



# NASA AT HOME

SPACEPORT SERIES



1  
00:01:10,340 --> 00:00:21,470

[Music]

2  
00:01:13,640 --> 00:01:11,630

all right welcome again to another

3  
00:01:15,649 --> 00:01:13,650

episode of NASA home spaceport series

4  
00:01:17,300 --> 00:01:15,659

this is our Artemis week and I'm joined

5  
00:01:18,440 --> 00:01:17,310

I'm Joshua Santoro and that's

6  
00:01:20,600 --> 00:01:18,450

communication at the Kennedy Space

7  
00:01:21,230 --> 00:01:20,610

Center and I'm joined by my very special

8  
00:01:23,330 --> 00:01:21,240

guest today

9  
00:01:27,590 --> 00:01:23,340

Kelvin Manning Kelvin thanks for joining

10  
00:01:29,899 --> 00:01:27,600

me hey Josh I'm excited to be here you

11  
00:01:32,029 --> 00:01:29,909

know to celebrate to talk about artemis

12  
00:01:35,300 --> 00:01:32,039

week that's what the agency is all about

13  
00:01:36,800 --> 00:01:35,310

returning us back to the moon yeah and

14

00:01:38,899 --> 00:01:36,810

Before we jump in I want to give you

15

00:01:40,639 --> 00:01:38,909

guys kind of nice flavor of the Kennedy

16

00:01:42,289 --> 00:01:40,649

Space Center is one of my favorite

17

00:01:44,210 --> 00:01:42,299

videos that we have to kind of show the

18

00:01:45,620 --> 00:01:44,220

breadth of what we're doing it's a

19

00:01:47,300 --> 00:01:45,630

couple years old so some things that

20

00:01:48,830 --> 00:01:47,310

have never been updated since then but

21

00:02:06,400 --> 00:01:48,840

it's a nice snapshot of the Kennedy

22

00:02:25,510 --> 00:02:16,650

there you go somebody's Go Go

23

00:02:32,619 --> 00:02:28,000

Roscoe

24

00:02:36,880 --> 00:02:32,629

maybe I got kids ego grounders go cheezy

25

00:02:47,259 --> 00:02:36,890

Go Go oh it's them go go for dicier

26  
00:02:50,370 --> 00:02:47,269  
terminal count yes SCE go go go D is go

27  
00:02:56,570 --> 00:02:50,380  
for final count BS years ago

28  
00:02:56,580 --> 00:03:10,370  
[Music]

