
George P. Shultz Great Hal
NATIONAL
SPACE COUNCIL
WH.GOV

1
00:00:16,790 --> 00:00:14,390
good afternoon

2
00:00:18,870 --> 00:00:16,800
i'm vanessa weich director of nasa's

3
00:00:20,970 --> 00:00:18,880
johnson space center

4
00:00:28,710 --> 00:00:20,980
on behalf

5
00:00:31,349 --> 00:00:28,720
[Applause]

6
00:00:34,470 --> 00:00:31,359
on behalf of our more than 11 000

7
00:00:37,590 --> 00:00:34,480
employees in houston and at our white

8
00:00:40,950 --> 00:00:37,600
sands test facility in new mexico

9
00:00:44,310 --> 00:00:40,960
i'd like to extend a warm welcome to

10
00:00:47,480 --> 00:00:44,320
vice president kamala harris and the

11
00:00:54,709 --> 00:00:47,490
national space council

12
00:00:59,670 --> 00:00:57,270
nasa's johnson space center has served

13
00:01:02,630 --> 00:00:59,680

as the iconic setting to some of

14
00:01:04,070 --> 00:01:02,640
humankind's greatest achievements

15
00:01:06,469 --> 00:01:04,080
this year

16
00:01:09,429 --> 00:01:06,479
is very special for us as we're

17
00:01:12,390 --> 00:01:09,439
celebrating johnson space center's 60th

18
00:01:14,870 --> 00:01:12,400
anniversary in houston

19
00:01:17,429 --> 00:01:14,880
nasa's human space flight program has

20
00:01:21,109 --> 00:01:17,439
seen its busiest years in more than a

21
00:01:24,390 --> 00:01:21,119
decade in terms of number of spacewalks

22
00:01:26,469 --> 00:01:24,400
launches people in space and research

23
00:01:27,830 --> 00:01:26,479
conducted aboard the international space

24
00:01:31,590 --> 00:01:27,840
station

25
00:01:34,870 --> 00:01:31,600
throughout the past 21 years

26
00:01:38,550 --> 00:01:34,880
the united states has had continued

27
00:01:41,670 --> 00:01:38,560
human presence in space

28
00:01:44,469 --> 00:01:41,680
and we are conducting experiments across

29
00:01:47,109 --> 00:01:44,479
multiple disciplines of research

30
00:01:50,230 --> 00:01:47,119
including earth and space science

31
00:01:51,590 --> 00:01:50,240
biology human physiology and physical

32
00:01:53,030 --> 00:01:51,600
sciences

33
00:01:54,389 --> 00:01:53,040
and soon

34
00:01:57,190 --> 00:01:54,399
under artemis

35
00:01:59,670 --> 00:01:57,200
we will go to the moon and we will go in

36
00:02:01,910 --> 00:01:59,680
a way that we've never gone before

37
00:02:05,030 --> 00:02:01,920
with innovative new partnerships

38
00:02:06,149 --> 00:02:05,040

technologies and systems to study and

39
00:02:08,229 --> 00:02:06,159
explore

40
00:02:09,510 --> 00:02:08,239
more of the lunar surface than ever

41
00:02:12,470 --> 00:02:09,520
before

42
00:02:15,190 --> 00:02:12,480
then we will use what we learned to send

43
00:02:18,150 --> 00:02:15,200
our astronauts to mars

44
00:02:20,869 --> 00:02:18,160
as chair of the national space council

45
00:02:24,150 --> 00:02:20,879
vice president harris recognizes the

46
00:02:27,430 --> 00:02:24,160
importance of preserving and advancing

47
00:02:30,470 --> 00:02:27,440
the united states leadership in space

48
00:02:33,589 --> 00:02:30,480
as well as ensuring the united states

49
00:02:37,350 --> 00:02:33,599
capitalizes on the rich opportunities

50
00:02:38,949 --> 00:02:37,360
presented by our nation space activities

51
00:02:40,949 --> 00:02:38,959
i'd like to thank

52
00:02:42,790 --> 00:02:40,959
vice president harris for her

53
00:02:45,190 --> 00:02:42,800
demonstrated leadership

54
00:02:47,750 --> 00:02:45,200
bringing together

55
00:02:48,790 --> 00:02:47,760
interagency partners across the federal

56
00:02:51,430 --> 00:02:48,800
government

57
00:02:54,470 --> 00:02:51,440
to synchronize the nation's civil

58
00:02:56,630 --> 00:02:54,480
commercial and national security space

59
00:02:59,509 --> 00:02:56,640
activities

60
00:03:02,070 --> 00:02:59,519
vice president harris's role leading the

61
00:03:05,589 --> 00:03:02,080
national space council is immensely

62
00:03:08,949 --> 00:03:05,599
impactful for the artemis generation

63
00:03:09,990 --> 00:03:08,959

inspiring america as a leader of many

64
00:03:11,830 --> 00:03:10,000
firsts

65
00:03:14,390 --> 00:03:11,840
she is the first woman

66
00:03:17,190 --> 00:03:14,400
the first black american and the first

67
00:03:19,110 --> 00:03:17,200
south asian american to be elected vice

68
00:03:20,949 --> 00:03:19,120
president of the united states of

69
00:03:23,589 --> 00:03:20,959
america

70
00:03:26,229 --> 00:03:23,599
artemis will land the first woman and

71
00:03:29,030 --> 00:03:26,239
first person of color on the moon

72
00:03:32,550 --> 00:03:29,040
inspiring the next generation of america

73
00:03:34,710 --> 00:03:32,560
explorers that they quote may be the

74
00:03:37,270 --> 00:03:34,720
first to do many things but will

75
00:03:41,270 --> 00:03:37,280
certainly not be the last

76
00:03:43,990 --> 00:03:41,280
at this time it is my absolute honor to

77
00:03:45,589 --> 00:03:44,000
introduce the chair of the national

78
00:03:48,229 --> 00:03:45,599
space council

79
00:03:52,110 --> 00:03:48,239
and the vice president of the united

80
00:03:56,600 --> 00:03:52,120
states of america kamala harris

81
00:04:10,910 --> 00:04:04,780
[Music]

82
00:04:22,390 --> 00:04:10,920
[Applause]

83
00:04:24,870 --> 00:04:22,400
[Music]

