



1
00:00:35,590 --> 00:00:33,750
this

2
00:00:37,910 --> 00:00:35,600
is still an exciting project we have

3
00:00:41,670 --> 00:00:37,920
them all stacked over there

4
00:00:42,470 --> 00:00:41,680
to do that the round table

5
00:00:47,830 --> 00:00:42,480
the

6
00:00:50,150 --> 00:00:47,840
technology had on art and we did ask

7
00:00:52,709 --> 00:00:50,160
also you know well what impact has art

8
00:00:54,790 --> 00:00:52,719
had on space technology and the

9
00:00:57,430 --> 00:00:54,800
conversation the crisscross conversation

10
00:00:59,910 --> 00:00:57,440
made it very apparent that it is a

11
00:01:02,950 --> 00:00:59,920
crisscross situation that they both do

12
00:01:05,830 --> 00:01:02,960
feed from each other and and

13
00:01:43,749 --> 00:01:05,840

derive a lot of new thoughts visions on

14

00:01:47,429 --> 00:01:45,109

lift here

15

00:01:48,870 --> 00:01:47,439

and this research then led to the

16

00:01:49,830 --> 00:01:48,880

development of the shape of the space

17

00:01:53,350 --> 00:01:49,840

shuttle

18

00:01:56,230 --> 00:01:53,360

but this is very real for a photo reel

19

00:01:58,469 --> 00:01:56,240

and you can tell that this artist knew

20

00:02:00,789 --> 00:01:58,479

technically what was going on with the

21

00:02:02,230 --> 00:02:00,799

painting but it's it's wonderful

22

00:02:04,230 --> 00:02:02,240

painting isn't it

23

00:02:05,830 --> 00:02:04,240

she took many different

24

00:02:07,910 --> 00:02:05,840

things that she has seen inside the

25

00:02:10,550 --> 00:02:07,920

vehicle assembly building and put it

26

00:02:15,670 --> 00:02:12,869

in this wonderful

27

00:02:19,030 --> 00:02:15,680

non-real form but capturing the essence

28

00:02:20,949 --> 00:02:19,040

of what that interior space is like

29

00:02:23,430 --> 00:02:20,959

again we have another this artist is

30

00:02:25,510 --> 00:02:23,440

stan stokes he did the lifting body

31

00:02:27,830 --> 00:02:25,520

you can see how intimately familiar he

32

00:02:29,830 --> 00:02:27,840

is with the mechanics of what's going on

33

00:02:32,390 --> 00:02:29,840

this is x-29

34

00:02:33,990 --> 00:02:32,400

the wings are swept forward

35

00:02:36,390 --> 00:02:34,000

instead of back

36

00:02:38,229 --> 00:02:36,400

this is the sky it looks like if you

37

00:02:39,750 --> 00:02:38,239

look closely though that's actually the

38

00:02:42,229 --> 00:02:39,760

earth

39

00:02:44,869 --> 00:02:42,239

in back of the astronaut here's you see

40

00:02:46,630 --> 00:02:44,879

the man's face and you see

41

00:02:48,150 --> 00:02:46,640

then what he's looking at

42

00:02:49,030 --> 00:02:48,160

this is the big

43

00:02:51,509 --> 00:02:49,040

uh

44

00:02:53,509 --> 00:02:51,519

this is titled sunrise suit up

45

00:02:54,630 --> 00:02:53,519

they show the artist suiting up

46

00:02:56,070 --> 00:02:54,640

yeah

47

00:02:57,990 --> 00:02:56,080

and uh

48

00:02:59,910 --> 00:02:58,000

uh one thing

49

00:03:01,830 --> 00:02:59,920

to remember is that the kennedy space

50

00:03:03,190 --> 00:03:01,840

center is in the center of the merritt

51
00:03:05,910 --> 00:03:03,200
island

52
00:03:08,390 --> 00:03:05,920
and you think you know isn't that i mean

53
00:03:10,309 --> 00:03:08,400
it's a beautiful piece of technology

54
00:03:12,790 --> 00:03:10,319
one thing you have to remember that

55
00:03:14,630 --> 00:03:12,800
these are not like fords that come off a

56
00:03:16,630 --> 00:03:14,640