29  
00:03:15,540 --> 00:03:13,110  
so that I mean to me that kind of tells

30  
00:03:17,460 --> 00:03:15,550  
that story of we are the world's

31  
00:03:19,050 --> 00:03:17,470  
premiere spaceport and as you saw a

32  
00:03:21,480 --> 00:03:19,060  
minute ago with Kelvin his entitled the

33  
00:03:23,550 --> 00:03:21,490  
Associate Director for technical at KSC

34  
00:03:27,890 --> 00:03:23,560  
Kelvin what is it that you do as the

35  
00:03:31,110 --> 00:03:27,900  
Associate Director Josh oh you saw that

36  
00:03:33,330 --> 00:03:31,120  
video there's so much going on at KSC as

37  
00:03:35,940 --> 00:03:33,340  
a senior manager we do whatever it takes

38  
00:03:37,980 --> 00:03:35,950

I like to tell people to keep the wheels

39

00:03:39,210 --> 00:03:37,990

turning the lights burning the workforce

40

00:03:40,890 --> 00:03:39,220

turns to the rocket supply and

41

00:03:42,540 --> 00:03:40,900

politicians buying satellites or and

42

00:03:44,100 --> 00:03:42,550

astronauts exploring so the kids will

43

00:03:45,780 --> 00:03:44,110

learn and the public we yearn for

44

00:03:47,630 --> 00:03:45,790

America's space program that's what

45

00:03:51,420 --> 00:03:47,640

we're doing at the Kennedy Space Center

46

00:03:54,060 --> 00:03:51,430

yes fantastic summary there I'm sure

47

00:03:55,950 --> 00:03:54,070

that with everything going on you have

48

00:03:58,080 --> 00:03:55,960

no shortage of things to keep you busy

49

00:04:00,990 --> 00:03:58,090

can you give us some historical

50

00:04:02,100 --> 00:04:01,000

perspective obviously we are we have

51  
00:04:04,440 --> 00:04:02,110  
been through a time of transition

52  
00:04:06,060 --> 00:04:04,450  
especially these past nine years from

53  
00:04:07,860 --> 00:04:06,070  
the end of the shuttle program so

54  
00:04:10,250 --> 00:04:07,870  
historically to today what's what's

55  
00:04:12,630 --> 00:04:10,260  
really going on with KSC

56  
00:04:15,270 --> 00:04:12,640  
well we've transformed the Kennedy Space

57  
00:04:17,570 --> 00:04:15,280  
Center into a multi-user spaceport the

58  
00:04:20,760 --> 00:04:17,580  
last shuttle flight of course was July

59  
00:04:23,970 --> 00:04:20,770  
2011 and since then we've been working

60  
00:04:26,460 --> 00:04:23,980  
to put humans back in space launching

61  
00:04:27,930 --> 00:04:26,470  
again from the Americans with they want

62  
00:04:29,760 --> 00:04:27,940  
to launch a new American rockets and

63  
00:04:31,590 --> 00:04:29,770

that's coming with Commercial Crew but

64

00:04:34,320 --> 00:04:31,600

since its ominous week what we're

65

00:04:37,860 --> 00:04:34,330

focusing on is returning to the moon and

66

00:04:39,630 --> 00:04:37,870

then on to Mars that's what we've really

67

00:04:41,820 --> 00:04:39,640

been concentrating on preparing the

68

00:04:42,480 --> 00:04:41,830

ground infrastructure to make that

69

00:04:43,980 --> 00:04:42,490

happen

70

00:04:46,320 --> 00:04:43,990

Kennedy Space Center is the home of

71

00:04:49,230 --> 00:04:46,330

exploration ground systems program and

72

00:04:52,050 --> 00:04:49,240

that's the organization that you work on

73

00:04:53,520 --> 00:04:52,060

that ground infrastructure prepare the

74

00:04:55,740 --> 00:04:53,530

ground infrastructure to launch the

75

00:05:00,450 --> 00:04:55,750

Orion spacecraft or top the Space Launch

76

00:05:02,130 --> 00:05:00,460

System rocket and can you tell us so you

77

00:05:04,110 --> 00:05:02,140

mentioned EGS as we call them

78

00:05:05,910 --> 00:05:04,120

exploration ground systems can you kind

79

00:05:08,250 --> 00:05:05,920

of cover what are some of the specifics

80

00:05:10,860 --> 00:05:08,260