84
00:04:27,990 --> 00:04:24,880
good afternoon everyone please have a

85
00:04:30,870 --> 00:04:28,000
seat good afternoon

86
00:04:33,110 --> 00:04:30,880
madam director thank you for that

87
00:04:35,110 --> 00:04:33,120
very kind introduction and for your work

88
00:04:39,830 --> 00:04:35,120

i am thrilled to be here

89
00:04:41,670 --> 00:04:39,840
but for our director i want to thank you

90
00:04:44,150 --> 00:04:41,680
for your leadership you have been an

91
00:04:46,550 --> 00:04:44,160
inspiration to so many

92
00:04:48,469 --> 00:04:46,560
it is truly an honor to be with so many

93
00:04:50,710 --> 00:04:48,479
leaders here today i've had the chance

94
00:04:53,189 --> 00:04:50,720
to visit with quite a few of you

95
00:04:56,070 --> 00:04:53,199
uh this morning and i will tell you each

96
00:04:59,030 --> 00:04:56,080
and every one of you and our panelists

97
00:05:00,310 --> 00:04:59,040
you inspire me and you inspire our

98
00:05:02,390 --> 00:05:00,320
nation

99
00:05:04,950 --> 00:05:02,400
and by extension you inspire the world

100
00:05:07,029 --> 00:05:04,960
so thank you all for what you do

101
00:05:09,430 --> 00:05:07,039
and to the members of our administration

102
00:05:11,830 --> 00:05:09,440
the members of congress who are here

103
00:05:13,189 --> 00:05:11,840
private sector leaders international

104
00:05:15,350 --> 00:05:13,199
partners

105
00:05:16,870 --> 00:05:15,360
and of course my fellow americans thank

106
00:05:19,350 --> 00:05:16,880
you and welcome

107
00:05:21,670 --> 00:05:19,360
to the second convening of our national

108
00:05:24,950 --> 00:05:21,680
space council

109
00:05:29,189 --> 00:05:24,960
so 60 years ago next week

110
00:05:31,990 --> 00:05:29,199
just up the road at rice university

111
00:05:33,350 --> 00:05:32,000
president john f kennedy delivered an

112
00:05:35,830 --> 00:05:33,360
address

113
00:05:37,590 --> 00:05:35,840

on the future of the american space

114
00:05:39,270 --> 00:05:37,600
program

115
00:05:42,629 --> 00:05:39,280
at the time

116
00:05:44,710 --> 00:05:42,639
the space race with the soviet union was

117
00:05:47,189 --> 00:05:44,720
well underway

118
00:05:48,710 --> 00:05:47,199
and while our nation had made many

119
00:05:51,430 --> 00:05:48,720
discoveries

120
00:05:53,749 --> 00:05:51,440
and achieved many milestones in the

121
00:05:55,029 --> 00:05:53,759
years before

122
00:05:58,550 --> 00:05:55,039
at the time

123
00:06:01,270 --> 00:05:58,560
america was at real risk

124
00:06:02,629 --> 00:06:01,280
of falling behind

125
00:06:05,670 --> 00:06:02,639
and so

126
00:06:08,469 --> 00:06:05,680
to the assembled thousands

127
00:06:10,390 --> 00:06:08,479
and to the entire world

128
00:06:13,110 --> 00:06:10,400
president kennedy

129
00:06:16,469 --> 00:06:13,120
made a vow

130
00:06:18,469 --> 00:06:16,479
before the end of the decade

131
00:06:22,629 --> 00:06:18,479
america would do

132
00:06:24,070 --> 00:06:22,639
what no nation had done before

133
00:06:28,710 --> 00:06:24,080
we

134
00:06:32,469 --> 00:06:30,629
because

135
00:06:35,270 --> 00:06:32,479
of the vision

136
00:06:36,790 --> 00:06:35,280
of president kennedy

137
00:06:38,469 --> 00:06:36,800
because

138
00:06:40,390 --> 00:06:38,479

of the commitment

139
00:06:43,430 --> 00:06:40,400
of president johnson

140
00:06:45,189 --> 00:06:43,440
a champion of the american space program

141
00:06:46,790 --> 00:06:45,199
since his days in the united states

142
00:06:49,110 --> 00:06:46,800
senate

143
00:06:50,710 --> 00:06:49,120
and because of the hard work

144
00:06:53,189 --> 00:06:50,720
and ingenuity

145
00:06:55,270 --> 00:06:53,199
of thousands of americans

146
00:06:59,670 --> 00:06:55,280
our nation

147
00:07:04,870 --> 00:06:59,680
in fact did achieve that goal

148
00:07:06,629 --> 00:07:04,880
in the decades since america has orbited

149
00:07:09,430 --> 00:07:06,639
mercury

150
00:07:11,189 --> 00:07:09,440
landed rovers on mars

151
00:07:13,029 --> 00:07:11,199
and flown

152
00:07:15,350 --> 00:07:13,039
by pluto

153
00:07:18,710 --> 00:07:15,360
we have looked back on our earth

154
00:07:21,589 --> 00:07:18,720
from billions of miles away

155
00:07:23,189 --> 00:07:21,599
and we have built a telescope

156
00:07:26,390 --> 00:07:23,199
powerful enough

157
00:07:30,469 --> 00:07:26,400
to observe our universe as it was

158
00:07:33,749 --> 00:07:30,479
billions of years ago

159
00:07:38,550 --> 00:07:36,469
for generations with our allies and

160
00:07:41,749 --> 00:07:38,560
partners around the globe

161
00:07:46,790 --> 00:07:41,759
america has led our world

162
00:07:49,670 --> 00:07:46,800
in the exploration and use of space

163
00:07:52,469 --> 00:07:49,680

and i do believe that our leadership has

164
00:07:54,790 --> 00:07:52,479
been guided by a set of fundamental

165
00:07:57,110 --> 00:07:54,800
principles

166
00:07:59,189 --> 00:07:57,120
cooperation

167
00:08:01,430 --> 00:07:59,199
security

168
00:08:04,070 --> 00:08:01,440
ambition

169
00:08:06,550 --> 00:08:04,080
and public trust

170
00:08:08,950 --> 00:08:06,560
which is the recognition of course that

171
00:08:10,710 --> 00:08:08,960
space can and must

172
00:08:14,710 --> 00:08:10,720
be protected

173
00:08:18,550 --> 00:08:14,720
for the benefit of all people

174
00:08:20,550 --> 00:08:18,560
today as was the case 60 years ago

175
00:08:23,430 --> 00:08:20,560
our nation's leadership

176
00:08:24,830 --> 00:08:23,440
in space is critical

177
00:08:27,749 --> 00:08:24,840
to our economic

178
00:08:30,390 --> 00:08:27,759
prosperity to our scientific and

179
00:08:31,430 --> 00:08:30,400
technological progress

180
00:08:33,829 --> 00:08:31,440
and

181
00:08:36,469 --> 00:08:33,839
in a time of increasing

182
00:08:39,670 --> 00:08:36,479
great power rivalry

183
00:08:42,469 --> 00:08:39,680
to our national security

184
00:08:45,269 --> 00:08:42,479
so the mission of this council

185
00:08:46,389 --> 00:08:45,279
is to preserve and promote

186
00:08:49,030 --> 00:08:46,399
american

187
00:08:50,949 --> 00:08:49,040
leadership in space

188
00:08:53,190 --> 00:08:50,959

to synchronize

189
00:08:55,030 --> 00:08:53,200
our nation's civil

190
00:08:58,870 --> 00:08:55,040
and commercial

191
00:09:00,550 --> 00:08:58,880
and national security space activities

192
00:09:03,509 --> 00:09:00,560
so that america

193
00:09:06,870 --> 00:09:03,519
may continue to use space

194
00:09:08,550 --> 00:09:06,880
to improve the lives of people

195
00:09:11,990 --> 00:09:08,560
in our nation

196
00:09:14,070 --> 00:09:12,000
and throughout our world

197
00:09:16,070 --> 00:09:14,080
last year at the first meeting of the

198
00:09:18,550 --> 00:09:16,080
national space council we identified

199
00:09:20,150 --> 00:09:18,560
three priorities essential to that

200
00:09:21,190 --> 00:09:20,160
mission

201
00:09:24,630 --> 00:09:21,200
first

202
00:09:27,269 --> 00:09:24,640
expanding our stem workforce and i've

203
00:09:29,750 --> 00:09:27,279
invited some students here today

204
00:09:33,110 --> 00:09:29,760
because they truly are the future of our

205
00:09:34,389 --> 00:09:33,120
leadership on that level

206
00:09:36,230 --> 00:09:34,399
second

207
00:09:37,910 --> 00:09:36,240
a priority is addressing the climate

208
00:09:39,190 --> 00:09:37,920
crisis

209
00:09:42,150 --> 00:09:39,200
and third

210
00:09:45,430 --> 00:09:42,160
promoting international rules and norms

211
00:09:49,110 --> 00:09:45,440
to govern space activities

212
00:09:51,990 --> 00:09:49,120
today the business of our work

213
00:09:55,190 --> 00:09:52,000

is for the council to report on the work

214
00:09:57,670 --> 00:09:55,200
that has occurred since our last meeting

215
00:10:00,949 --> 00:09:57,680
across these areas

216
00:10:04,389 --> 00:10:00,959
we will today also discuss the work

217
00:10:06,710 --> 00:10:04,399
yet ahead the work we must still do to

218
00:10:09,350 --> 00:10:06,720
continue to move forward

219
00:10:10,230 --> 00:10:09,360
in particular the work we must do to

220
00:10:14,630 --> 00:10:10,240
build

221
00:10:15,990 --> 00:10:14,640
a skilled technical space workforce

222
00:10:19,110 --> 00:10:16,000
to advance

223
00:10:21,910 --> 00:10:19,120
human space exploration

224
00:10:23,829 --> 00:10:21,920
and to establish rules

225
00:10:26,470 --> 00:10:23,839
for novel commercial

226
00:10:27,509 --> 00:10:26,480
space activities

227
00:10:31,190 --> 00:10:27,519
first

228
00:10:33,509 --> 00:10:31,200
building our skilled technical workforce

229
00:10:36,949 --> 00:10:33,519
so last week with many of you i had the

230
00:10:39,030 --> 00:10:36,959
honor to visit the kennedy space center

231
00:10:41,509 --> 00:10:39,040
there i met some of the people who are

232
00:10:43,750 --> 00:10:41,519
building the future of the american

233
00:10:46,470 --> 00:10:43,760
space program

234
00:10:49,750 --> 00:10:46,480
and as you might expect

235
00:10:52,870 --> 00:10:49,760
these were engineers

236
00:10:56,550 --> 00:10:52,880
literally rocket scientists

237
00:10:59,590 --> 00:10:56,560
astronauts and programmers

238
00:11:01,910 --> 00:10:59,600

and they were also

239
00:11:03,590 --> 00:11:01,920
welders

240
00:11:05,990 --> 00:11:03,600
machinists

241
00:11:10,310 --> 00:11:06,000
and electricians

242
00:11:14,550 --> 00:11:10,320
today the space industry employs tens of

243
00:11:18,150 --> 00:11:14,560
thousands of skilled technical workers

244
00:11:21,269 --> 00:11:18,160
even so there are thousands more jobs

245
00:11:23,590 --> 00:11:21,279
for technical workers good paying jobs

246
00:11:25,750 --> 00:11:23,600
that often do not require

247
00:11:29,509 --> 00:11:25,760
a four-year degree

248
00:11:32,550 --> 00:11:29,519
but are essential to our space program

249
00:11:34,470 --> 00:11:32,560
and these jobs are just waiting to be

250
00:11:36,470 --> 00:11:34,480
filled

251
00:11:39,750 --> 00:11:36,480
last year i called on private sector

252
00:11:42,470 --> 00:11:39,760
leaders to help our nation address then

253
00:11:43,910 --> 00:11:42,480
this workforce need

254
00:11:46,949 --> 00:11:43,920
and today

255
00:11:48,710 --> 00:11:46,959
i'm proud to say over a dozen commercial

256
00:11:51,350 --> 00:11:48,720
space companies

257
00:11:53,670 --> 00:11:51,360
are answering that call

258
00:11:55,670 --> 00:11:53,680
in fact next month these companies will

259
00:11:58,069 --> 00:11:55,680
kick off three regional

260
00:12:00,069 --> 00:11:58,079
pilot training programs

261
00:12:02,069 --> 00:12:00,079
one in florida

262
00:12:04,310 --> 00:12:02,079
one on the gulf coast and one in

263
00:12:07,910 --> 00:12:04,320

southern california

264
00:12:10,710 --> 00:12:07,920
this coalition of companies will partner

265
00:12:14,310 --> 00:12:10,720
with our community colleges with our

266
00:12:17,269 --> 00:12:14,320
technical schools and our unions to help

267
00:12:18,790 --> 00:12:17,279
workers learn the skills they need

268
00:12:21,590 --> 00:12:18,800
to take on

269
00:12:22,670 --> 00:12:21,600
the new jobs that are being created in

270
00:12:26,150 --> 00:12:22,680
the space

271
00:12:29,750 --> 00:12:26,160
industry and to help our nation

272
00:12:31,509 --> 00:12:29,760
lead the way in space

273
00:12:32,550 --> 00:12:31,519
so that brings me to our second area of

274
00:12:37,430 --> 00:12:32,560
focus

275
00:12:39,910 --> 00:12:37,440
well which is advancing human space

276
00:12:42,470 --> 00:12:39,920
exploration

277
00:12:43,590 --> 00:12:42,480
soon for the first time in half a

278
00:12:46,389 --> 00:12:43,600
century

279
00:12:48,310 --> 00:12:46,399
america will go back to the moon

280
00:12:51,269 --> 00:12:48,320
the artemis program

281
00:12:53,190 --> 00:12:51,279
will return american astronauts to the

282
00:12:56,389 --> 00:12:53,200
lunar surface

283
00:12:56,399 --> 00:13:01,829
yes

284
00:13:05,190 --> 00:13:03,110
and as

285
00:13:07,269 --> 00:13:05,200
madame director mentioned the it will

286
00:13:08,310 --> 00:13:07,279
include the first woman and person of

287
00:13:10,870 --> 00:13:08,320
color

288
00:13:12,790 --> 00:13:10,880

and and think about it so

289
00:13:16,230 --> 00:13:12,800
when we went before

290
00:13:19,190 --> 00:13:16,240
indeed with pride we planted our flag

291
00:13:21,350 --> 00:13:19,200
it was rather temporary that visit

292
00:13:23,750 --> 00:13:21,360
with the artemis program

293
00:13:26,389 --> 00:13:23,760
it's not just to visit

294
00:13:28,710 --> 00:13:26,399
but to live and to work

295
00:13:31,990 --> 00:13:28,720
on the moon think about that

296
00:13:43,350 --> 00:13:32,000
the artemis program

297
00:13:44,710 --> 00:13:43,360
first space station in lunar orbit

298
00:13:47,350 --> 00:13:44,720
and the first

299
00:13:49,829 --> 00:13:47,360
lunar base camp

300
00:13:51,110 --> 00:13:49,839
where astronauts will train

301
00:13:54,069 --> 00:13:51,120
for the first

302
00:13:56,550 --> 00:13:54,079
mission to mars

303
00:13:59,110 --> 00:13:56,560
and our nation is also leading the way

304
00:14:00,310 --> 00:13:59,120
in human space exploration closer to

305
00:14:03,110 --> 00:14:00,320
home

306
00:14:05,110 --> 00:14:03,120
for over two decades astronauts aboard

307
00:14:07,910 --> 00:14:05,120
the international space station have

308
00:14:10,629 --> 00:14:07,920
advanced scientific progress in fact i

309
00:14:12,310 --> 00:14:10,639
was i was honored to speak with three of

310
00:14:13,990 --> 00:14:12,320
them this morning

311
00:14:17,269 --> 00:14:14,000
from here of course

312
00:14:20,310 --> 00:14:17,279
uh nasa has used the station's unique

313
00:14:23,350 --> 00:14:20,320

microgravity environment to develop new

314
00:14:24,629 --> 00:14:23,360
treatments for cancer and rare genetic

315
00:14:26,710 --> 00:14:24,639
diseases

316
00:14:29,189 --> 00:14:26,720
and when i spoke with them this morning

317
00:14:32,790 --> 00:14:29,199
they talked about how their work is

318
00:14:35,030 --> 00:14:32,800
helping us fight the climate crisis

319
00:14:37,910 --> 00:14:35,040
their work is increasing the

320
00:14:41,430 --> 00:14:37,920
productivity of our farms

321
00:14:43,990 --> 00:14:41,440
and slowing the effects of aging

322
00:14:46,710 --> 00:14:44,000
so our administration and we all gather

323
00:14:49,269 --> 00:14:46,720
today are committed to continuing that

324
00:14:50,870 --> 00:14:49,279
work which is why last year our

325
00:14:52,790 --> 00:14:50,880
administration announced that we would

326
00:14:54,949 --> 00:14:52,800
extend our commitment

327
00:14:58,360 --> 00:14:54,959
to the international space station

328
00:15:05,189 --> 00:14:58,370
through 2030.

329
00:15:09,590 --> 00:15:08,310
and that being said

330
00:15:11,509 --> 00:15:09,600
we are aware

331
00:15:14,550 --> 00:15:11,519
that the international space station

332
00:15:16,069 --> 00:15:14,560
will not remain operational forever that

333
00:15:18,629 --> 00:15:16,079
we all know

334
00:15:20,389 --> 00:15:18,639
which is why nasa is working with the

335
00:15:23,350 --> 00:15:20,399
private sector

336
00:15:27,189 --> 00:15:23,360
to develop the first generation of

337
00:15:29,030 --> 00:15:27,199
commercial space stations and as we will

338
00:15:31,110 --> 00:15:29,040

discuss more today

339
00:15:32,550 --> 00:15:31,120
our administration remains committed to

340
00:15:35,990 --> 00:15:32,560
making sure

341
00:15:38,949 --> 00:15:36,000
that nasa maintains the capacity to

342
00:15:40,949 --> 00:15:38,959
conduct cutting-edge research

343
00:15:43,110 --> 00:15:40,959
in space

344
00:15:44,949 --> 00:15:43,120
which brings me then to our final area

345
00:15:46,790 --> 00:15:44,959
of focus

346
00:15:50,949 --> 00:15:46,800
establishing rules

347
00:15:53,509 --> 00:15:50,959
for novel commercial space activities

348
00:15:55,110 --> 00:15:53,519
today private space companies have

349
00:15:58,629 --> 00:15:55,120
capabilities that would have been

350
00:15:59,749 --> 00:15:58,639
difficult to imagine even a decade ago

351
00:16:02,470 --> 00:15:59,759
today

352
00:16:03,829 --> 00:16:02,480
private companies can dock satellites in

353
00:16:05,590 --> 00:16:03,839
orbit

354
00:16:08,949 --> 00:16:05,600
they can capture

355
00:16:12,310 --> 00:16:08,959
and move space debris out of the way of

356
00:16:13,509 --> 00:16:12,320
our satellites and space stations

357
00:16:15,829 --> 00:16:13,519
and soon

358
00:16:17,670 --> 00:16:15,839
they will be able to repair

359
00:16:22,710 --> 00:16:17,680
and even build

360
00:16:25,269 --> 00:16:22,720
new structures while in orbit

361
00:16:29,509 --> 00:16:25,279
these novel activities will enable

362
00:16:33,430 --> 00:16:29,519
america's continued leadership in space

363
00:16:35,030 --> 00:16:33,440

but because these capabilities are so

364
00:16:37,990 --> 00:16:35,040
new

365
00:16:39,670 --> 00:16:38,000
few rules currently exist

366
00:16:42,870 --> 00:16:39,680
to ensure

367
00:16:44,470 --> 00:16:42,880
that they are conducted safely

368
00:16:46,710 --> 00:16:44,480
effectively

369
00:16:50,150 --> 00:16:46,720
and sustainably

370
00:16:52,710 --> 00:16:50,160
which is why in consultation with civil

371
00:16:54,470 --> 00:16:52,720
and commercial stakeholders

372
00:16:55,749 --> 00:16:54,480
our administration is currently

373
00:16:57,670 --> 00:16:55,759
developing

374
00:16:59,269 --> 00:16:57,680
the first rules

375
00:17:02,710 --> 00:16:59,279
as a framework

376
00:17:06,549 --> 00:17:02,720
for novel space activities

377
00:17:09,990 --> 00:17:06,559
these rules will promote innovation

378
00:17:12,069 --> 00:17:10,000
and enable competition

379
00:17:14,309 --> 00:17:12,079
they will reinforce

380
00:17:15,829 --> 00:17:14,319
the sources of america's global

381
00:17:18,789 --> 00:17:15,839
strengths

382
00:17:22,390 --> 00:17:18,799
such as our innovation

383
00:17:25,350 --> 00:17:22,400
and our industrial capacity

384
00:17:27,669 --> 00:17:25,360
these rules will be flexible enough to

385
00:17:30,830 --> 00:17:27,679
cover space activities

386
00:17:34,070 --> 00:17:30,840
that have not yet even been

387
00:17:35,590 --> 00:17:34,080
imagined and they will help ensure

388
00:17:39,110 --> 00:17:35,600

that our nation

389
00:17:44,230 --> 00:17:39,120
remains a global role model

390
00:17:48,549 --> 00:17:45,830
all of this then

391
00:17:51,270 --> 00:17:48,559
is part of our administration's

392
00:17:53,750 --> 00:17:51,280
larger vision for space

393
00:17:56,789 --> 00:17:53,760
as i explained last year

394
00:17:59,750 --> 00:17:56,799
as activity in space grows

395
00:18:02,070 --> 00:17:59,760
we must also establish international

396
00:18:04,870 --> 00:18:02,080
rules and norms

397
00:18:09,029 --> 00:18:04,880
to reaffirm the rights

398
00:18:09,789 --> 00:18:09,039
of and demand responsibility from

399
00:18:12,789 --> 00:18:09,799
all

400
00:18:15,350 --> 00:18:12,799
space-faring nations

401
00:18:18,070 --> 00:18:15,360
since our last meeting eight new nations

402
00:18:21,029 --> 00:18:18,080
have signed on to the artemis accords

403
00:18:24,230 --> 00:18:21,039
which established clear norms for civil

404
00:18:27,430 --> 00:18:24,240
space exploration bringing the total of

405
00:18:29,909 --> 00:18:27,440
signatories to 21.

406
00:18:31,669 --> 00:18:29,919
this april i announced that our nation

407
00:18:33,029 --> 00:18:31,679
would not conduct

408
00:18:36,230 --> 00:18:33,039
destructive

409
00:18:38,070 --> 00:18:36,240
direct ascent anti-satellite missile

410
00:18:40,230 --> 00:18:38,080
testing

411
00:18:42,150 --> 00:18:40,240
and later this month the united states

412
00:18:44,710 --> 00:18:42,160
will introduce a resolution at the

413
00:18:47,190 --> 00:18:44,720

united nations general assembly

414
00:18:51,350 --> 00:18:47,200
to call on other nations

415
00:18:56,710 --> 00:18:53,830
and here's my final point

416
00:18:59,270 --> 00:18:56,720
much has changed since our nation first

417
00:19:01,669 --> 00:18:59,280
set our sights on the moon

418
00:19:03,590 --> 00:19:01,679
six decades ago

419
00:19:05,669 --> 00:19:03,600
we have traveled

420
00:19:07,830 --> 00:19:05,679
billions of miles

421
00:19:11,350 --> 00:19:07,840
into the unknown

422
00:19:13,909 --> 00:19:11,360
and we have learned many great

423
00:19:16,710 --> 00:19:13,919
and profound truths

424
00:19:17,990 --> 00:19:16,720
about our universe

425
00:19:20,549 --> 00:19:18,000
and yet

426
00:19:23,990 --> 00:19:20,559
in a very real sense

427
00:19:27,270 --> 00:19:24,000
we have only just begun

428
00:19:30,470 --> 00:19:27,280
our journey into space

429
00:19:31,909 --> 00:19:30,480
there is so much we still don't know

430
00:19:34,789 --> 00:19:31,919
and so much

431
00:19:38,510 --> 00:19:34,799
we still haven't done

432
00:19:40,230 --> 00:19:38,520
space remains a place of

433
00:19:42,630 --> 00:19:40,240
undiscovered

434
00:19:44,950 --> 00:19:42,640
and unrealized

435
00:19:47,350 --> 00:19:44,960
opportunity

436
00:19:50,950 --> 00:19:47,360
so our task then

437
00:19:54,070 --> 00:19:50,960
and our responsibility dare i say

438
00:19:56,950 --> 00:19:54,080

is to work together

439
00:20:00,150 --> 00:19:56,960
to guide humanity forward

440
00:20:02,310 --> 00:20:00,160
into this new frontier

441
00:20:06,310 --> 00:20:02,320
and to make real

442
00:20:07,830 --> 00:20:06,320
the incredible potential of space

443
00:20:10,070 --> 00:20:07,840
for all

444
00:20:12,630 --> 00:20:10,080
people

445
00:20:19,290 --> 00:20:12,640
may god bless you and may god bless

446
00:20:44,470 --> 00:20:36,149
[Music]