production line either when we just kind

57
00:03:20,390 --> 00:03:16,640
of move down a little bit

58
00:03:23,509 --> 00:03:20,400
i know i think that the whole aspect of

59
00:03:25,350 --> 00:03:23,519
science and technology and and art is

60
00:03:27,030 --> 00:03:25,360
a fascinating subject and many people

61
00:03:58,550 --> 00:03:27,040
have talked about it so that was brought

62
00:03:58,560 --> 00:04:05,429
nicely

63
00:04:16,390 --> 00:04:06,309

okay

64

00:04:16,400 --> 00:04:40,469

um

65

00:04:40,479 --> 00:04:47,510

please monitor

66

00:04:47,520 --> 00:05:00,070

we have you on screen prepared

67

00:05:08,830 --> 00:05:01,510

position over

68

00:05:08,840 --> 00:05:26,550

down okay good job

69

00:05:26,560 --> 00:05:47,029

presents

70

00:05:47,039 --> 00:05:59,749

mix

71

00:05:59,759 --> 00:06:11,430

go

72

00:06:11,440 --> 00:06:29,909

okay now

73

00:06:34,150 --> 00:06:32,070

well i'm a classroom teacher and i've

74

00:06:36,790 --> 00:06:34,160

been working in this gallery on the

75

00:06:38,710 --> 00:06:36,800

other side of the exhibit the first side

76
00:06:40,230 --> 00:06:38,720
of course is for the public and here we

77
00:06:42,390 --> 00:06:40,240
have thousands of visitors coming

78
00:06:43,990 --> 00:06:42,400
through but what you don't see right at

79
00:06:46,710 --> 00:06:44,000
first is that this gallery is really

80
00:06:49,589 --> 00:06:46,720
designed for a classroom teacher

81
00:06:51,990 --> 00:06:49,599
we have in place lesson plans pre and

82
00:06:53,909 --> 00:06:52,000
post activities for the teacher to work

83
00:06:55,990 --> 00:06:53,919
with before they come to our gallery

84
00:06:57,670 --> 00:06:56,000
typically they will bring 30 students

85
00:07:00,230 --> 00:06:57,680
those 30 students will have particular

86
00:07:01,749 --> 00:07:00,240
assignments we'll send some to our over

87
00:07:03,189 --> 00:07:01,759
orbiting vehicle

88
00:07:04,710 --> 00:07:03,199

and some to mission control these

89
00:07:06,950 --> 00:07:04,720
students have been working on vocabulary

90
00:07:09,029 --> 00:07:06,960
development and also communication

91
00:07:10,870 --> 00:07:09,039
skills but each student will then

92
00:07:13,029 --> 00:07:10,880
receive instructions along with the

93
00:07:16,309 --> 00:07:13,039
teacher for other ways to interact in

94
00:07:18,070 --> 00:07:16,319
the gallery we've had kind of a unique

95
00:07:20,150 --> 00:07:18,080
experience because every student comes

96
00:07:21,589 --> 00:07:20,160
away with a different set of goals and

97
00:07:23,510 --> 00:07:21,599
different set of objectives that they've

98
00:07:25,909 --> 00:07:23,520
received from this so we've used this

99
00:07:28,230 --> 00:07:25,919
not only as a teaching tool for the

100
00:07:30,390 --> 00:07:28,240
teacher but also for the students this

101
00:07:32,469 --> 00:07:30,400
is chris shell of the aerospace research

102
00:07:34,230 --> 00:07:32,479
application center here in indianapolis

103
00:07:36,070 --> 00:07:34,240
and chris could you please tell us about

104
00:07:37,909 --> 00:07:36,080
some of your involvement with this

105
00:07:40,150 --> 00:07:37,919
exhibit okay

106
00:07:42,550 --> 00:07:40,160
um i've been involved with assisting

107
00:07:44,150 --> 00:07:42,560
rick crossland in obtaining samples of

108
00:07:46,230 --> 00:07:44,160
spin-off technologies that have been

109
00:07:48,550 --> 00:07:46,240
developed over the past few years for

110
00:07:49,830 --> 00:07:48,560