of their responsibilities they have some

81

00:05:13,350 --> 00:05:10,870

of probably the most physically obvious

82

00:05:16,040 --> 00:05:13,360

and most historic elements to the Space

83

00:05:18,600 --> 00:05:16,050

Center but what are those are pieces

84

00:05:20,530 --> 00:05:18,610

well we'll start with the centerpiece of

85

00:05:21,940 --> 00:05:20,540

launch complex 39

86

00:05:26,080 --> 00:05:21,950

that is the Vehicle Assembly Building

87

00:05:29,140 --> 00:05:26,090

that building was first built in 1966

88

00:05:30,910 --> 00:05:29,150

started construction in 1962 so just

89

00:05:32,500 --> 00:05:30,920

think about it one of the largest

90

00:05:35,650 --> 00:05:32,510

buildings in the worldwide volume when

91

00:05:38,230 --> 00:05:35,660

it was built it was completed in four

92

00:05:41,260 --> 00:05:38,240

years and that's where the rocket will

93

00:05:44,860 --> 00:05:41,270

the rocket will come together the pieces

94

00:05:47,710 --> 00:05:44,870

of the boosters the core stage the upper

95

00:05:53,170 --> 00:05:47,720

stage and that'll be topped off with

96

00:05:55,060 --> 00:05:53,180

your IU spacecraft so we had the

97

00:05:56,230 --> 00:05:55,070

centerpiece there obviously earlier

98

00:05:59,020 --> 00:05:56,240

earlier in the week we talked about

99

00:06:00,820 --> 00:05:59,030

launch complex 39b which is great there

100

00:06:01,960 --> 00:06:00,830

we also saw the mobile launcher can you

101  
00:06:04,570 --> 00:06:01,970  
tell us more about the mobile launcher

102  
00:06:06,370 --> 00:06:04,580  
and the launch control center those are

103  
00:06:10,030 --> 00:06:06,380  
two other ones that are a huge part in

104  
00:06:11,710 --> 00:06:10,040  
that's launching Artemis sure so what

105  
00:06:14,670 --> 00:06:11,720  
the mobile launcher is it's essentially

106  
00:06:18,130 --> 00:06:14,680  
a platform that the rocket is built upon

107  
00:06:21,610 --> 00:06:18,140  
so if you had a Legos or they talked of

108  
00:06:23,770 --> 00:06:21,620  
toys you bring in the mobile launcher it

109  
00:06:26,230 --> 00:06:23,780  
scare to top that crawler-transporter

110  
00:06:28,030 --> 00:06:26,240  
you see that the video roll in there the

111  
00:06:30,760 --> 00:06:28,040  
crawler transporter weighs about 6

112  
00:06:32,440 --> 00:06:30,770  
million pounds and it's carrying this

113  
00:06:36,190 --> 00:06:32,450

mobile launcher that weighs over 20

114

00:06:38,560 --> 00:06:36,200

million pounds and I'm sorry it weighs

115

00:06:40,420 --> 00:06:38,570

between 11 and 12 million pounds and the

116

00:06:41,920 --> 00:06:40,430

entire stock with the rocket and the

117

00:06:45,640 --> 00:06:41,930

Boosters when it rolls out for the pad

118

00:06:47,830 --> 00:06:45,650

it'll weigh over 20 million pounds I

119

00:06:50,200 --> 00:06:47,840

want to make this a so that's what the

120

00:06:53,170 --> 00:06:50,210

rocket is built on and it's delivered to

121

00:06:56,290 --> 00:06:53,180

the launch pad it's set atop pedestals

122

00:06:58,930 --> 00:06:56,300

secured to the pad and the rocket lifts

123

00:07:00,810 --> 00:06:58,940

off from the mobile launcher you also

124

00:07:03,640 --> 00:07:00,820

asked about the launch control center

125

00:07:06,330 --> 00:07:03,650

just like the name implies that's where

126

00:07:09,970 --> 00:07:06,340

the launch countdown is these were a

127

00:07:11,950 --> 00:07:09,980

part of our preparation is preparing the

128

00:07:15,250 --> 00:07:11,960

software and all the programs that

129

00:07:19,900 --> 00:07:15,260

enable us to the test and fuel and

130

00:07:21,640 --> 00:07:19,910

launch the rocket so what does it mean

131

00:07:23,350 --> 00:07:21,650