447
00:20:44,480 --> 00:20:49,350
so will you want to start us on

448
00:20:54,870 --> 00:20:52,149
um so we're going to start with

449
00:20:55,830 --> 00:20:54,880
session one and at our last meeting as i

450
00:20:59,029 --> 00:20:55,840
mentioned

451
00:21:01,510 --> 00:20:59,039
we focused on three priorities stem

452
00:21:04,310 --> 00:21:01,520
climate and rules and norms

453
00:21:05,750 --> 00:21:04,320
so on stem we will have a full session

454
00:21:08,390 --> 00:21:05,760
on our work

455
00:21:11,430 --> 00:21:08,400
later in the meeting on climate we have

456
00:21:13,830 --> 00:21:11,440
tasked the council to make climate data

457
00:21:14,950 --> 00:21:13,840
and decision tools more accessible for

458
00:21:16,789 --> 00:21:14,960
everyone

459
00:21:18,470 --> 00:21:16,799
and then on rules and norms we have

460
00:21:20,070 --> 00:21:18,480
tasked the council to increase

461
00:21:22,230 --> 00:21:20,080
signatories

462
00:21:25,750 --> 00:21:22,240
on the artemis accords and to develop

463
00:21:28,549 --> 00:21:25,760

new rules and norms for space activity

464
00:21:31,430 --> 00:21:28,559
so i'm going to ask nasa to then begin

465
00:21:34,549 --> 00:21:31,440
the session and i'm going to look to our

466
00:21:37,350 --> 00:21:34,559
extraordinary administrator

467
00:21:39,190 --> 00:21:37,360
bill nelson the former senator who has

468
00:21:40,310 --> 00:21:39,200
been just

469
00:21:43,669 --> 00:21:40,320
so

470
00:21:46,710 --> 00:21:43,679
compelling in the way that he has led

471
00:21:48,870 --> 00:21:46,720
the work that nasa is doing so bill i'm

472
00:21:51,270 --> 00:21:48,880
going to ask you how has nasa made its

473
00:21:52,710 --> 00:21:51,280
climate resilience and climate satellite

474
00:21:55,110 --> 00:21:52,720
data

475
00:21:56,870 --> 00:21:55,120
work accessible for all users from

476
00:21:58,950 --> 00:21:56,880
government to a farmer can you talk a

477
00:22:01,190 --> 00:21:58,960
little bit about that madam vice

478
00:22:03,590 --> 00:22:01,200
president welcome to the johnson space

479
00:22:06,470 --> 00:22:03,600
center who was

480
00:22:09,669 --> 00:22:06,480
as vice president the first chairman of

481
00:22:12,310 --> 00:22:09,679
the first national space council

482
00:22:14,470 --> 00:22:12,320
and you and the president have chosen to

483
00:22:17,190 --> 00:22:14,480
extend that

484
00:22:20,149 --> 00:22:17,200
here we are today

485
00:22:23,830 --> 00:22:20,159
and i would add one more quote from

486
00:22:25,590 --> 00:22:23,840
kennedy's speech 60 years ago he said we

487
00:22:29,029 --> 00:22:25,600
go to the moon

488
00:22:30,390 --> 00:22:29,039

and do other things not because it's

489
00:22:32,870 --> 00:22:30,400
easy

490
00:22:35,590 --> 00:22:32,880
but because it's hard

491
00:22:38,950 --> 00:22:35,600
and space is hard and all of these

492
00:22:41,430 --> 00:22:38,960
people one way or another and these

493
00:22:43,750 --> 00:22:41,440
administration

494
00:22:48,070 --> 00:22:43,760
positions

495
00:22:51,430 --> 00:22:48,080
they are dealing with very hard subject

496
00:22:54,230 --> 00:22:51,440
now one of the more promising of all the

497
00:22:55,110 --> 00:22:54,240
subjects is the question you ask which

498
00:22:57,750 --> 00:22:55,120
is

499
00:22:59,190 --> 00:22:57,760
what can we do from space

500
00:23:01,190 --> 00:22:59,200
about

501
00:23:03,830 --> 00:23:01,200
understanding what's happening to our

502
00:23:04,630 --> 00:23:03,840
earth and to the climate

503
00:23:08,230 --> 00:23:04,640
so

504
00:23:11,029 --> 00:23:08,240
we are going to put up a

505
00:23:13,669 --> 00:23:11,039
series of great observatories in

506
00:23:16,630 --> 00:23:13,679
addition to what we already have

507
00:23:18,390 --> 00:23:16,640
that is going to give us a 3d

508
00:23:19,750 --> 00:23:18,400
precise

509
00:23:21,590 --> 00:23:19,760
understanding

510
00:23:24,870 --> 00:23:21,600
of things that are happening to the

511
00:23:27,350 --> 00:23:24,880
water to the land to the ice and to the

512
00:23:28,789 --> 00:23:27,360
atmosphere and it's all going to be

513
00:23:31,029 --> 00:23:28,799

presented

514
00:23:33,110 --> 00:23:31,039
in what we're calling the earth

515
00:23:35,190 --> 00:23:33,120
information center

516
00:23:37,830 --> 00:23:35,200
and we have a film

517
00:23:49,669 --> 00:23:37,840
that we want to show you about the earth

518
00:23:54,789 --> 00:23:52,470
for more than 50 years nasa has been

519
00:23:58,870 --> 00:23:54,799
collecting and providing data on earth's

520
00:24:02,549 --> 00:23:58,880
land water ice and atmosphere

521
00:24:04,710 --> 00:24:02,559
now a new era of earth science has begun

522
00:24:07,029 --> 00:24:04,720
together with international partners

523
00:24:09,510 --> 00:24:07,039
nasa will launch the swap mission to

524
00:24:12,710 --> 00:24:09,520
provide the first ever global survey of

525
00:24:15,669 --> 00:24:12,720
earth's surface water the oceans lakes

526
00:24:17,190 --> 00:24:15,679
and rivers that affect all of us

527
00:24:19,510 --> 00:24:17,200
but we also need to understand our

528
00:24:21,669 --> 00:24:19,520
planet as a complex whole

529
00:24:23,830 --> 00:24:21,679
that's why nasa will launch a fleet of

530
00:24:26,149 --> 00:24:23,840
state-of-the-art satellites forming the

531
00:24:28,870 --> 00:24:26,159
earth system observatory which will

532
00:24:31,350 --> 00:24:28,880
create a comprehensive 4d view of earth

533
00:24:32,470 --> 00:24:31,360
from bedrock to atmosphere like never

534
00:24:34,870 --> 00:24:32,480
before

535
00:24:37,110 --> 00:24:34,880
the earth system observatory will arm us

536
00:24:38,950 --> 00:24:37,120
with crucial data to help us address

537
00:24:40,470 --> 00:24:38,960
climate change and protect our

538
00:24:41,909 --> 00:24:40,480

communities

539
00:24:44,789 --> 00:24:41,919
but how do we get this critical

540
00:24:48,070 --> 00:24:44,799
information to the people who need it

541
00:24:50,230 --> 00:24:48,080
introducing the earth information center

542
00:24:52,070 --> 00:24:50,240
nasa working with our federal partners

543
00:24:55,110 --> 00:24:52,080
will equip decision makers with the

544
00:24:57,430 --> 00:24:55,120
information they need to mitigate adapt

545
00:24:59,190 --> 00:24:57,440
and respond to climate change

546
00:25:00,470 --> 00:24:59,200
we will create a greenhouse gas

547
00:25:02,870 --> 00:25:00,480
monitoring system

548
00:25:05,909 --> 00:25:02,880
and make data about our changing planet

549
00:25:08,310 --> 00:25:05,919
accessible to those who need it most

550
00:25:11,510 --> 00:25:08,320
new satellites observing in the sky

551
00:25:13,590 --> 00:25:11,520
and an information center here on earth

552
00:25:21,190 --> 00:25:13,600
protecting our planet for the next

553
00:25:21,200 --> 00:25:32,390
that's quite impressive

554
00:25:36,789 --> 00:25:34,789
yeah okay and i noticed the farmer who

555
00:25:38,549 --> 00:25:36,799
had the the tablet

556
00:25:40,789 --> 00:25:38,559
in that video

557
00:25:43,029 --> 00:25:40,799
doing their work with the assistance of

558
00:25:45,269 --> 00:25:43,039
the satellite data so thank you for that

559
00:25:47,990 --> 00:25:45,279
bill um we have assistant secretary of

560
00:25:49,909 --> 00:25:48,000
the interior tonya trujillo here last

561
00:25:52,310 --> 00:25:49,919
year i visited where's tony

562
00:25:53,430 --> 00:25:52,320
there you are last year i visited

563
00:25:55,830 --> 00:25:53,440

goddard

564
00:25:57,830 --> 00:25:55,840
and saw the first images of the new

565
00:26:00,870 --> 00:25:57,840
satellite landsat 9

566
00:26:02,149 --> 00:26:00,880
it was just really extraordinary and

567
00:26:03,269 --> 00:26:02,159
it'd be great if you could talk a little

568
00:26:06,549 --> 00:26:03,279
bit about

569
00:26:08,789 --> 00:26:06,559
since then how are local leaders using

570
00:26:10,630 --> 00:26:08,799
landsat 9 and how are you finding it to

571
00:26:11,990 --> 00:26:10,640
be helpful in terms of the decisions

572
00:26:15,590 --> 00:26:12,000
that they need to make

573
00:26:17,510 --> 00:26:15,600
in real time at the local level

574
00:26:19,350 --> 00:26:17,520
thank you very much madam vice president

575
00:26:21,750 --> 00:26:19,360
i'm pleased to be representing the

576
00:26:24,710 --> 00:26:21,760
department of the interior today

577
00:26:27,510 --> 00:26:24,720
usgs took over the controls of the

578
00:26:29,750 --> 00:26:27,520
landsat 9 satellite from land from nasa

579
00:26:32,470 --> 00:26:29,760
last month and we are looking forward to

580
00:26:34,870 --> 00:26:32,480
continuing that 50-year record of great

581
00:26:37,990 --> 00:26:34,880
earth observation images

582
00:26:39,750 --> 00:26:38,000
the new capabilities of landsat 9 allow

583
00:26:41,750 --> 00:26:39,760
us to better track

584
00:26:44,390 --> 00:26:41,760
and understand the consequences of

585
00:26:46,549 --> 00:26:44,400
global climate change in order to help

586
00:26:47,669 --> 00:26:46,559
people on the ground operate their

587
00:26:50,230 --> 00:26:47,679
businesses

588
00:26:52,390 --> 00:26:50,240

and protect their citizens

589
00:26:54,950 --> 00:26:52,400
last week during world water week in

590
00:26:57,750 --> 00:26:54,960
stockholm we heard from two farmers one

591
00:27:00,230 --> 00:26:57,760
from oregon and one from

592
00:27:02,310 --> 00:27:00,240
california who told us how they use

593
00:27:06,149 --> 00:27:02,320
landsat 9 images

594
00:27:08,990 --> 00:27:06,159
to evaluate the crop use the water use

595
00:27:10,710 --> 00:27:09,000
of their crops by verifying the

596
00:27:12,789 --> 00:27:10,720
evapotranspiration rates that they're

597
00:27:15,190 --> 00:27:12,799
seeing and allowing them to use less

598
00:27:16,870 --> 00:27:15,200
water especially important now during

599
00:27:20,149 --> 00:27:16,880
these drought times

600
00:27:22,230 --> 00:27:20,159
we're also using landsat 9 to document

601
00:27:24,789 --> 00:27:22,240
the historic 20-year drought that we

602
00:27:27,190 --> 00:27:24,799
have in the colorado river basin

603
00:27:29,510 --> 00:27:27,200
and to see the rapidly changing

604
00:27:32,710 --> 00:27:29,520
conditions in our river systems and

605
00:27:34,549 --> 00:27:32,720
glaciers documenting the historic floods

606
00:27:38,789 --> 00:27:34,559
we're seeing around the globe

607
00:27:42,230 --> 00:27:38,799
and predicting future sea level rise

608
00:27:44,950 --> 00:27:42,240
landsat 9 images also allow us to detect

609
00:27:47,430 --> 00:27:44,960
water quality changes and things like

610
00:27:48,390 --> 00:27:47,440
harmful algal blooms that we see in

611
00:27:52,390 --> 00:27:48,400
lakes

612
00:27:55,110 --> 00:27:52,400
that affect our drinking water supplies

613
00:27:55,990 --> 00:27:55,120

all of the landsat data is available for

614
00:27:57,510 --> 00:27:56,000
free

615
00:27:59,510 --> 00:27:57,520
for anybody

616
00:28:01,430 --> 00:27:59,520
whether you're a government agency a

617
00:28:02,870 --> 00:28:01,440
business a school

618
00:28:04,870 --> 00:28:02,880
or a family

619
00:28:06,470 --> 00:28:04,880
anywhere around the globe

620
00:28:09,110 --> 00:28:06,480
those images

621
00:28:10,549 --> 00:28:09,120
are used in commercial activities such

622
00:28:12,230 --> 00:28:10,559
as google earth

623
00:28:13,669 --> 00:28:12,240
and planet

624
00:28:16,310 --> 00:28:13,679
they are also

625
00:28:19,110 --> 00:28:16,320
used to help our research priorities for

626
00:28:20,870 --> 00:28:19,120
our stem programs and mentoring

627
00:28:22,630 --> 00:28:20,880
opportunities such as the ladies of

628
00:28:24,549 --> 00:28:22,640
landsat

629
00:28:26,789 --> 00:28:24,559
we are very excited about the

630
00:28:29,590 --> 00:28:26,799
announcement yesterday with our partners

631
00:28:32,230 --> 00:28:29,600
at commerce on the

632
00:28:34,710 --> 00:28:32,240
cl excuse me on the cam camera climate

633
00:28:36,389 --> 00:28:34,720
mapping tool which is another great

634
00:28:38,870 --> 00:28:36,399
example of how we're using our new

635
00:28:41,110 --> 00:28:38,880
technology and working together

636
00:28:42,870 --> 00:28:41,120
for the benefit of the american people

637
00:28:45,350 --> 00:28:42,880
thank you very much for your leadership

638
00:28:46,789 --> 00:28:45,360

madam vice president and for for folks

639
00:28:47,510 --> 00:28:46,799
who are listening right now how would

640
00:28:49,269 --> 00:28:47,520
they

641
00:28:51,990 --> 00:28:49,279
have access to some of this information

642
00:28:55,590 --> 00:28:52,000
where should they go we have it widely

643
00:28:59,350 --> 00:28:55,600
available both from nasa and the usgs

644
00:29:01,990 --> 00:28:59,360
through our landsat.gov programs

645
00:29:03,029 --> 00:29:02,000
never without a website

646
00:29:04,950 --> 00:29:03,039
thank you

647
00:29:06,310 --> 00:29:04,960
i'm deputy deputy secretary of

648
00:29:07,830 --> 00:29:06,320
agriculture

649
00:29:09,830 --> 00:29:07,840
jewel broner

650
00:29:12,710 --> 00:29:09,840
please talk about how the department of

651
00:29:14,630 --> 00:29:12,720
agriculture is helping farmers deal with

652
00:29:16,710 --> 00:29:14,640
increasingly what they

653
00:29:18,389 --> 00:29:16,720
are seeing in terms of floods and

654
00:29:19,830 --> 00:29:18,399
drought can you talk a little bit about

655
00:29:21,750 --> 00:29:19,840
how the department of agriculture and

656
00:29:24,230 --> 00:29:21,760
your leadership is is having an impact

657
00:29:25,830 --> 00:29:24,240
on that yes first of all congratulations

658
00:29:27,909 --> 00:29:25,840
to you for leading such an important

659
00:29:30,230 --> 00:29:27,919
initiative and we're just pleased to be

660
00:29:32,470 --> 00:29:30,240
a part of this council

661
00:29:35,510 --> 00:29:32,480
who's doing such important work

662
00:29:37,190 --> 00:29:35,520
we recognize that this administration

663
00:29:38,870 --> 00:29:37,200

has allowed us to focus on some really

664
00:29:41,750 --> 00:29:38,880
important things planet-wide food

665
00:29:43,669 --> 00:29:41,760
security global agricultural practices

666
00:29:47,909 --> 00:29:43,679
climate change in space and you

667
00:29:49,909 --> 00:29:47,919
mentioned drought and other disasters

668
00:29:52,630 --> 00:29:49,919
we have really been able to focus on

669
00:29:54,470 --> 00:29:52,640
land-based conservation practices

670
00:29:56,710 --> 00:29:54,480
and they will be directly

671
00:29:59,590 --> 00:29:56,720
dependent upon our ability to furnish

672
00:30:01,750 --> 00:29:59,600
and integrate space-based data layers

673
00:30:03,830 --> 00:30:01,760
into climate conservation practices

674
00:30:06,710 --> 00:30:03,840
using tools such as esri and landsat

675
00:30:08,389 --> 00:30:06,720
data we can utilize that data to address

676
00:30:10,070 --> 00:30:08,399
a myriad of issues

677
00:30:12,310 --> 00:30:10,080
including

678
00:30:14,789 --> 00:30:12,320
how our land is doing

679
00:30:15,990 --> 00:30:14,799
to deal with disasters such as drought

680
00:30:18,389 --> 00:30:16,000
and others

681
00:30:21,590 --> 00:30:18,399
agricultural production and other things

682
00:30:23,190 --> 00:30:21,600
and it's really allowing us to focus on

683
00:30:25,350 --> 00:30:23,200
a lot of work that we're doing in

684
00:30:26,310 --> 00:30:25,360
climate smart agriculture

685
00:30:28,389 --> 00:30:26,320
so

686
00:30:30,630 --> 00:30:28,399
we need our farmers and landowners to

687
00:30:32,389 --> 00:30:30,640
have solid data yeah and they need that

688
00:30:34,470 --> 00:30:32,399

data to make decisions

689
00:30:36,630 --> 00:30:34,480
it's going to help them

690
00:30:38,789 --> 00:30:36,640
have the capability of integrating

691
00:30:40,789 --> 00:30:38,799
space-based data into their precision

692
00:30:43,110 --> 00:30:40,799
agriculture innovations

693
00:30:45,909 --> 00:30:43,120
so we are very excited to be able to

694
00:30:48,070 --> 00:30:45,919
have resources from this council and the

695
00:30:49,669 --> 00:30:48,080
science that we need to deal with the

696
00:30:50,789 --> 00:30:49,679
challenges that our farmers face every

697
00:30:52,950 --> 00:30:50,799
day

698
00:30:55,269 --> 00:30:52,960
and you know the um astronauts that i

699
00:30:57,110 --> 00:30:55,279
spoke with this morning who are on the

700
00:30:59,510 --> 00:30:57,120
international space station made a real

701
00:31:01,909 --> 00:30:59,520
point of emphasis on just that type of

702
00:31:03,269 --> 00:31:01,919
work and the importance of it

703
00:31:05,110 --> 00:31:03,279
including what i know that the

704
00:31:07,430 --> 00:31:05,120
department of agriculture is doing in

705
00:31:08,549 --> 00:31:07,440
terms of working with nasa to develop

706
00:31:11,350 --> 00:31:08,559
crops

707
00:31:13,510 --> 00:31:11,360
for long duration space missions which

708
00:31:14,630 --> 00:31:13,520
is very exciting as well so thank you

709
00:31:17,029 --> 00:31:14,640
for that

710
00:31:18,630 --> 00:31:17,039
um deputy deputy secretary of commerce

711
00:31:20,789 --> 00:31:18,640
don graves

712
00:31:23,830 --> 00:31:20,799
can you speak to the work that commerce

713
00:31:26,789 --> 00:31:23,840

is doing and increasingly taking on

714
00:31:28,870 --> 00:31:26,799
as it relates to our space program

715
00:31:31,269 --> 00:31:28,880
well thank you madam vice president

716
00:31:34,070 --> 00:31:31,279
thank you for bringing us together

717
00:31:36,070 --> 00:31:34,080
i want to start if i may uh by

718
00:31:38,070 --> 00:31:36,080
highlighting the work that the national

719
00:31:41,909 --> 00:31:38,080
oceanic and atmospheric administration

720
00:31:45,190 --> 00:31:41,919
noaa at commerce is leading on climate

721
00:31:47,190 --> 00:31:45,200
data noaa's as you know is the nation's

722
00:31:48,710 --> 00:31:47,200
climate agency working closely with our

723
00:31:50,630 --> 00:31:48,720
partners at nasa

724
00:31:52,230 --> 00:31:50,640
and we're working hard to build a

725
00:31:55,190 --> 00:31:52,240
climate-ready nation

726
00:31:57,110 --> 00:31:55,200
so just this week as tonya mentioned

727
00:31:59,669 --> 00:31:57,120
in collaboration with the white house

728
00:32:01,350 --> 00:31:59,679
with esri and the department of interior

729
00:32:04,070 --> 00:32:01,360
noaa released the climate mapping for

730
00:32:05,110 --> 00:32:04,080
resilience and adaptation or camera

731
00:32:07,029 --> 00:32:05,120
portal

732
00:32:08,950 --> 00:32:07,039
the tool will help americans assess

733
00:32:11,509 --> 00:32:08,960
their local exposure to climate-related

734
00:32:13,190 --> 00:32:11,519