use here in the exhibit

111
00:07:52,230 --> 00:07:49,840
i've also

112
00:07:54,230 --> 00:07:52,240
assisted some of the museum staff with

113
00:07:55,990 --> 00:07:54,240

obtaining technical contacts when they

114

00:07:57,029 --> 00:07:56,000

had questions about different types of

115

00:07:59,189 --> 00:07:57,039

things

116

00:08:02,309 --> 00:07:59,199

and i also have

117

00:08:03,990 --> 00:08:02,319

volunteered over 20 hours of time here

118

00:08:05,510 --> 00:08:04,000

in the exhibit

119

00:08:08,230 --> 00:08:05,520

well thank you that's considerable thank

120

00:08:10,390 --> 00:08:08,240

you very much this is mr david hoppe

121

00:08:13,270 --> 00:08:10,400

senior programs officer

122

00:08:15,110 --> 00:08:13,280

of the indiana humanities council david

123

00:08:17,510 --> 00:08:15,120

could you tell us please about the

124

00:08:19,749 --> 00:08:17,520

activities of the council and how nasa

125

00:08:21,990 --> 00:08:19,759

came to be involved in the humanities

126

00:08:24,469 --> 00:08:22,000

conference please well generally

127

00:08:26,790 --> 00:08:24,479

speaking the council is involved in

128

00:08:28,550 --> 00:08:26,800

producing cultural programs or funding

129

00:08:30,550 --> 00:08:28,560

cultural programs for the people of the

130

00:08:32,550 --> 00:08:30,560

state of indiana

131

00:08:34,550 --> 00:08:32,560

in the case of our annual conference

132

00:08:36,310 --> 00:08:34,560

this is an occasion for us to bring

133

00:08:38,310 --> 00:08:36,320

together humanists

134

00:08:40,790 --> 00:08:38,320

artists scientists and business and

135

00:08:42,630 --> 00:08:40,800

civic leaders to discuss issues and

136

00:08:44,630 --> 00:08:42,640

topics that are important to the

137

00:08:46,790 --> 00:08:44,640

citizens of indiana

138

00:08:49,829 --> 00:08:46,800

a number of the issues were one theme

139

00:08:51,750 --> 00:08:49,839

for example was a cultural literacy

140

00:08:54,630 --> 00:08:51,760

what would constitute an educated person

141

00:08:57,190 --> 00:08:54,640

let's say in the year 2050 we were also

142

00:08:59,269 --> 00:08:57,200

discussing the future of beauty

143

00:09:00,949 --> 00:08:59,279

we were discussing technologies and

144

00:09:04,389 --> 00:09:00,959

human evolution

145

00:09:06,470 --> 00:09:04,399

uh also the citizen and the future state

146

00:09:08,630 --> 00:09:06,480

the changing roles of family

147

00:09:10,949 --> 00:09:08,640

relationships

148

00:09:13,430 --> 00:09:10,959

these are some of the broad topics that

149

00:09:15,590 --> 00:09:13,440

we brought panels together to explore in

150

00:09:17,829 --> 00:09:15,600

front of a public audience

151

00:09:19,509 --> 00:09:17,839

also orson scott card the hugo and

152

00:09:21,350 --> 00:09:19,519

nebula award-winning science fiction

153

00:09:23,509 --> 00:09:21,360

novelist was here to

154

00:09:25,750 --> 00:09:23,519

address the conference as our keynote

155

00:09:27,910 --> 00:09:25,760

speaker we are with dr glenn bingle

156

00:09:30,310 --> 00:09:27,920

director of medical education programs

157

00:09:33,350 --> 00:09:30,320

at community hospitals in indianapolis

158

00:09:35,269 --> 00:09:33,360

that was one of the exciting things that

159

00:09:38,070 --> 00:09:35,279

many of the physicians have

160

00:09:40,389 --> 00:09:38,080

commented that they did learn

161

00:09:41,829 --> 00:09:40,399

uh about a lot of the things that nasa