for you Kelvin as we think about bingham

132

00:07:26,020 --> 00:07:23,360

multi-user spaceport getting ready for

133

00:07:28,330 --> 00:07:26,030

more more missions to the moon and a

134

00:07:30,220 --> 00:07:28,340

sustained presence on the moon as an

135

00:07:31,810 --> 00:07:30,230

Associate Director obviously you have a

136

00:07:33,620 --> 00:07:31,820

huge vested interest in this

137

00:07:37,130 --> 00:07:33,630

professionally and I'm sure

138

00:07:39,560 --> 00:07:37,140

personally as well oh absolutely you

139

00:07:42,440 --> 00:07:39,570

know as a NASA employee or just as an

140

00:07:44,810 --> 00:07:42,450

American as I said you may be for us to

141

00:07:46,430 --> 00:07:44,820

leave this planet and travel to the Nuge

142

00:07:48,260 --> 00:07:46,440

it's incredible

143

00:07:49,580 --> 00:07:48,270

if you think about it in the history of

144

00:07:52,160 --> 00:07:49,590

humankind

145

00:07:56,270 --> 00:07:52,170

for the for humans have set foot on the

146

00:07:58,550 --> 00:07:56,280

moon and of those twelve there's only

147

00:08:01,430 --> 00:07:58,560

four surviving members so what we want

148

00:08:03,740 --> 00:08:01,440

to do you know we want to put the first

149

00:08:06,950 --> 00:08:03,750

woman the next man on the moon by 2024

150

00:08:09,380 --> 00:08:06,960

and first one I hope those fools still

151  
00:08:12,290 --> 00:08:09,390  
be around so they can say that hey they

152  
00:08:14,540 --> 00:08:12,300  
did it yeah that's awesome

153  
00:08:17,360 --> 00:08:14,550  
so that's obviously a nice snapshot of

154  
00:08:18,980 --> 00:08:17,370  
KSC and some of our heavy work towards

155  
00:08:20,630 --> 00:08:18,990  
Artemis can you tell us a little more

156  
00:08:22,580 --> 00:08:20,640  
about the agency as a whole obviously in

157  
00:08:24,800 --> 00:08:22,590  
your position you kind of have exposure

158  
00:08:28,070 --> 00:08:24,810  
to what's going on so what is happening

159  
00:08:29,900 --> 00:08:28,080  
agency wide today so what's the nasty

160  
00:08:31,910 --> 00:08:29,910  
doing well first let's talk about

161  
00:08:33,440 --> 00:08:31,920  
Commercial Crew that suited with SpaceX

162  
00:08:35,360 --> 00:08:33,450  
and go and we're going to the space

163  
00:08:36,950 --> 00:08:35,370

station is one nation because man I'm

164

00:08:38,209 --> 00:08:36,960

not talking about no context and it's

165

00:08:40,670 --> 00:08:38,219

not you right here from the floor to

166

00:08:42,890 --> 00:08:40,680

saying quicker than your mama's minivan

167

00:08:44,570 --> 00:08:42,900

Under the Sun five four three two one

168

00:08:46,790 --> 00:08:44,580

we're not gonna be outdone and better

169

00:08:48,110 --> 00:08:46,800

tune in to NASA TV early because you

170

00:08:49,640 --> 00:08:48,120

don't want to miss the first launch of

171

00:08:51,650 --> 00:08:49,650

my friends Bob banking and Doug Hurley

172

00:08:54,410 --> 00:08:51,660

so join that you believe but don't

173

00:08:56,360 --> 00:08:54,420

forget about the JWST so big like Hubble

174

00:08:57,680 --> 00:08:56,370

feel smaller than Barney Rubble yes

175

00:08:58,940 --> 00:08:57,690

you'll start skipping rope that you

176

00:09:00,320 --> 00:08:58,950

learn about the wonders of the James

177

00:09:02,570 --> 00:09:00,330

Webb Space Telescope

178

00:09:05,570 --> 00:09:02,580

now the knowledgeable dispersed teaching

179

00:09:07,400 --> 00:09:05,580

us more about the universe and that's

180

00:09:09,590 --> 00:09:07,410

not exaggeration but it's also time to

181

00:09:11,660 --> 00:09:09,600

introduce the Artemus generation yeah

182

00:09:13,400 --> 00:09:11,670

Apollo they talk back to follow but