hazards and identify potential funding

735
00:32:15,590 --> 00:32:13,200
that can help them protect people

736
00:32:17,750 --> 00:32:15,600
property and infrastructure

737
00:32:19,590 --> 00:32:17,760
space-based based technologies including

738
00:32:21,909 --> 00:32:19,600

remote sensing data produced by noaa

739
00:32:23,669 --> 00:32:21,919
satellites have dramatically enhanced

740
00:32:25,190 --> 00:32:23,679
scientific understanding of our changing

741
00:32:26,789 --> 00:32:25,200
natural environment

742
00:32:29,190 --> 00:32:26,799
and as you've heard lance had another

743
00:32:30,870 --> 00:32:29,200
satellite remote sensors measure surface

744
00:32:33,750 --> 00:32:30,880
skin temperature

745
00:32:36,630 --> 00:32:33,760
that's roads rooftops canopies

746
00:32:38,950 --> 00:32:36,640
uh and forest canopies whose temperature

747
00:32:40,630 --> 00:32:38,960
can be significantly hotter or cooler

748
00:32:43,269 --> 00:32:40,640
than the temperature that people in

749
00:32:45,750 --> 00:32:43,279
these places actually experience so noah

750
00:32:47,669 --> 00:32:45,760
is adding to this data with on the

751
00:32:49,029 --> 00:32:47,679
ground measurements it's our most

752
00:32:50,950 --> 00:32:49,039
innovative program and we work with

753
00:32:53,029 --> 00:32:50,960
community-based groups and underserved

754
00:32:55,110 --> 00:32:53,039
communities to map the hottest parts of

755
00:32:57,110 --> 00:32:55,120
cities so they can use that information

756
00:32:59,430 --> 00:32:57,120
to inform strategies to reduce the

757
00:33:00,230 --> 00:32:59,440
unhealthy and deadly effects of extreme

758
00:33:02,630 --> 00:33:00,240
heat

759
00:33:04,149 --> 00:33:02,640
and i know you you're wondering about

760
00:33:05,830 --> 00:33:04,159
how you can get that information

761
00:33:07,669 --> 00:33:05,840
absolutely you can

762
00:33:11,350 --> 00:33:07,679
more information on extreme heat is

763
00:33:13,750 --> 00:33:11,360

available on noaa's heat.gov website

764
00:33:16,310 --> 00:33:13,760
i also want to get back to your uh your

765
00:33:18,070 --> 00:33:16,320
other question the the national space

766
00:33:20,070 --> 00:33:18,080
traffic management policy as you know

767
00:33:22,070 --> 00:33:20,080
charges the commerce department with the

768
00:33:24,149 --> 00:33:22,080
task of managing future space traffic

769
00:33:25,350 --> 00:33:24,159
awareness for all civil and commercial

770
00:33:27,350 --> 00:33:25,360
users

771
00:33:29,830 --> 00:33:27,360
space is becoming increasingly crowded

772
00:33:32,630 --> 00:33:29,840
as we've seen uh very recently

773
00:33:34,149 --> 00:33:32,640
we need new technologies to help monitor

774
00:33:36,630 --> 00:33:34,159
active space objects and detect

775
00:33:39,830 --> 00:33:36,640
potentially dangerous debris so commerce

776
00:33:41,590 --> 00:33:39,840
in collaboration with defense and nasa

777
00:33:43,029 --> 00:33:41,600
is working to establish a system for

778
00:33:45,029 --> 00:33:43,039
civil and commercial space traffic

779
00:33:46,950 --> 00:33:45,039
awareness that will support space safety

780
00:33:48,630 --> 00:33:46,960
and enhance technology developments and

781
00:33:50,310 --> 00:33:48,640
i'm happy to announce that with our

782
00:33:52,710 --> 00:33:50,320
partners at the dod we've signed a

783
00:33:54,870 --> 00:33:52,720
memorandum of understand of agreement

784
00:33:57,190 --> 00:33:54,880
that will drive our mutual work and

785
00:34:00,310 --> 00:33:57,200
that's really going to allow us to have

786
00:34:03,029 --> 00:34:00,320
not just a basic level of space traffic

787
00:34:05,029 --> 00:34:03,039
awareness it'll also allow us to drive

788
00:34:07,110 --> 00:34:05,039

the research the innovation that we all

789
00:34:09,430 --> 00:34:07,120
know we need to maximize the space

790
00:34:12,550 --> 00:34:09,440
environment for future generations so

791
00:34:14,629 --> 00:34:12,560
we're making great progress on uh on

792
00:34:17,030 --> 00:34:14,639
that on our space situational awareness

793
00:34:18,550 --> 00:34:17,040
system and today we're also announcing

794
00:34:20,550 --> 00:34:18,560
that we're starting a series of

795
00:34:22,230 --> 00:34:20,560
important space situational awareness

796
00:34:24,149 --> 00:34:22,240
data buys

797
00:34:25,829 --> 00:34:24,159
including low earth orbit and

798
00:34:27,430 --> 00:34:25,839
geostationary

799
00:34:30,470 --> 00:34:27,440
data and we're going to follow that up

800
00:34:32,550 --> 00:34:30,480
with other awards focused on those and

801
00:34:34,470 --> 00:34:32,560
other orbital regimes

802
00:34:37,030 --> 00:34:34,480
in addition we're going to be

803
00:34:38,710 --> 00:34:37,040
initiating contract processes for buying

804
00:34:40,550 --> 00:34:38,720
other key commercially available

805
00:34:42,790 --> 00:34:40,560
technologies and services from the

806
00:34:45,109 --> 00:34:42,800
commercial data providers so we can

807
00:34:47,349 --> 00:34:45,119
build this together using the innovation

808
00:34:49,430 --> 00:34:47,359
that the private sector provides

809
00:34:50,869 --> 00:34:49,440
this this fall and i'll finish here

810
00:34:53,030 --> 00:34:50,879
we'll conduct an

811
00:34:55,909 --> 00:34:53,040
all-commercial pilot program that will

812
00:34:58,230 --> 00:34:55,919
seek to replicate a portion of the dod's

813
00:35:01,190 --> 00:34:58,240

basic safety services using only

814
00:35:02,950 --> 00:35:01,200
commercial data and analytical services

815
00:35:05,109 --> 00:35:02,960
thank you madam vice president thank you

816
00:35:07,109 --> 00:35:05,119
that that's great progress since we last

817
00:35:08,790 --> 00:35:07,119
met and that was the subject of an

818
00:35:10,950 --> 00:35:08,800
extensive conversation at our first

819
00:35:13,109 --> 00:35:10,960
council meeting um and for those who are

820
00:35:14,390 --> 00:35:13,119
new to space it's it's basically traffic

821
00:35:16,630 --> 00:35:14,400
control

822
00:35:18,470 --> 00:35:16,640
um and and what we need to do to be

823
00:35:20,550 --> 00:35:18,480
smart and efficient and effective and

824
00:35:22,310 --> 00:35:20,560
collaborative with the private sector

825
00:35:23,430 --> 00:35:22,320
and i know the work that that commerce

826
00:35:25,670 --> 00:35:23,440
has been doing with the department of

827
00:35:28,150 --> 00:35:25,680
defense has been um very influential in

828
00:35:30,550 --> 00:35:28,160
moving that along so thank you for that

829
00:35:33,990 --> 00:35:30,560
um assistant secretary of state monica

830
00:35:36,150 --> 00:35:34,000
medina uh please update us on how

831
00:35:38,550 --> 00:35:36,160
the department of state is furthering

832
00:35:40,470 --> 00:35:38,560
this work i spoke earlier about our

833
00:35:42,150 --> 00:35:40,480
intentions in terms of conversations at

834
00:35:44,069 --> 00:35:42,160
the united nations general assembly

835
00:35:45,030 --> 00:35:44,079
meeting coming up if you can talk about

836
00:35:47,349 --> 00:35:45,040
that

837
00:35:49,349 --> 00:35:47,359
yes thank you madam ben vice president

838
00:35:50,950 --> 00:35:49,359

i'm honored to be here to represent the

839
00:35:53,349 --> 00:35:50,960
state department today and we'll report

840
00:35:54,950 --> 00:35:53,359
out on all our diplomatic efforts as you

841
00:35:57,190 --> 00:35:54,960
mentioned our colleagues at nasa are

842
00:36:00,390 --> 00:35:57,200
doing incredible work to return humans

843
00:36:02,069 --> 00:36:00,400
men and women to the moon at the same

844
00:36:04,390 --> 00:36:02,079
time we have been working together to

845
00:36:06,950 --> 00:36:04,400
expand the global reach of our artemis

846
00:36:09,670 --> 00:36:06,960
accords with the accords we are inviting

847
00:36:11,430 --> 00:36:09,680
other space-faring nations to join in a

848
00:36:13,750 --> 00:36:11,440
common vision a practical set of

849
00:36:17,589 --> 00:36:13,760
principles grounded in the outer space

850
00:36:20,069 --> 00:36:17,599
treaty of 1967 for safe transparent and

851
00:36:22,390 --> 00:36:20,079
responsible behavior in space that will

852
00:36:24,230 --> 00:36:22,400
facilitate exploration science and

853
00:36:26,310 --> 00:36:24,240
commercial activities for the benefit of

854
00:36:28,470 --> 00:36:26,320
all humanity as you mentioned the

855
00:36:31,109 --> 00:36:28,480
artemis family is growing fast with the

856
00:36:33,670 --> 00:36:31,119
addition of mexico israel romania

857
00:36:36,150 --> 00:36:33,680
bahrain singapore colombia france and

858
00:36:38,150 --> 00:36:36,160
saudi arabia just since the last meeting

859
00:36:39,829 --> 00:36:38,160
and later this month the us along with

860
00:36:41,910 --> 00:36:39,839
brazil and france will be hosting the

861
00:36:43,670 --> 00:36:41,920
first gathering of the artemis accord

862
00:36:45,829 --> 00:36:43,680
signatories on the sidelines of the

863
00:36:47,990 --> 00:36:45,839

international astronautical congress in

864
00:36:49,990 --> 00:36:48,000
paris the participants will discuss how

865
00:36:51,829 --> 00:36:50,000
to operationalize the accords in civil

866
00:36:53,990 --> 00:36:51,839
and commercial context and how to

867
00:36:56,870 --> 00:36:54,000
continue to add to the artemis family of

868
00:36:57,910 --> 00:36:56,880
signatory nations we want more artemis

869
00:36:59,510 --> 00:36:57,920
partners

870
00:37:00,950 --> 00:36:59,520
my colleague mallory stewart the

871
00:37:02,790 --> 00:37:00,960
assistant secretary of state for arms

872
00:37:03,910 --> 00:37:02,800
control verification and compliance and

873
00:37:05,910 --> 00:37:03,920
her team

874
00:37:08,230 --> 00:37:05,920
also are working to advance the national

875
00:37:10,230 --> 00:37:08,240
security space policies of the us

876
00:37:11,990 --> 00:37:10,240
government internationally next week

877
00:37:14,069 --> 00:37:12,000
assistant secretary stewart will travel

878
00:37:16,390 --> 00:37:14,079
to geneva for the second meeting of the

879
00:37:18,950 --> 00:37:16,400
un open-ended working group on reducing

880
00:37:20,630 --> 00:37:18,960
space threats the united states working

881
00:37:22,950 --> 00:37:20,640
in close partnership with our allies and

882
00:37:24,710 --> 00:37:22,960
like-minded countries sees this working

883
00:37:26,870 --> 00:37:24,720
group as an important opportunity for

884
00:37:28,790 --> 00:37:26,880
all nations to advance rules norms and

885
00:37:31,190 --> 00:37:28,800
principles of responsible behavior in

886
00:37:33,270 --> 00:37:31,200
outer space madam vice president as you

887
00:37:35,190 --> 00:37:33,280
have previously underscored the

888
00:37:37,430 --> 00:37:35,200

establishment of the new international

889
00:37:39,750 --> 00:37:37,440
norms for outer space must start with a

890
00:37:42,230 --> 00:37:39,760
commitment by all space faring nations

891
00:37:44,470 --> 00:37:42,240
not to conduct destructive direct ascent

892
00:37:46,550 --> 00:37:44,480
anti-satellite missile testing

893
00:37:49,270 --> 00:37:46,560
and as you noted at the upcoming u n

894
00:37:51,270 --> 00:37:49,280
general assembly the u n u the u s will

895
00:37:53,670 --> 00:37:51,280
sponsor a resolution calling on other

896
00:37:55,349 --> 00:37:53,680
nations to make the same commitment and

897
00:37:57,109 --> 00:37:55,359
in the coming weeks assistant secretary

898
00:37:59,990 --> 00:37:57,119
stewart and her team will have extensive

899
00:38:01,990 --> 00:38:00,000
consultations at the un our goal is that

900
00:38:04,390 --> 00:38:02,000
this resolution is adopted with the

901
00:38:06,150 --> 00:38:04,400
broadest possible support finally the

902
00:38:08,150 --> 00:38:06,160
state department's diplomatic efforts on

903
00:38:10,710 --> 00:38:08,160
space security norms are complemented by

904
00:38:13,030 --> 00:38:10,720
continued u.s leadership at the un

905
00:38:15,990 --> 00:38:13,040
commit committee for the peaceful uses

906
00:38:17,349 --> 00:38:16,000
of outer space copious for nearly 60

907
00:38:19,270 --> 00:38:17,359
years this committee has played an

908
00:38:20,710 --> 00:38:19,280
indispensable role in upholding and

909
00:38:23,829 --> 00:38:20,720
strengthening the rules-based

910
00:38:25,670 --> 00:38:23,839
international order for outer space

911
00:38:27,270 --> 00:38:25,680
madam vice president at your recent

912
00:38:29,589 --> 00:38:27,280
meetings in oakland

913
00:38:31,750 --> 00:38:29,599

uh it was demonstrated that the u.s

914
00:38:34,150 --> 00:38:31,760
space industry can make a huge

915
00:38:36,150 --> 00:38:34,160
contribution to sustainable exploration

916
00:38:37,670 --> 00:38:36,160
and use of outer space and we will be

917
00:38:39,910 --> 00:38:37,680
working at the state department to make

918
00:38:42,150 --> 00:38:39,920
sure that they are leading other nations

919
00:38:43,510 --> 00:38:42,160
by setting the right example thank you

920
00:38:45,270 --> 00:38:43,520
very much for your leadership it's been

921
00:38:47,670 --> 00:38:45,280
an honor to be here today thank you

922
00:38:50,630 --> 00:38:47,680
great progress thank you very much

923
00:38:53,589 --> 00:38:50,640
um omb deputy director nani coloretti is

924
00:38:55,270 --> 00:38:53,599
here and um if you can talk a bit about

925
00:38:58,230 --> 00:38:55,280
the investments that our nation is

926
00:38:59,829 --> 00:38:58,240
making in space yes thank you madam vice

927
00:39:01,430 --> 00:38:59,839
president for your leadership on this

928
00:39:03,589 --> 00:39:01,440
really critical work

929
00:39:05,109 --> 00:39:03,599
i'm here to talk about resources

930
00:39:07,030 --> 00:39:05,119
earlier this year the president put

931
00:39:09,270 --> 00:39:07,040
forward a budget that advances our

932
00:39:10,710 --> 00:39:09,280
civilian and commercial space efforts in

933
00:39:12,950 --> 00:39:10,720
several key ways and i'm going to just

934
00:39:14,150 --> 00:39:12,960
briefly touch on a few of them

935
00:39:15,750 --> 00:39:14,160
first as you heard from the other

936
00:39:18,470 --> 00:39:15,760
panelists

937
00:39:20,870 --> 00:39:18,480
advancing climate and earth systems data

938
00:39:24,150 --> 00:39:20,880

is a high priority that's why in the fy

939
00:39:26,950 --> 00:39:24,160
23 budget we requested increased funding

940
00:39:28,870 --> 00:39:26,960
for earth science and observations to

941
00:39:30,950 --> 00:39:28,880
address the climate crisis including by

942
00:39:32,550 --> 00:39:30,960
making detailed climate data freely

943
00:39:34,310 --> 00:39:32,560
available to scientists and policy

944
00:39:36,390 --> 00:39:34,320
makers and i'm i was really great to

945
00:39:38,550 --> 00:39:36,400
hear about everybody else's work on this

946
00:39:40,230 --> 00:39:38,560
here at this meeting second the budget

947
00:39:42,230 --> 00:39:40,240
includes critical investments in the

948
00:39:44,390 --> 00:39:42,240
artemis program that will bolster

949
00:39:47,030 --> 00:39:44,400
american leadership and human space

950
00:39:50,310 --> 00:39:47,040
flight enabling astronauts to explore

951
00:39:51,750 --> 00:39:50,320
and work on the moon as we heard earlier

952
00:39:53,829 --> 00:39:51,760
and lay the groundwork for the first

953
00:39:55,430 --> 00:39:53,839
crude mission to mars

954
00:39:58,390 --> 00:39:55,440
in many many years

955
00:40:00,790 --> 00:39:58,400
and third the budget request for nasa

956
00:40:02,710 --> 00:40:00,800
seeks to broaden and diversify student

957
00:40:06,470 --> 00:40:02,720
participation in science technology

958
00:40:08,950 --> 00:40:06,480
engineering and mathematics to inspire

959
00:40:11,990 --> 00:40:08,960
and develop the next generation of

960
00:40:14,069 --> 00:40:12,000
scientists engineers and explorers

961
00:40:16,710 --> 00:40:14,079
and i'd also like to briefly note that

962
00:40:17,670 --> 00:40:16,720
our budget also requested an increase in

963
00:40:19,670 --> 00:40:17,680

funding

964
00:40:21,990 --> 00:40:19,680
for the office of space commerce we

965
00:40:24,150 --> 00:40:22,000
increased it by five times more than the

966
00:40:26,470 --> 00:40:24,160
current funding level and it represents

967
00:40:27,750 --> 00:40:26,480
a 30 increase at the

968
00:40:29,589 --> 00:40:27,760
defense department where we also

969
00:40:32,310 --> 00:40:29,599
increase the budget for vital space

970
00:40:34,390 --> 00:40:32,320
capabilities so taken together these

971
00:40:36,550 --> 00:40:34,400
investments are critical for delivering

972
00:40:37,510 --> 00:40:36,560
on the administration's priorities

973
00:40:41,270 --> 00:40:37,520
thanks

974
00:40:41,990 --> 00:40:41,280
thank you and and as we often say um

975
00:40:52,550 --> 00:40:42,000
the

976
00:40:54,150 --> 00:40:52,560
terms of our commitment to space

977
00:40:55,589 --> 00:40:54,160
exploration and our space program so

978
00:40:57,589 --> 00:40:55,599
thank you for that

979
00:40:59,109 --> 00:40:57,599
so i want to thank the council this was

980
00:41:01,349 --> 00:40:59,119
a good update in terms of the work we've

981
00:41:03,109 --> 00:41:01,359
done so far and

982
00:41:06,230 --> 00:41:03,119
we obviously have a lot more to do but

983
00:41:08,470 --> 00:41:06,240
there has been progress and i i do

984
00:41:10,069 --> 00:41:08,480
appreciate the way that the work has

985
00:41:13,589 --> 00:41:10,079
been accelerated

986
00:41:15,910 --> 00:41:13,599
um to meet the demand i think for for

987
00:41:17,109 --> 00:41:15,920
this kind of enthusiasm and attention

988
00:41:18,870 --> 00:41:17,119

and passion

989
00:41:20,470 --> 00:41:18,880
um and it is making a difference so

990
00:41:22,150 --> 00:41:20,480
thank you all very much

991
00:41:24,069 --> 00:41:22,160
i'm going to now move us to the second

992
00:41:26,390 --> 00:41:24,079
session which is on stem in the

993
00:41:27,270 --> 00:41:26,400
workforce and i welcome the panelists

994
00:41:29,270 --> 00:41:27,280
for

995
00:41:32,710 --> 00:41:29,280
next session on stem

996
00:41:34,390 --> 00:41:32,720
and workforce and please come on up here

997
00:41:37,510 --> 00:41:34,400
is a nice table for you it's almost like

998
00:41:37,520 --> 00:41:41,510
but you will not be cross-examined

999
00:41:46,230 --> 00:41:44,390
and we have mr pablo banda who is

1000
00:41:47,990 --> 00:41:46,240
biology and environmental science

1001
00:41:50,700 --> 00:41:48,000
teacher at nilby high school here in

1002
00:41:56,309 --> 00:41:50,710
houston texas

1003
00:42:01,180 --> 00:41:58,790
dr harold martin the chancellor of north

1004
00:42:05,190 --> 00:42:01,190
carolina a t university

1005
00:42:08,230 --> 00:42:05,200
[Applause]

