so because of nvidia's

1082

00:37:07,190 --> 00:37:05,119

uh because nvidia has such a robust

1083

00:37:08,790 --> 00:37:07,200

developer community already there is a

1084

00:37:10,790 --> 00:37:08,800

lot of software and a lot of uh

1085

00:37:12,470 --> 00:37:10,800

already people kind of working on that

1086

00:37:14,310 --> 00:37:12,480

outside of skyhub of course

1087

00:37:15,589 --> 00:37:14,320

but we're able to pull from that large

1088

00:37:17,829 --> 00:37:15,599

repository

1089

00:37:19,030 --> 00:37:17,839

of uh development on the nvidia platform

1090

00:37:20,790 --> 00:37:19,040

but it's a really great i mean that

1091

00:37:23,990 --> 00:37:20,800

person who made that suggestion

1092

00:37:25,109 --> 00:37:24,000

please join our chat and help us code uh

1093

00:37:26,710 --> 00:37:25,119

yeah yeah there you go

1094

00:37:27,990 --> 00:37:26,720

answers we'd love to have you anyone in

1095

00:37:28,790 --> 00:37:28,000

the chat seriously we would love to have

1096

00:37:32,150 --> 00:37:28,800

you please yes

1097

00:37:35,349 --> 00:37:32,160

that's stephen uh yeah uh well

1098

00:37:36,150 --> 00:37:35,359

uh it's really it's fascinating what is

1099

00:37:38,550 --> 00:37:36,160

your

1100

00:37:40,069 --> 00:37:38,560

i guess what is the mission statement uh

1101
00:37:42,150 --> 00:37:40,079
what is the goal

1102
00:37:43,990 --> 00:37:42,160
how uh you know get people all over the

1103
00:37:46,630 --> 00:37:44,000
world you know doing this eyes

1104
00:37:48,069 --> 00:37:46,640
in the sky that's kind of my motto so

1105
00:37:49,990 --> 00:37:48,079
the ultimate yeah the ultimate goal

1106
00:37:52,950 --> 00:37:50,000
really is so we kind of have a couple of

1107
00:37:55,430 --> 00:37:52,960
different things um what's the word we

1108
00:37:56,870 --> 00:37:55,440
have a couple of different

1109
00:37:59,109 --> 00:37:56,880
a couple of different goals going on

1110
00:38:02,390 --> 00:37:59,119
simultaneously but the ultimate goal

1111
00:38:04,710 --> 00:38:02,400
is to create a open source um

1112
00:38:06,230 --> 00:38:04,720
data collection platform for people who

1113
00:38:08,230 --> 00:38:06,240

are interested in this subject

1114

00:38:09,510 --> 00:38:08,240

to be able to actually do something

1115

00:38:12,230 --> 00:38:09,520

about studying it

1116

00:38:13,349 --> 00:38:12,240

right um that's the ultimate goal here

1117

00:38:16,150 --> 00:38:13,359

so

1118

00:38:18,310 --> 00:38:16,160

our best case scenario would be we have

1119

00:38:19,349 --> 00:38:18,320

a skyhub tracker um

1120

00:38:21,109 --> 00:38:19,359

you know we have a bunch of these

1121

00:38:21,990 --> 00:38:21,119

trackers across the united states let's

1122

00:38:25,750 --> 00:38:22,000

say

1123

00:38:27,910 --> 00:38:25,760

able to see for example

1124

00:38:29,430 --> 00:38:27,920

um an object as it moves through the sky

1125

00:38:30,870 --> 00:38:29,440

in different locations

1126

00:38:33,109 --> 00:38:30,880

or as you can imagine martin if you have

1127

00:38:34,470 --> 00:38:33,119

one of these up in maine we put one in

1128

00:38:36,150 --> 00:38:34,480

new hampshire someplace

1129

00:38:38,310 --> 00:38:36,160

i've got one here in massachusetts on

1130

00:38:40,470 --> 00:38:38,320

the coast if we're able to see that

1131

00:38:41,990 --> 00:38:40,480

object as it moves across the sky from

1132

00:38:44,230 --> 00:38:42,000

all three of our cameras

1133

00:38:46,230 --> 00:38:44,240

that is much more compelling than a

1134

00:38:48,390 --> 00:38:46,240

single person with a cell phone camera

1135

00:38:49,670 --> 00:38:48,400

right that's the goal yeah and actually

1136

00:38:51,270 --> 00:38:49,680

i can show you already

1137

00:38:53,270 --> 00:38:51,280

a a video that we've actually already

1138

00:38:55,589 --> 00:38:53,280

captured is this one in texas

1139

00:38:56,790 --> 00:38:55,599

in may it is the texas one in may yeah

1140

00:38:58,230 --> 00:38:56,800

yeah

1141

00:39:00,310 --> 00:38:58,240

you know what's so funny is we actually

1142

00:39:01,109 --> 00:39:00,320

had we had that unit deployed for like a

1143

00:39:02,470 --> 00:39:01,119

weekend

1144

00:39:03,990 --> 00:39:02,480

and it already captured something people

1145

00:39:05,750 --> 00:39:04,000

were like are you kidding me we've

1146

00:39:08,310 --> 00:39:05,760

already got something cool on here

1147

00:39:09,430 --> 00:39:08,320

now i'm not saying it's ufo but it

1148

00:39:10,310 --> 00:39:09,440

certainly doesn't look like it's

1149

00:39:13,030 --> 00:39:10,320

behaving

1150

00:39:14,390 --> 00:39:13,040

like a like an airplane right like i'm

1151

00:39:16,470 --> 00:39:14,400

not saying it's aliens

1152

00:39:17,990 --> 00:39:16,480

but it's aliens right i'm not saying

1153

00:39:20,470 --> 00:39:18,000

it's aliens but it's

1154

00:39:22,150 --> 00:39:20,480

right um it's very it's very exciting

1155

00:39:24,950 --> 00:39:22,160

stuff i mean you know we're

1156

00:39:27,750 --> 00:39:24,960

um we're able to do all of this in

1157

00:39:30,790 --> 00:39:27,760

different ways and kind of

1158

00:39:31,190 --> 00:39:30,800

you know ultimately again the goal is to

1159

00:39:32,870 --> 00:39:31,200

let

1160

00:39:34,790 --> 00:39:32,880

is to have this community kind of come

1161

00:39:36,550 --> 00:39:34,800

together and do something here which is

1162

00:39:39,510 --> 00:39:36,560

which is very interesting

1163

00:39:40,790 --> 00:39:39,520

um a question is what what language are

1164

00:39:43,109 --> 00:39:40,800

they coding this in

1165

00:39:44,230 --> 00:39:43,119

and i don't know is there such a thing

1166

00:39:46,230 --> 00:39:44,240

as yeah

1167

00:39:48,310 --> 00:39:46,240

yeah no that's a really good question so

1168

00:39:52,550 --> 00:39:48,320

um we're currently

1169

00:39:56,390 --> 00:39:54,150

that is a question for someone who is

1170

00:39:58,950 --> 00:39:56,400

better at computers than i am

1171

00:40:00,550 --> 00:39:58,960

let me say that so my role on the

1172

00:40:03,910 --> 00:40:00,560

science board really

1173

00:40:05,670 --> 00:40:03,920

is um essentially to come up with

1174

00:40:06,950 --> 00:40:05,680

so that's definitely a question for uh

1175

00:40:09,109 --> 00:40:06,960

steve or corey

1176

00:40:09,990 --> 00:40:09,119

right the actual developers the people

1177

00:40:12,390 --> 00:40:10,000

that are writing the code

1178

00:40:13,510 --> 00:40:12,400

itself right um it's a really good

1179

00:40:15,430 --> 00:40:13,520

question though

1180

00:40:16,710 --> 00:40:15,440

i wanna i don't wanna give you an answer

1181

00:40:17,430 --> 00:40:16,720

and then it'd be wrong right that's

1182

00:40:19,270 --> 00:40:17,440

that's kind of

1183

00:40:21,030 --> 00:40:19,280

the baseline here that's why i'm kind of

1184

00:40:25,030 --> 00:40:21,040

not really giving an answer right now

1185

00:40:28,309 --> 00:40:25,040

um but yeah i will um i will absolutely

1186

00:40:29,990 --> 00:40:28,319

uh if after the show dm me or even go

1187

00:40:30,550 --> 00:40:30,000

into the rocket chat itself and ask that

1188

00:40:34,550 --> 00:40:30,560

question

1189

00:40:35,349 --> 00:40:34,560

and yeah they'd love to be able to help

1190

00:40:38,230 --> 00:40:35,359

you there

1191

00:40:39,750 --> 00:40:38,240

um more on that stuff so my role as part

1192

00:40:42,870 --> 00:40:39,760

of the science team

1193

00:40:44,790 --> 00:40:42,880

is to actually do the data analysis or

1194

00:40:46,470 --> 00:40:44,800

figure out how to do the data analytics

1195

00:40:47,910 --> 00:40:46,480

so what we're actually doing with this

1196

00:40:50,550 --> 00:40:47,920

stuff is

1197

00:40:52,390 --> 00:40:50,560

we are there's a couple of different

1198

00:40:55,430 --> 00:40:52,400

things going on simultaneously

1199

00:40:57,829 --> 00:40:55,440

so there are um there are

1200

00:40:59,430 --> 00:40:57,839

sensors right that are collecting data

1201

00:41:01,190 --> 00:40:59,440

there are the video streams

1202

00:41:03,109 --> 00:41:01,200

that are collecting the videos and then

1203

00:41:05,270 --> 00:41:03,119

there is the analytics on top of those

1204

00:41:07,829 --> 00:41:05,280

videos for example right

1205

00:41:09,670 --> 00:41:07,839

um you can't just tell a computer that

1206

00:41:11,270 --> 00:41:09,680

oh there's there's this video and figure

1207

00:41:12,550 --> 00:41:11,280

out where the object is and whatever

1208

00:41:13,670 --> 00:41:12,560

you actually have to code all of that

1209

00:41:15,349 --> 00:41:13,680

and that's partly why we're using the

1210

00:41:17,030 --> 00:41:15,359

nvidia platform

1211

00:41:18,470 --> 00:41:17,040

part of the goal here for example would

1212

00:41:20,230 --> 00:41:18,480

be

1213

00:41:22,309 --> 00:41:20,240

imagine you have an object on these

1214

00:41:23,430 --> 00:41:22,319

videos and it's a point source right so

1215

00:41:25,030 --> 00:41:23,440

actually i can this will probably be

1216

00:41:27,510 --> 00:41:25,040

better to show here

1217

00:41:28,630 --> 00:41:27,520

just let me share my screen quickly are

1218

00:41:30,470 --> 00:41:28,640

you showing the video

1219

00:41:33,990 --> 00:41:30,480

now or something yeah i'm going to share

1220

00:41:37,589 --> 00:41:34,000

the video so let me do that quickly

1221

00:41:41,750 --> 00:41:40,069

so one second here let me just and again

1222

00:41:42,950 --> 00:41:41,760

well for people listening to this

1223

00:41:46,069 --> 00:41:42,960

there's also

1224

00:41:47,430 --> 00:41:46,079

um skyhob actually has a youtube channel

1225

00:41:48,069 --> 00:41:47,440

you can check out they have i don't know

1226

00:41:50,550 --> 00:41:48,079

maybe

1227

00:41:52,550 --> 00:41:50,560

only about four videos up there so far

1228

00:41:55,430 --> 00:41:52,560

but uh this video is on that

1229

00:41:56,069 --> 00:41:55,440

so yeah yeah so are you ready i'm ready

1230

00:41:59,030 --> 00:41:56,079

to share it

1231

00:41:59,750 --> 00:41:59,040

okay okay and hang on just a second

1232

00:42:02,550 --> 00:41:59,760

we'll

1233

00:42:03,990 --> 00:42:02,560

pop it here okay here we go all right so

1234

00:42:05,750 --> 00:42:04,000

here i'm going to play this

1235

00:42:07,990 --> 00:42:05,760

now why is it circular is that the

1236

00:42:08,550 --> 00:42:08,000

camera it's a fisheye camera yep so it's

1237

00:42:10,790 --> 00:42:08,560

i see

1238

00:42:12,230 --> 00:42:10,800

it's a circular screen essentially right

1239

00:42:13,109 --> 00:42:12,240

almost looks like a globe when you look

1240

00:42:15,270 --> 00:42:13,119

at it like the earth

1241

00:42:17,750 --> 00:42:15,280

yeah so so as you can imagine right so

1242

00:42:19,589 --> 00:42:17,760

this object is coming into frame

1243

00:42:21,670 --> 00:42:19,599

it's kind of slowly coming in then it

1244

00:42:23,349 --> 00:42:21,680

stops

1245

00:42:24,950 --> 00:42:23,359

and then as we allow it to kind of move

1246

00:42:27,430 --> 00:42:24,960

forward in time and so you can see the

1247

00:42:29,510 --> 00:42:27,440

time here ticking across

1248

00:42:30,790 --> 00:42:29,520

so then it stops and then it starts to

1249

00:42:32,710 --> 00:42:30,800

shoot off

1250

00:42:34,550 --> 00:42:32,720

okay talk about that small right in the

1251

00:42:37,670 --> 00:42:34,560

center right here yeah

1252

00:42:40,309 --> 00:42:37,680

with the tail behind it yep

1253

00:42:42,829 --> 00:42:40,319

so then it's a kind of trails off there

1254

00:42:45,510 --> 00:42:42,839

um so now what you can imagine is for

1255

00:42:47,430 --> 00:42:45,520

example if we do say a simple image

1256

00:42:49,430 --> 00:42:47,440

analysis so for example we say that okay

1257

00:42:51,270 --> 00:42:49,440

everything back here is just dark it's

1258

00:42:54,069 --> 00:42:51,280

black it's background noise

1259

00:42:56,470 --> 00:42:54,079

right so as this object comes into view

1260

00:42:58,950 --> 00:42:56,480

we track its motion over time

1261

00:42:59,990 --> 00:42:58,960

by tracking the pixels as they change

1262

00:43:01,829 --> 00:43:00,000

right

1263

00:43:03,109 --> 00:43:01,839

the data that we then have that's kind

1264

00:43:04,790 --> 00:43:03,119

of pulling in

1265

00:43:06,309 --> 00:43:04,800

or the ability that we're going to try

1266

00:43:07,349 --> 00:43:06,319

to do or try to build into this is going

1267

00:43:10,309 --> 00:43:07,359

to be

1268

00:43:12,390 --> 00:43:10,319

once that image actually shows getting

1269

00:43:15,430 --> 00:43:12,400

things like say a velocity a

1270

00:43:17,270 --> 00:43:15,440

a potential acceleration right um

1271

00:43:18,790 --> 00:43:17,280

and things like that from this object

1272

00:43:19,510 --> 00:43:18,800

because you can imagine for example

1273

00:43:21,270 --> 00:43:19,520

right

1274

00:43:22,710 --> 00:43:21,280

if you look at say my mouse my mouse

1275

00:43:24,470 --> 00:43:22,720

pointer here

1276

00:43:26,470 --> 00:43:24,480

if this is an airline or something

1277

00:43:27,990 --> 00:43:26,480

simple like that you would imagine that

1278

00:43:30,470 --> 00:43:28,000

as it moves across the screen it's going

1279

00:43:31,990 --> 00:43:30,480

to go basically in a flat line path

1280

00:43:33,430 --> 00:43:32,000

right because airplanes as they move

1281

00:43:34,309 --> 00:43:33,440

they don't jut us in around they don't

1282

00:43:36,630 --> 00:43:34,319

kind of jump and

1283

00:43:37,670 --> 00:43:36,640

everything else right they have they

1284

00:43:40,630 --> 00:43:37,680

have simple

1285

00:43:42,870 --> 00:43:40,640

motion right but you can imagine that if

1286

00:43:44,069 --> 00:43:42,880

it's a uap or something of interest

1287

00:43:46,630 --> 00:43:44,079

it might move around much more

1288

00:43:47,670 --> 00:43:46,640

erratically or it might jump around the

1289

00:43:49,430 --> 00:43:47,680

screen

1290

00:43:50,950 --> 00:43:49,440

and as it makes those movements it's

1291

00:43:52,390 --> 00:43:50,960

going to be doing so much more quickly

1292

00:43:54,309 --> 00:43:52,400

we would hypothesize

1293

00:43:56,870 --> 00:43:54,319

than say an airplane or a drone could or

1294

00:43:58,710 --> 00:43:56,880

a bug or a bird or whatever

1295

00:44:01,190 --> 00:43:58,720

so ultimately the goal of the science

1296

00:44:03,510 --> 00:44:01,200

team is to come up with and think about

1297

00:44:05,430 --> 00:44:03,520

how can we turn the sensor data that

1298

00:44:08,390 --> 00:44:05,440

skyhub is pulling in

1299

00:44:09,270 --> 00:44:08,400

into interesting actionable testing

1300

00:44:12,150 --> 00:44:09,280

parameters

1301
00:44:13,589 --> 00:44:12,160
that then we can use to test hypotheses

1302
00:44:15,510 --> 00:44:13,599
right so for example

1303
00:44:16,710 --> 00:44:15,520
um one of the first things that actually

1304
00:44:20,150 --> 00:44:16,720
we're actually doing here

1305
00:44:22,470 --> 00:44:20,160
is as the system pulls in

1306
00:44:23,829 --> 00:44:22,480
um an object as it says that oh there's

1307
00:44:24,630 --> 00:44:23,839
something on screen here that's of

1308
00:44:27,430 --> 00:44:24,640
interest

1309
00:44:28,870 --> 00:44:27,440
it is then going to check um basically

1310
00:44:30,790 --> 00:44:28,880
with a registry

1311
00:44:32,069 --> 00:44:30,800
of all of the airplanes that are flying

1312
00:44:34,630 --> 00:44:32,079
over the vicinity

1313
00:44:35,270 --> 00:44:34,640

and transponders or something exactly

1314

00:44:37,910 --> 00:44:35,280

yeah so

1315

00:44:39,829 --> 00:44:37,920

it can then tell is this an airplane or

1316

00:44:40,710 --> 00:44:39,839

for example we can say is this a meteor

1317

00:44:43,270 --> 00:44:40,720

is this a known

1318

00:44:43,829 --> 00:44:43,280

atmospheric phenomena um things of that

1319

00:44:46,309 --> 00:44:43,839

nature

1320

00:44:47,270 --> 00:44:46,319

right ultimately the system is going to

1321

00:44:49,589 --> 00:44:47,280

be using

1322

00:44:50,950 --> 00:44:49,599

some machine learning techniques to do

1323

00:44:53,349 --> 00:44:50,960

things like say okay

1324

00:44:55,190 --> 00:44:53,359

we have a thousand videos of airplanes

1325

00:44:56,790 --> 00:44:55,200

we have a thousand videos of birds we

1326
00:44:58,870 --> 00:44:56,800
have a thousand videos of say

1327
00:45:00,069 --> 00:44:58,880
insects we have a thousand videos of

1328
00:45:02,470 --> 00:45:00,079
drones

1329
00:45:04,230 --> 00:45:02,480
um teach the system then based on some

1330
00:45:06,470 --> 00:45:04,240
of those parameters we pick

1331
00:45:08,710 --> 00:45:06,480
this is what a bird looks like this is

1332
00:45:11,510 --> 00:45:08,720
what an airplane looks like this is what

1333
00:45:13,430 --> 00:45:11,520
a drone looks like normally and then

1334
00:45:15,750 --> 00:45:13,440
eventually the system will be able to

1335
00:45:17,430 --> 00:45:15,760
pick out of the you know thousands of

1336
00:45:18,790 --> 00:45:17,440
events maybe it tracks over the course

1337
00:45:20,230 --> 00:45:18,800
of a month

1338
00:45:21,990 --> 00:45:20,240

it can say okay well these ones are

1339

00:45:24,150 --> 00:45:22,000

probably birds these are probably

1340

00:45:27,030 --> 00:45:24,160

airplanes these are probably whatever

1341

00:45:28,230 --> 00:45:27,040

these events though this event maybe if

1342

00:45:30,630 --> 00:45:28,240

you collect one

1343

00:45:32,069 --> 00:45:30,640

this event is interesting this is one

1344

00:45:34,470 --> 00:45:32,079

that we need to do further analysis

1345

00:45:36,550 --> 00:45:34,480

on right so kind of taking the human

1346

00:45:39,030 --> 00:45:36,560

element out of this process

1347

00:45:41,109 --> 00:45:39,040

um and allowing you know systems to do

1348

00:45:43,190 --> 00:45:41,119

this kind of work for us

1349

00:45:44,710 --> 00:45:43,200

that's that's one of the goals here on

1350

00:45:46,150 --> 00:45:44,720

our team of the science team at least to

1351

00:45:49,109 --> 00:45:46,160

be able to have happen

1352

00:45:49,510 --> 00:45:49,119

yeah um yeah i'd like that the the fact

1353

00:45:51,990 --> 00:45:49,520

that

1354

00:45:52,870 --> 00:45:52,000

it's kind of a learning situation you

1355

00:45:56,150 --> 00:45:52,880

know like

1356

00:45:57,510 --> 00:45:56,160

like training ai basically absolutely

1357

00:46:00,069 --> 00:45:57,520

yeah that's the kind of goal right and i

1358

00:46:02,230 --> 00:46:00,079

mean we know we can do this too

1359

00:46:03,190 --> 00:46:02,240

we know that we can use use this too for

1360

00:46:05,430 --> 00:46:03,200

example

1361

00:46:07,750 --> 00:46:05,440

um with other technologies right or with

1362

00:46:09,270 --> 00:46:07,760