162

00:09:44,389 --> 00:09:41,839

has developed that they are actually

163

00:09:46,710 --> 00:09:44,399

using today in their everyday clinical

164

00:09:48,230 --> 00:09:46,720

practice of taking care of patients i

165

00:09:52,470 --> 00:09:48,240

don't think they had appreciated the

166

00:09:54,550 --> 00:09:52,480

origin of this scientific

167

00:09:56,710 --> 00:09:54,560

technology until they were here that

168

00:09:59,829 --> 00:09:56,720

night and actually could see

169

00:10:01,829 --> 00:09:59,839

the moon landing and see the analogies

170

00:10:03,829 --> 00:10:01,839

and all the various things that have

171

00:10:06,230 --> 00:10:03,839

come back and have helped them in their

172

00:10:07,910 --> 00:10:06,240

everyday practice

173

00:10:08,870 --> 00:10:07,920

this has been a delightful opportunity

174

00:10:12,310 --> 00:10:08,880

for us

175

00:10:13,269 --> 00:10:12,320

our role for nasa as a contractor is to

176
00:10:16,069 --> 00:10:13,279
look at

177
00:10:17,910 --> 00:10:16,079
how do we take nasa's technology federal

178
00:10:20,310 --> 00:10:17,920
government technology and apply it to

179
00:10:24,230 --> 00:10:20,320
industrial problems in particular

180
00:10:25,910 --> 00:10:24,240
applied against non-aerospace problems

181
00:10:29,269 --> 00:10:25,920
most of our activity therefore is

182
00:10:31,590 --> 00:10:29,279
dealing with with business people

183
00:10:33,910 --> 00:10:31,600
we've had on and off discussions saying

184
00:10:36,710 --> 00:10:33,920
that business people have children

185
00:10:38,389 --> 00:10:36,720
and that one way that one might impact

186
00:10:40,470 --> 00:10:38,399
business people to think more not only

187
00:10:42,310 --> 00:10:40,480
about nasa technology but technology in

188
00:10:44,630 --> 00:10:42,320

general would be through their children

189

00:10:47,670 --> 00:10:44,640

we were delighted that lewis chose to

190

00:10:49,590 --> 00:10:47,680

replicate the the most current

191

00:10:51,910 --> 00:10:49,600

exhibit that has been produced for the

192

00:10:54,870 --> 00:10:51,920

technology transfer area or the

193

00:10:57,590 --> 00:10:54,880

teculization area nasa

194

00:10:58,710 --> 00:10:57,600

we recognize that it maybe still reaches

195

00:11:00,790 --> 00:10:58,720

a little

196

00:11:02,310 --> 00:11:00,800

more senior level audience than

197

00:11:04,310 --> 00:11:02,320

the audience that it was targeted here

198

00:11:07,269 --> 00:11:04,320

for but that at least it was the best

199

00:11:09,269 --> 00:11:07,279

part our role in was to say how could we

200

00:11:10,550 --> 00:11:09,279

take some of those those technologies

201
00:11:14,710 --> 00:11:10,560
that are demonstrated there a dust

202
00:11:16,550 --> 00:11:14,720
buster or a thermal covering and and

203
00:11:17,910 --> 00:11:16,560
put it in a mode that a child could

204
00:11:19,910 --> 00:11:17,920
understand and make something out of it

205
00:11:22,150 --> 00:11:19,920
and so through a teacher in residence

206
00:11:24,230 --> 00:11:22,160
here rick rosslin who has worked for us

207
00:11:25,990 --> 00:11:24,240
as a consultant starting last summer and

208
00:11:28,230 --> 00:11:26,000
hopefully will be with us this

209
00:11:29,990 --> 00:11:28,240
continuing spring

210
00:11:32,790 --> 00:11:30,000
he put together

211
00:11:34,790 --> 00:11:32,800
an idea of how we could use some of

212
00:11:36,630 --> 00:11:34,800
these technologies in an experimental