1006
00:42:10,630 --> 00:42:08,240
and miss heather balk who is the ceo of

1007
00:42:12,920 --> 00:42:10,640
special aerospace services so welcome

1008
00:42:16,470 --> 00:42:12,930
and thank you each of you

1009
00:42:21,910 --> 00:42:20,150
so as i noted earlier a highly trained

1010
00:42:25,030 --> 00:42:21,920
and diverse

1011
00:42:27,190 --> 00:42:25,040
workforce uh is critical to the success

1012
00:42:30,069 --> 00:42:27,200
of our work in space

1013
00:42:32,309 --> 00:42:30,079

and the jobs include not just engineers

1014
00:42:34,230 --> 00:42:32,319
not only not only engineers and

1015
00:42:35,430 --> 00:42:34,240
scientists but also electricians and

1016
00:42:36,550 --> 00:42:35,440
welders

1017
00:42:40,230 --> 00:42:36,560
and

1018
00:42:41,829 --> 00:42:40,240
as i was touring the facilities today

1019
00:42:43,829 --> 00:42:41,839
i met people who are

1020
00:42:45,510 --> 00:42:43,839
working in mission control who who

1021
00:42:46,870 --> 00:42:45,520
started there right out of out of

1022
00:42:48,630 --> 00:42:46,880
college

1023
00:42:50,470 --> 00:42:48,640
just because they were interested in

1024
00:42:52,390 --> 00:42:50,480
space and they didn't really understand

1025
00:42:54,630 --> 00:42:52,400
much beyond the fact that they had the

1026
00:42:55,670 --> 00:42:54,640
passion but there was an entry point for

1027
00:42:59,030 --> 00:42:55,680
them

1028
00:43:01,750 --> 00:42:59,040
and so if you can talk about your work

1029
00:43:04,550 --> 00:43:01,760
and and how you can advise us

1030
00:43:06,630 --> 00:43:04,560
to have a meaningful commitment to

1031
00:43:08,950 --> 00:43:06,640
building the workforce to creating

1032
00:43:12,710 --> 00:43:08,960
excitement and enthusiasm

1033
00:43:13,589 --> 00:43:12,720
around the stem disciplines and also to

1034
00:43:16,069 --> 00:43:13,599
build

1035
00:43:17,510 --> 00:43:16,079
a space workforce that i believe should

1036
00:43:20,069 --> 00:43:17,520
inspire

1037
00:43:22,470 --> 00:43:20,079
and should also prepare and then of

1038
00:43:24,870 --> 00:43:22,480

course employ

1039
00:43:26,710 --> 00:43:24,880
those who have these interests and these

1040
00:43:29,349 --> 00:43:26,720
skills and this passion

1041
00:43:30,790 --> 00:43:29,359
so with that i'm going to ask um first

1042
00:43:32,390 --> 00:43:30,800
that we will start with the acting

1043
00:43:35,109 --> 00:43:32,400
director of the office of science and

1044
00:43:38,069 --> 00:43:35,119
technology and policy dr alandra nelson

1045
00:43:41,670 --> 00:43:38,079
to start us out in this discussion

1046
00:43:44,069 --> 00:43:41,680
and talk about how our administration

1047
00:43:45,990 --> 00:43:44,079
plans to do this work in collaboration

1048
00:43:47,750 --> 00:43:46,000
with all the folks that are here yes

1049
00:43:49,670 --> 00:43:47,760
thank you vada vice president for your

1050
00:43:51,270 --> 00:43:49,680
leadership thank you to our our partners

1051
00:43:53,349 --> 00:43:51,280
for being here i look forward to our

1052
00:43:54,390 --> 00:43:53,359
conversation um about this important

1053
00:43:55,990 --> 00:43:54,400
work

1054
00:43:57,349 --> 00:43:56,000
so this is an exciting time to be

1055
00:43:59,750 --> 00:43:57,359
working in the realm of science and

1056
00:44:01,589 --> 00:43:59,760
technology the chips and science act has

1057
00:44:03,990 --> 00:44:01,599
launched historic investments in our

1058
00:44:05,910 --> 00:44:04,000
stem ecosystem uh investments that will

1059
00:44:07,750 --> 00:44:05,920
transform science and technology in the

1060
00:44:09,190 --> 00:44:07,760
united states now and long into the

1061
00:44:11,910 --> 00:44:09,200
future

1062
00:44:14,069 --> 00:44:11,920
ostp will leverage the chips and science

1063
00:44:16,630 --> 00:44:14,079

act to build on your space council

1064
00:44:18,630 --> 00:44:16,640
priorities and human space exploration

1065
00:44:20,390 --> 00:44:18,640
commercial space activities and of

1066
00:44:22,390 --> 00:44:20,400
course and stem

1067
00:44:24,630 --> 00:44:22,400
all of these activities require that we

1068
00:44:26,309 --> 00:44:24,640
include as many minds as possible and

1069
00:44:27,430 --> 00:44:26,319
building the stem workforce of the

1070
00:44:30,230 --> 00:44:27,440
future

1071
00:44:32,710 --> 00:44:30,240
since this council last convened ostp

1072
00:44:34,870 --> 00:44:32,720
has led an interagency space stem task

1073
00:44:36,710 --> 00:44:34,880
force so government to the table which

1074
00:44:38,950 --> 00:44:36,720
today is releasing

1075
00:44:41,510 --> 00:44:38,960
its roadmap to support space-related

1076
00:44:43,430 --> 00:44:41,520
stem education and workforce

1077
00:44:45,430 --> 00:44:43,440
a report that lays out our vision for

1078
00:44:47,430 --> 00:44:45,440
growing diversifying and strengthening

1079
00:44:49,349 --> 00:44:47,440
the space workforce

1080
00:44:51,270 --> 00:44:49,359
this roadmap details immediate and

1081
00:44:53,430 --> 00:44:51,280
long-term actions that agencies have

1082
00:44:56,390 --> 00:44:53,440
committed to pursue guided by diversity

1083
00:44:58,230 --> 00:44:56,400
equity inclusion and accessibility

1084
00:45:00,470 --> 00:44:58,240
as you noted madden vice president these

1085
00:45:02,950 --> 00:45:00,480
actions span three focus areas they

1086
00:45:05,190 --> 00:45:02,960
first inspire we will use space as a

1087
00:45:06,630 --> 00:45:05,200
lens to spark curiosity and cultivate

1088
00:45:09,030 --> 00:45:06,640

interest and space

1089
00:45:10,710 --> 00:45:09,040
related stem fields targeting outreach

1090
00:45:12,550 --> 00:45:10,720
to communities and regions that have

1091
00:45:14,390 --> 00:45:12,560
historically been unengaged or

1092
00:45:16,950 --> 00:45:14,400
under-engaged

1093
00:45:19,589 --> 00:45:16,960
to do this our agencies are have created

1094
00:45:21,990 --> 00:45:19,599
an online repository a free educator

1095
00:45:23,829 --> 00:45:22,000
resources and career highlights to show

1096
00:45:25,109 --> 00:45:23,839
the diversity of people working in stem

1097
00:45:26,550 --> 00:45:25,119
jobs throughout the government like

1098
00:45:27,990 --> 00:45:26,560
people that you met at mission control

1099
00:45:29,750 --> 00:45:28,000
this afternoon

1100
00:45:31,990 --> 00:45:29,760
second we will prepare

1101
00:45:33,990 --> 00:45:32,000
we will engage students in hands-on

1102
00:45:36,150 --> 00:45:34,000
activities with experiential learning

1103
00:45:38,230 --> 00:45:36,160
opportunities like paid internships

1104
00:45:40,069 --> 00:45:38,240
apprenticeships and fellowships to

1105
00:45:42,069 --> 00:45:40,079
ensure that more people have the skills

1106
00:45:44,630 --> 00:45:42,079
training and access they need to

1107
00:45:45,510 --> 00:45:44,640
effectively pursue space-related stem

1108
00:45:47,430 --> 00:45:45,520
jobs

1109
00:45:49,190 --> 00:45:47,440
and third we will employ

1110
00:45:51,030 --> 00:45:49,200
as you know there are real challenges

1111
00:45:52,950 --> 00:45:51,040
that people encounter when they enter

1112
00:45:54,630 --> 00:45:52,960
the works force the workforce including

1113
00:45:56,069 --> 00:45:54,640

the space workforce

1114
00:45:57,670 --> 00:45:56,079
we will create new professional

1115
00:45:59,589 --> 00:45:57,680
development programs and funding

1116
00:46:01,349 --> 00:45:59,599
opportunities that will incentivize

1117
00:46:03,750 --> 00:46:01,359
pathways to leadership across the

1118
00:46:05,190 --> 00:46:03,760
federal space workforce

1119
00:46:06,790 --> 00:46:05,200
under your leadership madam vice

1120
00:46:08,710 --> 00:46:06,800
president this is the first time in this

1121
00:46:10,470 --> 00:46:08,720
administration that the national space

1122
00:46:12,390 --> 00:46:10,480
council and federal departments and

1123
00:46:14,309 --> 00:46:12,400
agencies have come together to

1124
00:46:15,990 --> 00:46:14,319
prioritize building and strengthening

1125
00:46:18,069 --> 00:46:16,000
the space workforce

1126
00:46:20,470 --> 00:46:18,079
this whole of society strategy is a call

1127
00:46:22,390 --> 00:46:20,480
to action for all of us here partners as

1128
00:46:24,470 --> 00:46:22,400
well and government educators and

1129
00:46:26,950 --> 00:46:24,480
everyone who works in stem to build a

1130
00:46:29,270 --> 00:46:26,960
stem workforce for space that is open

1131
00:46:31,109 --> 00:46:29,280
and accessible to everyone

1132
00:46:33,510 --> 00:46:31,119
as we approach research policy and

1133
00:46:35,829 --> 00:46:33,520
action in space it is on all of us to

1134
00:46:39,190 --> 00:46:35,839
ensure that we are employing the united

1135
00:46:41,589 --> 00:46:39,200
states most valuable asset its people to

1136
00:46:44,069 --> 00:46:41,599
solve the great challenges of our time

1137
00:46:46,230 --> 00:46:44,079
climate crisis national security growing

1138
00:46:47,430 --> 00:46:46,240

our economy and uncovering the mysteries

1139
00:46:49,109 --> 00:46:47,440
of space

1140
00:46:51,190 --> 00:46:49,119
thank you madam vice president i thank

1141
00:46:54,950 --> 00:46:51,200
you i thank you for the work that you

1142
00:46:59,430 --> 00:46:57,190
again i just accelerating this

1143
00:47:00,550 --> 00:46:59,440
initiative in a way that is having real

1144
00:47:02,230 --> 00:47:00,560
impact

1145
00:47:03,910 --> 00:47:02,240
um so now i will

1146
00:47:05,190 --> 00:47:03,920
turn to our panelists and i'm going to

1147
00:47:08,309 --> 00:47:05,200
start with

1148
00:47:13,050 --> 00:47:08,319
mr banda um a high school science

1149
00:47:19,270 --> 00:47:13,060
teacher thank you thank you thank you

1150
00:47:21,750 --> 00:47:19,280
[Applause]

1151
00:47:25,109 --> 00:47:21,760
of the professions

1152
00:47:27,829 --> 00:47:25,119
such a noble profession to take on

1153
00:47:29,190 --> 00:47:27,839
a life work that is about raising and

1154
00:47:30,950 --> 00:47:29,200
nurturing

1155
00:47:33,270 --> 00:47:30,960
the future of our country so thank you

1156
00:47:36,630 --> 00:47:33,280
very much and

1157
00:47:38,950 --> 00:47:36,640
and please share with all of us teach us

1158
00:47:42,069 --> 00:47:38,960
how can we

1159
00:47:44,710 --> 00:47:42,079
use space talk about space in a way that

1160
00:47:46,470 --> 00:47:44,720
inspires the young leaders that you

1161
00:47:48,950 --> 00:47:46,480
teach

1162
00:47:49,990 --> 00:47:48,960
uh good afternoon madam vice president

1163
00:47:52,150 --> 00:47:50,000

and distinguished members of the

1164
00:47:53,670 --> 00:47:52,160
national space council my name is pablo

1165
00:47:55,829 --> 00:47:53,680
vonda i'm currently serving as a

1166
00:47:57,430 --> 00:47:55,839
department chair at milby high school

1167
00:47:59,270 --> 00:47:57,440
where i currently teach ap biology and

1168
00:48:00,790 --> 00:47:59,280
ap environmental science

1169
00:48:02,550 --> 00:48:00,800
i teach at 101 school where the majority

1170
00:48:04,230 --> 00:48:02,560
of students are hispanic and don't have

1171
00:48:07,990 --> 00:48:04,240
the same access nor opportunities as

1172
00:48:09,430 --> 00:48:08,000
other kids as educators we're facing

1173
00:48:11,190 --> 00:48:09,440
challenges on how best to engage our

1174
00:48:12,470 --> 00:48:11,200
students especially now

1175
00:48:16,150 --> 00:48:12,480
given that the learning gap has

1176
00:48:18,870 --> 00:48:16,160
increased with a kobe 19 pandemic

1177
00:48:21,430 --> 00:48:18,880
without question space is an exciting

1178
00:48:23,510 --> 00:48:21,440
way to get my students engaged in stem

1179
00:48:25,190 --> 00:48:23,520
last year our school partnered with nasa

1180
00:48:27,190 --> 00:48:25,200
through a program funded by a grant from

1181
00:48:28,630 --> 00:48:27,200
the department of education

1182
00:48:32,790 --> 00:48:28,640
together we were able to create some

1183
00:48:37,190 --> 00:48:34,549
we started with big questions like when

1184
00:48:39,829 --> 00:48:37,200
the astronauts go back to the moon

1185
00:48:42,150 --> 00:48:39,839
what do they need to survive

1186
00:48:43,990 --> 00:48:42,160
working with nasa education experts

1187
00:48:45,910 --> 00:48:44,000
the students engaged in a project called

1188
00:48:47,349 --> 00:48:45,920

growing beyond earth

1189
00:48:48,790 --> 00:48:47,359
where they were able to create a radish

1190
00:48:51,750 --> 00:48:48,800
station with the goal creating the

1191
00:48:53,030 --> 00:48:51,760
optimal conditions for plant growth

1192
00:48:54,630 --> 00:48:53,040
the students were able to test different

1193
00:48:56,549 --> 00:48:54,640
soil compositions the frequency of

1194
00:48:58,069 --> 00:48:56,559
lighting the amount of water and other

1195
00:48:59,829 --> 00:48:58,079
factors while collecting data throughout

1196
00:49:01,829 --> 00:48:59,839
the entire process

1197
00:49:04,790 --> 00:49:01,839
they were so excited to think that one

1198
00:49:06,950 --> 00:49:04,800
day their data could be utilized by nasa

1199
00:49:09,589 --> 00:49:06,960
in fact four of the five seniors that

1200
00:49:11,270 --> 00:49:09,599
were working on this rigorous project

1201
00:49:13,349 --> 00:49:11,280
probably some some of the brightest kids

1202
00:49:15,109 --> 00:49:13,359
that i've ever met after doing this

1203
00:49:17,030 --> 00:49:15,119
coursework ended up changing their

1204
00:49:19,349 --> 00:49:17,040
intended majors going from construction

1205
00:49:20,470 --> 00:49:19,359
science and architecture to majors such

1206
00:49:21,750 --> 00:49:20,480
as aerospace engineering and

1207
00:49:23,109 --> 00:49:21,760
astrophysics

1208
00:49:25,190 --> 00:49:23,119
and i'm happy to say that they just

1209
00:49:27,460 --> 00:49:25,200
started their freshman year

1210
00:49:28,270 --> 00:49:27,470
this past uh

1211
00:49:32,309 --> 00:49:28,280
[Applause]

1212
00:49:36,390 --> 00:49:34,230
uh in the end one of the biggest draws

1213
00:49:38,150 --> 00:49:36,400

to pursue stem are the different jobs

1214
00:49:39,829 --> 00:49:38,160
especially in space there's so many

1215
00:49:40,950 --> 00:49:39,839
career opportunities for the students

1216
00:49:42,710 --> 00:49:40,960
today

1217
00:49:44,150 --> 00:49:42,720
through a nasa teacher externship

1218
00:49:45,750 --> 00:49:44,160
program i was able to come to johnson

1219
00:49:47,750 --> 00:49:45,760
space center and i was able to see

1220
00:49:49,670 --> 00:49:47,760
mechanics and pilots at ellington field

1221
00:49:52,150 --> 00:49:49,680
divers of the neutral buoyancy lab and

1222
00:49:53,510 --> 00:49:52,160
even seamstresses making suits

1223
00:49:54,390 --> 00:49:53,520
all these individuals had something in

1224
00:49:56,230 --> 00:49:54,400
common

1225
00:49:57,589 --> 00:49:56,240
they were able to tie their expertise to

1226
00:49:59,030 --> 00:49:57,599
stem

1227
00:50:00,790 --> 00:49:59,040
but many of my students don't know what

1228
00:50:02,390 --> 00:50:00,800
opportunities are out there and end up

1229
00:50:04,390 --> 00:50:02,400
creating their goals only on what

1230
00:50:06,150 --> 00:50:04,400
they're exposed to

1231
00:50:08,790 --> 00:50:06,160
my students need to see that there's a

1232
00:50:10,390 --> 00:50:08,800
job in the space sector for everyone no

1233
00:50:11,910 --> 00:50:10,400
matter what the interest may be

1234
00:50:17,670 --> 00:50:11,920
and i strongly believe that an early

1235
00:50:21,829 --> 00:50:19,030
one of the main challenges in teaching

1236
00:50:23,750 --> 00:50:21,839
stem is resources as educators we always

1237
00:50:26,230 --> 00:50:23,760
welcome classroom materials especially

1238
00:50:27,910 --> 00:50:26,240

ones that involve space science another

1239
00:50:29,829 --> 00:50:27,920
resource that stem teachers can benefit

1240
00:50:31,270 --> 00:50:29,839
from is professional development i'm

1241
00:50:33,750 --> 00:50:31,280
part of the nasa teacher externship

1242
00:50:35,910 --> 00:50:33,760
where i met other educators nasa experts

1243
00:50:37,829 --> 00:50:35,920
and seen amazing research firsthand i

1244
00:50:40,710 --> 00:50:37,839
can't wait to incorporate what i've

1245
00:50:41,990 --> 00:50:40,720
learned and shared with my students

1246
00:50:43,430 --> 00:50:42,000
these teacher professional development

1247
00:50:45,510 --> 00:50:43,440
programs really prepare us as stem

1248
00:50:47,109 --> 00:50:45,520
educators to engage students as well as

1249
00:50:48,470 --> 00:50:47,119
build our own confidence to teach

1250
00:50:49,990 --> 00:50:48,480
complex subjects

1251
00:50:51,829 --> 00:50:50,000
with more more of these professional

1252
00:50:53,910 --> 00:50:51,839
development opportunities i'm sure other

1253
00:50:55,270 --> 00:50:53,920
educators like myself will be equipped

1254
00:50:57,990 --> 00:50:55,280
to inspire the next generation of

1255
00:50:59,270 --> 00:50:58,000
scientists engineers and problem solvers

1256
00:51:00,309 --> 00:50:59,280
thank you for your time madam vice

1257
00:51:02,549 --> 00:51:00,319
president

1258
00:51:07,330 --> 00:51:02,559
thank you so very much

1259
00:51:10,710 --> 00:51:07,340
and the collaboration that we have

1260
00:51:16,710 --> 00:51:12,710
on the space council it's been very

1261
00:51:18,390 --> 00:51:16,720
intentional uh that we are including

1262
00:51:21,109 --> 00:51:18,400
educators

1263
00:51:23,589 --> 00:51:21,119

who are on the ground like you every day

1264
00:51:26,069 --> 00:51:23,599
the opportunities that are available

1265
00:51:27,510 --> 00:51:26,079
should be in and we know they are

1266
00:51:29,589 --> 00:51:27,520
for people coming right out of high

1267
00:51:32,309 --> 00:51:29,599
school much less college or graduate

1268
00:51:34,870 --> 00:51:32,319
degrees but having your input

1269
00:51:36,710 --> 00:51:34,880
and and your leadership is is just

1270
00:51:38,230 --> 00:51:36,720
absolutely invaluable so thank you for

1271
00:51:39,670 --> 00:51:38,240
that and again thank you for being a

1272
00:51:41,109 --> 00:51:39,680
teacher

1273
00:51:44,069 --> 00:51:41,119
um i'll now

1274
00:51:47,430 --> 00:51:44,079
turn to uh dr harold martin

1275
00:51:48,470 --> 00:51:47,440
and um and ask you how is north carolina

1276
00:51:50,630 --> 00:51:48,480
a t

1277
00:51:53,430 --> 00:51:50,640
thinking about uh

1278
00:51:55,030 --> 00:51:53,440
working with federal agencies to prepare

1279
00:51:58,309 --> 00:51:55,040
students to join

1280
00:52:00,790 --> 00:51:58,319
the space workforce

1281
00:52:02,870 --> 00:52:00,800
thank you very much madam vice president

1282
00:52:04,630 --> 00:52:02,880
national science council members

1283
00:52:06,309 --> 00:52:04,640
fellow panelists

1284
00:52:08,069 --> 00:52:06,319
and colleagues it is doing an honor to

1285
00:52:09,589 --> 00:52:08,079
be here to share my thoughts

1286
00:52:13,349 --> 00:52:09,599
about the impact of minority serving

1287
00:52:15,270 --> 00:52:13,359
institutions on preparing stem graduates

1288
00:52:16,790 --> 00:52:15,280

for the space industry

1289
00:52:18,230 --> 00:52:16,800
north carolina agriculture and technical

1290
00:52:19,670 --> 00:52:18,240
state university has a long and

1291
00:52:21,430 --> 00:52:19,680
distinguished and

1292
00:52:22,470 --> 00:52:21,440
significant relationship with the space

1293
00:52:25,349 --> 00:52:22,480
sector

1294
00:52:27,670 --> 00:52:25,359
dr ron lee mcnair an alumnus and one of

1295
00:52:31,349 --> 00:52:27,680
nasa's first black astronauts was killed

1296
00:52:32,950 --> 00:52:31,359
in the space shuttle challenger in 1986

1297
00:52:35,430 --> 00:52:32,960
one of our engineering facilities named

1298
00:52:37,349 --> 00:52:35,440
in his honor has been home to thousands

1299
00:52:39,990 --> 00:52:37,359
of engineering graduates over the years

1300
00:52:41,910 --> 00:52:40,000
and many more are currently enrolled and

1301
00:52:43,430 --> 00:52:41,920
will enroll in years to come

1302
00:52:44,790 --> 00:52:43,440
and he continues to inspire these

1303
00:52:47,829 --> 00:52:44,800
students today

1304
00:52:49,349 --> 00:52:47,839
to exceed their expectations

1305
00:52:50,950 --> 00:52:49,359
the universe has the distinction of

1306
00:52:53,109 --> 00:52:50,960
graduating the largest number of black

1307
00:52:54,150 --> 00:52:53,119
engineers per year over the past two

1308
00:52:55,670 --> 00:52:54,160
decades

1309
00:52:57,670 --> 00:52:55,680
and we are aware of what it takes to

1310
00:52:59,750 --> 00:52:57,680
prepare students for success in

1311
00:53:02,230 --> 00:52:59,760
technical fields

1312
00:53:03,750 --> 00:53:02,240
ent and other hbcus such as prairie view

1313
00:53:06,710 --> 00:53:03,760

a m university

1314
00:53:09,030 --> 00:53:06,720
uh whose community we are in today

1315
00:53:10,549 --> 00:53:09,040
and whose president dr ruth simmons is

1316
00:53:12,310 --> 00:53:10,559
present with us today

1317
00:53:16,790 --> 00:53:12,320
howard university

1318
00:53:19,190 --> 00:53:16,800
[Applause]