other methods so for example

1363

00:46:10,870 --> 00:46:09,280

um there's actually been a lot of

1364

00:46:12,710 --> 00:46:10,880

research work on image analysis like

1365

00:46:14,790 --> 00:46:12,720

this for say cancer cells

1366

00:46:17,430 --> 00:46:14,800

right so being able to track whether or

1367

00:46:19,990 --> 00:46:17,440

not a cancer cell has become metastatic

1368

00:46:20,550 --> 00:46:20,000

um that actually essentially what can

1369

00:46:24,309 --> 00:46:20,560

happen

1370

00:46:26,309 --> 00:46:24,319

is um in a normal cancer cell that is

1371

00:46:28,230 --> 00:46:26,319

not metastasized yet

1372

00:46:31,190 --> 00:46:28,240

the cell as it bounces it hits another

1373

00:46:33,109 --> 00:46:31,200

cancer cell it'll just bounce back

1374

00:46:34,870 --> 00:46:33,119

right so it'll it'll hit another cell

1375

00:46:36,710 --> 00:46:34,880

and it'll just move backwards

1376

00:46:39,270 --> 00:46:36,720

but in a metastatic cancer cell what'll

1377

00:46:41,270 --> 00:46:39,280

happen is the cells will actually hit

1378

00:46:44,230 --> 00:46:41,280

and then the metastatic cell will move

1379

00:46:46,230 --> 00:46:44,240

over and then continue its path forward

1380

00:46:47,829 --> 00:46:46,240

so if you look at us if you look at a

1381

00:46:49,510 --> 00:46:47,839

population of cells

1382

00:46:51,750 --> 00:46:49,520

and you treat each of them like a point

1383

00:46:54,870 --> 00:46:51,760

source so with just a single object

1384

00:46:56,309 --> 00:46:54,880

on your screen what you'll notice is in

1385

00:46:58,309 --> 00:46:56,319

normal cancer cells that have not

1386

00:47:00,790 --> 00:46:58,319

metastasized yet

1387

00:47:02,470 --> 00:47:00,800

they kind of sit in like a circular

1388

00:47:03,829 --> 00:47:02,480

pattern if you measure their movement

1389

00:47:07,190 --> 00:47:03,839

over time

1390

00:47:08,550 --> 00:47:07,200

right but metastatic cancer cells

1391

00:47:10,550 --> 00:47:08,560

will actually continue in a

1392

00:47:12,150 --> 00:47:10,560

straight-line path

1393

00:47:13,750 --> 00:47:12,160

so a lot of research work actually has

1394

00:47:15,510 --> 00:47:13,760

been going on to do

1395

00:47:17,030 --> 00:47:15,520

image analysis for cancer cells for

1396

00:47:18,870 --> 00:47:17,040

example um

1397

00:47:21,349 --> 00:47:18,880

and other image analysis techniques have

1398

00:47:24,710 --> 00:47:21,359

worked worked in the past as well so

1399

00:47:26,630 --> 00:47:24,720

we're really um we're really trying hard

1400

00:47:27,910 --> 00:47:26,640

to learn from the past learn from

1401

00:47:29,109 --> 00:47:27,920

efforts that have been done to do this

1402

00:47:30,549 --> 00:47:29,119

before

1403

00:47:31,750 --> 00:47:30,559

and also work with other groups that

1404

00:47:32,470 --> 00:47:31,760

have done this kind of work you know

1405

00:47:33,910 --> 00:47:32,480

what i mean

1406

00:47:35,589 --> 00:47:33,920

so we are reaching out to the people

1407

00:47:36,950 --> 00:47:35,599

that did the baker nun systems back in

1408

00:47:39,349 --> 00:47:36,960

the day we're reaching out to

1409

00:47:40,630 --> 00:47:39,359

seti and researchers and other

1410

00:47:42,069 --> 00:47:40,640

organizations that are doing this kind

1411

00:47:44,069 --> 00:47:42,079

of work

1412

00:47:45,990 --> 00:47:44,079

let me just ask you this because um you

1413

00:47:47,270 --> 00:47:46,000

know i know just one person that said

1414

00:47:50,470 --> 00:47:47,280

i've actually communicated with jill

1415

00:47:52,630 --> 00:47:50,480

charter but seth

1416

00:47:54,549 --> 00:47:52,640

seth shawstack even though he and i have

1417

00:47:57,109 --> 00:47:54,559

kind of bumped heads

1418

00:47:58,069 --> 00:47:57,119

um when he was on the show we still uh

1419

00:47:59,829 --> 00:47:58,079

communicate

1420

00:48:02,150 --> 00:47:59,839

with each other who did you reach out to

1421

00:48:03,910 --> 00:48:02,160

there so we reached out to seth

1422

00:48:06,390 --> 00:48:03,920

who was also a friend of also a friend

1423

00:48:08,710 --> 00:48:06,400

of the man scientist podcast and uh

1424

00:48:10,390 --> 00:48:08,720

was interested in what we were doing um

1425

00:48:12,150 --> 00:48:10,400

steady actually has had

1426

00:48:14,230 --> 00:48:12,160

seti if back in the back in the late

1427

00:48:16,390 --> 00:48:14,240

2000s or early 2000s i guess

1428

00:48:17,990 --> 00:48:16,400

had a project called steady at home

1429

00:48:19,829 --> 00:48:18,000

which wasn't officially through steady

1430

00:48:21,589 --> 00:48:19,839

it was through like the university of

1431

00:48:23,990 --> 00:48:21,599

ohio i want to say

1432

00:48:26,069 --> 00:48:24,000

but um efforts that's what i'm saying

1433

00:48:28,710 --> 00:48:26,079

there is a lot of research work

1434

00:48:30,950 --> 00:48:28,720

that has happened over time to build

1435

00:48:33,109 --> 00:48:30,960

these kinds of systems before

1436

00:48:35,109 --> 00:48:33,119

right and we are just trying to learn as

1437

00:48:36,790 --> 00:48:35,119

much as we can from those other efforts

1438

00:48:38,230 --> 00:48:36,800

that have happened before so we're

1439

00:48:39,829 --> 00:48:38,240

reaching out to and we've talked to you

1440

00:48:41,349 --> 00:48:39,839

folks at seti seth and a couple of other

1441

00:48:44,069 --> 00:48:41,359

researchers there already

1442

00:48:45,510 --> 00:48:44,079

um we've talked to people that say um

1443

00:48:48,549 --> 00:48:45,520

we've talked to some

1444

00:48:50,390 --> 00:48:48,559

physicists who do things like say uh you

1445

00:48:51,589 --> 00:48:50,400

know radio astronomy and things like

1446

00:48:53,829 --> 00:48:51,599

that of that nature

1447

00:48:55,270 --> 00:48:53,839

to do these kinds of works um you know

1448

00:48:58,470 --> 00:48:55,280

we're really trying hard to

1449

00:49:00,309 --> 00:48:58,480

learn as much as we possibly can and yes

1450

00:49:02,790 --> 00:49:00,319

yell you are completely right the the

1451
00:49:05,270 --> 00:49:02,800
heart of it is the crowdsourcing

1452
00:49:07,109 --> 00:49:05,280
component right um because that's the

1453
00:49:10,390 --> 00:49:07,119
other part of this too

1454
00:49:12,630 --> 00:49:10,400
and i have a huge huge question

1455
00:49:13,750 --> 00:49:12,640
to pop up here that kind of involves

1456
00:49:15,829 --> 00:49:13,760
that uh

1457
00:49:17,349 --> 00:49:15,839
it's gonna block you right out this is

1458
00:49:20,710 --> 00:49:17,359
from over on facebook

1459
00:49:21,750 --> 00:49:20,720
from abigail and uh basically have you

1460
00:49:23,349 --> 00:49:21,760
thought of involving

1461
00:49:26,150 --> 00:49:23,359
or recruiting groups through social

1462
00:49:28,150 --> 00:49:26,160
media that do regularly sky watch

1463
00:49:30,230 --> 00:49:28,160

etc and working directly with them not

1464

00:49:34,710 --> 00:49:30,240

just but for an example

1465

00:49:36,790 --> 00:49:34,720

the uk uh you know i know there's a lot

1466

00:49:37,990 --> 00:49:36,800

uh there's not take taken seriously and

1467

00:49:39,030 --> 00:49:38,000

the group would be able to fund the

1468

00:49:41,670 --> 00:49:39,040

equipment there

1469

00:49:42,950 --> 00:49:41,680

et cetera et cetera et cetera have you

1470

00:49:45,589 --> 00:49:42,960

thought about using

1471

00:49:47,510 --> 00:49:45,599

social media or do you already do that

1472

00:49:48,950 --> 00:49:47,520

so we use social media we have a twitter

1473

00:49:50,230 --> 00:49:48,960

account we have a facebook page we do

1474

00:49:52,470 --> 00:49:50,240

have the rocket chat

1475

00:49:54,230 --> 00:49:52,480

um right now a lot of our efforts have

1476

00:49:57,030 --> 00:49:54,240

been focused on getting the first

1477

00:49:58,870 --> 00:49:57,040

version of the software out right once

1478

00:50:00,230 --> 00:49:58,880

that first software developed the first

1479

00:50:05,030 --> 00:50:00,240

system

1480

00:50:07,109 --> 00:50:05,040

um then it's kind of gangbusters right

1481

00:50:09,030 --> 00:50:07,119

then we're happy to talk to anybody

1482

00:50:10,309 --> 00:50:09,040

about any collaboration collaborative

1483

00:50:12,390 --> 00:50:10,319

effort that can happen

1484

00:50:13,670 --> 00:50:12,400

um if there are groups that would be

1485

00:50:16,230 --> 00:50:13,680

interested in purchasing

1486

00:50:17,589 --> 00:50:16,240

um or or rather getting the components

1487

00:50:18,309 --> 00:50:17,599

and building them themselves and having

1488

00:50:19,990 --> 00:50:18,319

us help

1489

00:50:21,430 --> 00:50:20,000

please please do reach out to us we

1490

00:50:24,309 --> 00:50:21,440

would love to work with you

1491

00:50:26,230 --> 00:50:24,319

um for sure i mean you know again anyone

1492

00:50:27,030 --> 00:50:26,240

who wants to build one of these um with

1493

00:50:29,510 --> 00:50:27,040

our help

1494

00:50:30,950 --> 00:50:29,520

we are more than happy to have work

1495

00:50:32,870 --> 00:50:30,960

alongside us

1496

00:50:34,950 --> 00:50:32,880

awesome well you know speaking of that

1497

00:50:37,030 --> 00:50:34,960

um someone has a good question up here

1498

00:50:39,109 --> 00:50:37,040

uh chris has been on the show

1499

00:50:40,710 --> 00:50:39,119

christopher o'brien that is

1500

00:50:43,030 --> 00:50:40,720

a number of times over the years even

1501

00:50:45,030 --> 00:50:43,040

visited me here um up in maine

1502

00:50:47,109 --> 00:50:45,040

how similar is a setup to the project

1503

00:50:49,349 --> 00:50:47,119

are you familiar with what christopher

1504

00:50:50,549 --> 00:50:49,359

o'brien is doing and also there's others

1505

00:50:54,069 --> 00:50:50,559

there's uh

1506

00:50:57,829 --> 00:50:54,079

it's called

1507

00:51:00,150 --> 00:50:57,839

something else now but um i i think

1508

00:51:02,549 --> 00:51:00,160

i ca i can actually tell leslie the

1509

00:51:04,950 --> 00:51:02,559

difference myself i i believe

1510

00:51:05,750 --> 00:51:04,960

is this is more of a like a crowd source

1511

00:51:09,349 --> 00:51:05,760

thing

1512

00:51:12,470 --> 00:51:09,359

then and christopher's uh o'brien is

1513

00:51:14,870 --> 00:51:12,480

uh these little you know camera setups

1514

00:51:16,790 --> 00:51:14,880

in different places but it's not about

1515

00:51:18,069 --> 00:51:16,800

people getting involved as far as i know

1516

00:51:21,109 --> 00:51:18,079

maybe i'm wrong about that

1517

00:51:21,990 --> 00:51:21,119

um i actually owe him a call so i'll

1518

00:51:24,630 --> 00:51:22,000

find out more about

1519

00:51:26,069 --> 00:51:24,640

that but uh as far as i know he's just

1520

00:51:28,470 --> 00:51:26,079

having these things set up

1521

00:51:29,349 --> 00:51:28,480

in certain places and i don't think it's

1522

00:51:31,430 --> 00:51:29,359

open to

1523

00:51:32,630 --> 00:51:31,440

it's open source like this i'm not i'm

1524

00:51:34,230 --> 00:51:32,640

not positive though

1525

00:51:35,270 --> 00:51:34,240

the major difference between our effort

1526

00:51:37,190 --> 00:51:35,280

and efforts that have been done in the

1527

00:51:38,870 --> 00:51:37,200

past although we we respect them and

1528

00:51:40,630 --> 00:51:38,880

would love to work with them of course

1529

00:51:42,549 --> 00:51:40,640

the main difference is that our effort

1530

00:51:45,829 --> 00:51:42,559

is completely crowdsourced

1531

00:51:47,510 --> 00:51:45,839

it's completely open so um no one on the

1532

00:51:48,390 --> 00:51:47,520

skyhub team is getting paid to do this

1533

00:51:50,069 --> 00:51:48,400

work

1534

00:51:52,230 --> 00:51:50,079

we don't make any money if you buy a

1535

00:51:53,589 --> 00:51:52,240

unit right because the units aren't ours

1536

00:51:56,710 --> 00:51:53,599

you're buying the software

1537

00:51:58,790 --> 00:51:56,720

you're applying the the information um

1538

00:52:00,549 --> 00:51:58,800

or rather let me restate that you're

1539

00:52:02,230 --> 00:52:00,559

buying the hardware from hardware

1540

00:52:03,910 --> 00:52:02,240

manufacturers not from us

1541

00:52:05,829 --> 00:52:03,920

and the software is being given away for

1542

00:52:08,870 --> 00:52:05,839

free so

1543

00:52:10,950 --> 00:52:08,880

um you know it is we want this to be as

1544

00:52:12,790 --> 00:52:10,960

open and transparent as possible

1545

00:52:14,870 --> 00:52:12,800

we don't you know because we all hate

1546

00:52:18,710 --> 00:52:14,880

the um

1547

00:52:20,790 --> 00:52:18,720

we hate the problem of you know

1548

00:52:21,829 --> 00:52:20,800

i always joke that you know for us for a

1549

00:52:24,309 --> 00:52:21,839

subject that

1550

00:52:25,910 --> 00:52:24,319

hates that says it hates secrets and

1551
00:52:27,589 --> 00:52:25,920
hates the government hiding information

1552
00:52:30,950 --> 00:52:27,599
about this subject from us

1553
00:52:32,630 --> 00:52:30,960
the ufo subject loves secret keepers

1554
00:52:34,069 --> 00:52:32,640
right they love people who are like i

1555
00:52:34,710 --> 00:52:34,079
can't tell you that's an inside source

1556
00:52:37,270 --> 00:52:34,720
of my you know

1557
00:52:39,589 --> 00:52:37,280
they love that stuff right and it's it's

1558
00:52:41,990 --> 00:52:39,599
so frustrating because it's like

1559
00:52:42,870 --> 00:52:42,000
no if if if you want the information to

1560
00:52:46,549 --> 00:52:42,880
get out there

1561
00:52:47,670 --> 00:52:46,559
you want disclosure to happen then start

1562
00:52:51,430 --> 00:52:47,680
disclosing things

1563
00:52:54,069 --> 00:52:51,440

right so the goal of this is

1564

00:52:55,829 --> 00:52:54,079

if you collect a video um you'll have it

1565

00:52:58,870 --> 00:52:55,839

saved on your own hard drive

1566

00:53:01,750 --> 00:52:58,880

as it uploads to the cloud right um

1567

00:53:03,510 --> 00:53:01,760

the idea here is going to be again the

1568

00:53:05,589 --> 00:53:03,520

software is freely available

1569

00:53:06,950 --> 00:53:05,599

um the units are easy to purchase it's

1570

00:53:07,910 --> 00:53:06,960

cheap stuff that you put together

1571

00:53:09,829 --> 00:53:07,920

yourself

1572

00:53:11,750 --> 00:53:09,839

you can build off of it if you'd like to

1573

00:53:13,030 --> 00:53:11,760

you can make a more complicated sensor

1574

00:53:14,549 --> 00:53:13,040

system you can make a more complicated

1575

00:53:17,589 --> 00:53:14,559

camera system you can do

1576

00:53:19,510 --> 00:53:17,599

all these other things um the goal here

1577

00:53:22,150 --> 00:53:19,520

is though that as the data

1578

00:53:23,990 --> 00:53:22,160

comes in that we will work together

1579

00:53:26,150 --> 00:53:24,000

basically

1580

00:53:27,990 --> 00:53:26,160

yeah that's great uh let's see looks

1581

00:53:31,030 --> 00:53:28,000

like we got just two minutes until we go

1582

00:53:32,710 --> 00:53:31,040

into our break um so uh

1583

00:53:36,069 --> 00:53:32,720

let me just pull up there was i saw

1584

00:53:38,069 --> 00:53:36,079

another question in there

1585

00:53:39,190 --> 00:53:38,079

uh this question seems to come up i've

1586

00:53:41,589 --> 00:53:39,200

seen rodrigo

1587

00:53:43,270 --> 00:53:41,599

asked this question before um do you

1588

00:53:45,910 --> 00:53:43,280

want the ufo mystery solved

1589

00:53:47,349 --> 00:53:45,920

or do you enjoy the search that is a

1590

00:53:50,630 --> 00:53:47,359

question i guess we really have to

1591

00:53:52,390 --> 00:53:50,640

ask ourselves deep inside

1592

00:53:54,549 --> 00:53:52,400

oh man i don't know if it could ever be

1593

00:53:56,470 --> 00:53:54,559

solved even if it was solved could it

1594

00:53:57,589 --> 00:53:56,480

yeah no that's it's a it's a great

1595

00:54:01,109 --> 00:53:57,599

question right

1596

00:54:03,109 --> 00:54:01,119

let me let me the you know we talk about

1597

00:54:05,990 --> 00:54:03,119

this in our podcast all the time

1598

00:54:07,430 --> 00:54:06,000

if if the president went out onto the

1599

00:54:08,950 --> 00:54:07,440

lawn of the white house

1600

00:54:10,470 --> 00:54:08,960

holding the hand of an alien and was

1601
00:54:11,750 --> 00:54:10,480
like look they're real we've been

1602
00:54:13,750 --> 00:54:11,760
working with them for decades right

1603
00:54:16,230 --> 00:54:13,760
they've been here this whole time

1604
00:54:17,190 --> 00:54:16,240
there would be a good percentage of the

1605
00:54:20,230 --> 00:54:17,200
ufo

1606
00:54:21,430 --> 00:54:20,240
subject fan base that would say i don't

1607
00:54:23,270 --> 00:54:21,440
believe it

1608
00:54:25,910 --> 00:54:23,280
yeah right because it doesn't fit with

1609
00:54:28,710 --> 00:54:25,920
their own kind of preconceived notion

1610
00:54:30,790 --> 00:54:28,720
about what disclosure or what the ufo

1611
00:54:34,710 --> 00:54:30,800
presence has to conform to

1612
00:54:38,309 --> 00:54:34,720
right so um i would say

1613
00:54:40,069 --> 00:54:38,319

i would like to know i would like to

1614

00:54:42,390 --> 00:54:40,079

know

1615

00:54:43,589 --> 00:54:42,400

if people are having legitimate

1616

00:54:45,670 --> 00:54:43,599

experiences

1617

00:54:47,990 --> 00:54:45,680

and i would like to be able to verify

1618

00:54:49,910 --> 00:54:48,000

that using data from our systems

1619

00:54:50,789 --> 00:54:49,920

right and i don't mean to say like i

1620

00:54:52,069 --> 00:54:50,799

want to know if people are having

1621

00:54:53,430 --> 00:54:52,079

legitimate experiences

1622

00:54:55,510 --> 00:54:53,440

i don't mean that to sound like i don't

1623

00:54:58,950 --> 00:54:55,520

believe people who are having

1624

00:55:01,670 --> 00:54:58,960

experiences um but

1625

00:55:03,430 --> 00:55:01,680

what i mean by that is it's not enough

1626
00:55:04,630 --> 00:55:03,440
to believe that a person had an

1627
00:55:07,910 --> 00:55:04,640
experience

1628
00:55:11,589 --> 00:55:07,920
for science for the scientific community

1629
00:55:13,349 --> 00:55:11,599
right um what's important is

1630
00:55:15,190 --> 00:55:13,359
getting enough data getting enough

1631
00:55:17,430 --> 00:55:15,200
information that you can actually

1632
00:55:18,950 --> 00:55:17,440
prove it to the skeptics to the

1633
00:55:21,910 --> 00:55:18,960
scientists right do whatever

1634
00:55:23,109 --> 00:55:21,920
i agree um yeah yep so that's the that's

1635
00:55:25,109 --> 00:55:23,119
the important part so

1636
00:55:27,349 --> 00:55:25,119
i do want an answer i don't know if we

1637
00:55:29,910 --> 00:55:27,359
can ever have an answer though

1638
00:55:30,470 --> 00:55:29,920

that's true i agree with you 100 on that

1639

00:55:33,270 --> 00:55:30,480

all right we're

1640

00:55:33,670 --> 00:55:33,280