213
00:11:37,829 --> 00:11:36,640

way so you take the blanket you wrap

214

00:11:39,110 --> 00:11:37,839

yourself up and you see if you get

215

00:11:41,430 --> 00:11:39,120

warmer or

216

00:11:43,590 --> 00:11:41,440

things like that so our role and i think

217

00:11:45,910 --> 00:11:43,600

you've spoken to trishell

218

00:11:47,910 --> 00:11:45,920

previously was to go out talk to the

219

00:11:50,629 --> 00:11:47,920

company say would you provide materials

220

00:11:52,870 --> 00:11:50,639

sunglasses dustbusters whatever so that

221

00:11:54,069 --> 00:11:52,880

we can use it in this display and then

222

00:11:56,150 --> 00:11:54,079

to sort of

223

00:11:58,389 --> 00:11:56,160

work behind the scenes in our contacts

224

00:12:01,910 --> 00:11:58,399

with with rick as he looked for finding

225

00:12:03,990 --> 00:12:01,920

bits and pieces of gear um one of the

226

00:12:06,310 --> 00:12:04,000

pieces of hardware in the scientific

227

00:12:10,069 --> 00:12:06,320

area was was something of ours

228

00:12:11,750 --> 00:12:10,079

so in one part level was then producing

229

00:12:13,430 --> 00:12:11,760

materials that could be used and

230

00:12:15,430 --> 00:12:13,440

interacting in a way that might be

231

00:12:17,430 --> 00:12:15,440

helpful to make them

232

00:12:20,069 --> 00:12:17,440

the other part that that was a delight

233

00:12:23,269 --> 00:12:20,079

for for us and our staff was the ability

234

00:12:26,150 --> 00:12:23,279

to provide quote experts and so

235

00:12:29,430 --> 00:12:26,160

throughout the two-month period uh every

236

00:12:32,069 --> 00:12:29,440

friday our staff is over manning

237

00:12:33,910 --> 00:12:32,079

a separate uh two-hour slot and then

238

00:12:36,310 --> 00:12:33,920

they volunteer and have work weekends

239

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

and some have have worked the overnight

240

00:12:40,629 --> 00:12:38,320

missions so they also then have an

241

00:12:42,629 --> 00:12:40,639

opportunity to function in that role so

242

00:12:45,670 --> 00:12:42,639

that's been sort of the play and then

243

00:12:48,470 --> 00:12:45,680

we've gotten to do special things as

244

00:12:50,069 --> 00:12:48,480

a career night program where we helped

245

00:12:53,110 --> 00:12:50,079

in terms of working through that and

246

00:12:53,990 --> 00:12:53,120

then most recently uh the proclamation

247

00:12:54,870 --> 00:12:54,000

of

248

00:12:57,269 --> 00:12:54,880

the

249

00:12:59,030 --> 00:12:57,279

what december 6th saint nicholas day as

250

00:13:00,150 --> 00:12:59,040

everyone knows as technology transfer

251
00:13:02,150 --> 00:13:00,160
day here

252
00:13:04,310 --> 00:13:02,160
yes and i understand that uh during

253
00:13:06,310 --> 00:13:04,320
technology transfer day there were

254
00:13:08,949 --> 00:13:06,320
researchers and engineers from the nasa

255
00:13:11,670 --> 00:13:08,959
lewis research center and you had

256
00:13:12,870 --> 00:13:11,680
organized a reception for them by some

257
00:13:16,069 --> 00:13:12,880
of the local

258
00:13:17,670 --> 00:13:16,079
community of research engineers in the

259
00:13:20,150 --> 00:13:17,680
corporations of indianapolis could you

260
00:13:21,670 --> 00:13:20,160
tell us more about that please

261
00:13:24,389 --> 00:13:21,680
as far as we know

262
00:13:26,230 --> 00:13:24,399
this may be the first time that a a

263
00:13:29,430 --> 00:13:26,240