1319
00:53:21,910 --> 00:53:19,200
auburn university famu

1320
00:53:23,990 --> 00:53:21,920
morgan state university and others

1321
00:53:26,309 --> 00:53:24,000
minority serving institutions

1322
00:53:27,430 --> 00:53:26,319
have a history of meeting students where

1323
00:53:29,109 --> 00:53:27,440
they are

1324
00:53:32,069 --> 00:53:29,119
and providing the education and skills

1325
00:53:33,750 --> 00:53:32,079
development in classrooms facilitating

1326
00:53:36,069 --> 00:53:33,760
paid experiences in industry with our

1327
00:53:38,309 --> 00:53:36,079
corporate partners government partners

1328
00:53:40,150 --> 00:53:38,319
and research laboratories

1329
00:53:41,589 --> 00:53:40,160
hbcus

1330
00:53:43,510 --> 00:53:41,599
and whose graduates have made

1331
00:53:45,510 --> 00:53:43,520
significant contributions

1332
00:53:46,790 --> 00:53:45,520
to human space flight and space

1333
00:53:48,230 --> 00:53:46,800
exploration

1334
00:53:50,630 --> 00:53:48,240
and will continue to make significant

1335
00:53:53,349 --> 00:53:50,640
scientific and technical contributions

1336
00:53:54,829 --> 00:53:53,359
to space and private industry and

1337
00:53:58,710 --> 00:53:54,839
through federal

1338
00:54:00,630 --> 00:53:58,720

service hbcus are not alone

1339
00:54:02,870 --> 00:54:00,640
community colleges hispanic serving

1340
00:54:03,990 --> 00:54:02,880
institutions and tribal colleges and

1341
00:54:07,829 --> 00:54:04,000
universities

1342
00:54:09,589 --> 00:54:07,839
all graduate leaders in space workforce

1343
00:54:11,670 --> 00:54:09,599
these institutions are being responsive

1344
00:54:14,069 --> 00:54:11,680
and adapting their programs to meet

1345
00:54:16,069 --> 00:54:14,079
industry's technical and workforce needs

1346
00:54:17,750 --> 00:54:16,079
but cannot do it alone

1347
00:54:19,829 --> 00:54:17,760
relationships with industry and federal

1348
00:54:21,109 --> 00:54:19,839
government are important and part of the

1349
00:54:23,270 --> 00:54:21,119
success

1350
00:54:24,630 --> 00:54:23,280
for example

1351
00:54:26,790 --> 00:54:24,640
we're part of the space force

1352
00:54:28,950 --> 00:54:26,800
university's partnership program that

1353
00:54:31,030 --> 00:54:28,960
will enable us to expand our programs in

1354
00:54:32,950 --> 00:54:31,040
science and technology and engineering

1355
00:54:34,150 --> 00:54:32,960
programs and provide research

1356
00:54:36,710 --> 00:54:34,160
opportunities

1357
00:54:39,910 --> 00:54:36,720
for our students and faculty in our stem

1358
00:54:42,549 --> 00:54:39,920
disciplines these programs are part uh

1359
00:54:43,589 --> 00:54:42,559
but are not only significant what we're

1360
00:54:45,510 --> 00:54:43,599
doing today

1361
00:54:47,670 --> 00:54:45,520
they're our start

1362
00:54:49,270 --> 00:54:47,680
there are many more brilliant talented

1363
00:54:51,109 --> 00:54:49,280

and innovative students

1364
00:54:52,390 --> 00:54:51,119
especially those from backgrounds

1365
00:54:54,069 --> 00:54:52,400
underrepresented

1366
00:54:56,870 --> 00:54:54,079
in stem disciplines

1367
00:54:58,630 --> 00:54:56,880
from unrepresented communities who need

1368
00:55:00,150 --> 00:54:58,640
mentoring and support

1369
00:55:02,069 --> 00:55:00,160
through k-12

1370
00:55:04,790 --> 00:55:02,079
and who could use scholarship support

1371
00:55:07,589 --> 00:55:04,800
internships pathways to graduate school

1372
00:55:09,829 --> 00:55:07,599
and full-time employment

1373
00:55:11,750 --> 00:55:09,839
faculty are doing exceptional work in

1374
00:55:13,270 --> 00:55:11,760
our research laboratories

1375
00:55:14,549 --> 00:55:13,280
but also looking for increased

1376
00:55:16,150 --> 00:55:14,559
opportunities

1377
00:55:18,950 --> 00:55:16,160
to drive innovation

1378
00:55:20,230 --> 00:55:18,960
explore expectations and opportunities

1379
00:55:22,870 --> 00:55:20,240
and share with our students in our

1380
00:55:25,190 --> 00:55:22,880
classrooms in our laboratories

1381
00:55:27,829 --> 00:55:25,200
so madam president we are vice president

1382
00:55:29,030 --> 00:55:27,839
we are very very pleased to be a part of

1383
00:55:30,710 --> 00:55:29,040
the solution

1384
00:55:32,470 --> 00:55:30,720
and we're thankful for the opportunities

1385
00:55:35,430 --> 00:55:32,480
to be a part of the conversation

1386
00:55:38,309 --> 00:55:35,440
with the national space council today

1387
00:55:41,109 --> 00:55:38,319
nasa the national science foundation

1388
00:55:43,670 --> 00:55:41,119

usd who continue to provide sustained

1389
00:55:45,349 --> 00:55:43,680
support and i look forward to continuing

1390
00:55:48,150 --> 00:55:45,359
to deepen these significant

1391
00:55:49,910 --> 00:55:48,160
relationships with both industry and the

1392
00:55:51,910 --> 00:55:49,920
federal government so thank you very

1393
00:55:53,010 --> 00:55:51,920
much madam batch president

1394
00:55:56,870 --> 00:55:53,020
thank you chancellor

1395
00:55:58,630 --> 00:55:56,880
[Applause]

1396
00:56:00,630 --> 00:55:58,640
and part of the part of our

1397
00:56:02,870 --> 00:56:00,640
administration's investment in minority

1398
00:56:05,510 --> 00:56:02,880
serving institutions hbcus which has

1399
00:56:07,670 --> 00:56:05,520
been in excess of five billion dollars

1400
00:56:09,750 --> 00:56:07,680
is with that very point about what we

1401
00:56:11,030 --> 00:56:09,760
can do and need to do to give more

1402
00:56:13,510 --> 00:56:11,040
resources

1403
00:56:15,829 --> 00:56:13,520
to the venerable institutions that have

1404
00:56:18,230 --> 00:56:15,839
historically produced

1405
00:56:19,910 --> 00:56:18,240
our nation's scientists engineers

1406
00:56:22,069 --> 00:56:19,920
and mathematicians

1407
00:56:23,990 --> 00:56:22,079
and i want to recognize also

1408
00:56:25,510 --> 00:56:24,000
deputy secretary of education cindy

1409
00:56:27,510 --> 00:56:25,520
martin who is here

1410
00:56:29,990 --> 00:56:27,520
who is

1411
00:56:31,670 --> 00:56:30,000
is really a leader on a lot of these

1412
00:56:34,630 --> 00:56:31,680
issues so having heard from our two

1413
00:56:36,069 --> 00:56:34,640

educators uh can you talk a bit about

1414
00:56:38,150 --> 00:56:36,079
the work of the department under your

1415
00:56:39,670 --> 00:56:38,160
leadership thank you so much madam vice

1416
00:56:41,910 --> 00:56:39,680
president we love hearing from my

1417
00:56:44,309 --> 00:56:41,920
teacher the way that you inspire by

1418
00:56:45,349 --> 00:56:44,319
sparking interest having students

1419
00:56:47,510 --> 00:56:45,359
explore

1420
00:56:49,510 --> 00:56:47,520
the career and having professional

1421
00:56:51,510 --> 00:56:49,520
development you inspire our nation thank

1422
00:56:53,349 --> 00:56:51,520
you and thank you for the opportunity to

1423
00:56:55,670 --> 00:56:53,359
speak on what the department's doing to

1424
00:56:58,230 --> 00:56:55,680
inspire prepare and employ secretary

1425
00:57:01,030 --> 00:56:58,240
cardona and i are so deeply committed

1426
00:57:04,069 --> 00:57:01,040
and focused on this to ensure that all

1427
00:57:06,549 --> 00:57:04,079
of our students not just have access to

1428
00:57:09,750 --> 00:57:06,559
but that they feel that they belong

1429
00:57:12,150 --> 00:57:09,760
in high quality stem education

1430
00:57:13,910 --> 00:57:12,160
both in and out of the classroom a

1431
00:57:15,990 --> 00:57:13,920
feeling of belonging matters for our

1432
00:57:19,030 --> 00:57:16,000
students because we know that sense of

1433
00:57:21,349 --> 00:57:19,040
belonging is how we inspire which is

1434
00:57:23,270 --> 00:57:21,359
your first charge of this commission the

1435
00:57:24,230 --> 00:57:23,280
next generation of innovators and that's

1436
00:57:26,549 --> 00:57:24,240
how they

1437
00:57:28,630 --> 00:57:26,559
enter into space exploration

1438
00:57:30,789 --> 00:57:28,640

students can dream big when they're in

1439
00:57:32,470 --> 00:57:30,799
classrooms like we just heard mr banda

1440
00:57:34,549 --> 00:57:32,480
speak about so to that end the

1441
00:57:36,630 --> 00:57:34,559
department of education is pursuing

1442
00:57:39,030 --> 00:57:36,640
multiple strategies across multiple

1443
00:57:41,510 --> 00:57:39,040
fronts to enhance stem education

1444
00:57:42,789 --> 00:57:41,520
workforce and to support the delivery of

1445
00:57:45,349 --> 00:57:42,799
inclusive

1446
00:57:47,670 --> 00:57:45,359
stem learning across all classrooms and

1447
00:57:50,309 --> 00:57:47,680
experiences that will engender a sense

1448
00:57:52,789 --> 00:57:50,319
of belonging to some students across the

1449
00:57:54,230 --> 00:57:52,799
country we also know from our extensive

1450
00:57:56,950 --> 00:57:54,240
stakeholder engagement that we're

1451
00:57:59,670 --> 00:57:56,960
involved in that expanding access to the

1452
00:58:02,470 --> 00:57:59,680
high quality sustainable programs of an

1453
00:58:03,589 --> 00:58:02,480
ecosystem of partners includes industry

1454
00:58:05,349 --> 00:58:03,599
sector

1455
00:58:07,270 --> 00:58:05,359
community organizations that are so

1456
00:58:09,430 --> 00:58:07,280
passionate about this and state and

1457
00:58:11,589 --> 00:58:09,440
local governments as well as the voices

1458
00:58:13,990 --> 00:58:11,599
of our youth all students across the

1459
00:58:15,109 --> 00:58:14,000
country and teachers have passion around

1460
00:58:17,589 --> 00:58:15,119
this topic

1461
00:58:19,670 --> 00:58:17,599
as well as our parents listening to all

1462
00:58:21,349 --> 00:58:19,680
of the stakeholders who help us see the

1463
00:58:23,030 --> 00:58:21,359

path forward we in the federal

1464
00:58:25,589 --> 00:58:23,040
government and this administration have

1465
00:58:27,589 --> 00:58:25,599
an opportunity in this moment to

1466
00:58:29,829 --> 00:58:27,599
strengthen those connections within that

1467
00:58:31,589 --> 00:58:29,839
ecosystem that already exists so for

1468
00:58:33,829 --> 00:58:31,599
example education is collaborating with

1469
00:58:36,309 --> 00:58:33,839
the space industry leaders in developing

1470
00:58:37,990 --> 00:58:36,319
space career challenge for high school

1471
00:58:40,950 --> 00:58:38,000
students and we're partnering with nasa

1472
00:58:43,349 --> 00:58:40,960
to engage after school youth in space

1473
00:58:44,710 --> 00:58:43,359
related engineering design challenges

1474
00:58:46,789 --> 00:58:44,720
that are awesome to see the kids

1475
00:58:49,349 --> 00:58:46,799
participate in therefore the department

1476
00:58:51,589 --> 00:58:49,359
of education is elevating stem education

1477
00:58:53,990 --> 00:58:51,599
as a departmental priority and we're

1478
00:58:56,870 --> 00:58:54,000
bolstering our role as a leader in the

1479
00:58:58,870 --> 00:58:56,880
stem ecosystem which we'll note we know

1480
00:59:01,750 --> 00:58:58,880
is going to lay the foundation that will

1481
00:59:03,589 --> 00:59:01,760
help us grow the future space workforce

1482
00:59:06,069 --> 00:59:03,599
one that's diverse

1483
00:59:08,069 --> 00:59:06,079
one that's highly trained and once it's

1484
00:59:10,150 --> 00:59:08,079
ready to provide solutions for our

1485
00:59:12,870 --> 00:59:10,160
future for the challenges not just of

1486
00:59:15,750 --> 00:59:12,880
today and of tomorrow there's a place

1487
00:59:17,750 --> 00:59:15,760
for everyone in space that's right

1488
00:59:19,829 --> 00:59:17,760

that's right

1489
00:59:21,750 --> 00:59:19,839
thank you so very much and i also want

1490
00:59:23,109 --> 00:59:21,760
to acknowledge dr ruth simmons who's

1491
00:59:25,750 --> 00:59:23,119
here

1492
00:59:27,109 --> 00:59:25,760
the president of prairie view a m

1493
00:59:30,230 --> 00:59:27,119
and um

1494
00:59:33,430 --> 00:59:30,240
i also know that we have

1495
00:59:35,190 --> 00:59:33,440
reginald zerosha is here and um from

1496
00:59:37,000 --> 00:59:35,200
rice university i want to thank him as

1497
00:59:40,870 --> 00:59:37,010
well

1498
00:59:43,589 --> 00:59:40,880
[Applause]

1499
00:59:48,230 --> 00:59:43,599
so with that i will now uh

1500
00:59:51,829 --> 00:59:48,240
turn to our under secretary of defense

1501
00:59:54,150 --> 00:59:51,839
heidi um shiyu and i'd ask you to please

1502
00:59:55,430 --> 00:59:54,160
provide your perspective on this

1503
00:59:57,910 --> 00:59:55,440
discussion

1504
01:00:00,470 --> 00:59:57,920
and how you are thinking through the

1505
01:00:02,950 --> 01:00:00,480
department of defense about how we can

1506
01:00:10,470 --> 01:00:02,960
invest in stem and and our future

1507
01:00:15,470 --> 01:00:13,829
you hear me better now yes okay

1508
01:00:18,470 --> 01:00:15,480
department of defense has a great

1509
01:00:20,309 --> 01:00:18,480
responsibility to ensure that our nation

1510
01:00:23,910 --> 01:00:20,319
remains safe

1511
01:00:26,309 --> 01:00:23,920
space is one of the 14 technology areas

1512
01:00:29,349 --> 01:00:26,319
that we have identified as being

1513
01:00:31,589 --> 01:00:29,359

critical to our national defense

1514
01:00:34,150 --> 01:00:31,599
to ensure that we stay ahead

1515
01:00:36,870 --> 01:00:34,160
the dod is committed to developing the

1516
01:00:38,789 --> 01:00:36,880
technologies and the talent that's

1517
01:00:41,750 --> 01:00:38,799
needed to address the challenges of our

1518
01:00:45,109 --> 01:00:41,760
mission into space domain

1519
01:00:46,710 --> 01:00:45,119
universities are an essential partner to

1520
01:00:48,710 --> 01:00:46,720
this department

1521
01:00:51,190 --> 01:00:48,720
we must work together to develop the

1522
01:00:52,630 --> 01:00:51,200
workforce and the technologies of the

1523
01:00:54,710 --> 01:00:52,640
future

1524
01:00:58,549 --> 01:00:54,720
this is why we are expanding our efforts

1525
01:01:02,069 --> 01:00:58,559
to ensure all space force rotc

1526
01:01:05,910 --> 01:01:02,079
scholarship cover 100

1527
01:01:08,950 --> 01:01:05,920
of college tuitions and fees

1528
01:01:11,190 --> 01:01:08,960
another important milestone today

1529
01:01:14,390 --> 01:01:11,200
the space force today

1530
01:01:16,950 --> 01:01:14,400
signed its 14th university partnership

1531
01:01:18,150 --> 01:01:16,960
program with the university of puerto

1532
01:01:20,549 --> 01:01:18,160
rico

1533
01:01:23,750 --> 01:01:20,559
mayaguez

1534
01:01:26,390 --> 01:01:23,760
this highly rated college of engineering

1535
01:01:28,470 --> 01:01:26,400
produce some of the best engineers in

1536
01:01:32,069 --> 01:01:28,480
this country

1537
01:01:34,069 --> 01:01:32,079
as a hispanic serving institution uprm

1538
01:01:36,630 --> 01:01:34,079

will help the space force grow and

1539
01:01:38,430 --> 01:01:36,640
maintain a diverse and inclusive

1540
01:01:42,230 --> 01:01:38,440
workforce

1541
01:01:45,109 --> 01:01:42,240
congratulations to chancellor dr rouyan

1542
01:01:47,380 --> 01:01:45,119
and our own chief of space operations

1543
01:01:52,230 --> 01:01:47,390
general raymond thank you

1544
01:01:53,510 --> 01:01:52,240
[Applause]