heading into break uh hang on everyone

1641

00:55:36,230 --> 00:55:33,680

uh

1642

00:55:36,789 --> 00:55:36,240

let's see i just want to say i'm gonna

1643

00:55:39,109 --> 00:55:36,799

uh

1644

00:55:41,109 --> 00:55:39,119

i'm gonna go into break for kgr radio

1645

00:55:45,589 --> 00:55:41,119

right now we'll be right back

1646

00:55:52,710 --> 00:55:48,630

all right so uh for everyone in youtube

1647

00:55:57,030 --> 00:55:52,720

uh i i watched some raw footage

1648

00:55:59,910 --> 00:55:57,040

of right after the 1952

1649

00:56:00,710 --> 00:55:59,920

ufo flap over washington dc and i've

1650

00:56:02,549 --> 00:56:00,720

always liked

1651
00:56:03,910 --> 00:56:02,559
this clip so i'm going to run it here

1652
00:56:10,069 --> 00:56:03,920
during the break

1653
00:56:15,109 --> 00:56:12,870
i am here to discuss the so-called

1654
00:56:17,990 --> 00:56:15,119
flying saucers

1655
00:56:19,829 --> 00:56:18,000
the air force interest in this problem

1656
00:56:21,670 --> 00:56:19,839
has been due to our feeling of an

1657
00:56:25,190 --> 00:56:21,680
obligation to

1658
00:56:26,309 --> 00:56:25,200
identify and analyze to the best of our

1659
00:56:29,349 --> 00:56:26,319
ability anything

1660
00:56:30,390 --> 00:56:29,359
in the air that may have the possibility

1661
00:56:33,510 --> 00:56:30,400
of threat

1662
00:56:35,190 --> 00:56:33,520
or minutes to the united states in

1663
00:56:39,510 --> 00:56:35,200

pursuit of this obligation

1664

00:56:42,630 --> 00:56:39,520

since 1947 we have received and analyzed

1665

00:56:44,789 --> 00:56:42,640

between one and two thousand reports

1666

00:56:46,549 --> 00:56:44,799

that have come to us from all kinds of

1667

00:56:48,789 --> 00:56:46,559

sources

1668

00:56:49,990 --> 00:56:48,799

of this great massive reports we have

1669

00:56:53,190 --> 00:56:50,000

been able

1670

00:56:54,230 --> 00:56:53,200

adequately to explain the great book of

1671

00:57:00,710 --> 00:56:54,240

them

1672

00:57:03,030 --> 00:57:00,720

hoaxes

1673

00:57:04,470 --> 00:57:03,040

as erroneously identified friendly

1674

00:57:07,270 --> 00:57:04,480

aircraft

1675

00:57:08,390 --> 00:57:07,280

as meteorological or electronic

1676
00:57:11,430 --> 00:57:08,400
phenomena

1677
00:57:13,270 --> 00:57:11,440
or as light aberrations

1678
00:57:16,710 --> 00:57:13,280
however there have been a certain

1679
00:57:18,789 --> 00:57:16,720
percentage of this volume of reports

1680
00:57:20,230 --> 00:57:18,799
that have been made by credible

1681
00:57:24,069 --> 00:57:20,240
observers

1682
00:57:26,630 --> 00:57:24,079
of relatively incredible things

1683
00:57:27,109 --> 00:57:26,640
it is this group of observations that we

1684
00:57:30,230 --> 00:57:27,119
now

1685
00:57:32,150 --> 00:57:30,240
are attempting to resolve

1686
00:57:34,069 --> 00:57:32,160
our basic difficulty in dealing with

1687
00:57:37,430 --> 00:57:34,079
these is that there is no

1688
00:57:39,589 --> 00:57:37,440

measurement of them that

1689

00:57:41,109 --> 00:57:39,599

makes it possible for us to put them in

1690

00:57:43,829 --> 00:57:41,119

any pattern

1691

00:57:45,270 --> 00:57:43,839

that would be profitable for a

1692

00:57:47,829 --> 00:57:45,280

deliberate

1693

00:57:50,069 --> 00:57:47,839

uh custom sort of analysis to take the

1694

00:57:52,829 --> 00:57:50,079

next step

1695

00:57:54,309 --> 00:57:52,839

we have as a date come to only one firm

1696

00:57:56,150 --> 00:57:54,319

conclusion

1697

00:57:57,510 --> 00:57:56,160

with respect to this remaining

1698

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

percentage

1699

00:58:05,190 --> 00:58:00,880

and that is that it does not contain

1700

00:58:07,190 --> 00:58:05,200

any pattern of purpose or of consistency

1701
00:58:10,470 --> 00:58:07,200
that we can relate with any to any

1702
00:58:13,430 --> 00:58:10,480
conceivable threat to the united states

1703
00:58:13,829 --> 00:58:13,440
we can say that the recent sightings are

1704
00:58:16,549 --> 00:58:13,839
in

1705
00:58:17,589 --> 00:58:16,559
no way connected with any secret

1706
00:58:30,630 --> 00:58:17,599
development

1707
00:58:37,910 --> 00:58:34,630
well i'm going to bring us back in

1708
00:58:39,030 --> 00:58:37,920
so i i always thought that um i'd like

1709
00:58:42,309 --> 00:58:39,040
to kind of uh

1710
00:58:43,349 --> 00:58:42,319
get your opinion of what you know he

1711
00:58:44,630 --> 00:58:43,359
just said i don't know if you were

1712
00:58:45,430 --> 00:58:44,640
actually paying attention you won't have

1713
00:58:48,829 --> 00:58:45,440

to break or

1714

00:58:50,069 --> 00:58:48,839

what um but he's saying you know

1715

00:58:52,630 --> 00:58:50,079

basically

1716

00:58:53,270 --> 00:58:52,640

you know this these sightings happen and

1717

00:58:56,069 --> 00:58:53,280

he's not

1718

00:58:57,990 --> 00:58:56,079

like discounting them you know he's

1719

00:58:59,990 --> 00:58:58,000

saying a lot of them can be explained

1720

00:59:01,190 --> 00:59:00,000

but it's a pretty pretty interesting

1721

00:59:03,750 --> 00:59:01,200

take um

1722

00:59:05,190 --> 00:59:03,760

you know that that they were you know

1723

00:59:06,069 --> 00:59:05,200

they had to kind of explain what was

1724

00:59:09,670 --> 00:59:06,079

going on

1725

00:59:11,589 --> 00:59:09,680

so many reports coming in um and it was

1726

00:59:12,870 --> 00:59:11,599

all over the papers in a world actually

1727

00:59:16,150 --> 00:59:12,880

worldwide

1728

00:59:19,270 --> 00:59:16,160

press and actually a misleading picture

1729

00:59:20,789 --> 00:59:19,280

of light reflections in the sky over the

1730

00:59:22,549 --> 00:59:20,799

capital which kind of

1731

00:59:24,470 --> 00:59:22,559

makes everyone think that's the ufos but

1732

00:59:27,109 --> 00:59:24,480

that's not that's not that was light

1733

00:59:32,150 --> 00:59:29,589

so you're so you're so what was your

1734

00:59:32,630 --> 00:59:32,160

question now your question was do i yeah

1735

00:59:34,789 --> 00:59:32,640

um

1736

00:59:37,430 --> 00:59:34,799

so how do you think they the air force

1737

00:59:40,069 --> 00:59:37,440

is handling that situation

1738

00:59:41,030 --> 00:59:40,079

how do i think that they have no in that

1739

00:59:42,870 --> 00:59:41,040

particular right there

1740

00:59:44,390 --> 00:59:42,880

right there in that clip well gentlemen

1741

00:59:45,910 --> 00:59:44,400

you may want to answer that

1742

00:59:47,589 --> 00:59:45,920

ask him that one because we're coming

1743

00:59:50,870 --> 00:59:47,599

back so

1744

00:59:54,470 --> 00:59:50,880

stand by that one

1745

00:59:58,069 --> 00:59:54,480

that was planned well okay

1746

01:00:01,750 --> 00:59:58,079

all right stand by sure in three

1747

01:00:02,390 --> 01:00:01,760

two one go all right welcome back my

1748

01:00:05,750 --> 01:00:02,400

guest

1749

01:00:07,829 --> 01:00:05,760

uh again is chris cogswell and uh we're

1750

01:00:10,950 --> 01:00:07,839

we're just having a laugh because um

1751

01:00:15,030 --> 01:00:10,960

during the break uh we we watched uh uh

1752

01:00:17,910 --> 01:00:15,040

general major general sanford uh 1952

1753

01:00:18,630 --> 01:00:17,920

uh talking about you know the ufo flap

1754

01:00:20,789 --> 01:00:18,640

trying to

1755

01:00:22,549 --> 01:00:20,799

calm everyone down isn't that kind of

1756

01:00:24,309 --> 01:00:22,559

what that's kind of what you can take

1757

01:00:27,829 --> 01:00:24,319

out of it you know it's not a threat

1758

01:00:29,430 --> 01:00:27,839

it's not us um and you know most of

1759

01:00:31,750 --> 01:00:29,440

these things can be explained but

1760

01:00:33,270 --> 01:00:31,760

some of them can't some are incredible

1761

01:00:36,309 --> 01:00:33,280

and some cannot be explained

1762

01:00:37,990 --> 01:00:36,319

it's it was uh uh it's a very memorable

1763

01:00:38,950 --> 01:00:38,000

and that's why i wanted to play it it's

1764

01:00:42,069 --> 01:00:38,960

such a

1765

01:00:45,109 --> 01:00:42,079

great clip it's it's

1766

01:00:48,309 --> 01:00:45,119

it's funny how when watching those

1767

01:00:49,750 --> 01:00:48,319

old kind of uh when watching those old

1768

01:00:51,750 --> 01:00:49,760

videos or even

1769

01:00:53,270 --> 01:00:51,760

reading some of the old analysis that

1770

01:00:56,309 --> 01:00:53,280

happened

1771

01:00:58,230 --> 01:00:56,319

it's funny how little has changed right

1772

01:01:00,470 --> 01:00:58,240

in in the 70 years that this subject has

1773

01:01:03,270 --> 01:01:00,480

really been kind of at the top of mind

1774

01:01:04,309 --> 01:01:03,280

for the american um for the american

1775

01:01:06,470 --> 01:01:04,319

public i guess

1776

01:01:07,349 --> 01:01:06,480

and top of mind maybe it's the wrong the

1777

01:01:08,870 --> 01:01:07,359

wrong word because

1778

01:01:10,630 --> 01:01:08,880

or the wrong saying because it's never

1779

01:01:11,750 --> 01:01:10,640

it's not always been top of mind but you

1780

01:01:14,390 --> 01:01:11,760

know

1781

01:01:15,829 --> 01:01:14,400

it's interesting that even given the big

1782

01:01:17,750 --> 01:01:15,839

increases in the percentage of people

1783

01:01:19,750 --> 01:01:17,760

who believe in this or who

1784

01:01:21,190 --> 01:01:19,760

think that something is really happening

1785

01:01:22,870 --> 01:01:21,200

um

1786

01:01:24,870 --> 01:01:22,880

but ultimately the government's response

1787

01:01:28,150 --> 01:01:24,880

has kind of continue to be the same

1788

01:01:29,750 --> 01:01:28,160

right of uh well we don't know we we

1789

01:01:31,270 --> 01:01:29,760

can't tell everything but you know some

1790

01:01:31,750 --> 01:01:31,280

of these might be unexplained still but

1791

01:01:35,109 --> 01:01:31,760

it's

1792

01:01:37,030 --> 01:01:35,119

interesting or whatever i mean

1793

01:01:39,030 --> 01:01:37,040

it it feels like there's only so much

1794

01:01:40,789 --> 01:01:39,040

time that there's only so much time that

1795

01:01:42,789 --> 01:01:40,799

you can keep saying

1796

01:01:44,309 --> 01:01:42,799

we don't know before you say well why

1797

01:01:46,230 --> 01:01:44,319

aren't you looking

1798

01:01:47,589 --> 01:01:46,240

right like you don't know okay shouldn't

1799

01:01:49,349 --> 01:01:47,599

you be trying to find out then

1800

01:01:51,190 --> 01:01:49,359

like people keep asking you it's you

1801
01:01:52,630 --> 01:01:51,200
know you're you're the government right

1802
01:01:54,309 --> 01:01:52,640
you're the you're the military you're

1803
01:01:56,630 --> 01:01:54,319
the air force you're whoever

1804
01:01:58,150 --> 01:01:56,640
um at some point you will need to know

1805
01:02:00,710 --> 01:01:58,160
what's up there

1806
01:02:02,789 --> 01:02:00,720
yeah and when that day comes you know i

1807
01:02:04,309 --> 01:02:02,799
think that's ultimately been

1808
01:02:06,470 --> 01:02:04,319
that's been one of the big conundrums i

1809
01:02:08,069 --> 01:02:06,480
guess with like the modern day say the

1810
01:02:10,230 --> 01:02:08,079
disclosure movement or even disclosure

1811
01:02:13,829 --> 01:02:10,240
movements in the past has been

1812
01:02:17,990 --> 01:02:13,839
there's this break between you know

1813
01:02:20,069 --> 01:02:18,000

there's a break between the public

1814

01:02:21,750 --> 01:02:20,079

who want to think that the government

1815

01:02:23,670 --> 01:02:21,760

has the answers and so this must be some

1816

01:02:24,870 --> 01:02:23,680

big conspiracy to keep it secret

1817

01:02:26,470 --> 01:02:24,880

but then there's also portion of the

1818

01:02:28,230 --> 01:02:26,480

public kind of thing you know the

1819

01:02:29,190 --> 01:02:28,240

military or the government might be just

1820

01:02:33,270 --> 01:02:29,200

as

1821

01:02:33,990 --> 01:02:33,280

are i think so i say that on the show

1822

01:02:35,430 --> 01:02:34,000

all the time yeah

1823

01:02:37,029 --> 01:02:35,440

and that's and that i think the kind of

1824

01:02:37,829 --> 01:02:37,039

camp that i fall into as well is you

1825

01:02:41,190 --> 01:02:37,839

know it

1826

01:02:43,109 --> 01:02:41,200

it seems um

1827

01:02:44,230 --> 01:02:43,119

i don't know it just again it seems to

1828

01:02:48,470 --> 01:02:44,240

be the most

1829

01:02:49,349 --> 01:02:48,480

scenario or the most sensible scenario i

1830

01:02:51,109 --> 01:02:49,359

guess i would say

1831

01:02:53,109 --> 01:02:51,119

right is that the government doesn't

1832

01:02:54,950 --> 01:02:53,119

know they want to find out i mean why

1833

01:02:55,430 --> 01:02:54,960

else would they have programs like atip

1834

01:02:58,069 --> 01:02:55,440

right

1835

01:02:59,670 --> 01:02:58,079

unless they wanted to find out so and

1836

01:03:00,789 --> 01:02:59,680

also you know it comes up a number of

1837

01:03:02,950 --> 01:03:00,799

times

1838

01:03:04,230 --> 01:03:02,960

um you know that there's really good

1839

01:03:06,789 --> 01:03:04,240

film out there

1840

01:03:08,390 --> 01:03:06,799

there you know that there's been some

1841

01:03:08,710 --> 01:03:08,400

you know really incredible things kind

1842

01:03:11,349 --> 01:03:08,720

of

1843

01:03:13,349 --> 01:03:11,359

swept away somewhere who knows where

1844

01:03:15,190 --> 01:03:13,359

maybe in a private program

1845

01:03:16,950 --> 01:03:15,200

uh where it can't get congressional

1846

01:03:19,270 --> 01:03:16,960

oversight or something like that

1847

01:03:20,069 --> 01:03:19,280

but um speaking of that um you know we

1848

01:03:23,349 --> 01:03:20,079

have

1849

01:03:24,549 --> 01:03:23,359

um there's some uh there's gonna be a

1850

01:03:26,789 --> 01:03:24,559

bit of oversight

1851
01:03:27,829 --> 01:03:26,799
you know coming in uh there's gonna be

1852
01:03:30,549 --> 01:03:27,839
um

1853
01:03:31,910 --> 01:03:30,559
marco rubio is heading this i think it's

1854
01:03:35,589 --> 01:03:31,920
him heading it

1855
01:03:38,870 --> 01:03:35,599
um the looking into the

1856
01:03:40,549 --> 01:03:38,880
ufo uap subject but not

1857
01:03:42,630 --> 01:03:40,559
you know they're they're trying to base

1858
01:03:44,630 --> 01:03:42,640
it more of you know what's a threat

1859
01:03:46,150 --> 01:03:44,640
or international threat they're not

1860
01:03:48,549 --> 01:03:46,160
really you know going

1861
01:03:49,910 --> 01:03:48,559
i mean it is mentioned now and then but

1862
01:03:52,630 --> 01:03:49,920
it's not really saying

1863
01:03:53,589 --> 01:03:52,640

you know what might be off planet that

1864

01:03:56,950 --> 01:03:53,599

might be

1865

01:03:58,950 --> 01:03:56,960

or unknown to us the

1866

01:04:00,549 --> 01:03:58,960

i think the answer to this in many ways

1867

01:04:03,270 --> 01:04:00,559

has always been to treat this

1868

01:04:04,549 --> 01:04:03,280

as you know it's one of the it's one of

1869

01:04:07,510 --> 01:04:04,559

the kind of funny things

1870

01:04:08,950 --> 01:04:07,520

about science i guess and modern science

1871

01:04:12,470 --> 01:04:08,960

especially

1872

01:04:15,670 --> 01:04:12,480

is how tied up it is with with industry

1873

01:04:17,190 --> 01:04:15,680

or with uh with you know money right

1874

01:04:20,870 --> 01:04:17,200

with funding

1875

01:04:22,789 --> 01:04:20,880

so you know the we like to think that

1876

01:04:24,309 --> 01:04:22,799

science just kind of gets funded because

1877

01:04:25,990 --> 01:04:24,319

the government is

1878

01:04:27,510 --> 01:04:26,000

good enough to give its money away to

1879

01:04:28,069 --> 01:04:27,520

people who study all kinds of wacky

1880

01:04:29,670 --> 01:04:28,079

things

1881

01:04:31,510 --> 01:04:29,680

but that's not really the case right a

1882

01:04:32,870 --> 01:04:31,520

lot of government research is funded

1883

01:04:34,950 --> 01:04:32,880

or a lot of research in the sciences

1884

01:04:37,109 --> 01:04:34,960

gets funded because it has some

1885

01:04:38,549 --> 01:04:37,119

um applicability to a problem that we're

1886

01:04:41,589 --> 01:04:38,559

looking at right

1887

01:04:42,150 --> 01:04:41,599

and so in my mind the ultimate goal of

1888

01:04:44,950 --> 01:04:42,160

say

1889

01:04:46,069 --> 01:04:44,960

a you know the uap task force or the

1890

01:04:47,589 --> 01:04:46,079

government's

1891

01:04:50,630 --> 01:04:47,599

new work looking into these things or

1892

01:04:53,349 --> 01:04:50,640

whatever the ultimate goal

1893

01:04:53,990 --> 01:04:53,359

of that you know would never or probably

1894

01:04:55,990 --> 01:04:54,000

would never be

1895

01:04:57,430 --> 01:04:56,000

about you know we're looking for alien

1896

01:04:59,029 --> 01:04:57,440

intelligences right

1897

01:05:01,510 --> 01:04:59,039

because that's not the way that funding

1898

01:05:02,950 --> 01:05:01,520

happens they are trying to solve a very

1899

01:05:04,710 --> 01:05:02,960

specific problem

1900

01:05:06,950 --> 01:05:04,720

right and that problem is we have

1901

01:05:08,470 --> 01:05:06,960

incursions over our airspace

1902

01:05:10,230 --> 01:05:08,480

that we don't have an answer for

1903

01:05:11,510 --> 01:05:10,240

currently we don't know what they are we

1904

01:05:14,789 --> 01:05:11,520

have no way of tracking them

1905

01:05:16,309 --> 01:05:14,799

we have no way of knowing um you know

1906

01:05:18,069 --> 01:05:16,319

we don't know how many there are that

1907

01:05:19,029 --> 01:05:18,079

are occurring because we have no way of

1908

01:05:21,990 --> 01:05:19,039

tracking them

1909

01:05:23,430 --> 01:05:22,000

so what do we that is a more interesting

1910

01:05:25,589 --> 01:05:23,440

problem i think for the government

1911

01:05:26,789 --> 01:05:25,599

and it's also frankly easier to sell

1912

01:05:27,589 --> 01:05:26,799

when you're trying to get government

1913

01:05:29,829 --> 01:05:27,599

funding that

1914

01:05:31,589 --> 01:05:29,839

again government funding is it's not an

1915

01:05:32,710 --> 01:05:31,599

unlimited resource right there's parts

1916

01:05:35,510 --> 01:05:32,720

of the pie

1917

01:05:36,710 --> 01:05:35,520

any money you get isn't going to say you

1918

01:05:39,109 --> 01:05:36,720

know

1919

01:05:40,390 --> 01:05:39,119

whatever right get us to mars get us to

1920

01:05:42,390 --> 01:05:40,400

you know these other things that we want

1921

01:05:45,270 --> 01:05:42,400

to try to do

1922

01:05:46,150 --> 01:05:45,280

well um you know i've heard it said that

1923

01:05:49,589 --> 01:05:46,160

the reason

1924

01:05:52,470 --> 01:05:49,599

that science hasn't taken the ufo

1925

01:05:53,349 --> 01:05:52,480

you know topic seriously is because of a

1926

01:05:55,829 --> 01:05:53,359

number of things

1927

01:05:56,549 --> 01:05:55,839

it's something that um it can't have an

1928

01:06:00,150 --> 01:05:56,559