program of this nature actually happened

264

00:13:32,470 --> 00:13:29,440

it's it's uh quite common for nasa to

265

00:13:35,350 --> 00:13:32,480

have an exchange where its people go

266

00:13:36,470 --> 00:13:35,360

to visit a company or or vice versa but

267

00:13:38,150 --> 00:13:36,480

uh

268

00:13:40,230 --> 00:13:38,160

probably there's to say it's the first

269

00:13:43,110 --> 00:13:40,240

maybe stretching it but we'll say it was

270

00:13:45,430 --> 00:13:43,120

the first time ever uh where what we did

271

00:13:48,310 --> 00:13:45,440

was look at bringing a whole group of

272

00:13:51,430 --> 00:13:48,320

people into town and then finding hosts

273

00:13:53,990 --> 00:13:51,440

for them and and what we looked for was

274

00:13:56,949 --> 00:13:54,000

sort of an informal roll up your sleeves

275

00:13:58,389 --> 00:13:56,959

kind of of atmosphere

276

00:14:01,350 --> 00:13:58,399

an expert

277

00:14:03,910 --> 00:14:01,360

such as walter merrell who went out to

278

00:14:05,829 --> 00:14:03,920

allison gas turbine

279

00:14:07,430 --> 00:14:05,839

it turns out walter had been

280

00:14:08,870 --> 00:14:07,440

interacted with the folks out there but

281

00:14:11,509 --> 00:14:08,880

they were delighted again to have that

282

00:14:15,030 --> 00:14:11,519

opportunity sit down with a dozen or so

283

00:14:17,110 --> 00:14:15,040

engineers have a sandwich and a brief

284

00:14:18,790 --> 00:14:17,120

formal presentation this is where we are

285

00:14:20,470 --> 00:14:18,800

this is where we're going this is what

286

00:14:22,550 --> 00:14:20,480

nasa's problems are

287

00:14:24,389 --> 00:14:22,560

but then to move into what's your

288

00:14:26,069 --> 00:14:24,399

problems where can i help you and that's

289

00:14:28,629 --> 00:14:26,079

what we would call the purest form of

290

00:14:31,350 --> 00:14:28,639

technology transfer what what our

291

00:14:33,430 --> 00:14:31,360

feedback was from the companies who had

292

00:14:35,350 --> 00:14:33,440

them they were delighted and are already

293

00:14:37,350 --> 00:14:35,360

asking when are we going to do it again

294

00:14:38,230 --> 00:14:37,360

could it happen again how often could it

295

00:14:40,069 --> 00:14:38,240

happen

296

00:14:42,949 --> 00:14:40,079

there were companies who wanted to

297

00:14:45,670 --> 00:14:42,959

participate but because of other

298

00:14:46,949 --> 00:14:45,680

conflicts did not uh you probably had a

299

00:14:49,030 --> 00:14:46,959

little better opportunity interacting

300

00:14:51,189 --> 00:14:49,040

with the nasa folks on the way back but

301

00:14:53,269 --> 00:14:51,199

my brief ones at least indicated that

302

00:14:54,629 --> 00:14:53,279

they found that interesting in a little

303

00:14:56,069 --> 00:14:54,639

different sense they usually go to

304

00:14:58,310 --> 00:14:56,079

professional meetings and meet their

305

00:14:59,350 --> 00:14:58,320

colleagues or they go an assignment to a

306

00:15:01,350 --> 00:14:59,360

company

307

00:15:04,150 --> 00:15:01,360

but here was a case of it was just sort

308

00:15:06,870 --> 00:15:04,160

of wide open throw it out and see and so

309

00:15:08,949 --> 00:15:06,880

we think it was a very successful

310

00:15:11,750 --> 00:15:08,959

prototype and we're going to present it

311

00:15:13,509 --> 00:15:11,760

back to to our funding source in code c

312

00:15:15,030 --> 00:15:13,519

and suggest that something like this be