1545
01:01:55,750 --> 01:01:53,520
these

1546
01:01:58,390 --> 01:01:55,760
are just two examples of how the

1547
01:02:00,710 --> 01:01:58,400
department is actively looking across

1548
01:02:03,349 --> 01:02:00,720
the services and components for

1549
01:02:06,470 --> 01:02:03,359
innovative ways to grow our talent pool

1550
01:02:09,030 --> 01:02:06,480
especially in coordination with minority

1551
01:02:12,630 --> 01:02:09,040
serving institutions tribal colleges and

1552
01:02:14,710 --> 01:02:12,640
universities and hbcus

1553
01:02:17,589 --> 01:02:14,720
a well-coordinated effort across the

1554
01:02:20,630 --> 01:02:17,599
federal agencies academic and industry

1555
01:02:23,190 --> 01:02:20,640
will result in a more strategic approach

1556
01:02:25,190 --> 01:02:23,200
to partnering and ensure

1557
01:02:27,670 --> 01:02:25,200
that we will have a better developed

1558
01:02:29,829 --> 01:02:27,680
diverse space workforce

1559
01:02:32,630 --> 01:02:29,839
the department is looking forward to

1560
01:02:34,789 --> 01:02:32,640
contributing to this important effort

1561
01:02:39,829 --> 01:02:34,799
thank you

1562
01:02:41,190 --> 01:02:39,839
and uh now i'd like to turn to miss bulk

1563
01:02:43,910 --> 01:02:41,200

uh the ceo of

1564
01:02:45,990 --> 01:02:43,920
special aerospace services and if you

1565
01:02:48,630 --> 01:02:46,000
could share a bit about how you're

1566
01:02:50,470 --> 01:02:48,640
thinking that the space industry can

1567
01:02:51,829 --> 01:02:50,480
recruit and develop

1568
01:02:59,589 --> 01:02:51,839
the workforce

1569
01:03:03,030 --> 01:03:01,430
madam vice president and distinguished

1570
01:03:04,789 --> 01:03:03,040
members of the council it's truly an

1571
01:03:06,230 --> 01:03:04,799
honor and a privilege to speak with you

1572
01:03:07,910 --> 01:03:06,240
today

1573
01:03:09,990 --> 01:03:07,920
i'm the ceo of special aerospace

1574
01:03:12,549 --> 01:03:10,000
services a woman-owned company that

1575
01:03:13,750 --> 01:03:12,559
provides engineering and hardware to

1576
01:03:16,630 --> 01:03:13,760
civil

1577
01:03:17,990 --> 01:03:16,640
nasa defense and space programs i'm also

1578
01:03:19,750 --> 01:03:18,000
an executive

1579
01:03:21,990 --> 01:03:19,760
committee member of the aerospace

1580
01:03:24,630 --> 01:03:22,000
industries association and in both of

1581
01:03:28,069 --> 01:03:24,640
these roles one of my top priorities is

1582
01:03:30,230 --> 01:03:28,079
developing and expanding the workforce

1583
01:03:33,510 --> 01:03:30,240
today most of us know that there is an

1584
01:03:35,510 --> 01:03:33,520
insatiable and ever increasing demand

1585
01:03:37,349 --> 01:03:35,520
for both space services and space

1586
01:03:39,510 --> 01:03:37,359
hardware

1587
01:03:41,589 --> 01:03:39,520
therefore our industry has what i refer

1588
01:03:42,870 --> 01:03:41,599

to as an urgent and ongoing need for

1589
01:03:45,029 --> 01:03:42,880
talent

1590
01:03:46,309 --> 01:03:45,039
thank you

1591
01:03:48,230 --> 01:03:46,319
as i was saying today there is an

1592
01:03:49,910 --> 01:03:48,240
insatiable and ever increasing demand

1593
01:03:52,390 --> 01:03:49,920
for space services

1594
01:03:53,510 --> 01:03:52,400
and hardware therefore our industry has

1595
01:03:55,910 --> 01:03:53,520
an urgent

1596
01:03:58,230 --> 01:03:55,920
and ongoing need for talent

1597
01:03:59,750 --> 01:03:58,240
i'd like to suggest three ways in which

1598
01:04:01,029 --> 01:03:59,760
we need to think differently about how

1599
01:04:03,430 --> 01:04:01,039
we attract

1600
01:04:06,710 --> 01:04:03,440
recruit and as we've been discussing

1601
01:04:08,069 --> 01:04:06,720
today employ that talent

1602
01:04:10,390 --> 01:04:08,079
first

1603
01:04:12,950 --> 01:04:10,400
when it comes to recruiting engineers

1604
01:04:14,870 --> 01:04:12,960
scientists and technicians our industry

1605
01:04:17,190 --> 01:04:14,880
needs to realize that there is also a

1606
01:04:18,549 --> 01:04:17,200
true wealth of talent

1607
01:04:20,950 --> 01:04:18,559
in academic communities that we have

1608
01:04:23,109 --> 01:04:20,960
traditionally overlooked

1609
01:04:26,309 --> 01:04:23,119
such as hbcus

1610
01:04:28,230 --> 01:04:26,319
minority serving institutions colleges

1611
01:04:29,990 --> 01:04:28,240
and tech schools

1612
01:04:32,549 --> 01:04:30,000
when we partner with these institutions

1613
01:04:34,870 --> 01:04:32,559

we not only find amazing and highly

1614
01:04:38,230 --> 01:04:34,880
competent talent we also get this

1615
01:04:40,710 --> 01:04:38,240
incredible added bonus of diversity

1616
01:04:43,270 --> 01:04:40,720
let me tell you what xavier zay is a

1617
01:04:45,990 --> 01:04:43,280
manufacturing engineer at sas

1618
01:04:48,789 --> 01:04:46,000
she brings talent she brings diversity

1619
01:04:50,630 --> 01:04:48,799
and a true zest for our industry and we

1620
01:04:52,710 --> 01:04:50,640
found her because rather than going to

1621
01:04:55,109 --> 01:04:52,720
the same places that we've been going to

1622
01:04:56,549 --> 01:04:55,119
year after year

1623
01:04:59,430 --> 01:04:56,559
we thought about things a little bit

1624
01:05:01,430 --> 01:04:59,440
different and we went to some hbcus

1625
01:05:03,349 --> 01:05:01,440
zay has proven to be an invaluable team

1626
01:05:05,589 --> 01:05:03,359
member not only at our company but a

1627
01:05:09,029 --> 01:05:05,599
true asset to our clients as well for

1628
01:05:11,109 --> 01:05:09,039
their incredibly important missions

1629
01:05:12,549 --> 01:05:11,119
second i'd like to talk about one of my

1630
01:05:13,670 --> 01:05:12,559
favorite topics skilled technical

1631
01:05:17,670 --> 01:05:13,680
workforce

1632
01:05:18,870 --> 01:05:17,680
is something that when we talk about our

1633
01:05:21,510 --> 01:05:18,880
machinists

1634
01:05:24,309 --> 01:05:21,520
our electricians our welders and

1635
01:05:25,829 --> 01:05:24,319
inspectors our industry has got to think

1636
01:05:27,829 --> 01:05:25,839
different here

1637
01:05:28,870 --> 01:05:27,839
by hiring for the skills needed to do

1638
01:05:30,150 --> 01:05:28,880

the job

1639
01:05:32,230 --> 01:05:30,160
rather than

1640
01:05:34,870 --> 01:05:32,240
the educational requirements that we

1641
01:05:37,430 --> 01:05:34,880
traditionally looked at

1642
01:05:39,750 --> 01:05:37,440
like you adam vice president

1643
01:05:41,990 --> 01:05:39,760
not everyone as you said not everyone

1644
01:05:43,349 --> 01:05:42,000
needs a college degree

1645
01:05:45,109 --> 01:05:43,359
and

1646
01:05:47,270 --> 01:05:45,119
they cannot necessarily have a college

1647
01:05:51,430 --> 01:05:47,280
degree to have incredible impact in our

1648
01:05:55,510 --> 01:05:52,950
students can come straight out of high

1649
01:05:58,470 --> 01:05:55,520
school into apprenticeship programs

1650
01:06:00,870 --> 01:05:58,480
community colleges and trade schools

1651
01:06:03,349 --> 01:06:00,880
students as well as those

1652
01:06:05,349 --> 01:06:03,359
looking to pivot into our industry like

1653
01:06:06,950 --> 01:06:05,359
our critical veterans in our united

1654
01:06:08,630 --> 01:06:06,960
states

1655
01:06:11,829 --> 01:06:08,640
these individuals can immediately come

1656
01:06:14,230 --> 01:06:11,839
out onto a solid path of having a good

1657
01:06:16,069 --> 01:06:14,240
job good salary and working with

1658
01:06:18,470 --> 01:06:16,079
state-of-the-art technologies while

1659
01:06:20,630 --> 01:06:18,480
contributing to an incredibly exciting

1660
01:06:22,069 --> 01:06:20,640
and important mission

1661
01:06:24,789 --> 01:06:22,079
one of our machinists by the name of

1662
01:06:28,950 --> 01:06:24,799
caleb was with us navy and he worked on

1663
01:06:33,109 --> 01:06:31,029

msu denver the university that we

1664
01:06:36,069 --> 01:06:33,119
partner with sent us his resume and said

1665
01:06:40,150 --> 01:06:38,150
we hired him and he's taken those

1666
01:06:43,349 --> 01:06:40,160
military skills and been able to

1667
01:06:44,710 --> 01:06:43,359
effectively pivot into our very valuable

1668
01:06:46,710 --> 01:06:44,720
space industry

1669
01:06:49,109 --> 01:06:46,720
he's an example of a veteran who might

1670
01:06:50,950 --> 01:06:49,119
have previously been overlooked and is

1671
01:06:53,270 --> 01:06:50,960
now making an incredible contribution to

1672
01:06:54,549 --> 01:06:53,280
our industry

1673
01:06:55,990 --> 01:06:54,559
finally

1674
01:06:58,950 --> 01:06:56,000
if the space industry is going to

1675
01:07:01,589 --> 01:06:58,960
continue to enable national security

1676
01:07:03,829 --> 01:07:01,599
creating economic opportunity

1677
01:07:06,390 --> 01:07:03,839
and drive innovation we need to have

1678
01:07:07,510 --> 01:07:06,400
truly united efforts on the part of the

1679
01:07:08,630 --> 01:07:07,520
government

1680
01:07:11,029 --> 01:07:08,640
industry

1681
01:07:16,630 --> 01:07:11,039
and academia to effectively address this

1682
01:07:20,549 --> 01:07:18,470
an incredibly

1683
01:07:22,710 --> 01:07:20,559
good example of this is our new facility

1684
01:07:24,470 --> 01:07:22,720
in huntsville alabama

1685
01:07:26,829 --> 01:07:24,480
i see business

1686
01:07:29,109 --> 01:07:26,839
academia and government

1687
01:07:31,190 --> 01:07:29,119
effectively coming together to address

1688
01:07:33,190 --> 01:07:31,200

industry workforce needs

1689
01:07:35,270 --> 01:07:33,200
not only for today

1690
01:07:37,349 --> 01:07:35,280
but for the future

1691
01:07:38,870 --> 01:07:37,359
we need to be doing more of this type of

1692
01:07:42,069 --> 01:07:38,880
collaboration

1693
01:07:45,109 --> 01:07:42,079
and modeling what's taking place there

1694
01:07:48,069 --> 01:07:45,119
together we can truly make a real

1695
01:07:50,470 --> 01:07:48,079
and sustainable impact for the

1696
01:07:51,430 --> 01:07:50,480
advancements of our space workforce

1697
01:07:55,340 --> 01:07:51,440
thank you

1698
01:08:00,549 --> 01:07:55,350
giving voice to that

1699
01:08:06,470 --> 01:08:02,069
and

1700
01:08:08,150 --> 01:08:06,480
your thoughts i'm going to ask the chief

1701
01:08:10,789 --> 01:08:08,160
innovation officer

1702
01:08:13,750 --> 01:08:10,799
for the department of labor chikiyagu to

1703
01:08:16,149 --> 01:08:13,760
please give your perspective on

1704
01:08:18,149 --> 01:08:16,159
on how we are thinking about this as a

1705
01:08:19,910 --> 01:08:18,159
workforce issue

1706
01:08:22,309 --> 01:08:19,920
through the lens of the department of

1707
01:08:24,709 --> 01:08:22,319
labor and your mission to to grow

1708
01:08:26,630 --> 01:08:24,719
america's labor

1709
01:08:28,550 --> 01:08:26,640
and workforce in a way that we are

1710
01:08:30,229 --> 01:08:28,560
competitive and strong

1711
01:08:32,070 --> 01:08:30,239
thank you madam vice president and as

1712
01:08:33,430 --> 01:08:32,080
you know from secretary walsh our

1713
01:08:35,349 --> 01:08:33,440

mission is to make sure that every

1714
01:08:37,030 --> 01:08:35,359
american is prepared for and employed in

1715
01:08:39,030 --> 01:08:37,040
a good job and what you heard from mrs

1716
01:08:41,510 --> 01:08:39,040
bulk is the opportunity for the space

1717
01:08:42,950 --> 01:08:41,520
sector to do that and so since our last

1718
01:08:44,550 --> 01:08:42,960
uh space council meeting we have done

1719
01:08:46,870 --> 01:08:44,560
deep research into the jobs that are

1720
01:08:48,870 --> 01:08:46,880
most in demand in the space sector

1721
01:08:50,950 --> 01:08:48,880
number one using our existing data but

1722
01:08:53,269 --> 01:08:50,960
also in deep conversation with employers

1723
01:08:54,709 --> 01:08:53,279
and trade associations and then going a

1724
01:08:56,309 --> 01:08:54,719
step further we actually gathered this

1725
01:08:58,550 --> 01:08:56,319
summer at the department over 40

1726
01:09:00,149 --> 01:08:58,560
employers higher education institutions

1727
01:09:02,630 --> 01:09:00,159
community-based organizations to dig

1728
01:09:04,630 --> 01:09:02,640
into those jobs and find the skills that

1729
01:09:06,550 --> 01:09:04,640
are that they're most in need for each

1730
01:09:08,550 --> 01:09:06,560
of those and what we found during those

1731
01:09:11,030 --> 01:09:08,560
conversations was what you've heard an

1732
01:09:13,349 --> 01:09:11,040
emergent and emerging need for skilled

1733
01:09:14,870 --> 01:09:13,359
technical workforce in the space sector

1734
01:09:16,309 --> 01:09:14,880
when we say that we mean welders

1735
01:09:18,550 --> 01:09:16,319
fabricators

1736
01:09:20,630 --> 01:09:18,560
testing a specialist non

1737
01:09:22,709 --> 01:09:20,640
quality control specialists uh and what

1738
01:09:24,630 --> 01:09:22,719

we heard from every stakeholder bluntly

1739
01:09:25,749 --> 01:09:24,640
was that american competitiveness in

1740
01:09:28,229 --> 01:09:25,759
space

1741
01:09:30,149 --> 01:09:28,239
depends on filling this need

1742
01:09:31,829 --> 01:09:30,159
and so at the department of labor what

1743
01:09:34,470 --> 01:09:31,839
we see is that this need creates an

1744
01:09:35,430 --> 01:09:34,480
opportunity to bring in workers from

1745
01:09:37,510 --> 01:09:35,440
communities that have tragically been

1746
01:09:39,189 --> 01:09:37,520
overlooked and underserved for a long

1747
01:09:41,669 --> 01:09:39,199
time and we think of everyone from

1748
01:09:44,789 --> 01:09:41,679
returning citizens to folks in rural

1749
01:09:46,870 --> 01:09:44,799
communities to uh uh folks who are who

1750
01:09:48,070 --> 01:09:46,880
are opportunity youth again we can use

1751
01:09:49,269 --> 01:09:48,080
this problem in some ways to solve

1752
01:09:50,789 --> 01:09:49,279
another

1753
01:09:53,669 --> 01:09:50,799
and then really what we know this

1754
01:09:55,350 --> 01:09:53,679
requires is new industry partnerships uh

1755
01:09:57,590 --> 01:09:55,360
where industry is working hand in hand

1756
01:09:58,870 --> 01:09:57,600
with academia training providers to make

1757
01:10:00,390 --> 01:09:58,880
sure that we have the workforce that we

1758
01:10:02,229 --> 01:10:00,400
need that's why we're so excited about

1759
01:10:03,990 --> 01:10:02,239
the industry commitment today that you

1760
01:10:05,910 --> 01:10:04,000
that you announced we need more things

1761
01:10:07,430 --> 01:10:05,920
like that to basically solve this

1762
01:10:09,189 --> 01:10:07,440
problem and

1763
01:10:11,510 --> 01:10:09,199

for us the department of labor we commit

1764
01:10:13,669 --> 01:10:11,520
to two actions by the end of 2023.

1765
01:10:15,030 --> 01:10:13,679
number one we are going to update and

1766
01:10:17,110 --> 01:10:15,040
augment the department of labor

1767
01:10:18,709 --> 01:10:17,120
aerospace competency model to include

1768
01:10:20,550 --> 01:10:18,719
space activities so that whether you're

1769
01:10:22,229 --> 01:10:20,560
an employer or not or an academic

1770
01:10:24,229 --> 01:10:22,239
provider you know the skills that are

1771
01:10:25,990 --> 01:10:24,239
required so that you can help facilitate

1772
01:10:27,510 --> 01:10:26,000
skills-based training skills-based

1773
01:10:29,270 --> 01:10:27,520
hiring and creating that diverse

1774
01:10:31,830 --> 01:10:29,280
workforce that we all need

1775
01:10:33,590 --> 01:10:31,840
number two by the end of 2023 we commit

1776
01:10:35,830 --> 01:10:33,600
to conducting the first registered

1777
01:10:38,149 --> 01:10:35,840
apprenticeship accelerator focused on

1778
01:10:39,990 --> 01:10:38,159
the space sector this this accelerator

1779
01:10:42,470 --> 01:10:40,000
will bring together employers academic

1780
01:10:43,830 --> 01:10:42,480
providers training providers to come

1781
01:10:45,669 --> 01:10:43,840
together and further the use of

1782
01:10:47,590 --> 01:10:45,679
registered apprenticeship to fill these

1783
01:10:50,229 --> 01:10:47,600
critical roles and also create that

1784
01:10:52,229 --> 01:10:50,239
workforce that that not only uh fulfills

1785
01:10:54,310 --> 01:10:52,239
the need but also looks like the country

1786
01:10:56,149 --> 01:10:54,320
i think if we do all these things we're

1787
01:10:58,149 --> 01:10:56,159
gonna uh create a space that makes us

1788
01:10:59,910 --> 01:10:58,159

competitive competitive office space but

1789
01:11:02,630 --> 01:10:59,920
that also creates careers here on earth

1790
01:11:04,870 --> 01:11:02,640
thank you ma'am thank you and um the

1791
01:11:07,110 --> 01:11:04,880
theme that we've heard on this point

1792
01:11:08,950 --> 01:11:07,120
to your point is uh thinking about how

1793
01:11:11,990 --> 01:11:08,960
we define the job

1794
01:11:14,550 --> 01:11:12,000
not based on a title or the name of a

1795
01:11:15,990 --> 01:11:14,560
degree but what skills are required to

1796
01:11:18,709 --> 01:11:16,000
actually

1797
01:11:20,310 --> 01:11:18,719
to perform the job correct and and also

1798
01:11:22,630 --> 01:11:20,320
what we've heard is the critical

1799
01:11:25,669 --> 01:11:22,640
relationship then between

1800
01:11:27,110 --> 01:11:25,679
government between academia educators

1801
01:11:29,430 --> 01:11:27,120
and the industry

1802
01:11:31,430 --> 01:11:29,440
to build america's workforce in space so

1803
01:11:33,350 --> 01:11:31,440
thank you all very much thank you for

1804
01:11:35,750 --> 01:11:33,360
participating in for your leadership and

1805
01:11:46,320 --> 01:11:35,760
we're gonna move now to our third

1806
01:11:46,330 --> 01:11:50,790
[Music]