end date

1929

01:06:05,190 --> 01:06:00,160

nothing

1930

01:06:06,789 --> 01:06:05,200

solvable and you know along those lines

1931

01:06:08,390 --> 01:06:06,799

you know what do you think about that

1932

01:06:11,349 --> 01:06:08,400

that aspect of it

1933

01:06:12,150 --> 01:06:11,359

so i think the problem is a little bit

1934

01:06:15,190 --> 01:06:12,160

more

1935

01:06:17,029 --> 01:06:15,200

nuanced than that although i agree with

1936

01:06:18,950 --> 01:06:17,039

that general sentiment i think the

1937

01:06:22,069 --> 01:06:18,960

problem is that

1938

01:06:24,390 --> 01:06:22,079

when we talk about solving

1939

01:06:26,230 --> 01:06:24,400

one of the things that at sky hub the

1940

01:06:29,510 --> 01:06:26,240

reason why we started

1941

01:06:31,109 --> 01:06:29,520

with something relatively simple

1942

01:06:32,710 --> 01:06:31,119

right which is just capturing these

1943

01:06:33,910 --> 01:06:32,720

things as point sources

1944

01:06:37,190 --> 01:06:33,920

you know what i mean ultimately what

1945

01:06:41,029 --> 01:06:37,200

we're doing is we are comparing

1946

01:06:42,230 --> 01:06:41,039

um if you had to think about what skyhub

1947

01:06:44,390 --> 01:06:42,240

is doing in terms of its kind of

1948

01:06:45,670 --> 01:06:44,400

hypothesis its ultimate goal

1949

01:06:48,870 --> 01:06:45,680

for the testing that we're doing right

1950

01:06:52,309 --> 01:06:48,880

now the main hypothesis is that

1951

01:06:55,270 --> 01:06:52,319

there are you can categorize

1952

01:06:56,549 --> 01:06:55,280

objects in the sky based on their mean

1953

01:06:59,270 --> 01:06:56,559

square displacement

1954

01:07:00,950 --> 01:06:59,280

or based on their vector of transport

1955

01:07:03,109 --> 01:07:00,960

right so in other words

1956

01:07:06,069 --> 01:07:03,119

if you look at an object in the sky and

1957

01:07:09,990 --> 01:07:06,079

you just measure how it moves over time

1958

01:07:12,309 --> 01:07:10,000

um certain objects are going to be

1959

01:07:13,349 --> 01:07:12,319

um moving in one way other objects will

1960

01:07:16,950 --> 01:07:13,359

move in other ways

1961

01:07:19,029 --> 01:07:16,960

and then similar objects similar objects

1962

01:07:20,390 --> 01:07:19,039

will will have similar flight paths or

1963

01:07:22,309 --> 01:07:20,400

similar patterns

1964

01:07:23,670 --> 01:07:22,319

right that's the ultimate hypothesis

1965

01:07:26,309 --> 01:07:23,680

that we're testing

1966

01:07:27,990 --> 01:07:26,319

that has nothing to do with ufos it has

1967

01:07:29,430 --> 01:07:28,000

nothing to do with uap it has nothing to

1968

01:07:32,870 --> 01:07:29,440

do with any of these other things

1969

01:07:33,910 --> 01:07:32,880

it's very simple right it is something

1970

01:07:35,270 --> 01:07:33,920

solvable

1971

01:07:37,349 --> 01:07:35,280

that to me has been the ultimate problem

1972

01:07:39,829 --> 01:07:37,359

with the ufo study has been that

1973

01:07:41,829 --> 01:07:39,839

um when we talk about these things we

1974

01:07:43,190 --> 01:07:41,839

want to talk about this like it is this

1975

01:07:45,589 --> 01:07:43,200

um

1976

01:07:46,309 --> 01:07:45,599

this all-encompassing all-or-nothing

1977

01:07:49,109 --> 01:07:46,319

answer

1978

01:07:50,549 --> 01:07:49,119

then that's how we're going to know

1979

01:07:52,630 --> 01:07:50,559

about ufos and

1980

01:07:54,470 --> 01:07:52,640

aliens and uap and whatever and it's

1981

01:07:55,990 --> 01:07:54,480

going to be the you know we're finally

1982

01:07:56,710 --> 01:07:56,000

going to get the document that proves it

1983

01:07:58,309 --> 01:07:56,720

all

1984

01:07:59,990 --> 01:07:58,319

but that's not the way science that's

1985

01:08:02,710 --> 01:08:00,000

not the way information

1986

01:08:03,829 --> 01:08:02,720

gathering happens right we gather small

1987

01:08:07,109 --> 01:08:03,839

bits of information

1988

01:08:09,270 --> 01:08:07,119

over time slowly so that finally we can

1989

01:08:11,270 --> 01:08:09,280

say aha we've discovered

1990

01:08:12,789 --> 01:08:11,280

something you know what i mean if i had

1991

01:08:15,910 --> 01:08:12,799

to give an analogy

1992

01:08:17,269 --> 01:08:15,920

the ufo ufo subject people people that

1993

01:08:20,229 --> 01:08:17,279

are involved in this

1994

01:08:22,070 --> 01:08:20,239

they want to find the answer like they

1995

01:08:23,749 --> 01:08:22,080

are digging through

1996

01:08:25,269 --> 01:08:23,759

um you know at like a needle in the

1997

01:08:26,149 --> 01:08:25,279

haystack right they stick their hand

1998

01:08:28,390 --> 01:08:26,159

into the bucket

1999

01:08:29,990 --> 01:08:28,400

of sand they pull it out and they have

2000

01:08:32,950 --> 01:08:30,000

this beautiful shiny

2001
01:08:34,870 --> 01:08:32,960
you know ruby of truth right but the way

2002
01:08:38,950 --> 01:08:34,880
that truth actually happens

2003
01:08:41,749 --> 01:08:38,960
is you chisel away at it right you break

2004
01:08:42,550 --> 01:08:41,759
stuff off you break falsities away and

2005
01:08:44,789 --> 01:08:42,560
so it takes

2006
01:08:47,590 --> 01:08:44,799
decades before you finally come to like

2007
01:08:50,309 --> 01:08:47,600
a very tiny little slither of truth

2008
01:08:51,669 --> 01:08:50,319
right um and that isn't compelling

2009
01:08:53,669 --> 01:08:51,679
television that isn't compelling

2010
01:08:55,749 --> 01:08:53,679
storytelling it is it's

2011
01:08:57,669 --> 01:08:55,759
it's boring right a lot of that work is

2012
01:08:58,309 --> 01:08:57,679
boring and that's i think the problem is

2013
01:09:01,189 --> 01:08:58,319

that

2014

01:09:03,349 --> 01:09:01,199

no one wants to do the boring work and i

2015

01:09:07,030 --> 01:09:03,359

am here to say that skyhub is willing to

2016

01:09:10,070 --> 01:09:07,040

do the boring work

2017

01:09:11,430 --> 01:09:10,080

um so let me just ask you this so let's

2018

01:09:15,110 --> 01:09:11,440

just say that

2019

01:09:18,550 --> 01:09:15,120

um you have uh one of these

2020

01:09:22,309 --> 01:09:18,560

skyhub cameras you know in the network

2021

01:09:24,630 --> 01:09:22,319

catches something going say 25 000 miles

2022

01:09:27,590 --> 01:09:24,640

an hour and then it makes a right hand

2023

01:09:29,269 --> 01:09:27,600

a right angle turn which uh ufos have i

2024

01:09:30,870 --> 01:09:29,279

mean that's not an uncommon thing when

2025

01:09:34,070 --> 01:09:30,880

it comes to what people have

2026

01:09:35,349 --> 01:09:34,080

described and not necessarily 25 000

2027

01:09:38,470 --> 01:09:35,359

miles an hour but you know

2028

01:09:41,110 --> 01:09:38,480

very fast um uh

2029

01:09:41,910 --> 01:09:41,120

what where let's say that happened and

2030

01:09:44,950 --> 01:09:41,920

you have it

2031

01:09:48,149 --> 01:09:44,960

you

2032

01:09:51,910 --> 01:09:48,159

just make it

2033

01:09:54,630 --> 01:09:51,920

available like we have this uh

2034

01:09:55,350 --> 01:09:54,640

and uh are you hoping to like catch the

2035

01:09:57,590 --> 01:09:55,360

eye

2036

01:09:59,990 --> 01:09:57,600

in ear of someone that will take this

2037

01:10:01,590 --> 01:10:00,000

more seriously in the science world

2038

01:10:03,830 --> 01:10:01,600

yeah so the ultimate goal so that's the

2039

01:10:06,229 --> 01:10:03,840

thing right in in the science world a

2040

01:10:08,229 --> 01:10:06,239

single video is never going to be the

2041

01:10:11,590 --> 01:10:08,239

it's never going to be the the thing

2042

01:10:13,590 --> 01:10:11,600

right what we need to do is gather

2043

01:10:15,350 --> 01:10:13,600

data that is statistically relevant

2044

01:10:18,390 --> 01:10:15,360

right so for example

2045

01:10:20,950 --> 01:10:18,400

if we capture let's say out of

2046

01:10:22,229 --> 01:10:20,960

a hundred thousand videos that this

2047

01:10:26,070 --> 01:10:22,239

thing captures

2048

01:10:28,550 --> 01:10:26,080

right that a thousand of them show

2049

01:10:30,550 --> 01:10:28,560

behavior like you're describing that

2050

01:10:30,870 --> 01:10:30,560

they they come to sudden stops and they

2051

01:10:33,110 --> 01:10:30,880

make

2052

01:10:34,950 --> 01:10:33,120

quick right turns and they appear to be

2053

01:10:36,229 --> 01:10:34,960

accelerating and stopping in ways that

2054

01:10:39,590 --> 01:10:36,239

we don't expect

2055

01:10:41,189 --> 01:10:39,600

and that they don't have uh you know

2056

01:10:44,630 --> 01:10:41,199

if we're able to show something like

2057

01:10:47,350 --> 01:10:44,640

that that based on the vector analysis

2058

01:10:48,149 --> 01:10:47,360

this is truly happening in these cases

2059

01:10:50,310 --> 01:10:48,159

it seems to be

2060

01:10:51,830 --> 01:10:50,320

maybe one percent of cases or 0.1

2061

01:10:54,550 --> 01:10:51,840

percent of cases

2062

01:10:55,669 --> 01:10:54,560

um and here's the data to prove it here

2063

01:10:57,750 --> 01:10:55,679

are the video feeds

2064

01:10:59,590 --> 01:10:57,760

here's the vector analysis we did here's

2065

01:11:01,350 --> 01:10:59,600

the sensor data that we collected

2066

01:11:03,110 --> 01:11:01,360

here are the gps coordinates of the

2067

01:11:05,189 --> 01:11:03,120

trackers to show that these haven't been

2068

01:11:08,149 --> 01:11:05,199

messed with or anything else

2069

01:11:09,030 --> 01:11:08,159

that is compelling that's the goal here

2070

01:11:10,630 --> 01:11:09,040

right so

2071

01:11:12,229 --> 01:11:10,640

if we capture a single video that's

2072

01:11:13,590 --> 01:11:12,239

interesting we'll make it available on

2073

01:11:15,270 --> 01:11:13,600

youtube

2074

01:11:17,110 --> 01:11:15,280

people will be able to see it it'll get

2075

01:11:21,350 --> 01:11:17,120

out there i'm sure yeah

2076

01:11:24,550 --> 01:11:21,360

but at the end of the day what our

2077

01:11:25,750 --> 01:11:24,560

what our results will be or what our

2078

01:11:28,870 --> 01:11:25,760

kind of product

2079

01:11:30,070 --> 01:11:28,880

that skyhub hopes to do will be data

2080

01:11:32,310 --> 01:11:30,080

that can convince

2081

01:11:33,750 --> 01:11:32,320

the scientific world and so we have data

2082

01:11:34,709 --> 01:11:33,760

scientists on the team who are helping

2083

01:11:35,990 --> 01:11:34,719

us develop

2084

01:11:38,149 --> 01:11:36,000

like this is the way that we would have

2085

01:11:40,229 --> 01:11:38,159

to do this this is how we would have to

2086

01:11:41,270 --> 01:11:40,239

um what's the word this is the way that

2087

01:11:42,070 --> 01:11:41,280

we would have to kind of move this

2088

01:11:43,430 --> 01:11:42,080

forward

2089

01:11:45,830 --> 01:11:43,440

actually there's a really good question

2090

01:11:49,510 --> 01:11:45,840

in the chat that isn't in uppercase

2091

01:11:52,709 --> 01:11:49,520

i i will let me uh uh just tell me where

2092

01:11:56,470 --> 01:11:52,719

uh who's saying it now yeah cl at 712

2093

01:12:01,430 --> 01:11:58,870

is it this one right here just below

2094

01:12:04,310 --> 01:12:01,440

that one oh sorry

2095

01:12:05,910 --> 01:12:04,320

oh cl i see it yeah although aj i agree

2096

01:12:06,790 --> 01:12:05,920

that is how that is how scientists

2097

01:12:10,070 --> 01:12:06,800

collect data

2098

01:12:13,590 --> 01:12:10,080

so let's read it yeah chris uh

2099

01:12:15,830 --> 01:12:13,600

once uh so cl once is saying chris how

2100

01:12:17,830 --> 01:12:15,840

does that example change if you capture

2101
01:12:18,229 --> 01:12:17,840
the same event from five trackers at all

2102
01:12:21,990 --> 01:12:18,239
different

2103
01:12:25,430 --> 01:12:22,000
angles distances so that is a

2104
01:12:27,030 --> 01:12:25,440
wonderful question so um

2105
01:12:28,950 --> 01:12:27,040
if we have more than one tracker that

2106
01:12:30,870 --> 01:12:28,960
captures it if we have three caps

2107
01:12:33,030 --> 01:12:30,880
three trackers let's say at a minimum

2108
01:12:36,390 --> 01:12:33,040
that capture the same event

2109
01:12:38,070 --> 01:12:36,400
then we can do triangulation then we can

2110
01:12:39,430 --> 01:12:38,080
start looking at more specific things

2111
01:12:41,030 --> 01:12:39,440
right so right now

2112
01:12:42,709 --> 01:12:41,040
we've kind of like brushed it aside

2113
01:12:45,590 --> 01:12:42,719

we've kind of walked over this

2114

01:12:46,870 --> 01:12:45,600

this point but when i'm talking about

2115

01:12:48,870 --> 01:12:46,880

image analysis

2116

01:12:50,790 --> 01:12:48,880

what i'm talking about is we treat that

2117

01:12:51,750 --> 01:12:50,800

so you know we all saw now the the

2118

01:12:53,030 --> 01:12:51,760

circle

2119

01:12:55,590 --> 01:12:53,040

of the object right so if you're

2120

01:12:58,470 --> 01:12:55,600

listening at home think about

2121

01:12:59,510 --> 01:12:58,480

a think about what a video of a sky

2122

01:13:02,470 --> 01:12:59,520

would look like

2123

01:13:04,149 --> 01:13:02,480

right we have no way of telling how

2124

01:13:07,110 --> 01:13:04,159

close or far away the object

2125

01:13:08,950 --> 01:13:07,120

is right we we we will not be able to

2126

01:13:10,390 --> 01:13:08,960

tell based on the fisheye camera

2127

01:13:12,470 --> 01:13:10,400

um just because that's the way that fish

2128

01:13:13,350 --> 01:13:12,480

hack cameras are designed now we might

2129

01:13:15,510 --> 01:13:13,360

eventually

2130

01:13:17,830 --> 01:13:15,520

through testing be able to get a

2131

01:13:19,350 --> 01:13:17,840

calibration curve that would tell us

2132

01:13:21,030 --> 01:13:19,360

something that's this bright is this far

2133

01:13:22,229 --> 01:13:21,040

away whatever but all of that is based

2134

01:13:24,310 --> 01:13:22,239

on assumptions

2135

01:13:25,510 --> 01:13:24,320

right and we're trying to do this in a

2136

01:13:26,709 --> 01:13:25,520

way that is the least

2137

01:13:29,350 --> 01:13:26,719

has the least amount of assumptions

2138

01:13:31,830 --> 01:13:29,360

implicit in it so

2139

01:13:34,390 --> 01:13:31,840

you have this this kind of 2d image of a

2140

01:13:37,110 --> 01:13:34,400

3d object moving through the sky

2141

01:13:38,470 --> 01:13:37,120

we treat it as a 2d object so it's just

2142

01:13:42,149 --> 01:13:38,480

a point of light

2143

01:13:42,790 --> 01:13:42,159

on a black 2d space and then we measure

2144

01:13:45,270 --> 01:13:42,800

how that

2145

01:13:46,229 --> 01:13:45,280

light pixel that pixel of light or that

2146

01:13:48,950 --> 01:13:46,239

object

2147

01:13:50,550 --> 01:13:48,960

moves from point to point over time in

2148

01:13:52,790 --> 01:13:50,560

the video

2149

01:13:55,030 --> 01:13:52,800

that is very simple analysis that is

2150

01:13:57,030 --> 01:13:55,040

done on a single camera

2151
01:13:58,229 --> 01:13:57,040
if we had multiple angles though of the

2152
01:14:00,470 --> 01:13:58,239
same object

2153
01:14:01,669 --> 01:14:00,480
then suddenly we can do things like 3d

2154
01:14:04,149 --> 01:14:01,679
mapping

2155
01:14:06,149 --> 01:14:04,159
right so we can tell for example oh the

2156
01:14:07,990 --> 01:14:06,159
object not only was moving

2157
01:14:09,430 --> 01:14:08,000
um left and right but it also dipped

2158
01:14:11,590 --> 01:14:09,440
down right

2159
01:14:13,510 --> 01:14:11,600
or we can get an approximate idea of say

2160
01:14:14,550 --> 01:14:13,520
the size of the object the diameter of

2161
01:14:17,430 --> 01:14:14,560
the point source

2162
01:14:19,350 --> 01:14:17,440
or whatever right so as we get more

2163
01:14:19,990 --> 01:14:19,360

trackers out there and as the data gets

2164

01:14:22,229 --> 01:14:20,000

more

2165

01:14:24,390 --> 01:14:22,239

as the data gets better and better we

2166

01:14:25,750 --> 01:14:24,400

can start doing much more complicated

2167

01:14:27,350 --> 01:14:25,760

analysis

2168

01:14:29,189 --> 01:14:27,360

right that's the kind of goal there

2169

01:14:31,430 --> 01:14:29,199

would be if we have

2170

01:14:32,790 --> 01:14:31,440

you know right now again we're trying to

2171

01:14:34,630 --> 01:14:32,800

do this lean we're trying to do this as

2172

01:14:36,950 --> 01:14:34,640

agile as we possibly can

2173

01:14:37,750 --> 01:14:36,960

so it's single cameras uh kind of out

2174

01:14:39,430 --> 01:14:37,760

there in these

2175

01:14:41,030 --> 01:14:39,440

you know interesting places whatever

2176

01:14:43,910 --> 01:14:41,040

right um but

2177

01:14:45,430 --> 01:14:43,920

the ultimate goal will be to if we can

2178

01:14:48,550 --> 01:14:45,440

have say an array

2179

01:14:50,149 --> 01:14:48,560

of sensors on a single location that's

2180

01:14:51,030 --> 01:14:50,159

going to give us much better data

2181

01:14:54,390 --> 01:14:51,040

it's going to give us a much more

2182

01:14:56,470 --> 01:14:54,400

compelling story so let me just ask you

2183

01:14:57,430 --> 01:14:56,480

so let me just ask you this so for

2184

01:15:00,870 --> 01:14:57,440

approximately

2185

01:15:03,590 --> 01:15:00,880

say 900 if someone wanted to

2186

01:15:05,350 --> 01:15:03,600

if someone wanted to really help they

2187

01:15:08,070 --> 01:15:05,360

could set up a triangulation

2188

01:15:09,030 --> 01:15:08,080

on their property basically at different

2189

01:15:13,110 --> 01:15:09,040

you know

2190

01:15:16,709 --> 01:15:13,120

yards that way

2191

01:15:17,990 --> 01:15:16,719

could so the problem or i guess one of

2192

01:15:20,310 --> 01:15:18,000

the challenges isn't we

2193

01:15:21,830 --> 01:15:20,320

we haven't it's a it's this is like an

2194

01:15:22,790 --> 01:15:21,840

idea that we have kicking around in our

2195

01:15:23,590 --> 01:15:22,800

heads that we're like this would be

2196

01:15:25,350 --> 01:15:23,600

amazing

2197

01:15:27,270 --> 01:15:25,360

right we haven't thought it all the way

2198

01:15:28,390 --> 01:15:27,280

through yet though because so far what

2199

01:15:30,070 --> 01:15:28,400

we're trying to do

2200

01:15:31,590 --> 01:15:30,080

let's get a hundred trackers out there

2201

01:15:33,270 --> 01:15:31,600

you know what i mean like let's get a

2202

01:15:34,310 --> 01:15:33,280

hundred of these things deployed

2203

01:15:36,709 --> 01:15:34,320

before we start thinking about

2204

01:15:38,790 --> 01:15:36,719

triangulation yeah

2205

01:15:40,950 --> 01:15:38,800

but we would have to think about things

2206

01:15:42,870 --> 01:15:40,960

like let's say how far away

2207

01:15:45,110 --> 01:15:42,880

does each tracker have to be from each

2208

01:15:46,709 --> 01:15:45,120

other to give useful data

2209

01:15:48,310 --> 01:15:46,719

it might be that they have to be miles

2210

01:15:50,550 --> 01:15:48,320

apart do you know what i mean i see

2211

01:15:52,310 --> 01:15:50,560

