



1
00:00:00,000 --> 00:02:15,070

I
2
00:02:15,080 --> 00:03:11,320
see

3
00:03:11,330 --> 00:03:26,440
second year

4
00:03:26,450 --> 00:04:49,519
for doing

5
00:04:49,529 --> 00:05:59,330
i know i saw you like right now

6
00:05:59,340 --> 00:06:04,510
Mike

7
00:06:04,520 --> 00:06:26,709
yeah yeah

8
00:06:26,719 --> 00:06:51,260
schedule by an hour

9
00:06:55,790 --> 00:06:54,620
get rid of we are moving then I'll be

10
00:06:58,670 --> 00:06:55,800
moving it to the right spot but we're

11
00:06:59,860 --> 00:06:58,680
moving it if we put some in the

12
00:07:02,740 --> 00:06:59,870
collection

13
00:07:06,300 --> 00:07:02,750

yo Mario how do I camera is the belt

14

00:07:13,749 --> 00:07:08,559

nothing else now it's gone now

15

00:07:23,330 --> 00:07:13,759

we're going back in gonna make NASA

16

00:07:41,180 --> 00:07:32,210

oh say can you see by the dawn's early

17

00:07:46,850 --> 00:07:41,190

light what so proudly we hailed at the

18

00:07:56,960 --> 00:07:46,860

twilight's last gleaming whose broad

19

00:08:03,200 --> 00:07:56,970

stripes and bright stars this spike come

20

00:08:32,620 --> 00:08:03,210

on over the problems we watched were so

21

00:08:32,630 --> 00:08:59,260

00

22

00:09:05,090 --> 00:09:02,420

you are paving a new frontier here nASA

23

00:09:07,970 --> 00:09:05,100

has decided and continues to decide that

24

00:09:10,040 --> 00:09:07,980

we will explore the neat thing about our

25

00:09:13,220 --> 00:09:10,050

new vision for exploration is that it's

26
00:09:16,130 --> 00:09:13,230
not just on some object that has gravity

27
00:09:18,620 --> 00:09:16,140
and it's not just on the moon it's on

28
00:09:20,600 --> 00:09:18,630
Mars it's on an asteroid where you may

29
00:09:24,590 --> 00:09:20,610
not have gravity but you still need to

30
00:09:27,170 --> 00:09:24,600
excavate soil or regolith to be able to

31
00:09:29,240 --> 00:09:27,180
extract lunar volatile zar oxygen in

32
00:09:31,460 --> 00:09:29,250
order to succeed with your with your

33
00:09:37,460 --> 00:09:31,470
mission coming home city from Arkansas

34
00:09:39,680 --> 00:09:37,470
here good I didn't say that but I'd like

35
00:09:41,570 --> 00:09:39,690
to introduce you to is mr. Jerry Hartman

36
00:09:43,580 --> 00:09:41,580
he's the education lead for NASA's

37
00:09:45,410 --> 00:09:43,590
exploration systems Mission Directorate

38
00:09:48,140 --> 00:09:45,420

at NASA headquarters in Washington DC

39

00:09:50,060 --> 00:09:48,150

and he wants to grow you guys into

40

00:09:53,540 --> 00:09:50,070

engineers and hopefully you guys can

41

00:09:56,600 --> 00:09:53,550

take over NASA one day right yes yes

42

00:10:05,250 --> 00:09:56,610

come on give it up so mr. Hartman come

43

00:10:10,170 --> 00:10:07,550

Thank You Kim good morning everybody I

44

00:10:12,540 --> 00:10:10,180

will start by getting a special shout

45

00:10:15,870 --> 00:10:12,550

out to our sponsors and our partners

46

00:10:25,850 --> 00:10:15,880

here the caterpillar corporation newport

47

00:10:30,960 --> 00:10:28,590

you know it's not too much of a stretch

48

00:10:34,140 --> 00:10:30,970

to imagine the newport mining company

49

00:10:36,930 --> 00:10:34,150

large division setting up to do business

50

00:10:40,200 --> 00:10:36,940

on the red planet using caterpillar

51
00:10:42,930 --> 00:10:40,210
equipment powered by honeybee robots and

52
00:10:45,840 --> 00:10:42,940
supported by the harris corporation that

53
00:10:49,830 --> 00:10:45,850
will happen someday it won't always be

54
00:10:51,930 --> 00:10:49,840
just the government doing doing these

55
00:10:55,080 --> 00:10:51,940
explorations on the moon and the Mars