183

00:09:15,080 --> 00:09:13,410

here's the plan we're starting the first

184

00:09:17,300 --> 00:09:15,090

woman in the next man headed to the need

185

00:09:19,640 --> 00:09:17,310

will be happening you'll see yes no less

186

00:09:20,450 --> 00:09:19,650

than a lion on pad 39b lit up like a

187

00:09:22,250 --> 00:09:20,460

Christmas tree

188

00:09:24,260 --> 00:09:22,260

giant market rather than Toad the Wet

189

00:09:26,630 --> 00:09:24,270

Sprocket ready to be set free flying

190

00:09:28,370 --> 00:09:26,640

right out at KSC and understand this

191

00:09:29,930 --> 00:09:28,380

ain't no flash in the pan so make way

192

00:09:31,340 --> 00:09:29,940

for the Gateway because this time we're

193

00:09:32,750 --> 00:09:31,350

doing aesthetic and we're not fighting

194

00:09:35,330 --> 00:09:32,760

off more than you can chew because we

195

00:09:37,160 --> 00:09:35,340

got new partners like max I love you one

196

00:09:38,900 --> 00:09:37,170

day you could be an astronaut keep that

197

00:09:40,940 --> 00:09:38,910

same thought he'd be wanted to select

198

00:09:42,530 --> 00:09:40,950

you mean erase up their float a space

199

00:09:44,000 --> 00:09:42,540

plus learning about vena

200

00:09:45,320 --> 00:09:44,010

ice would be nice nothing like the

201  
00:09:46,920 --> 00:09:45,330  
adoration you're going to get when you

202  
00:09:48,900 --> 00:09:46,930  
tell your professors you

203  
00:09:50,940 --> 00:09:48,910  
perfective incensed unionization and

204  
00:09:52,320 --> 00:09:50,950  
everyday overturning the big rocks and

205  
00:09:54,120 --> 00:09:52,330  
dig it out of the box to give us some

206  
00:09:56,250 --> 00:09:54,130  
even close to mods we need everyone keep

207  
00:10:02,700 --> 00:09:56,260  
reaching for the stars back to you Josh

208  
00:10:05,250 --> 00:10:02,710  
Wow Kelvin that is a lot happening yeah

209  
00:10:07,590 --> 00:10:05,260  
okay but I'm sure Manny would still say

210  
00:10:09,480 --> 00:10:07,600  
that's sweet a strawberry jam but what

211  
00:10:11,430 --> 00:10:09,490  
about my launch services program yes

212  
00:10:13,829 --> 00:10:11,440  
there's so much excitement aplenty

213  
00:10:15,420 --> 00:10:13,839

I forgot to even mention Mars 2020 you

214

00:10:16,740 --> 00:10:15,430

don't need a top secret clearance to

215

00:10:18,750 --> 00:10:16,750

learn about our new group have called

216

00:10:20,550 --> 00:10:18,760

perseverance and yeah your friends might

217

00:10:23,040 --> 00:10:20,560

want to call you doctor when they hear

218

00:10:24,840 --> 00:10:23,050

you talking about a Mars helicopter tell

219

00:10:26,640 --> 00:10:24,850

them no need to check your minnow acuity

220

00:10:29,070 --> 00:10:26,650

NASA's you only got a copter and it's

221

00:10:30,510 --> 00:10:29,080

called ingenuity so this summer when

222

00:10:31,410 --> 00:10:30,520

you're out doing the fish fighting a

223

00:10:34,079 --> 00:10:31,420

Boston cream pie

224

00:10:36,540 --> 00:10:34,089

don't forget Mars 2020 is happening this

225

00:10:38,250 --> 00:10:36,550

July there you go Oh Calvin man

226

00:10:39,060 --> 00:10:38,260

appreciate you so much thank you for

227

00:10:40,920 --> 00:10:39,070

your time today

228

00:10:42,600 --> 00:10:40,930

obviously we're excited all eyes on the

229

00:10:47,900 --> 00:10:42,610

Kennedy Space Center as we get ready to

230

00:10:49,170 --> 00:10:47,910

return to the moon thanks Josh

231

00:10:50,970 --> 00:10:49,180

appreciate it

232

00:10:52,290 --> 00:10:50,980

yeah absolutely my pleasure and

233

00:10:53,610 --> 00:10:52,300

reminding everybody to tune in the rest

234

00:10:56,100 --> 00:10:53,620

of the week for more on the Artemis