depending on how high the object is yeah

2212

01:15:52,550 --> 01:15:52,320

because you can think like if the object

2213

01:15:55,830 --> 01:15:52,560

is

2214

01:15:56,470 --> 01:15:55,840

up in the um if it's flying in say the

2215

01:15:58,790 --> 01:15:56,480

same

2216

01:15:59,910 --> 01:15:58,800

airspace it's like an airplane then

2217

01:16:01,750 --> 01:15:59,920

having them

2218

01:16:03,669 --> 01:16:01,760

a thousand yards apart probably isn't

2219

01:16:05,270 --> 01:16:03,679

going to tell us very much

2220

01:16:06,630 --> 01:16:05,280

but if we're able to have them then say

2221

01:16:07,590 --> 01:16:06,640

miles apart that might be more

2222

01:16:09,669 --> 01:16:07,600

interesting

2223

01:16:11,030 --> 01:16:09,679

right and that's why actually and that

2224

01:16:14,229 --> 01:16:11,040

and that's in that

2225

01:16:15,350 --> 01:16:14,239

um in that scenario what actually might

2226

01:16:18,070 --> 01:16:15,360

be better is

2227

01:16:19,030 --> 01:16:18,080

you build one um and you help someone

2228

01:16:20,149 --> 01:16:19,040

else build one

2229

01:16:22,229 --> 01:16:20,159

you know what i mean we ask you when it

2230

01:16:23,110 --> 01:16:22,239

comes to let me ask you when it comes to

2231

01:16:25,830 --> 01:16:23,120

the building i mean

2232

01:16:28,310 --> 01:16:25,840

when i was a little kid i had one of

2233

01:16:30,229 --> 01:16:28,320

those kits and built a crystal radio so

2234

01:16:31,350 --> 01:16:30,239

i i kind of like you know that type of

2235

01:16:34,630 --> 01:16:31,360

tinkering things like that

2236

01:16:36,630 --> 01:16:34,640

how difficult is this for say like the

2237

01:16:37,830 --> 01:16:36,640

average person if he wants to put one of

2238

01:16:39,270 --> 01:16:37,840

these units together

2239

01:16:40,870 --> 01:16:39,280

so what type of background would you

2240

01:16:43,590 --> 01:16:40,880

have to have it is actually

2241

01:16:44,870 --> 01:16:43,600

really simple so i have never built a

2242

01:16:47,750 --> 01:16:44,880

i've never built a pc

2243

01:16:49,189 --> 01:16:47,760

in my life you know what i mean i break

2244

01:16:51,590 --> 01:16:49,199

computers

2245

01:16:53,350 --> 01:16:51,600

like that that's just what i do you know

2246

01:16:55,350 --> 01:16:53,360

um the fact that i've been able to

2247

01:16:57,030 --> 01:16:55,360

figure out how to do the podcast

2248

01:16:59,350 --> 01:16:57,040

with just like three chords it's a

2249

01:17:01,750 --> 01:16:59,360

mystery you know it's amazing right

2250

01:17:03,189 --> 01:17:01,760

so the fact that i was able to build

2251

01:17:04,950 --> 01:17:03,199

this thing i'm not even kidding like the

2252

01:17:07,669 --> 01:17:04,960

fact that i was able to build this thing

2253

01:17:08,149 --> 01:17:07,679

is a modern miracle um it's it's really

2254

01:17:11,430 --> 01:17:08,159

simple

2255

01:17:12,390 --> 01:17:11,440

right it's literally um all of this is

2256

01:17:15,750 --> 01:17:12,400

plug and play

2257

01:17:18,310 --> 01:17:15,760

right so what i mean by that is you are

2258

01:17:19,910 --> 01:17:18,320

you're basically getting a jetson nano

2259

01:17:22,950 --> 01:17:19,920

you're taking it out of the box

2260

01:17:25,350 --> 01:17:22,960

you're plugging in a power cord um

2261

01:17:27,750 --> 01:17:25,360

and you are plugging it in through an

2262

01:17:29,430 --> 01:17:27,760

already created usb port on it

2263

01:17:31,430 --> 01:17:29,440

to a computer screen and a keyboard and

2264

01:17:32,630 --> 01:17:31,440

a mouse your nano is ready to run

2265

01:17:35,430 --> 01:17:32,640

already

2266

01:17:37,270 --> 01:17:35,440

right it runs out of the box what you

2267

01:17:37,669 --> 01:17:37,280

need to do to modify it to become a sky

2268

01:17:41,350 --> 01:17:37,679

hub

2269

01:17:43,990 --> 01:17:41,360

gps unit

2270

01:17:45,270 --> 01:17:44,000

you plug it into another usb port you

2271

01:17:46,870 --> 01:17:45,280

take the fan

2272

01:17:48,630 --> 01:17:46,880

and you just the fan is probably the

2273

01:17:50,870 --> 01:17:48,640

most complicated part

2274

01:17:52,630 --> 01:17:50,880

the fan you kind of plug the pins in but

2275

01:17:55,270 --> 01:17:52,640

it's very easy to do still

2276

01:17:57,110 --> 01:17:55,280

it's a great how-to online and you just

2277

01:17:59,110 --> 01:17:57,120

screw it into the heatsink on the thing

2278

01:18:01,669 --> 01:17:59,120

itself which again is very simple

2279

01:18:02,870 --> 01:18:01,679

um and your system's running right this

2280

01:18:06,229 --> 01:18:02,880

is literally like

2281

01:18:08,310 --> 01:18:06,239

you're plugging in usb dongles um it's

2282

01:18:09,669 --> 01:18:08,320

very simple to do so it's

2283

01:18:12,070 --> 01:18:09,679

actually it's funny you might be

2284

01:18:13,910 --> 01:18:12,080

disappointed with how simple it is based

2285

01:18:15,110 --> 01:18:13,920

on the radio example right look it's

2286

01:18:17,030 --> 01:18:15,120

that's what i thought was gonna happen

2287

01:18:18,070 --> 01:18:17,040

too i got all excited i was like oh this

2288

01:18:19,510 --> 01:18:18,080

is gonna be great

2289

01:18:21,430 --> 01:18:19,520

i'm gonna solder some stuff and i'm

2290

01:18:23,430 --> 01:18:21,440

gonna get to like i'm gonna get to be

2291

01:18:25,750 --> 01:18:23,440

all electronics guy and whatever

2292

01:18:27,430 --> 01:18:25,760

i needed a phillips head screwdriver you

2293

01:18:29,590 --> 01:18:27,440

know what i mean like i was so upset at

2294

01:18:32,149 --> 01:18:29,600

how easy it was i was like come on

2295

01:18:34,149 --> 01:18:32,159

um it is a challenge yeah no challenge

2296

01:18:35,750 --> 01:18:34,159

the most challenging part has been

2297

01:18:37,350 --> 01:18:35,760

to be honest the most challenging part

2298

01:18:40,310 --> 01:18:37,360

has been

2299

01:18:42,310 --> 01:18:40,320

because right now um these are still in

2300

01:18:44,149 --> 01:18:42,320

development right so right now

2301

01:18:46,229 --> 01:18:44,159

what we're doing to like run the system

2302

01:18:49,910 --> 01:18:46,239

and everything else is we are using

2303

01:18:51,189 --> 01:18:49,920

um we're basically using linux to um

2304

01:18:53,430 --> 01:18:51,199

you know control them right because it

2305

01:18:55,830 --> 01:18:53,440

is a linux system there so

2306

01:18:57,510 --> 01:18:55,840

um what we're actually to actually like

2307

01:18:59,030 --> 01:18:57,520

get it to download everything else

2308

01:19:01,110 --> 01:18:59,040

it's not an installer right now it's

2309

01:19:03,750 --> 01:19:01,120

just through the kind of uh

2310

01:19:05,270 --> 01:19:03,760

the terminal window essentially that

2311

01:19:07,189 --> 01:19:05,280

part is a little challenging but we are

2312

01:19:08,870 --> 01:19:07,199

actually currently developing an easier

2313

01:19:11,750 --> 01:19:08,880

installer for folks so

2314

01:19:12,790 --> 01:19:11,760

you know um yeah we have a question that

2315

01:19:16,390 --> 01:19:12,800

just came up here

2316

01:19:19,430 --> 01:19:16,400

so pop that up uh from uh hobbs

2317

01:19:21,830 --> 01:19:19,440

other than watching the recordings 24 7

2318

01:19:22,709 --> 01:19:21,840

is there a mechanism in the system to

2319

01:19:25,189 --> 01:19:22,719

alert you that an

2320

01:19:27,030 --> 01:19:25,199

object has been captured absolutely yeah

2321

01:19:28,709 --> 01:19:27,040

so that's the goal right the goal

2322

01:19:30,310 --> 01:19:28,719

here with this system is that you can

2323

01:19:32,070 --> 01:19:30,320

just leave this thing running

2324

01:19:33,990 --> 01:19:32,080

and if you so basically what happens is

2325

01:19:35,270 --> 01:19:34,000

once you've installed the software and

2326

01:19:37,350 --> 01:19:35,280

everything else

2327

01:19:39,189 --> 01:19:37,360

you would go to the sky hub you

2328

01:19:42,390 --> 01:19:39,199

basically would go to your system

2329

01:19:45,669 --> 01:19:42,400

so you your your your nano has a

2330

01:19:47,510 --> 01:19:45,679

ip address right you would just go to

2331

01:19:49,110 --> 01:19:47,520

that ip address in your in your search

2332

01:19:50,390 --> 01:19:49,120

bar just like you do for your router or

2333

01:19:53,030 --> 01:19:50,400

anything else

2334

01:19:53,510 --> 01:19:53,040

and it will bring up the skyhub camera

2335

01:19:55,830 --> 01:19:53,520

um

2336

01:19:58,070 --> 01:19:55,840

ui and it'll tell you oh these are

2337

01:20:00,229 --> 01:19:58,080

captured events we have

2338

01:20:02,310 --> 01:20:00,239

right so it'll store them automatically

2339

01:20:04,229 --> 01:20:02,320

for you so you don't have to do anything

2340

01:20:06,470 --> 01:20:04,239

the if i had to give if i had to make

2341

01:20:08,470 --> 01:20:06,480

this kind of analogous to anything else

2342

01:20:10,149 --> 01:20:08,480

it's very similar to say a dash cam and

2343

01:20:11,910 --> 01:20:10,159

a car right where

2344

01:20:13,270 --> 01:20:11,920

you can leave it running and if it

2345

01:20:15,189 --> 01:20:13,280

captures something it'll tell you same

2346

01:20:17,030 --> 01:20:15,199

thing with yeah trail cam right it's

2347

01:20:19,350 --> 01:20:17,040

it's a it's it's designed so that you

2348

01:20:22,229 --> 01:20:19,360

don't have to watch it 24 hours a day

2349

01:20:22,550 --> 01:20:22,239

um because despite how much work we've

2350

01:20:25,669 --> 01:20:22,560

put

2351

01:20:27,350 --> 01:20:25,679

into sky hub we all have day jobs right

2352

01:20:28,149 --> 01:20:27,360

so yeah we all have other things we have

2353

01:20:31,110 --> 01:20:28,159

to do

2354

01:20:33,350 --> 01:20:31,120

um so yeah that's a great idea yeah i

2355

01:20:36,550 --> 01:20:33,360

mean the motion sensor type of

2356

01:20:38,310 --> 01:20:36,560

situation um you know i think uh

2357

01:20:39,990 --> 01:20:38,320

that's kind of what's in those you're

2358

01:20:40,790 --> 01:20:40,000

talking about the trail cams or whatever

2359

01:20:43,830 --> 01:20:40,800

they are for like

2360

01:20:45,189 --> 01:20:43,840

wildlife yeah similar

2361

01:20:47,110 --> 01:20:45,199

looks like someone has a couple of

2362

01:20:48,709 --> 01:20:47,120

questions here again there's uh if you

2363

01:20:49,830 --> 01:20:48,719

could put your questions in caps so i

2364

01:20:52,550 --> 01:20:49,840

don't miss them

2365

01:20:54,390 --> 01:20:52,560

and uh no phones tonight i'm sorry so if

2366

01:20:58,629 --> 01:20:54,400

you have a question for our guest

2367

01:21:01,669 --> 01:20:58,639

just put it here let's see two questions

2368

01:21:02,470 --> 01:21:01,679

wouldn't it be easier to create data if

2369

01:21:05,830 --> 01:21:02,480

all cameras

2370

01:21:08,950 --> 01:21:05,840

are the same size and the second

2371

01:21:10,390 --> 01:21:08,960

question is and the photo unit in the

2372

01:21:13,350 --> 01:21:10,400

desert

2373

01:21:13,750 --> 01:21:13,360

has a tracker camera that isn't version

2374

01:21:15,590 --> 01:21:13,760

one

2375

01:21:16,790 --> 01:21:15,600

do you understand that question yes i do

2376

01:21:19,430 --> 01:21:16,800

so yeah so

2377

01:21:21,189 --> 01:21:19,440

um okay so the first question wouldn't

2378

01:21:22,870 --> 01:21:21,199

it be easier to create data if all the

2379

01:21:25,910 --> 01:21:22,880

cameras are the same size

2380

01:21:27,590 --> 01:21:25,920

yes it would be easier but we realize

2381

01:21:29,350 --> 01:21:27,600

and recognize that that is not going to

2382

01:21:32,149 --> 01:21:29,360

be possible for everybody

2383

01:21:33,590 --> 01:21:32,159

right um some people can buy better

2384

01:21:35,830 --> 01:21:33,600

cameras and so they'll be get they'll

2385

01:21:37,990 --> 01:21:35,840

get more high resolution photos

2386

01:21:39,270 --> 01:21:38,000

right so they'll get better tracking

2387

01:21:40,310 --> 01:21:39,280

they're not better tracking but they'll

2388

01:21:43,990 --> 01:21:40,320

get better

2389

01:21:45,910 --> 01:21:44,000

um better video uh of the tracked event

2390

01:21:47,350 --> 01:21:45,920

right so that's why we need to build

2391

01:21:47,990 --> 01:21:47,360

this system in such a way that all of

2392

01:21:55,030 --> 01:21:48,000

that

2393

01:21:57,830 --> 01:21:55,040

um can be kind of

2394

01:21:58,550 --> 01:21:57,840

uh you know cohabitated together right

2395

01:22:00,390 --> 01:21:58,560

it can me

2396

01:22:01,830 --> 01:22:00,400

it has to be made to play nice with each

2397

01:22:03,830 --> 01:22:01,840

other right yeah

2398

01:22:05,189 --> 01:22:03,840

but another analogous example to this

2399

01:22:07,350 --> 01:22:05,199

would be things like say

2400

01:22:08,870 --> 01:22:07,360

um i don't know if anyone in the chat or

2401

01:22:10,310 --> 01:22:08,880

anyone watching this right now

2402

01:22:12,870 --> 01:22:10,320

is interested in say like at home

2403

01:22:14,629 --> 01:22:12,880

meteorology but things like tracking the

2404

01:22:17,030 --> 01:22:14,639

weather from your own home

2405

01:22:18,870 --> 01:22:17,040

um those don't use the same devices

2406

01:22:20,870 --> 01:22:18,880

either right those are often different

2407

01:22:23,030 --> 01:22:20,880

systems different sensors different

2408

01:22:23,990 --> 01:22:23,040

whatever same thing with say astronomy

2409

01:22:25,430 --> 01:22:24,000

hobbyists

2410

01:22:27,189 --> 01:22:25,440

those are often completely different

2411

01:22:29,510 --> 01:22:27,199

systems and everything else

2412

01:22:31,110 --> 01:22:29,520

the goal essentially is to so that as

2413

01:22:33,430 --> 01:22:31,120

that sensor data comes in

2414

01:22:34,870 --> 01:22:33,440

to habituate it to each other so that it

2415

01:22:36,709 --> 01:22:34,880

all plays nice right so

2416

01:22:38,149 --> 01:22:36,719

that's why our system has a minimum spec

2417

01:22:40,470 --> 01:22:38,159

and not a maximum spec

2418

01:22:41,270 --> 01:22:40,480

if that makes sense to you um so it's a

2419

01:22:43,270 --> 01:22:41,280

great question

2420

01:22:44,629 --> 01:22:43,280

and in a perfect world all of the units

2421

01:22:46,470 --> 01:22:44,639

would have you know

2422

01:22:48,149 --> 01:22:46,480

in a perfect world we would be making

2423

01:22:49,990 --> 01:22:48,159

these systems ourselves

2424

01:22:51,990 --> 01:22:50,000

right but we don't live in a perfect

2425

01:22:55,270 --> 01:22:52,000

world there is not a lot of money

2426

01:22:57,270 --> 01:22:55,280

in searching for ufos on the weekends

2427

01:22:58,709 --> 01:22:57,280

and so we can't ensure that all the

2428

01:23:00,550 --> 01:22:58,719

cameras are the same size

2429

01:23:01,990 --> 01:23:00,560

but it's why we suggest cameras it's why

2430

01:23:03,750 --> 01:23:02,000

we suggest systems

2431

01:23:05,110 --> 01:23:03,760

yeah the second question the photo of

2432

01:23:07,110 --> 01:23:05,120

the unit in the desert has a

2433

01:23:09,110 --> 01:23:07,120

tracker or a camera that isn't in

2434

01:23:10,229 --> 01:23:09,120

version one yep that's correct right now

2435

01:23:12,709 --> 01:23:10,239

so currently

2436

01:23:14,229 --> 01:23:12,719

the v1 version uses only the fisheye

2437

01:23:16,790 --> 01:23:14,239

camera

2438

01:23:17,430 --> 01:23:16,800

development work is underway for the pzt

2439

01:23:22,149 --> 01:23:17,440

camera

2440

01:23:24,229 --> 01:23:22,159

there ultimately again the goal here is

2441

01:23:26,310 --> 01:23:24,239

if you buy or if you get the stuff to

2442

01:23:29,030 --> 01:23:26,320

build a version one unit

2443

01:23:30,550 --> 01:23:29,040

as we develop and as we make version two

2444

01:23:32,709 --> 01:23:30,560

as we build the software for the

2445

01:23:34,229 --> 01:23:32,719

secondary sensor platforms

2446

01:23:36,390 --> 01:23:34,239

and for the pct camera and everything

2447

01:23:37,669 --> 01:23:36,400

else you'll be able to buy that stuff as

2448

01:23:39,510 --> 01:23:37,679

it happens

2449

01:23:41,510 --> 01:23:39,520

right so the goal here is we want to

2450

01:23:43,590 --> 01:23:41,520

start we want to hit the ground running

2451
01:23:45,510 --> 01:23:43,600
but we also want to be sure we also want

2452
01:23:48,229 --> 01:23:45,520
to be cognizant of the fact

2453
01:23:49,350 --> 01:23:48,239
that most people if they spend 300 on

2454
01:23:51,990 --> 01:23:49,360
this thing

2455
01:23:52,950 --> 01:23:52,000
um that's that's a big investment for

2456
01:23:54,629 --> 01:23:52,960
most people

2457
01:23:56,550 --> 01:23:54,639
you know what i mean i don't i don't

2458
01:23:57,430 --> 01:23:56,560
spend 300 on stuff for myself all that

2459
01:24:01,110 --> 01:23:57,440
often so

2460
01:24:07,750 --> 01:24:04,790
yeah that is funny uh that's from cl you

2461
01:24:08,310 --> 01:24:07,760
ufo ufo seekers aren't rich let me say

2462
01:24:09,910 --> 01:24:08,320
this

2463
01:24:11,669 --> 01:24:09,920

there there isn't money to be made

2464

01:24:14,470 --> 01:24:11,679

necessarily in ufo science

2465

01:24:16,149 --> 01:24:14,480

let's say that there's plenty of money

2466

01:24:17,669 --> 01:24:16,159

for like tv shows and stuff but

2467

01:24:19,590 --> 01:24:17,679

you know yeah we're investigating

2468

01:24:22,790 --> 01:24:19,600

anything that's really funny

2469

01:24:23,910 --> 01:24:22,800

my brother-in-law um has a phd in

2470

01:24:28,070 --> 01:24:23,920

chemistry and

2471

01:24:30,470 --> 01:24:28,080

he he retired um a few years ago from

2472

01:24:32,470 --> 01:24:30,480

los alamos labs he's actually busier now

2473

01:24:36,390 --> 01:24:32,480

as a consultant goes all over the

2474

01:24:39,510 --> 01:24:36,400

world um but anyway um i asked them

2475

01:24:40,709 --> 01:24:39,520

the question um oh i don't know it was a

2476

01:24:43,350 --> 01:24:40,719

few years ago

2477

01:24:44,950 --> 01:24:43,360

i said you know he he said you do a show

2478

01:24:47,030 --> 01:24:44,960

on ufos i said yeah

2479

01:24:48,550 --> 01:24:47,040

he's never watched it or anything but i

2480

01:24:52,310 --> 01:24:48,560

said

2481

01:24:55,110 --> 01:24:52,320

a scientist what do you think

2482

01:24:56,709 --> 01:24:55,120

um you know i'm not saying 100 sure

2483

01:24:58,229 --> 01:24:56,719

because no one really knows

2484

01:25:00,070 --> 01:24:58,239

but it's possible that we're being

2485

01:25:00,709 --> 01:25:00,080

visited what do you think about that and

2486

01:25:02,550 --> 01:25:00,719

he

2487

01:25:04,550 --> 01:25:02,560

kind of looked um because i think it's

2488

01:25:08,550 --> 01:25:04,560

very possible i was

2489

01:25:10,550 --> 01:25:08,560

shocked because his his usual science is

2490