56
00:10:57,210 --> 00:10:55,090
and Mars and beyond the teamwork you

57
00:11:00,240 --> 00:10:57,220
know is very very applicable we recently

58
00:11:02,820 --> 00:11:00,250
had an autonomous truck demo for some of

59
00:11:05,610 --> 00:11:02,830
our big mining customers and we had a

60
00:11:07,680 --> 00:11:05,620
team of folks like you and to be honest

61
00:11:10,710 --> 00:11:07,690
not a heck of a lot older there was a

62
00:11:13,320 --> 00:11:10,720
few gray hairs like me but lots of folks

63
00:11:15,690 --> 00:11:13,330

in their 20s and 30s working for that

64

00:11:17,940 --> 00:11:15,700

autonomous truck demo for the customer I

65

00:11:19,470 --> 00:11:17,950

want to thank you congratulate you for

66

00:11:22,200 --> 00:11:19,480

taking the initiative to be here I know

67

00:11:24,030 --> 00:11:22,210

you just got done with finals you guys

68

00:11:26,280 --> 00:11:24,040

are the future of science and

69

00:11:32,040 --> 00:11:26,290

engineering so thank you thank you for

70

00:11:38,530 --> 00:11:32,050

participating so without further review

71

00:11:49,640 --> 00:11:44,690

good morning are you ready to dig are

72

00:11:54,019 --> 00:11:49,650

you ready to dig are you ready to dig

73

00:11:57,019 --> 00:11:54,029

come on all right last year we had the

74

00:11:59,120 --> 00:11:57,029

first of these competitions and it went

75

00:12:02,150 --> 00:11:59,130

so well that we doubled in size this

76

00:12:03,950 --> 00:12:02,160

year in that role he leads efforts to

77

00:12:06,829 --> 00:12:03,960

develop technologies for the robotic

78

00:12:09,560 --> 00:12:06,839

exported raise your right arm put it on

79

00:12:14,390 --> 00:12:09,570

your left shoulder and pat yourself on

80

00:12:17,000 --> 00:12:14,400

the back you did a great job just by

81

00:12:20,329 --> 00:12:17,010

being here today okay so you're already

82

00:12:23,150 --> 00:12:20,339

a winner in my mind for being here today

83

00:12:25,820 --> 00:12:23,160

and that's not to be underestimated to

84

00:12:28,850 --> 00:12:25,830

build a robot is not easy you know it's

85

00:12:31,010 --> 00:12:28,860

not easy I know it's not easy everybody

86

00:12:33,470 --> 00:12:31,020

here knows it's not easy the public

87

00:12:36,340 --> 00:12:33,480

takes it for granted they see it in the

88

00:12:38,900 --> 00:12:36,350

movies it's easy right it's not easy

89

00:12:41,690 --> 00:12:38,910

people like you and me have to make it

90

00:12:45,130 --> 00:12:41,700

happen so that's my main message to use

91

00:12:47,750 --> 00:12:45,140

just for being here today you're already

92

00:12:51,620 --> 00:12:47,760

way ahead of everybody else and you

93

00:12:54,620 --> 00:12:51,630

should be proud of that this is the top

94

00:12:56,270 --> 00:12:54,630

5% of Engineers in your universities

95

00:12:57,710 --> 00:12:56,280

here because you built something right

96

00:13:00,440 --> 00:12:57,720

how many other engineers that actually

97

00:13:04,970 --> 00:13:00,450

build hardware so look around and then

98

00:13:08,210 --> 00:13:04,980

look at yeah this is a great time to

99

00:13:10,370 --> 00:13:08,220

discuss your dreams and your ambitions

100

00:13:12,710 --> 00:13:10,380

with each other and just go make it

101
00:13:21,079 --> 00:13:12,720
happen thank you and let's go dig some

102
00:13:21,089 --> 00:13:33,639
let's get sir

103
00:13:33,649 --> 00:14:48,590
just a little bit

104
00:14:55,940 --> 00:14:50,860
r

105
00:14:55,950 --> 00:14:59,210
this is calling it

106
00:14:59,220 --> 00:15:07,579
30 seconds

107
00:15:15,570 --> 00:15:12,290
get up there that cross the line

108