01:25:11,590 --> 01:25:10,560

like you know i need to see data you

2491

01:25:14,149 --> 01:25:11,600

know and all this

2492

01:25:15,510 --> 01:25:14,159

but i was shocked that he actually said

2493

01:25:16,950 --> 01:25:15,520

i think it's possible

2494

01:25:19,590 --> 01:25:16,960

you know kind of like yeah i think it's

2495

01:25:22,709 --> 01:25:19,600

possible um how do you feel

2496

01:25:24,470 --> 01:25:22,719

um in general do you feel like you're

2497

01:25:25,990 --> 01:25:24,480

like a lone wolf or do you think there's

2498

01:25:28,870 --> 01:25:26,000

other people i know you mentioned

2499

01:25:29,590 --> 01:25:28,880

the scu which i think is great um and

2500

01:25:31,270 --> 01:25:29,600

there's a

2501

01:25:33,189 --> 01:25:31,280

you know a lot of phds in that that are

2502

01:25:35,590 --> 01:25:33,199

interested in this topic but

2503

01:25:36,390 --> 01:25:35,600

for the most part do you think it's a

2504

01:25:38,390 --> 01:25:36,400

tough

2505

01:25:39,590 --> 01:25:38,400

uh subject to breach you know what's

2506

01:25:43,189 --> 01:25:39,600

actually funny is

2507

01:25:46,229 --> 01:25:43,199

i have yet to meet someone

2508

01:25:48,390 --> 01:25:46,239

in the sciences who

2509

01:25:49,590 --> 01:25:48,400

um who makes who tells me like no

2510

01:25:51,030 --> 01:25:49,600

there's no way that's stupid why are you

2511

01:25:52,629 --> 01:25:51,040

wasting your time

2512

01:25:54,709 --> 01:25:52,639

i can't need one i've yet to meet one

2513

01:25:56,149 --> 01:25:54,719

right and i talk about this wonderful

2514

01:25:57,990 --> 01:25:56,159

all the time i talk about this stuff

2515

01:26:01,990 --> 01:25:58,000

right um yeah you know

2516

01:26:03,669 --> 01:26:02,000

the the most i guess pushback i've

2517

01:26:06,870 --> 01:26:03,679

gotten actually has been from

2518

01:26:08,070 --> 01:26:06,880

people in in in philosophy in the

2519

01:26:09,430 --> 01:26:08,080

humanities more so

2520

01:26:11,510 --> 01:26:09,440

than science that's part of your

2521

01:26:12,229 --> 01:26:11,520

education too right yes yeah so it's

2522

01:26:14,310 --> 01:26:12,239

philosophy

2523

01:26:15,510 --> 01:26:14,320

chemical engineering double major in

2524

01:26:17,990 --> 01:26:15,520

undergrad but so

2525

01:26:20,070 --> 01:26:18,000

the it's interesting in that way i think

2526

01:26:24,550 --> 01:26:20,080

i think for a lot of people

2527

01:26:30,629 --> 01:26:28,149

so it's it's interesting a lot of the

2528

01:26:31,430 --> 01:26:30,639

scientific community i would say today

2529

01:26:35,270 --> 01:26:31,440

is

2530

01:26:38,149 --> 01:26:35,280

real

2531

01:26:40,310 --> 01:26:38,159

likelihood that there are organisms out

2532

01:26:42,550 --> 01:26:40,320

there someplace in space

2533

01:26:44,550 --> 01:26:42,560

yeah some of them even i think a good

2534

01:26:46,390 --> 01:26:44,560

portion would even go as far to say

2535

01:26:48,550 --> 01:26:46,400

that there if there are organisms out

2536

01:26:51,270 --> 01:26:48,560

there there's no reason to think

2537

01:26:52,149 --> 01:26:51,280

that there are not there's not the

2538

01:26:54,709 --> 01:26:52,159

possibility

2539

01:26:55,910 --> 01:26:54,719
of intelligent life existing out there

2540

01:26:58,470 --> 01:26:55,920
in space

2541

01:27:00,149 --> 01:26:58,480
i think the part or the the issue for

2542

01:27:03,750 --> 01:27:00,159
the scientific community

2543

01:27:04,310 --> 01:27:03,760
comes in with when you start getting

2544

01:27:08,070 --> 01:27:04,320
into

2545

01:27:09,110 --> 01:27:08,080
very complicated very mythological

2546

01:27:11,350 --> 01:27:09,120
sounding

2547

01:27:12,149 --> 01:27:11,360
arguments or stories about how this

2548

01:27:15,189 --> 01:27:12,159
system

2549

01:27:18,229 --> 01:27:15,199
of alien intelligence works right

2550

01:27:20,550 --> 01:27:18,239
so for example um you know shows like

2551

01:27:21,270 --> 01:27:20,560

like say ancient aliens right those

2552

01:27:23,350 --> 01:27:21,280

shows do

2553

01:27:24,310 --> 01:27:23,360

no service to the ufo community they

2554

01:27:27,270 --> 01:27:24,320

they just hurt

2555

01:27:29,990 --> 01:27:27,280

it in my opinion because what ends up

2556

01:27:33,030 --> 01:27:30,000

happening is you have systems like say

2557

01:27:34,950 --> 01:27:33,040

um what we're doing or what uh

2558

01:27:36,709 --> 01:27:34,960

what christopher o'brien is doing or

2559

01:27:37,030 --> 01:27:36,719

even the work that's a you know bigelow

2560

01:27:40,470 --> 01:27:37,040

did

2561

01:27:44,229 --> 01:27:40,480

back in uh back in the late 90s and

2562

01:27:46,310 --> 01:27:44,239

2000s um getting people to agree

2563

01:27:47,590 --> 01:27:46,320

that well there's stuff in the sky we

2564

01:27:50,470 --> 01:27:47,600

don't know what it is

2565

01:27:51,110 --> 01:27:50,480

shouldn't we study it that's not a hard

2566

01:27:52,709 --> 01:27:51,120

ask

2567

01:27:54,310 --> 01:27:52,719

for science right that's not a hard

2568

01:27:57,430 --> 01:27:54,320

thing to ask them

2569

01:28:00,070 --> 01:27:57,440

what is hard though is um

2570

01:28:01,990 --> 01:28:00,080

when you then take the next step and say

2571

01:28:03,030 --> 01:28:02,000

there are intelligent beings piloting

2572

01:28:05,910 --> 01:28:03,040

these craft

2573

01:28:06,950 --> 01:28:05,920

and they're from the pleiades and they

2574

01:28:10,870 --> 01:28:06,960

can heal you

2575

01:28:13,990 --> 01:28:10,880

and you just gotta you know that it gets

2576

01:28:16,149 --> 01:28:14,000

you know what i always say is we have

2577

01:28:17,189 --> 01:28:16,159

people arguing about you know the

2578

01:28:19,830 --> 01:28:17,199

politics

2579

01:28:22,229 --> 01:28:19,840

and culture of alien civilizations and

2580

01:28:23,910 --> 01:28:22,239

we still don't have a good photo of one

2581

01:28:25,750 --> 01:28:23,920

you know what i mean like it's put in

2582

01:28:28,390 --> 01:28:25,760

the cart way before the horse we got to

2583

01:28:32,550 --> 01:28:28,400

start small

2584

01:28:34,390 --> 01:28:32,560

yeah yeah that's uh that is uh

2585

01:28:36,070 --> 01:28:34,400

really something when you when you think

2586

01:28:38,550 --> 01:28:36,080

about well just now

2587

01:28:40,550 --> 01:28:38,560

they're looking at you know there's

2588

01:28:43,430 --> 01:28:40,560

signs i forget what the particle is

2589

01:28:45,430 --> 01:28:43,440

but it's a in the upper atmosphere of

2590

01:28:48,070 --> 01:28:45,440

venus which is 900

2591

01:28:49,990 --> 01:28:48,080

yeah that's it phosphine is 900 degrees

2592

01:28:51,910 --> 01:28:50,000

fahrenheit on the surface of venus

2593

01:28:53,110 --> 01:28:51,920

but you know you in the atmosphere as

2594

01:28:55,430 --> 01:28:53,120

you go up of course

2595

01:28:56,470 --> 01:28:55,440

it cools down uh it's very possible

2596

01:28:58,790 --> 01:28:56,480

there's some type of

2597

01:29:00,550 --> 01:28:58,800

life floating in the atmosphere the

2598

01:29:01,750 --> 01:29:00,560

venusians like the contact he's been

2599

01:29:03,830 --> 01:29:01,760

talking about

2600

01:29:05,430 --> 01:29:03,840

yeah you never know man you know it's

2601
01:29:12,950 --> 01:29:05,440
it's so funny we're gonna find out that

2602
01:29:16,550 --> 01:29:14,950
and everything else it's gonna be it's

2603
01:29:18,229 --> 01:29:16,560
gonna be trippy man chemistry is gonna

2604
01:29:20,149 --> 01:29:18,239
get weird

2605
01:29:21,430 --> 01:29:20,159
that's right that's right and um you

2606
01:29:22,550 --> 01:29:21,440
know it's still

2607
01:29:24,470 --> 01:29:22,560
you know not not talking about

2608
01:29:26,229 --> 01:29:24,480
intelligent life but it's still not

2609
01:29:28,709 --> 01:29:26,239
out of the realm of possibility that

2610
01:29:31,189 --> 01:29:28,719
there was life at one time on mars

2611
01:29:32,870 --> 01:29:31,199
you know i think that's a very good

2612
01:29:33,910 --> 01:29:32,880
possibility with the water that was on

2613
01:29:36,629 --> 01:29:33,920

there at one time for

2614

01:29:38,070 --> 01:29:36,639

many millions of years you know it's it

2615

01:29:41,189 --> 01:29:38,080

is so funny to me that

2616

01:29:44,229 --> 01:29:41,199

it we know

2617

01:29:46,629 --> 01:29:44,239

that we know you know

2618

01:29:48,310 --> 01:29:46,639

one of the problems i think with one of

2619

01:29:49,669 --> 01:29:48,320

the problems i think with science too or

2620

01:29:50,390 --> 01:29:49,679

one of the issues that we kind of come

2621

01:29:53,750 --> 01:29:50,400

to today

2622

01:29:58,070 --> 01:29:53,760

is science has really focused

2623

01:30:00,470 --> 01:29:58,080

hard on sort of d

2624

01:30:02,149 --> 01:30:00,480

d magicking itself i guess is what i

2625

01:30:03,510 --> 01:30:02,159

would say right so we have this idea

2626

01:30:06,629 --> 01:30:03,520

that before

2627

01:30:09,110 --> 01:30:06,639

the before the enlightenment right um

2628

01:30:10,629 --> 01:30:09,120

you know the world was full of magic and

2629

01:30:12,229 --> 01:30:10,639

it was full of these magical thinking

2630

01:30:14,709 --> 01:30:12,239

styles and everything else

2631

01:30:16,950 --> 01:30:14,719

but as we started to become more

2632

01:30:19,270 --> 01:30:16,960

scientific and more materialist

2633

01:30:19,990 --> 01:30:19,280

the places for those kinds of ideas of

2634

01:30:22,950 --> 01:30:20,000

you know

2635

01:30:25,110 --> 01:30:22,960

non-local causality or um other

2636

01:30:25,990 --> 01:30:25,120

intelligences existing or ghosts or

2637

01:30:27,910 --> 01:30:26,000

whatever

2638

01:30:29,990 --> 01:30:27,920

all of that kind of started to go away

2639

01:30:32,629 --> 01:30:30,000

and i think we're in an era

2640

01:30:33,270 --> 01:30:32,639

now and this happens a lot with these

2641

01:30:36,709 --> 01:30:33,280

kinds of things

2642

01:30:38,550 --> 01:30:36,719

they pull in as they pull and uh push

2643

01:30:40,229 --> 01:30:38,560

that we're in a time now where a lot of

2644

01:30:43,350 --> 01:30:40,239

that metaphysical stuff

2645

01:30:47,590 --> 01:30:43,360

is coming back and so um

2646

01:30:51,350 --> 01:30:49,750

i guess the the issue with that is that

2647

01:30:53,590 --> 01:30:51,360

that that

2648

01:30:55,830 --> 01:30:53,600

metaphysical stuff can't be proven it

2649

01:30:58,550 --> 01:30:55,840

can't be scientific right and so

2650

01:31:00,149 --> 01:30:58,560

a lot of philosophers very smart people

2651
01:31:02,790 --> 01:31:00,159
throughout history

2652
01:31:03,669 --> 01:31:02,800
have kind of chosen pragmatically to say

2653
01:31:05,669 --> 01:31:03,679
well

2654
01:31:07,510 --> 01:31:05,679
that isn't scientific so we don't do

2655
01:31:08,629 --> 01:31:07,520
science with it we can't use science to

2656
01:31:09,750 --> 01:31:08,639
study that

2657
01:31:11,430 --> 01:31:09,760
and that's actually the argument that i

2658
01:31:12,390 --> 01:31:11,440
would make too right with sky hub it's

2659
01:31:16,149 --> 01:31:12,400
the argument we make

2660
01:31:19,350 --> 01:31:16,159
as a group that um you know

2661
01:31:21,430 --> 01:31:19,360
with um what's the word

2662
01:31:23,669 --> 01:31:21,440
that with the metaphysical stuff with

2663
01:31:25,750 --> 01:31:23,679

consciousness or ce5 or any other stuff

2664

01:31:27,270 --> 01:31:25,760

that's not scientific so i don't have an

2665

01:31:28,310 --> 01:31:27,280

opinion i can't have an opinion on that

2666

01:31:29,750 --> 01:31:28,320

right because

2667

01:31:30,950 --> 01:31:29,760

i mean i guess i could have an opinion

2668

01:31:31,350 --> 01:31:30,960

but it's not going to be worth anything

2669

01:31:35,430 --> 01:31:31,360

else

2670

01:31:36,470 --> 01:31:35,440

whereas with what we're doing at sky hub

2671

01:31:40,470 --> 01:31:36,480

it is designed

2672

01:31:42,950 --> 01:31:40,480

to be based on material

2673

01:31:44,070 --> 01:31:42,960

kind of conceptions of the universe um

2674

01:31:47,350 --> 01:31:44,080

so it

2675

01:31:47,750 --> 01:31:47,360

it'll play with science today it'll play

2676
01:31:49,510 --> 01:31:47,760
with

2677
01:31:51,189 --> 01:31:49,520
you know the way the world of science

2678
01:31:52,709 --> 01:31:51,199
exists so

2679
01:31:54,790 --> 01:31:52,719
i guess that's kind of a long-winded

2680
01:31:55,350 --> 01:31:54,800
philosophical explanation for why we're

2681
01:31:58,950 --> 01:31:55,360
doing

2682
01:32:01,750 --> 01:31:58,960
think it's really great

2683
01:32:02,629 --> 01:32:01,760
that you know i mean there has been you

2684
01:32:04,790 --> 01:32:02,639
know a lot of

2685
01:32:07,110 --> 01:32:04,800
different people trying to think up i

2686
01:32:10,070 --> 01:32:07,120
mean even peter davenport of all people

2687
01:32:13,750 --> 01:32:13,110
the at the ufo uh reporting center there

2688
01:32:16,070 --> 01:32:13,760

is

2689

01:32:17,590 --> 01:32:16,080

has an idea of a radar you know type

2690

01:32:19,110 --> 01:32:17,600

system this has been

2691

01:32:21,590 --> 01:32:19,120

in you know these type of ideas have

2692

01:32:23,910 --> 01:32:21,600

been in the works for a long time

2693

01:32:25,590 --> 01:32:23,920

but uh rarely does it come to the point

2694

01:32:25,990 --> 01:32:25,600

where someone's actually putting in gear

2695

01:32:27,910 --> 01:32:26,000

and really

2696

01:32:29,830 --> 01:32:27,920

going with it you know for instance i'm

2697

01:32:31,510 --> 01:32:29,840

not even really sure if chris o'brien

2698

01:32:34,390 --> 01:32:31,520

have to ask him if his units

2699

01:32:36,070 --> 01:32:34,400

are going anywhere we mentioned euphotog

2700

01:32:38,550 --> 01:32:36,080

which is ufo talk 2

2701
01:32:39,669 --> 01:32:38,560
now started out in a hummer which is

2702
01:32:43,110 --> 01:32:39,679
really awesome with

2703
01:32:45,430 --> 01:32:43,120
doug trumbull with all um talk about

2704
01:32:46,149 --> 01:32:45,440
not having a lit unlimited expense

2705
01:32:49,110 --> 01:32:46,159
account

2706
01:32:50,550 --> 01:32:49,120
um he was making something really great

2707
01:32:52,870 --> 01:32:50,560
him and mark d'antonio

2708
01:32:53,590 --> 01:32:52,880
and uh i have i'm not sure where that's

2709
01:32:56,709 --> 01:32:53,600
uh

2710
01:32:58,149 --> 01:32:56,719
where that's going so yours is yours is

2711
01:32:59,990 --> 01:32:58,159
ready to launch

2712
01:33:02,149 --> 01:33:00,000
at some point right um do you know

2713
01:33:03,510 --> 01:33:02,159

exactly what is your goal as far as

2714

01:33:04,870 --> 01:33:03,520

actually launching this thing and

2715

01:33:06,870 --> 01:33:04,880

getting it operational

2716

01:33:08,790 --> 01:33:06,880

so right now if you join the chat you

2717

01:33:09,990 --> 01:33:08,800

can build one and you can start loading

2718

01:33:11,830 --> 01:33:10,000

in the code already

2719

01:33:13,750 --> 01:33:11,840

right we haven't officially launched

2720

01:33:15,750 --> 01:33:13,760

which means we don't have a

2721

01:33:17,189 --> 01:33:15,760

we don't have a code that is not still

2722

01:33:18,950 --> 01:33:17,199

being updated

2723

01:33:20,229 --> 01:33:18,960

right but you can come in and play with

2724

01:33:21,990 --> 01:33:20,239

the beta version all you want

2725

01:33:23,910 --> 01:33:22,000

right like you can come help us make it

2726

01:33:25,270 --> 01:33:23,920

better by telling us the bugs you're

2727

01:33:27,750 --> 01:33:25,280

seeing and everything else

2728

01:33:29,830 --> 01:33:27,760

um actually recently a big bug that we

2729

01:33:31,270 --> 01:33:29,840

just overcame was the gps units

2730

01:33:32,709 --> 01:33:31,280

um there was something like going on

2731

01:33:33,910 --> 01:33:32,719

with those or whatever we figured out

2732

01:33:35,590 --> 01:33:33,920

how to fix them

2733

01:33:37,030 --> 01:33:35,600

um so right now we're still kind of in

2734

01:33:38,229 --> 01:33:37,040

beta right we're late beta but we're

2735

01:33:40,790 --> 01:33:38,239

still in beta

2736

01:33:41,910 --> 01:33:40,800

the goal for this to launch is within

2737

01:33:43,750 --> 01:33:41,920

the next

2738

01:33:45,830 --> 01:33:43,760

month or so is kind of the ideal

2739

01:33:48,950 --> 01:33:45,840

situation but again

2740

01:33:51,910 --> 01:33:48,960

um this is really at the end of the day

2741

01:33:52,950 --> 01:33:51,920

it's a team of it's a team of people who

2742

01:33:53,669 --> 01:33:52,960

are interested in this building it

2743

01:33:55,189 --> 01:33:53,679

together

2744

01:33:56,790 --> 01:33:55,199

you know what i mean and i think that's

2745

01:33:58,149 --> 01:33:56,800

the other thing too that kind of helps

2746

01:33:59,350 --> 01:33:58,159

these projects

2747

01:34:01,030 --> 01:33:59,360

one of the other challenges that's

2748

01:34:02,070 --> 01:34:01,040

always been with these projects is it's

2749

01:34:04,550 --> 01:34:02,080

kind of a group

2750

01:34:05,110 --> 01:34:04,560

it's a very small group of people who

2751

01:34:08,149 --> 01:34:05,120

are

2752

01:34:09,990 --> 01:34:08,159

um gonna do this and then if one of them

2753

01:34:11,510 --> 01:34:10,000

have an issue that come up or if

2754

01:34:13,750 --> 01:34:11,520

it's a challenge or whatever it can't go

2755

01:34:15,430 --> 01:34:13,760

anywhere else this is really a group of

2756

01:34:16,870 --> 01:34:15,440

it's a group of us building this you

2757

01:34:18,629 --> 01:34:16,880

know what i mean um

2758

01:34:20,709 --> 01:34:18,639

and anyone in the chat anyone watching

2759

01:34:22,950 --> 01:34:20,719

this if they want to get involved they

2760

01:34:25,110 --> 01:34:22,960

can join the chat they can help us

2761

01:34:27,189 --> 01:34:25,120

um and they can get started you know but

2762

01:34:29,110 --> 01:34:27,199

so when we officially launch when we

2763

01:34:29,990 --> 01:34:29,120

have that bug free code that goes out to

2764

01:34:31,510 --> 01:34:30,000

the public

2765

01:34:33,270 --> 01:34:31,520

um just with an easy installer and

2766

01:34:34,709 --> 01:34:33,280

everything else martin you will be one

2767

01:34:36,709 --> 01:34:34,719

of the first people i tell

2768

01:34:37,830 --> 01:34:36,719

um and you can forward it to the chat

2769

01:34:40,070 --> 01:34:37,840

and everyone else

2770

01:34:42,629 --> 01:34:40,080

but please do join our chat and look on

2771

01:34:44,390 --> 01:34:42,639

the wiki and see what we can do already

2772

01:34:47,030 --> 01:34:44,400

all right now did you ever i don't know

2773

01:34:49,590 --> 01:34:47,040

if you followed this but at one time

2774

01:34:51,270 --> 01:34:49,600

there was the and i actually had one of

2775

01:34:55,750 --> 01:34:51,280

the people on my show here

2776

01:34:57,430 --> 01:34:55,760

the cubesat thing that um

2777

01:34:58,790 --> 01:34:57,440

uh are you familiar with that there's a

2778

01:35:01,910 --> 01:34:58,800

ufo detection

2779

01:35:03,350 --> 01:35:01,920

through uh a cubesat thing i'm having a

2780

01:35:06,790 --> 01:35:03,360

distortion on my

2781

01:35:09,030 --> 01:35:06,800

background i have to change that um

2782

01:35:10,470 --> 01:35:09,040

had you ever heard of that so yeah we've

2783

01:35:10,790 --> 01:35:10,480

heard of that so actually it's funny

2784

01:35:12,790 --> 01:35:10,800

that's

2785

01:35:14,310 --> 01:35:12,800

it was it was the indiegogo project

2786

01:35:15,510 --> 01:35:14,320

right um

2787

01:35:17,350 --> 01:35:15,520

they were trying to fund it through

2788

01:35:20,709 --> 01:35:17,360

indiegogo um

2789

01:35:24,149 --> 01:35:20,719

yeah it's a really interesting idea it's

2790

01:35:26,830 --> 01:35:24,159

we're doing we're not so

2791

01:35:28,229 --> 01:35:26,840

that was a satellite right if unless i'm

2792

01:35:29,990 --> 01:35:28,239

missing and it was up in

2793

01:35:31,669 --> 01:35:30,000

orbit for a short time not very long

2794

01:35:33,030 --> 01:35:31,679

time so

2795

01:35:34,390 --> 01:35:33,040

that's one of the goals or that's one of

2796

01:35:34,790 --> 01:35:34,400

the reasons why we're doing what we are

2797

01:35:37,430 --> 01:35:34,800

doing

2798

01:35:39,270 --> 01:35:37,440

is that it is a lot easier for people to

2799

01:35:41,270 --> 01:35:39,280

put one of these things out on their

2800

01:35:45,590 --> 01:35:41,280

patio than it is to get something in

2801
01:35:49,750 --> 01:35:47,590
it's kind of um the good thing about

2802
01:35:53,669 --> 01:35:49,760
being on a team of engineers

2803
01:35:55,270 --> 01:35:53,679
is you know um like the first couple of

2804
01:35:56,870 --> 01:35:55,280
the first couple of these units that

2805
01:35:57,830 --> 01:35:56,880
have been deployed that are just testing

2806
01:36:00,790 --> 01:35:57,840
units

2807
01:36:02,390 --> 01:36:00,800
they're in like you know rain proof

2808
01:36:03,350 --> 01:36:02,400
plastic boxes

2809
01:36:04,950 --> 01:36:03,360
you know what i mean it's because you

2810
01:36:06,950 --> 01:36:04,960
got to work smart you can't work hard

2811
01:36:08,629 --> 01:36:06,960
right work smarter not harder

2812
01:36:11,750 --> 01:36:08,639
um that's kind of what we're trying to

2813
01:36:14,870 --> 01:36:11,760

do here so it's a really great idea

2814

01:36:16,070 --> 01:36:14,880

but i think um you know it's going to be

2815

01:36:17,830 --> 01:36:16,080

another one of those things that we kind

2816

01:36:19,590 --> 01:36:17,840

of try to learn from right as we as we

2817

01:36:21,750 --> 01:36:19,600

kind of look through this stuff

2818

01:36:22,790 --> 01:36:21,760

we're starting the literature search

2819

01:36:24,149 --> 01:36:22,800

very early right

2820

01:36:26,470 --> 01:36:24,159

we're starting like i said in the 50s

2821

01:36:28,470 --> 01:36:26,480

and 60s so there is a lot of

2822

01:36:29,830 --> 01:36:28,480

paper there's a lot of research work

2823

01:36:31,669 --> 01:36:29,840

there's a lot of

2824

01:36:32,870 --> 01:36:31,679

just stuff to kind of slog through and

2825

01:36:34,470 --> 01:36:32,880

learn from

2826

01:36:36,149 --> 01:36:34,480

um and that's the process we're still

2827

01:36:37,750 --> 01:36:36,159

doing so we'll uh

2828

01:36:39,990 --> 01:36:37,760

if anyone from that team wants to reach

2829

01:36:43,109 --> 01:36:40,000

out please do now you

2830

01:36:44,229 --> 01:36:43,119

you mentioned earlier that um you you

2831

01:36:47,189 --> 01:36:44,239

were looking over

2832

01:36:48,790 --> 01:36:47,199

at your windowsill so is this something

2833

01:36:52,390 --> 01:36:48,800

that's actually

2834

01:36:54,149 --> 01:36:52,400

or can you mount it inside of your house

2835

01:36:56,229 --> 01:36:54,159

looking out a window or does it have to

2836

01:36:57,830 --> 01:36:56,239

be outside

2837

01:36:59,270 --> 01:36:57,840

so mine currently is sitting on my

2838

01:37:02,709 --> 01:36:59,280

windowsill because we're still

2839

01:37:06,229 --> 01:37:02,719

testing stuff i see um yeah so

2840

01:37:07,430 --> 01:37:06,239

the ultimate goal here is okay the unit

2841

01:37:08,709 --> 01:37:07,440

so that's actually one of the things

2842

01:37:10,870 --> 01:37:08,719

that we're trying to play with

2843

01:37:12,149 --> 01:37:10,880

internally is this idea of maybe having

2844

01:37:14,070 --> 01:37:12,159

it be

2845

01:37:15,189 --> 01:37:14,080

wireless or something like that although

2846

01:37:16,950 --> 01:37:15,199

that's going to be a big challenge or

2847

01:37:18,790 --> 01:37:16,960

that's a it's an engineering hurdle

2848

01:37:21,350 --> 01:37:18,800

that we haven't even considered at this

2849

01:37:23,350 --> 01:37:21,360

point yet like a bluetooth type of thing

2850

01:37:25,830 --> 01:37:23,360

something yeah right something like that

2851

01:37:28,950 --> 01:37:25,840

but the way it currently works basically

2852

01:37:31,990 --> 01:37:28,960

or the way that we designed it right now

2853

01:37:34,070 --> 01:37:32,000

is it is something where um

2854

01:37:36,310 --> 01:37:34,080

it is something where you can basically

2855

01:37:38,950 --> 01:37:36,320

have it running to a power outlet

2856

01:37:40,709 --> 01:37:38,960

um in your home so maybe it's on the

2857

01:37:41,350 --> 01:37:40,719

roof maybe it's out on the patio or on a

2858

01:37:42,950 --> 01:37:41,360

porch

2859

01:37:44,950 --> 01:37:42,960

maybe it's in your backyard right on you

2860

01:37:47,430 --> 01:37:44,960

know right near your house or whatever

2861

01:37:47,990 --> 01:37:47,440

but if you put it inside the challenge

2862

01:37:49,830 --> 01:37:48,000

that we're

2863

01:37:51,590 --> 01:37:49,840

we're going to probably face is the

2864

01:37:52,470 --> 01:37:51,600

window itself will have glare

2865

01:37:54,709 --> 01:37:52,480

you're not going to be able to get a

2866

01:37:55,990 --> 01:37:54,719

very good photo right and windows are

2867

01:37:59,189 --> 01:37:56,000

facing normally

2868

01:38:01,430 --> 01:37:59,199

are facing you know uh vertically

2869

01:38:03,189 --> 01:38:01,440

exactly right yeah if we're talking like

2870

01:38:04,550 --> 01:38:03,199

a skylight like maybe that'll be

2871

01:38:06,470 --> 01:38:04,560

different but you know

2872

01:38:08,390 --> 01:38:06,480

yeah in my house right now i think i

2873

01:38:09,990 --> 01:38:08,400

think my camera in its testing mode has

2874

01:38:13,590 --> 01:38:10,000

probably captured more

2875

01:38:16,870 --> 01:38:13,600

um images of my cats right now

2876

01:38:19,430 --> 01:38:16,880

anything in the sky but the ones

2877

01:38:20,629 --> 01:38:19,440

are working great yeah a listener over

2878

01:38:22,790 --> 01:38:20,639

uh facebook

2879

01:38:25,030 --> 01:38:22,800

uh hobbs has this question could you

2880

01:38:26,550 --> 01:38:25,040

envision school setting up a unit

2881

01:38:29,189 --> 01:38:26,560

i'm thinking of a high school science

2882

01:38:30,390 --> 01:38:29,199

club etc absolutely yeah we would love

2883

01:38:33,669 --> 01:38:30,400

to see that happen

2884

01:38:35,910 --> 01:38:33,679

so what a nice science project exactly

2885

01:38:37,350 --> 01:38:35,920

it's so it's it is a

2886

01:38:39,669 --> 01:38:37,360

it is absolutely something we would love

2887

01:38:42,870 --> 01:38:39,679

to see people do if they would like to

2888

01:38:43,830 --> 01:38:42,880

um it's a great great idea and it is

2889

01:38:45,270 --> 01:38:43,840

something that we've started kind of

2890

01:38:46,790 --> 01:38:45,280

playing around with again

2891

01:38:49,270 --> 01:38:46,800

um and that's something that we're going

2892

01:38:51,510 --> 01:38:49,280

to kind of think about more as we

2893

01:38:53,350 --> 01:38:51,520

uh what's the word as we get that first

2894

01:38:54,709 --> 01:38:53,360

you know perfect version out there for

2895

01:38:57,990 --> 01:38:54,719

people to download

2896

01:38:59,830 --> 01:38:58,000

um if you are if you are a science

2897

01:39:01,750 --> 01:38:59,840

teacher at a school or a university or

2898

01:39:03,430 --> 01:39:01,760

whatever or you just

2899

01:39:04,790 --> 01:39:03,440

have i don't know a boy scout troop girl

2900

01:39:06,229 --> 01:39:04,800

scout troop whatever

2901

01:39:08,149 --> 01:39:06,239

that do this kind of stuff and might be

2902

01:39:10,070 --> 01:39:08,159

interested in doing this let us know we

2903

01:39:11,510 --> 01:39:10,080

would love to we would love to help that

2904

01:39:13,590 --> 01:39:11,520

i think it's a great idea

2905

01:39:15,270 --> 01:39:13,600

actually we do have a science teacher in

2906

01:39:17,510 --> 01:39:15,280

uh canada that was

2907

01:39:18,870 --> 01:39:17,520

just emailed me um that listens to the

2908

01:39:20,310 --> 01:39:18,880

show hopefully he's listening

2909

01:39:22,070 --> 01:39:20,320

yeah that'd be wonderful we would really

2910

01:39:25,350 --> 01:39:22,080

love it uh

2911

01:39:28,149 --> 01:39:25,360

yeah great well um so

2912

01:39:30,149 --> 01:39:28,159

as far as let's get let's get back um

2913

01:39:32,870 --> 01:39:30,159

let's switch gears just a little bit

2914

01:39:34,310 --> 01:39:32,880

um and let's talk about your podcast

2915

01:39:36,550 --> 01:39:34,320

because i know you do

2916

01:39:37,430 --> 01:39:36,560

mostly one podcast the mad scientist

2917

01:39:39,750 --> 01:39:37,440

podcast

2918

01:39:40,870 --> 01:39:39,760

but um you're you have another one as

2919

01:39:42,950 --> 01:39:40,880

well

2920

01:39:44,709 --> 01:39:42,960

yes we have another we have a show that

2921

01:39:46,310 --> 01:39:44,719

so the mad scientist podcast i do with

2922

01:39:48,470 --> 01:39:46,320

my co-host marie

2923

01:39:49,510 --> 01:39:48,480

and marie has a show called um whatever

2924

01:39:51,030 --> 01:39:49,520

remains

2925

01:39:52,790 --> 01:39:51,040

that it would be great if people went

2926

01:39:54,790 --> 01:39:52,800

and checked out it is a uh

2927

01:39:56,149 --> 01:39:54,800

it is a lot of fun so she's actually

2928

01:39:58,790 --> 01:39:56,159

doing now uh

2929

01:39:59,590 --> 01:39:58,800

a series on the circleville letters

2930

01:40:02,149 --> 01:39:59,600

which is kind of an

2931

01:40:03,430 --> 01:40:02,159

interesting true crime sort of story

2932

01:40:04,310 --> 01:40:03,440

that's been going on so the mad

2933

01:40:06,470 --> 01:40:04,320

scientist

2934

01:40:08,070 --> 01:40:06,480

is the show that i do with her that show

2935

01:40:09,669 --> 01:40:08,080

is much more kind of conversational we

2936

01:40:12,310 --> 01:40:09,679

talk about different topics

2937

01:40:14,310 --> 01:40:12,320

um you know we talked recently we're

2938

01:40:16,550 --> 01:40:14,320

doing an episode now on

2939

01:40:18,070 --> 01:40:16,560

um the discovery of king tut's tomb

2940

01:40:19,910 --> 01:40:18,080

which is really interesting and kind of

2941

01:40:21,510 --> 01:40:19,920

some of the story there that's

2942

01:40:23,189 --> 01:40:21,520

in the background of this figure who

2943

01:40:23,510 --> 01:40:23,199

found it and everything else it's i love

2944

01:40:26,629 --> 01:40:23,520

that

2945

01:40:29,830 --> 01:40:26,639

me

2946

01:40:30,390 --> 01:40:29,840

and the things they found when they

2947

01:40:33,510 --> 01:40:30,400

finally

2948

01:40:33,990 --> 01:40:33,520

found that tomb were just sitting like

2949

01:40:36,629 --> 01:40:34,000

they were

2950

01:40:37,510 --> 01:40:36,639

sealed up yesterday yeah amazing it is

2951

01:40:41,750 --> 01:40:37,520

you know

2952

01:40:43,109 --> 01:40:41,760

three thousand year old

2953

01:40:44,950 --> 01:40:43,119

wood just sitting there like it was

2954

01:40:47,109 --> 01:40:44,960

brand new dart

2955

01:40:47,990 --> 01:40:47,119

wearing it or whatever it is yeah that

2956

01:40:49,270 --> 01:40:48,000

was one of the

2957

01:40:51,430 --> 01:40:49,280

one of the quotes that actually i really

2958

01:40:52,709 --> 01:40:51,440

like from the last episode we did on it

2959

01:40:55,669 --> 01:40:52,719

was

2960

01:40:57,830 --> 01:40:55,679

as soon as they opened up the chamber

2961

01:40:59,669 --> 01:40:57,840

air started flowing out hot air started

2962

01:41:02,550 --> 01:40:59,679

coming out of the chamber

2963

01:41:04,229 --> 01:41:02,560

and then you the there's a quote in

2964

01:41:04,870 --> 01:41:04,239

there from a chemist who actually helped

2965

01:41:09,109 --> 01:41:04,880

there's a

2966

01:41:11,669 --> 01:41:09,119

responsible for

2967

01:41:13,669 --> 01:41:11,679

basically making sure all of the objects

2968

01:41:15,830 --> 01:41:13,679

that came out of the tomb

2969

01:41:17,830 --> 01:41:15,840

were able to be transported and safe

2970

01:41:19,750 --> 01:41:17,840

from the atmosphere because as soon as

2971

01:41:22,229 --> 01:41:19,760

you opened it up it started degrading

2972

01:41:23,270 --> 01:41:22,239

yes exactly and so there's like yeah

2973

01:41:25,109 --> 01:41:23,280

there's a quote

2974

01:41:26,550 --> 01:41:25,119

from i want to say it's from the canvas

2975

01:41:27,590 --> 01:41:26,560

but it might have been from

2976

01:41:30,550 --> 01:41:27,600

one of the archaeologists but

2977

01:41:34,070 --> 01:41:30,560

essentially the quote is as soon as they

2978

01:41:37,270 --> 01:41:34,080

open the door they started hearing wood

2979

01:41:38,950 --> 01:41:37,280

crack they started hearing like papers

2980

01:41:40,550 --> 01:41:38,960

they were like you could hear the

2981

01:41:43,270 --> 01:41:40,560

degradation happen

2982

01:41:44,070 --> 01:41:43,280

it's just it's it's amazing it's oh it's

2983

01:41:46,229 --> 01:41:44,080

crazy

2984

01:41:47,350 --> 01:41:46,239

yeah yeah um but you look at the

2985

01:41:50,709 --> 01:41:47,360

pictures

2986

01:41:53,830 --> 01:41:50,719

and it's you just

2987

01:41:56,070 --> 01:41:53,840

it's just amazing just amazing it's a

2988

01:41:56,950 --> 01:41:56,080

great it's a very very interesting story

2989

01:41:58,229 --> 01:41:56,960

and it's wonderful yeah

2990

01:42:00,709 --> 01:41:58,239

they never thought they were gonna find

2991

01:42:02,629 --> 01:42:00,719

it for a long time no it's so crazy

2992

01:42:04,229 --> 01:42:02,639

it's it's really cool so if you if you

2993

01:42:04,550 --> 01:42:04,239

like that kind of stuff so we did that

2994

01:42:12,310 --> 01:42:04,560

we

2995

01:42:13,590 --> 01:42:12,320

on um kind of the history of robert

2996

01:42:16,149 --> 01:42:13,600

bigelow's

2997

01:42:18,390 --> 01:42:16,159

forays into the ufo world which was oh

2998

01:42:21,590 --> 01:42:18,400

so much research work it took so

2999

01:42:23,990 --> 01:42:21,600

long to do um i have like

3000

01:42:25,590 --> 01:42:24,000

hundreds of documents and pages and

3001

01:42:27,270 --> 01:42:25,600

everything else that are just like

3002

01:42:28,790 --> 01:42:27,280

you know oh my we couldn't have done it

3003

01:42:30,709 --> 01:42:28,800

without frankly the work of so many

3004

01:42:32,229 --> 01:42:30,719

other great researchers before us

3005

01:42:33,910 --> 01:42:32,239

but that was a really great series we

3006

01:42:36,470 --> 01:42:33,920

did that was a lot of fun now

3007

01:42:37,510 --> 01:42:36,480

you can find that easily on the mad

3008

01:42:39,910 --> 01:42:37,520

scientist podcast

3009

01:42:42,149 --> 01:42:39,920

so i'm i'm going to listen to that yeah

3010

01:42:42,790 --> 01:42:42,159

look for look for it on spotify they're

3011

01:42:44,070 --> 01:42:42,800

on youtube

3012

01:42:46,470 --> 01:42:44,080

actually too although our youtube

3013

01:42:48,790 --> 01:42:46,480

channel is just the podcast we uploaded

3014

01:42:50,790 --> 01:42:48,800

uh look for us on speaker on every

3015

01:42:52,390 --> 01:42:50,800

podcast platform you're on you can you

3016

01:42:53,750 --> 01:42:52,400

can find our episodes so just search for

3017

01:42:56,790 --> 01:42:53,760

the mad scientist podcast

3018

01:42:57,510 --> 01:42:56,800

and we should be there yeah yeah i will

3019

01:42:59,910 --> 01:42:57,520

definitely

3020

01:43:01,189 --> 01:42:59,920

check that for i mean that those two you

3021

01:43:02,629 --> 01:43:01,199

just mentioned

3022

01:43:04,229 --> 01:43:02,639

those are the things i really love i

3023

01:43:06,310 --> 01:43:04,239

hope you like them yeah they're a lot of

3024

01:43:08,550 --> 01:43:06,320

fun we actually this season

3025

01:43:11,030 --> 01:43:08,560

we started off this season with a series

3026
01:43:12,870 --> 01:43:11,040
on um

3027
01:43:14,709 --> 01:43:12,880
we did us we basically wanted to start

3028
01:43:15,510 --> 01:43:14,719
the series off with archaeology

3029
01:43:17,830 --> 01:43:15,520
you know what i mean because that's

3030
01:43:20,310 --> 01:43:17,840
something we both love and we hadn't

3031
01:43:21,189 --> 01:43:20,320
touched on before last season we did a

3032
01:43:27,510 --> 01:43:21,199
lot of

3033
01:43:28,950 --> 01:43:27,520
stuff and whatever

3034
01:43:30,709 --> 01:43:28,960
this season we were like let's do let's

3035
01:43:31,270 --> 01:43:30,719
do archaeology let's do some cool stuff

3036
01:43:32,709 --> 01:43:31,280
there

3037
01:43:34,950 --> 01:43:32,719
and so the first series we did was

3038
01:43:35,669 --> 01:43:34,960

actually on troy and the discovery of

3039

01:43:37,590 --> 01:43:35,679

troy

3040

01:43:39,030 --> 01:43:37,600

and then this one i was on is on king

3041

01:43:40,310 --> 01:43:39,040

tut and we have some others coming up

3042

01:43:41,590 --> 01:43:40,320

too that i hope will be

3043

01:43:43,430 --> 01:43:41,600

i hope it'll be interesting it's it's

3044

01:43:44,629 --> 01:43:43,440

going to be a lot of fun so you know i

3045

01:43:47,590 --> 01:43:44,639

think a a really

3046

01:43:49,030 --> 01:43:47,600

interesting topic um you know and maybe

3047

01:43:52,149 --> 01:43:49,040

you've already talked about it

3048

01:43:53,669 --> 01:43:52,159

on on your on your show but is

3049

01:43:56,709 --> 01:43:53,679

when they would have to change the

3050

01:43:59,750 --> 01:43:56,719

history book when they find something

3051

01:44:01,590 --> 01:43:59,760

that goes against oh sure like

3052

01:44:02,870 --> 01:44:01,600

for instance uh when they settled north

3053

01:44:04,950 --> 01:44:02,880

america when humans

3054

01:44:06,629 --> 01:44:04,960

supposedly first settled north america

3055

01:44:10,070 --> 01:44:06,639

that type of thing and they find

3056