00:15:23,650 --> 00:15:15,580
everything are you cold next year so

109
00:15:23,660 --> 00:16:06,240
or alive well

110
00:16:43,769 --> 00:16:10,829
nice job guys thank you thank you job

111
00:16:43,779 --> 00:17:20,039
are you not

112
00:17:20,049 --> 00:17:24,890
where's young one

113
00:18:00,890 --> 00:17:26,930

no can you drive it through it's very

114

00:18:08,370 --> 00:18:05,600

vomits always fires going on

115

00:18:23,970 --> 00:18:08,380

why

116

00:18:32,289 --> 00:18:28,139

on something hard take a challenge in

117

00:18:36,510 --> 00:18:32,299

naughty all right we took the challenge

118

00:18:41,200 --> 00:18:36,520

naturally soft bob is up

119

00:18:44,250 --> 00:18:41,210

either first time I count on you to come

120

00:18:48,040 --> 00:18:44,260

back there next time one less clothes

121

00:18:50,620 --> 00:18:48,050

underneath his boss's head in early

122

00:18:54,010 --> 00:18:50,630

talks about NASA gone to the moon NASA's

123

00:19:00,010 --> 00:18:54,020

history a very patient person there's a

124

00:19:02,110 --> 00:19:00,020

sha tsui governing legal seminal I'm the

125

00:19:05,910 --> 00:19:02,120

guinea in the 31st has been wrong on

126

00:19:09,480 --> 00:19:05,920

chapters I spanish clients moduli

127

00:19:12,060 --> 00:19:09,490

and that's the road and there's a lot of

128

00:19:14,130 --> 00:19:12,070

folks that are hitting Kennedy Space

129

00:19:17,760 --> 00:19:14,140

Center shutdown has closed and its

130

00:19:20,010 --> 00:19:17,770

orders were done baloney all right you

131

00:19:23,940 --> 00:19:20,020

know its radius the Apollo program was

132

00:19:26,040 --> 00:19:23,950

it is basically programming it's awesome

133

00:19:28,920 --> 00:19:26,050

any of that space station is on order

134

00:19:31,380 --> 00:19:28,930

right now and space station still up

135

00:19:34,530 --> 00:19:31,390

there it's gotta cruise sex we're still

136

00:19:36,720 --> 00:19:34,540

flying united states I have to try but a

137

00:19:38,280 --> 00:19:36,730

Russian partners for a while but we're

138

00:19:40,680 --> 00:19:38,290

going to be able commercial space but

139

00:19:42,840 --> 00:19:40,690

they actually by people took on the

140

00:19:46,560 --> 00:19:42,850

space is any other places in low Earth

141

00:19:49,380 --> 00:19:46,570

orbit all right and a NASA this is going

142

00:19:52,050 --> 00:19:49,390

to do really hard step we're going to go

143

00:19:54,660 --> 00:19:52,060

to another big rock Sarah we've already

144

00:19:57,590 --> 00:19:54,670

decided and we were kinda creepy

145

00:20:00,510 --> 00:19:57,600

although Ryan all the purpose

146

00:20:02,610 --> 00:20:00,520

that we're going to find rocket it's

147

00:20:03,610 --> 00:20:02,620

been cool i'm going to be able to go

148

00:20:06,980 --> 00:20:03,620

back

149

00:20:08,750 --> 00:20:06,990

arms asteroids Earth objects Lagrange

150

00:20:11,120 --> 00:20:08,760

points you eat we're going to build an

151
00:20:15,590 --> 00:20:11,130
architecture that's a stable you can go

152
00:20:18,950 --> 00:20:15,600
anywhere done that play a very great

153
00:20:21,590 --> 00:20:18,960
folks like you to be part of it so you

154
00:20:24,289 --> 00:20:21,600
just watch we're going to be to do good

155
00:20:27,530 --> 00:20:24,299
things and we're going to watching you

156
00:20:30,590 --> 00:20:27,540
because we know they are likely to come

157
00:21:03,110 --> 00:20:30,600
part of our team Wisconsin the waters

158
00:21:03,120 --> 00:21:15,139
look at the numbers

159
00:21:15,149 --> 00:22:03,789
diversity

160
00:22:03,799 --> 00:23:04,029
day

161
00:23:04,039 --> 00:23:08,080
alright