01:44:12,310 --> 01:44:10,080

something that kind of goes against that

3057

01:44:13,270 --> 01:44:12,320

you know those type of fines i think are

3058

01:44:15,109 --> 01:44:13,280

very interesting

3059

01:44:17,109 --> 01:44:15,119

we that's it's funny actually that's

3060

01:44:19,430 --> 01:44:17,119

kind of right where our

3061

01:44:21,030 --> 01:44:19,440

our show sits a lot of our episodes sit

3062

01:44:22,870 --> 01:44:21,040

at those points where

3063

01:44:24,310 --> 01:44:22,880

we look at stories where science and

3064

01:44:27,669 --> 01:44:24,320

pseudoscience

3065

01:44:30,070 --> 01:44:27,679

um or um

3066

01:44:31,830 --> 01:44:30,080

you know where history and pseudohistory

3067

01:44:32,790 --> 01:44:31,840

or history and not yet discovered

3068

01:44:34,390 --> 01:44:32,800

history

3069

01:44:35,910 --> 01:44:34,400

where those things merge and they kind

3070

01:44:37,750 --> 01:44:35,920

of clash right that's the interesting

3071

01:44:41,109 --> 01:44:37,760

part that's the areas where

3072

01:44:44,790 --> 01:44:41,119

cool stuff happens and so yeah no we

3073

01:44:47,350 --> 01:44:44,800

we will we my co-host has been

3074

01:44:48,070 --> 01:44:47,360

dying to do an episode on like ancient

3075

01:44:51,270 --> 01:44:48,080

american

3076

01:44:52,950 --> 01:44:51,280

history stuff like you know about um

3077

01:44:54,870 --> 01:44:52,960

yeah like vikings and all that other

3078

01:44:56,470 --> 01:44:54,880

stuff and whatever and we just haven't

3079

01:44:58,470 --> 01:44:56,480

done it yet but it's all it's on the

3080

01:45:01,350 --> 01:44:58,480

talking it's in the docket don't worry

3081

01:45:03,350 --> 01:45:01,360

yeah it'll be good yeah i know uh you

3082

01:45:06,870 --> 01:45:03,360

know columbus gets all the glory

3083

01:45:08,950 --> 01:45:06,880

but there's well that's what's so

3084

01:45:11,350 --> 01:45:08,960

interesting right with with troy

3085

01:45:13,910 --> 01:45:11,360

um the guy that supposedly just

3086

01:45:17,109 --> 01:45:13,920

rediscovered the lost city of troy

3087

01:45:20,229 --> 01:45:17,119

is this guy whose name is schliemann and

3088

01:45:22,709 --> 01:45:20,239

if you actually like read uh if you read

3089

01:45:23,350 --> 01:45:22,719

kind of the history and everything else

3090

01:45:26,470 --> 01:45:23,360

he didn't

3091

01:45:27,109 --> 01:45:26,480

really rediscover troy he'd you know he

3092

01:45:30,310 --> 01:45:27,119

just

3093

01:45:32,790 --> 01:45:30,320

he went to where troy was

3094

01:45:34,310 --> 01:45:32,800

said to be and he just went there and

3095

01:45:36,709 --> 01:45:34,320

the people were like yeah

3096

01:45:37,430 --> 01:45:36,719

this was troy and he's like i did it i

3097

01:45:38,790 --> 01:45:37,440

did it

3098

01:45:40,870 --> 01:45:38,800

it's like you didn't do anything you

3099

01:45:43,430 --> 01:45:40,880

know what i mean like you

3100

01:45:44,070 --> 01:45:43,440

slam dunk yeah slam dunk this is perfect

3101

01:45:46,149 --> 01:45:44,080

right it's like

3102

01:45:47,350 --> 01:45:46,159

it's like me rediscovering montana you

3103

01:45:49,270 --> 01:45:47,360

know what i mean like

3104

01:45:51,189 --> 01:45:49,280

no one here in massachusetts talks about

3105

01:45:52,950 --> 01:45:51,199

man montana i'm gonna go find the lost

3106

01:45:56,229 --> 01:45:52,960

city of montana

3107

01:45:57,990 --> 01:45:56,239

it's crazy you know um and and one day i

3108

01:46:01,350 --> 01:45:58,000

will i will discover that lost city of

3109

01:46:05,510 --> 01:46:04,470

uh awesome well all right so we'll we'll

3110

01:46:08,550 --> 01:46:05,520

skate back to the

3111

01:46:10,950 --> 01:46:08,560

ufo world and uh

3112

01:46:11,990 --> 01:46:10,960

and you know what you're doing i think

3113

01:46:13,990 --> 01:46:12,000

is wonderful and i

3114

01:46:17,109 --> 01:46:14,000

really hope you know it's something that

3115

01:46:20,070 --> 01:46:17,119

i actually um would like to actually

3116

01:46:21,350 --> 01:46:20,080

build myself and be a part of i'd like

3117

01:46:22,629 --> 01:46:21,360

to do that

3118

01:46:24,790 --> 01:46:22,639

you know but i got to tell you when you

3119

01:46:26,470 --> 01:46:24,800

talk about coding and stuff like that

3120

01:46:28,149 --> 01:46:26,480

you're talking to the wrong guy i don't

3121

01:46:29,830 --> 01:46:28,159

know any of that stuff i mean i

3122

01:46:32,629 --> 01:46:29,840

i do my own websites and things like

3123

01:46:35,990 --> 01:46:32,639

that but i mean it sounds complicated

3124

01:46:38,070 --> 01:46:36,000

oh i am believe me if i'm if i'm talking

3125

01:46:40,629 --> 01:46:38,080

you're talking to the wrong guy i don't

3126

01:46:43,910 --> 01:46:40,639

know that stuff either you know we um

3127

01:46:45,830 --> 01:46:43,920

that's the that's why we are

3128

01:46:47,350 --> 01:46:45,840

it is very simple you know the

3129

01:46:48,470 --> 01:46:47,360

methodology right now is relatively

3130

01:46:50,149 --> 01:46:48,480

simple so

3131

01:46:52,470 --> 01:46:50,159

the goal ultimately is to build the

3132

01:46:54,950 --> 01:46:52,480

system that anyone can do

3133

01:46:56,310 --> 01:46:54,960

right we want this to be something that

3134

01:46:58,550 --> 01:46:56,320

um

3135

01:47:00,070 --> 01:46:58,560

you know the joke i always well this is

3136

01:47:00,709 --> 01:47:00,080

a joke i was about to say the joke i

3137

01:47:02,790 --> 01:47:00,719

always say

3138

01:47:03,830 --> 01:47:02,800

this is a joke actually that my advisor

3139

01:47:05,830 --> 01:47:03,840

when i was a phd

3140

01:47:07,270 --> 01:47:05,840

told me and i've taken it with me

3141

01:47:08,709 --> 01:47:07,280

forever since then

3142

01:47:10,390 --> 01:47:08,719

he would always say when i was about to

3143

01:47:12,070 --> 01:47:10,400

do a presentation or teach a class or

3144

01:47:13,910 --> 01:47:12,080

anything he would say

3145

01:47:15,270 --> 01:47:13,920

if your mom can understand it then you

3146

01:47:18,229 --> 01:47:15,280

did a good job

3147

01:47:19,990 --> 01:47:18,239

right that's the skyhub test two right

3148

01:47:22,070 --> 01:47:20,000

if our moms can build one of these

3149

01:47:23,430 --> 01:47:22,080

systems then we've done it right that's

3150

01:47:26,149 --> 01:47:23,440

kind of the goal here right

3151
01:47:26,470 --> 01:47:26,159
you know so it's got to be easy enough

3152
01:47:28,950 --> 01:47:26,480
that

3153
01:47:30,070 --> 01:47:28,960
anybody can build one of these things

3154
01:47:32,149 --> 01:47:30,080
but it also

3155
01:47:33,510 --> 01:47:32,159
we want it to be robust enough that it

3156
01:47:35,350 --> 01:47:33,520
can do what we need it to

3157
01:47:36,550 --> 01:47:35,360
right and actually do the tracking we

3158
01:47:38,070 --> 01:47:36,560
want to do yeah

3159
01:47:39,750 --> 01:47:38,080
the only thing i think about and i've

3160
01:47:42,470 --> 01:47:39,760
thought about this not just

3161
01:47:43,669 --> 01:47:42,480
your you know what you're looking to

3162
01:47:45,270 --> 01:47:43,679
build but also

3163
01:47:46,950 --> 01:47:45,280

i've asked this of you know chris

3164

01:47:49,350 --> 01:47:46,960

o'brien and uh

3165

01:47:50,629 --> 01:47:49,360

and mark d'antonio and what they've

3166

01:47:53,350 --> 01:47:50,639

decided to do

3167

01:47:53,669 --> 01:47:53,360

to do um the weather you know you can

3168

01:47:58,149 --> 01:47:53,679

get

3169

01:47:59,109 --> 01:47:58,159

harsh weather you know high winds and

3170

01:48:01,590 --> 01:47:59,119

ice and

3171

01:48:03,830 --> 01:48:01,600

all that how would you you know i can't

3172

01:48:04,790 --> 01:48:03,840

really foresee exactly the unit you're

3173

01:48:07,669 --> 01:48:04,800

talking about

3174

01:48:08,070 --> 01:48:07,679

but how do you uh compensate to make

3175

01:48:09,510 --> 01:48:08,080

sure

3176

01:48:11,270 --> 01:48:09,520

you know it doesn't get affected by the

3177

01:48:13,990 --> 01:48:11,280

weather i know you get the fan

3178

01:48:15,669 --> 01:48:14,000

and uh also you know you could be out in

3179

01:48:18,790 --> 01:48:15,679

the desert with really high heat

3180

01:48:20,629 --> 01:48:18,800

that you know and may not be enough yep

3181

01:48:23,189 --> 01:48:20,639

so it's a really great question so

3182

01:48:23,910 --> 01:48:23,199

the enclosure has been designed by our

3183

01:48:25,350 --> 01:48:23,920

kind of

3184

01:48:27,189 --> 01:48:25,360

you know enclosure designer our lead

3185

01:48:30,390 --> 01:48:27,199

enclosure designer richard hopps

3186

01:48:32,070 --> 01:48:30,400

to withstand those uh those situations

3187

01:48:33,669 --> 01:48:32,080

but again a lot of this is going to be

3188

01:48:35,510 --> 01:48:33,679

about testing right

3189

01:48:37,350 --> 01:48:35,520

as we do this as we test these things

3190

01:48:40,709 --> 01:48:37,360

more and more we're going to learn more

3191

01:48:42,790 --> 01:48:40,719

right um so it could be that you know

3192

01:48:44,629 --> 01:48:42,800

um it could be we put one of these

3193

01:48:46,470 --> 01:48:44,639

things out there and it turns out hey

3194

01:48:49,510 --> 01:48:46,480

it isn't you know it isn't built to

3195

01:48:51,830 --> 01:48:49,520

withstand um the cold of new england

3196

01:48:53,270 --> 01:48:51,840

right something like that say um that'll

3197

01:48:54,470 --> 01:48:53,280

be something we'll learn and we'll find

3198

01:48:57,350 --> 01:48:54,480

out and then we will

3199

01:48:58,950 --> 01:48:57,360

we will design to fix it right the the

3200

01:49:02,470 --> 01:48:58,960

beauty of this system is that

3201

01:49:05,030 --> 01:49:02,480

um you know we are

3202

01:49:05,750 --> 01:49:05,040

working with the public to make this

3203

01:49:07,510 --> 01:49:05,760

work

3204

01:49:09,189 --> 01:49:07,520

right and so there are a lot of smart

3205

01:49:10,950 --> 01:49:09,199

people out there listening

3206

01:49:12,310 --> 01:49:10,960

and a lot of smart people on the team

3207

01:49:14,070 --> 01:49:12,320

and a lot of smart people who aren't on

3208

01:49:16,229 --> 01:49:14,080

the team yet but hopefully will be

3209

01:49:17,189 --> 01:49:16,239

who will be able to help us to solve

3210

01:49:19,589 --> 01:49:17,199

those problems

3211

01:49:21,109 --> 01:49:19,599

right um and actually that was a

3212

01:49:22,070 --> 01:49:21,119

question that i actually saw it's funny

3213

01:49:24,709 --> 01:49:22,080

enough too

3214

01:49:26,390 --> 01:49:24,719

someone asked in the chat earlier who

3215

01:49:27,189 --> 01:49:26,400

decides where those first hundred units

3216

01:49:30,070 --> 01:49:27,199

go

3217

01:49:31,910 --> 01:49:30,080

you do the public does right who builds

3218

01:49:33,910 --> 01:49:31,920

those first hundred units

3219

01:49:35,270 --> 01:49:33,920

the units go up where people build them

3220

01:49:35,830 --> 01:49:35,280

you know we have no control over that

3221

01:49:37,669 --> 01:49:35,840

right if

3222

01:49:39,350 --> 01:49:37,679

if a hundred people in texas decide to

3223

01:49:41,669 --> 01:49:39,360

build those units we're gonna have a

3224

01:49:45,270 --> 01:49:41,679

hell of a sky hub sensor array in texas

3225

01:49:46,470 --> 01:49:45,280

yeah but you know um it depends on who

3226

01:49:48,709 --> 01:49:46,480

builds them right so

3227

01:49:50,470 --> 01:49:48,719

whoever whoever puts them up there

3228

01:49:51,750 --> 01:49:50,480

that's how they're gonna go up

3229

01:49:54,149 --> 01:49:51,760

um you know a lot of you mentioned

3230

01:49:57,589 --> 01:49:54,159

crowdsourcing earlier for

3231

01:49:59,270 --> 01:49:57,599

the cubesat um you really

3232

01:50:01,430 --> 01:49:59,280

at 300 you're not really gonna have to

3233

01:50:03,669 --> 01:50:01,440

worry about that you know i mean

3234

01:50:04,709 --> 01:50:03,679

i i realize you know with this covet

3235

01:50:07,270 --> 01:50:04,719

there's actually

3236

01:50:08,390 --> 01:50:07,280

economic issues with a lot of people

3237

01:50:09,990 --> 01:50:08,400

that may not have

3238

01:50:11,750 --> 01:50:10,000

uh the ability they have all the time

3239

01:50:13,109 --> 01:50:11,760

now they wish they could but they may

3240

01:50:14,550 --> 01:50:13,119

not have the time to afford

3241

01:50:17,030 --> 01:50:14,560

something like that but someone could do

3242

01:50:19,189 --> 01:50:17,040

their own little personal

3243

01:50:20,149 --> 01:50:19,199

gofundme or i don't know how those

3244

01:50:22,709 --> 01:50:20,159

things work

3245

01:50:24,790 --> 01:50:22,719

but you know possibly if especially if

3246

01:50:27,350 --> 01:50:24,800

they want a higher end

3247

01:50:27,990 --> 01:50:27,360

no what'll be cool too honestly is you

3248

01:50:33,830 --> 01:50:28,000

know

3249

01:50:35,030 --> 01:50:33,840

like a a local ufo research group wants

3250

01:50:36,070 --> 01:50:35,040

to get together and build one of these

3251

01:50:39,350 --> 01:50:36,080

things together

3252

01:50:40,550 --> 01:50:39,360

they can right it doesn't have to be um

3253

01:50:42,629 --> 01:50:40,560

you know i mean it would have to be at

3254

01:50:43,270 --> 01:50:42,639

someone's house to have it do stuff

3255

01:50:45,910 --> 01:50:43,280

right

3256

01:50:47,430 --> 01:50:45,920

but the goal here is that you know we

3257

01:50:48,790 --> 01:50:47,440

want it to be cheap enough that people

3258

01:50:50,149 --> 01:50:48,800

could do it even if they have to save a

3259

01:50:52,070 --> 01:50:50,159

little bit they can still do it

3260

01:50:53,750 --> 01:50:52,080

and really if you just want to be

3261

01:50:55,589 --> 01:50:53,760

involved join our chat right we have a

3262

01:50:56,390 --> 01:50:55,599

patreon if you want to send us a dollar

3263

01:50:58,310 --> 01:50:56,400

a month

3264

01:50:59,510 --> 01:50:58,320

to uh help these things happen right

3265

01:51:01,109 --> 01:50:59,520

like it's

3266

01:51:03,510 --> 01:51:01,119

it's really easy you know i mean our

3267

01:51:05,669 --> 01:51:03,520

costs ultimately come down to server

3268

01:51:07,510 --> 01:51:05,679

costs to store the video

3269

01:51:09,270 --> 01:51:07,520

and to analyze and everything else um

3270

01:51:11,350 --> 01:51:09,280

but you know at the end of the day

3271

01:51:13,589 --> 01:51:11,360

we're a pretty cheap organization you

3272

01:51:15,750 --> 01:51:13,599

know we've been built to be

3273

01:51:17,830 --> 01:51:15,760

um you know we're built to be a cheap

3274

01:51:21,030 --> 01:51:17,840

date right so it should be really

3275

01:51:22,470 --> 01:51:21,040

easy to do yeah i can't believe we only

3276

01:51:23,990 --> 01:51:22,480

have a couple minutes left

3277

01:51:25,830 --> 01:51:24,000

but i did want to ask you this question

3278

01:51:28,070 --> 01:51:25,840

at some point and that is

3279

01:51:29,910 --> 01:51:28,080

there are a number of places in the

3280

01:51:31,510 --> 01:51:29,920

country that are very interesting

3281

01:51:33,350 --> 01:51:31,520

someone posted on the chat earlier

3282

01:51:35,430 --> 01:51:33,360

skinwalker ranch for instance

3283

01:51:37,510 --> 01:51:35,440

but there's hot spots um wouldn't you

3284

01:51:39,270 --> 01:51:37,520

want to encourage

3285

01:51:40,950 --> 01:51:39,280

someone that's in the supposed a

3286

01:51:43,270 --> 01:51:40,960

supposed hot spot

3287

01:51:44,149 --> 01:51:43,280

um to go ahead and get one of these

3288

01:51:46,629 --> 01:51:44,159

things rolling

3289

01:51:49,350 --> 01:51:46,639

we absolutely would um one of the kind

3290

01:51:50,149 --> 01:51:49,360

of long-term goals for myself at least

3291

01:51:53,430 --> 01:51:50,159

would be to

3292

01:51:56,310 --> 01:51:53,440

understand um are there hot spots

3293

01:51:57,510 --> 01:51:56,320

right if we look at say the if we look

3294

01:52:00,629 --> 01:51:57,520

at say the

3295

01:52:02,390 --> 01:52:00,639

data from mufon right if you look at

3296

01:52:04,310 --> 01:52:02,400

where mufon gets reports even where

3297

01:52:06,070 --> 01:52:04,320

mufon says good reports come from

3298

01:52:07,109 --> 01:52:06,080

right for so when their investigators

3299

01:52:09,189 --> 01:52:07,119

have analyzed it they'll say this is a

3300

01:52:11,350 --> 01:52:09,199

good report versus this is a bad report

3301

01:52:13,030 --> 01:52:11,360

if you look at that data the only

3302

01:52:14,229 --> 01:52:13,040

correlation that there exists between

3303

01:52:17,350 --> 01:52:14,239

that data

3304

01:52:20,310 --> 01:52:17,360

is you get more sightings of ufos

3305

01:52:21,990 --> 01:52:20,320

where there are more people yes so the

3306

01:52:24,229 --> 01:52:22,000

move on data doesn't support the idea

3307

01:52:26,709 --> 01:52:24,239

that there are hot spots now of course

3308

01:52:28,310 --> 01:52:26,719

i think that there could be a hot spot

3309

01:52:30,629 --> 01:52:28,320

there could be an idea of places

3310

01:52:32,310 --> 01:52:30,639

of high strangeness or whatever we would

3311

01:52:34,229 --> 01:52:32,320

love to get units out there on those

3312

01:52:37,270 --> 01:52:34,239

places we absolutely would

3313

01:52:38,390 --> 01:52:37,280

um you know that is that is definitely

3314

01:52:40,790 --> 01:52:38,400

something that we would love to see

3315

01:52:41,589 --> 01:52:40,800

happen excellent well i have to cut this

3316

01:52:43,510 --> 01:52:41,599

short now

3317

01:52:45,030 --> 01:52:43,520

uh thank you so much chris it's been a

3318

01:52:47,189 --> 01:52:45,040

real pleasure as always

3319

01:52:48,149 --> 01:52:47,199

it's a lot of fun thank you martin i

3320

01:52:49,990 --> 01:52:48,159

love it guest

3321

01:52:51,830 --> 01:52:50,000

audience uh thank you so much for in the

3322

01:52:53,990 --> 01:52:51,840

chat there thank you for your attention

3323

01:52:57,669 --> 01:52:54,000

to your support and everything else

3324

01:53:01,109 --> 01:52:57,679

please join us.org yeah

3325

01:53:03,270 --> 01:53:01,119

all right you take care bye bye-bye now

3326

01:53:05,270 --> 01:53:03,280

all right so everyone thank you so much

3327

01:53:08,550 --> 01:53:05,280

for listening we will be back

3328

01:53:09,510 --> 01:53:08,560

next week um with tim brigham uh it'll

3329

01:53:12,070 --> 01:53:09,520

be a great show

3330

01:53:13,910 --> 01:53:12,080

uh so make sure you check that out

3331

01:53:16,629 --> 01:53:13,920

thanks everyone that helps out

3332

01:53:18,310 --> 01:53:16,639

and behind the scenes and all and thank

3333

01:53:20,870 --> 01:53:18,320

you again the listeners

3334

01:53:24,830 --> 01:53:20,880

and remember to keep your eyes to the

3335

01:53:24,840 --> 01:53:31,030

sky