1807
01:11:52,790 --> 01:11:51,910
so as

1808
01:11:53,590 --> 01:11:52,800
they

1809
01:11:55,590 --> 01:11:53,600
leave

1810
01:11:57,910 --> 01:11:55,600
i will um

1811
01:11:59,910 --> 01:11:57,920
i'll say that that the commitments that

1812
01:12:01,270 --> 01:11:59,920
you've all heard today are part of a set

1813
01:12:03,270 --> 01:12:01,280

of commitments

1814
01:12:04,790 --> 01:12:03,280
from government agencies and from the

1815
01:12:06,630 --> 01:12:04,800
private sector

1816
01:12:08,149 --> 01:12:06,640
that was released in the white house

1817
01:12:09,910 --> 01:12:08,159
fact sheet that was released this

1818
01:12:12,149 --> 01:12:09,920
morning so i invite everyone to take a

1819
01:12:13,350 --> 01:12:12,159
look at that and after today's

1820
01:12:16,070 --> 01:12:13,360
discussion

1821
01:12:19,510 --> 01:12:16,080
on the subject of stem there are

1822
01:12:20,950 --> 01:12:19,520
in essence three um or two well three

1823
01:12:22,630 --> 01:12:20,960
actually new initiatives that i'd like

1824
01:12:23,430 --> 01:12:22,640
to see and so i'm going to offer you

1825
01:12:25,750 --> 01:12:23,440
those

1826
01:12:27,590 --> 01:12:25,760
as part of the

1827
01:12:28,790 --> 01:12:27,600
the prompt for the next phase of this

1828
01:12:30,550 --> 01:12:28,800
work

1829
01:12:32,790 --> 01:12:30,560
one i'm asking the department of

1830
01:12:34,550 --> 01:12:32,800
education to create a plan

1831
01:12:36,870 --> 01:12:34,560
within 90 days

1832
01:12:39,590 --> 01:12:36,880
to stand up a new stem office at the

1833
01:12:41,270 --> 01:12:39,600
department and to lead stem education

1834
01:12:43,030 --> 01:12:41,280
activities as we've discussed in

1835
01:12:44,470 --> 01:12:43,040
partnerships across the public and

1836
01:12:46,790 --> 01:12:44,480
private sectors

1837
01:12:49,030 --> 01:12:46,800
and to expand pathways

1838
01:12:50,550 --> 01:12:49,040

to space careers and it sounds like

1839
01:12:51,510 --> 01:12:50,560
you're well on your way to do that but

1840
01:12:53,350 --> 01:12:51,520
that is

1841
01:12:56,149 --> 01:12:53,360
the request that i'd like to make coming

1842
01:13:00,149 --> 01:12:56,159
out of today's convening on second i'm

1843
01:13:02,630 --> 01:13:00,159
asking ostp within 120 days to inventory

1844
01:13:05,110 --> 01:13:02,640
and align all of the space related

1845
01:13:06,790 --> 01:13:05,120
investments and partnerships between the

1846
01:13:08,070 --> 01:13:06,800
federal government and colleges and

1847
01:13:09,510 --> 01:13:08,080
universities

1848
01:13:12,870 --> 01:13:09,520
so that we can

1849
01:13:14,709 --> 01:13:12,880
have some guidelines and some timelines

1850
01:13:16,630 --> 01:13:14,719
on moving that work forward and it

1851
01:13:18,870 --> 01:13:16,640
sounds like it's well underway

1852
01:13:20,550 --> 01:13:18,880
finally if we're to maintain space

1853
01:13:22,790 --> 01:13:20,560
leadership as a country and strengthen

1854
01:13:24,470 --> 01:13:22,800
our industrial base and create good

1855
01:13:26,390 --> 01:13:24,480
quality jobs

1856
01:13:28,950 --> 01:13:26,400
i do believe that

1857
01:13:31,110 --> 01:13:28,960
we are well on the way to do that but a

1858
01:13:33,590 --> 01:13:31,120
federal program that

1859
01:13:35,750 --> 01:13:33,600
is really focused on a lot of the kind

1860
01:13:38,390 --> 01:13:35,760
of work that we are talking about today

1861
01:13:41,189 --> 01:13:38,400
so that'll be part of the do out of our

1862
01:13:44,550 --> 01:13:41,199
of our work on stem and with that i will

1863
01:13:45,510 --> 01:13:44,560

introduce our our third and final

1864
01:13:48,229 --> 01:13:45,520
panel

1865
01:13:50,470 --> 01:13:48,239
on human space exploration and i welcome

1866
01:13:52,790 --> 01:13:50,480
dr aruna sharma who is a research

1867
01:13:54,630 --> 01:13:52,800
scientist at cedar sinai

1868
01:13:56,950 --> 01:13:54,640
and miss karina dries who's the

1869
01:13:59,910 --> 01:13:56,960
president of the commercial space flight

1870
01:14:02,149 --> 01:13:59,920
federation welcome to you both

1871
01:14:04,630 --> 01:14:02,159
human exploration is a

1872
01:14:05,590 --> 01:14:04,640
natural topic here at the johnson space

1873
01:14:07,350 --> 01:14:05,600
center

1874
01:14:10,390 --> 01:14:07,360
which of course is the home of the

1875
01:14:13,830 --> 01:14:10,400
astronaut core and mission control

1876
01:14:15,669 --> 01:14:13,840
so as we transition as i spoke earlier

1877
01:14:17,110 --> 01:14:15,679
as we transition from the international

1878
01:14:18,149 --> 01:14:17,120
space station

1879
01:14:19,830 --> 01:14:18,159
to

1880
01:14:22,790 --> 01:14:19,840
what we are doing around commercial

1881
01:14:25,270 --> 01:14:22,800
space stations our administration is as

1882
01:14:26,470 --> 01:14:25,280
i've said committed to ensuring a smooth

1883
01:14:29,030 --> 01:14:26,480
bridge

1884
01:14:31,270 --> 01:14:29,040
between space activities of today and

1885
01:14:33,430 --> 01:14:31,280
those of tomorrow

1886
01:14:35,110 --> 01:14:33,440
and it is why as i said earlier we are

1887
01:14:37,030 --> 01:14:35,120
committed to extend

1888
01:14:39,830 --> 01:14:37,040

our investment in the international

1889
01:14:42,950 --> 01:14:39,840
space station through 2030 to ensure a

1890
01:14:44,229 --> 01:14:42,960
smooth transition as we move forward

1891
01:14:46,630 --> 01:14:44,239
and of course we look forward to our

1892
01:14:48,550 --> 01:14:46,640
partners making similar commitments

1893
01:14:49,669 --> 01:14:48,560
so as we are looking

1894
01:14:51,830 --> 01:14:49,679
forward

1895
01:14:54,070 --> 01:14:51,840
then i'd ask our panelists and i'll

1896
01:14:57,189 --> 01:14:54,080
start with you dr sharma

1897
01:14:59,910 --> 01:14:57,199
what is your perspective on the value of

1898
01:15:01,990 --> 01:14:59,920
the work that is happening there and in

1899
01:15:04,310 --> 01:15:02,000
particular the research that is

1900
01:15:07,030 --> 01:15:04,320
happening in microgravity will you

1901
01:15:08,790 --> 01:15:07,040
explain to us all why the research that

1902
01:15:11,830 --> 01:15:08,800
happens there is different than what

1903
01:15:13,510 --> 01:15:11,840
happens here and how it might advance

1904
01:15:16,070 --> 01:15:13,520
all of our interests

1905
01:15:17,430 --> 01:15:16,080
certainly thank you madam vice president

1906
01:15:19,590 --> 01:15:17,440
i'd like to speak today about the

1907
01:15:21,669 --> 01:15:19,600
potential and the possibilities for

1908
01:15:24,149 --> 01:15:21,679
conducting scientific research aboard

1909
01:15:26,870 --> 01:15:24,159
the iss the international space station

1910
01:15:28,630 --> 01:15:26,880
and in low earth orbit the u.s national

1911
01:15:31,030 --> 01:15:28,640
laboratory on the international space

1912
01:15:33,350 --> 01:15:31,040
station has been critically important in

1913
01:15:35,270 --> 01:15:33,360

enabling scientists like myself to

1914
01:15:37,430 --> 01:15:35,280
utilize microgravity for research

1915
01:15:40,630 --> 01:15:37,440
leading to earthside benefits

1916
01:15:43,110 --> 01:15:40,640
in 2016 astronaut dr kate rubins a

1917
01:15:44,950 --> 01:15:43,120
microbiologist conducted a number of

1918
01:15:47,270 --> 01:15:44,960
pioneering biomedical research

1919
01:15:49,350 --> 01:15:47,280
experiments aboard the iss

1920
01:15:50,390 --> 01:15:49,360
including the first dna sequencing in

1921
01:15:52,550 --> 01:15:50,400
space

1922
01:15:55,350 --> 01:15:52,560
in another experiment she grew a sample

1923
01:15:57,189 --> 01:15:55,360
of beating human heart cells to help us

1924
01:15:59,750 --> 01:15:57,199
understand how the single cells of the

1925
01:16:01,189 --> 01:15:59,760
human body function in space

1926
01:16:02,550 --> 01:16:01,199
it sounds like science fiction but it

1927
01:16:04,870 --> 01:16:02,560
certainly wasn't

1928
01:16:06,790 --> 01:16:04,880
i co-led this heart cells and space

1929
01:16:08,790 --> 01:16:06,800
project when i was a graduate student at

1930
01:16:10,550 --> 01:16:08,800
stanford university and it has been the

1931
01:16:12,630 --> 01:16:10,560
foundation for my independent research

1932
01:16:14,709 --> 01:16:12,640
laboratory at the cedar sinai medical

1933
01:16:16,390 --> 01:16:14,719
center in los angeles

1934
01:16:18,470 --> 01:16:16,400
the human heart cells that astronaut

1935
01:16:20,390 --> 01:16:18,480
reubens grew on orbit changed their

1936
01:16:23,110 --> 01:16:20,400
genetics and how they beat in

1937
01:16:24,950 --> 01:16:23,120
microgravity but interestingly most of

1938
01:16:27,669 --> 01:16:24,960

these changes reverted back to normal

1939
01:16:29,750 --> 01:16:27,679
when the cells return back to the planet

1940
01:16:31,430 --> 01:16:29,760
from the results of this project we

1941
01:16:33,830 --> 01:16:31,440
learned just how adaptable the

1942
01:16:35,510 --> 01:16:33,840
individual cells of the human body are

1943
01:16:37,750 --> 01:16:35,520
to microgravity

1944
01:16:39,669 --> 01:16:37,760
this is just one example of the cutting

1945
01:16:41,510 --> 01:16:39,679
edge research that is being conducted

1946
01:16:42,630 --> 01:16:41,520
every day aboard the international space

1947
01:16:44,070 --> 01:16:42,640
station

1948
01:16:46,550 --> 01:16:44,080
physical science experiments in

1949
01:16:48,709 --> 01:16:46,560
microgravity are helping us improve fire

1950
01:16:50,790 --> 01:16:48,719
resistant fabrics worn by military

1951
01:16:52,149 --> 01:16:50,800
personnel electrical workers and

1952
01:16:53,669 --> 01:16:52,159
firefighters

1953
01:16:55,430 --> 01:16:53,679
material science research on the

1954
01:16:57,030 --> 01:16:55,440
international space station is leading

1955
01:16:59,590 --> 01:16:57,040
to the development of advanced fiber

1956
01:17:00,950 --> 01:16:59,600
optic cables far better than what can be

1957
01:17:03,590 --> 01:17:00,960
made on earth

1958
01:17:05,830 --> 01:17:03,600
but as a biomedical scientist i am most

1959
01:17:07,990 --> 01:17:05,840
excited about how we can harness

1960
01:17:10,229 --> 01:17:08,000
microgravity to grow cells and

1961
01:17:12,550 --> 01:17:10,239
biological materials in ways that are

1962
01:17:14,870 --> 01:17:12,560
simply impossible on earth

1963
01:17:17,189 --> 01:17:14,880

for example our laboratory in the cedar

1964
01:17:19,350 --> 01:17:17,199
sinai regenerative medicine institute is

1965
01:17:21,270 --> 01:17:19,360
launching a project focused on stem cell

1966
01:17:22,950 --> 01:17:21,280
biology to the international space

1967
01:17:24,390 --> 01:17:22,960
station next year

1968
01:17:26,470 --> 01:17:24,400
this project will examine how

1969
01:17:28,550 --> 01:17:26,480
pluripotent stem cells which are

1970
01:17:30,950 --> 01:17:28,560
powerful cells that can turn into nearly

1971
01:17:32,950 --> 01:17:30,960
any cell type found in the human body

1972
01:17:34,229 --> 01:17:32,960
might grow better or faster in

1973
01:17:35,910 --> 01:17:34,239
microgravity

1974
01:17:37,990 --> 01:17:35,920
results from these studies could lead to

1975
01:17:40,229 --> 01:17:38,000
new therapies for diseases such as

1976
01:17:42,229 --> 01:17:40,239
cardiovascular disease cancer

1977
01:17:44,709 --> 01:17:42,239
alzheimer's disease which are all being

1978
01:17:46,229 --> 01:17:44,719
researched in low earth orbit thanks to

1979
01:17:48,709 --> 01:17:46,239
the international space station and the

1980
01:17:51,189 --> 01:17:48,719
u.s national laboratory microgravity is

1981
01:17:53,990 --> 01:17:51,199
more accessible than ever for scientific

1982
01:17:55,830 --> 01:17:54,000
research benefiting life on earth i am

1983
01:17:57,590 --> 01:17:55,840
so excited for the amazing discoveries

1984
01:18:01,669 --> 01:17:57,600
that we will make in space in the years

1985
01:18:01,679 --> 01:18:06,390
i am too

1986
01:18:10,630 --> 01:18:08,790
thank you and

1987
01:18:12,229 --> 01:18:10,640
nasa administrator bill nelson can you

1988
01:18:13,750 --> 01:18:12,239

speak a little bit about your

1989
01:18:15,350 --> 01:18:13,760
perspective on this i know you've given

1990
01:18:18,070 --> 01:18:15,360
it so much thought

1991
01:18:20,950 --> 01:18:18,080
i'll give you a couple of other examples

1992
01:18:25,110 --> 01:18:20,960
on the stem cells for example

1993
01:18:26,709 --> 01:18:25,120
what is it about microgravity or zero g

1994
01:18:29,350 --> 01:18:26,719
that

1995
01:18:37,510 --> 01:18:32,390
say for example cancer research

1996
01:18:43,510 --> 01:18:39,189
in

1997
01:18:46,310 --> 01:18:43,520
cures

1998
01:18:47,590 --> 01:18:46,320
but you have to have millions of stem

1999
01:18:50,550 --> 01:18:47,600
cells

2000
01:18:54,709 --> 01:18:50,560
and the problem is when on earth in one

2001
01:18:56,950 --> 01:18:54,719
gravity you grow stem cells they all

2002
01:19:00,390 --> 01:18:56,960
fall to the bottom

2003
01:19:04,870 --> 01:19:00,400
and most of them die

2004
01:19:07,590 --> 01:19:04,880
now take that stem cell growth to zero g

2005
01:19:11,030 --> 01:19:07,600
on the space station

2006
01:19:14,709 --> 01:19:11,040
and now they don't fall to the bottom

2007
01:19:17,110 --> 01:19:14,719
you can harvest so many more

2008
01:19:19,030 --> 01:19:17,120
and then as you bring them back to earth

2009
01:19:20,390 --> 01:19:19,040
keeping them alive

2010
01:19:23,110 --> 01:19:20,400
you've got

2011
01:19:24,470 --> 01:19:23,120
madame vice president all the additional

2012
01:19:27,430 --> 01:19:24,480
stem cells

2013
01:19:29,510 --> 01:19:27,440

let me give you one other example

2014
01:19:30,950 --> 01:19:29,520
uh in cancer research

2015
01:19:34,830 --> 01:19:30,960
ketruta

2016
01:19:38,229 --> 01:19:34,840
this drug that has been so effective for

2017
01:19:41,590 --> 01:19:38,239
example president carter had

2018
01:19:43,270 --> 01:19:41,600
90 days to live and he started taking

2019
01:19:45,189 --> 01:19:43,280
key trudeau

2020
01:19:49,590 --> 01:19:45,199
well the problem is

2021
01:19:52,070 --> 01:19:49,600
that it's very hard to make ketruta on

2022
01:19:55,350 --> 01:19:52,080
one gravity

2023
01:19:57,189 --> 01:19:55,360
what they have learned is making it in

2024
01:20:00,229 --> 01:19:57,199
zero g

2025
01:20:03,030 --> 01:20:00,239
they find out new ways of making it that

2026
01:20:06,149 --> 01:20:03,040
they can make more and faster

2027
01:20:08,790 --> 01:20:06,159
and those are just two examples and by

2028
01:20:09,910 --> 01:20:08,800
the way out of all this research that's

2029
01:20:12,630 --> 01:20:09,920
going on

2030
01:20:14,550 --> 01:20:12,640
we're looking at 70 billion dollars in

2031
01:20:16,310 --> 01:20:14,560
50 states

2032
01:20:19,270 --> 01:20:16,320
uh employing

2033
01:20:24,470 --> 01:20:19,280
closing in on 400 000 people

2034
01:20:27,669 --> 01:20:26,149
thank you administrative announcement

2035
01:20:30,070 --> 01:20:27,679
and as you know my mother was a

2036
01:20:31,830 --> 01:20:30,080
scientist so i i just i'm very excited

2037
01:20:33,669 --> 01:20:31,840
about all this she was a breast cancer

2038
01:20:36,310 --> 01:20:33,679

researcher but the the

2039
01:20:39,350 --> 01:20:36,320
just the unknown potential of this new

2040
01:20:41,030 --> 01:20:39,360
level of research and what it will do to

2041
01:20:42,870 --> 01:20:41,040
improve the human condition and save

2042
01:20:44,070 --> 01:20:42,880
lives it's very exciting thank you for

2043
01:20:44,830 --> 01:20:44,080
that

2044
01:20:47,430 --> 01:20:44,840
uh

2045
01:20:49,350 --> 01:20:47,440
mysteries can you talk with us a bit

2046
01:20:51,750 --> 01:20:49,360
about how public-private partnerships

2047
01:20:52,950 --> 01:20:51,760
drive innovation in space

2048
01:20:54,550 --> 01:20:52,960
absolutely

2049
01:20:56,070 --> 01:20:54,560
thank you madam vice president and

2050
01:20:57,910 --> 01:20:56,080
distinguished members of the space

2051
01:20:59,350 --> 01:20:57,920
council for the opportunity to present

2052
01:21:01,350 --> 01:20:59,360
today

2053
01:21:03,430 --> 01:21:01,360
the commercial space industry in close

2054
01:21:05,990 --> 01:21:03,440
partnership with nasa and the department

2055
01:21:09,030 --> 01:21:06,000
of defense is helping to usher in a new

2056
01:21:11,430 --> 01:21:09,040
era of exploration economic expansion

2057
01:21:13,110 --> 01:21:11,440
and national security resilience that

2058
01:21:16,149 --> 01:21:13,120
will ensure continued american

2059
01:21:18,630 --> 01:21:16,159
leadership on earth and in space

2060
01:21:20,709 --> 01:21:18,640
commercial space is an innovation engine

2061
01:21:23,510 --> 01:21:20,719
in this country generating billions of

2062
01:21:25,110 --> 01:21:23,520
dollars of annual economic activity and

2063
01:21:26,310 --> 01:21:25,120

employing hundreds of thousands of

2064
01:21:28,790 --> 01:21:26,320
workers

2065
01:21:30,470 --> 01:21:28,800
this success has been enabled by the us

2066
01:21:32,950 --> 01:21:30,480
government leveraging public private

2067
01:21:35,270 --> 01:21:32,960
partnerships and firm fixed price

2068
01:21:37,830 --> 01:21:35,280
contracts that incentivize innovation

2069
01:21:39,990 --> 01:21:37,840
affordability and performance

2070
01:21:42,950 --> 01:21:40,000
through a commercial model nasa has

2071
01:21:45,350 --> 01:21:42,960
restored domestic access to the iss for

2072
01:21:48,709 --> 01:21:45,360
20 to 30 billion dollars less than a

2073
01:21:50,950 --> 01:21:48,719
traditional approach would have cost

2074
01:21:52,790 --> 01:21:50,960
which has opened up the gateway to leo

2075
01:21:54,070 --> 01:21:52,800
and a new era for researchers and

2076
01:21:55,990 --> 01:21:54,080
innovators

2077
01:21:58,070 --> 01:21:56,000
the same launch vehicles developed to

2078
01:21:59,990 --> 01:21:58,080
send crew and cargo to the iss have

2079
01:22:02,390 --> 01:22:00,000
allowed america to dominate the global

2080
01:22:05,110 --> 01:22:02,400
commercial space launch market a field

2081
01:22:07,350 --> 01:22:05,120
that had moved almost entirely overseas

2082
01:22:08,870 --> 01:22:07,360
prior to the introduction of nasa's cots

2083
01:22:11,030 --> 01:22:08,880
initiative

2084
01:22:13,270 --> 01:22:11,040
building upon the success of this model

2085
01:22:15,590 --> 01:22:13,280
nasa awarded commercial leo destinations

2086
01:22:17,910 --> 01:22:15,600
contracts to ensure an american presence

2087
01:22:19,990 --> 01:22:17,920
after iss retirement

2088
01:22:22,149 --> 01:22:20,000

these platforms along with commercial

2089
01:22:24,709 --> 01:22:22,159
suborbital services will build on the

2090
01:22:27,110 --> 01:22:24,719
legacy of the iss to support

2091
01:22:28,709 --> 01:22:27,120
microgravity research and development

2092
01:22:30,790 --> 01:22:28,719
the discoveries that will be made in

2093
01:22:33,350 --> 01:22:30,800
microgravity will impact fields as

2094
01:22:36,390 --> 01:22:33,360
diverse as medicine communications and

2095
01:22:38,629 --> 01:22:36,400
industrial manufacturing

2096
01:22:40,550 --> 01:22:38,639
america must encourage private sector

2097
01:22:42,310 --> 01:22:40,560
development to counter growing chinese

2098
01:22:43,350 --> 01:22:42,320
influence and capabilities in the space

2099
01:22:45,350 --> 01:22:43,360
arena

2100
01:22:46,950 --> 01:22:45,360
we don't have time to waste in leo as

2101
01:22:48,550 --> 01:22:46,960
other nations rapidly mature their

2102
01:22:50,709 --> 01:22:48,560
capabilities

2103
01:22:53,030 --> 01:22:50,719
it is critical to avoid a gap between

2104
01:22:55,350 --> 01:22:53,040
iss decommissioning and the operations

2105
01:22:57,030 --> 01:22:55,360
of these commercial leo destinations

2106
01:22:59,110 --> 01:22:57,040
nasa's leadership and willingness to

2107
01:23:01,990 --> 01:22:59,120
work with commercial providers ensures

2108
01:23:02,709 --> 01:23:02,000
we can leverage the iss by continued use

2109
01:23:04,950 --> 01:23:02,719
of

2110
01:23:06,550 --> 01:23:04,960
private astronaut missions to increase

2111
01:23:08,390 --> 01:23:06,560
commercial access

2112
01:23:10,149 --> 01:23:08,400
the us government could also refine

2113
01:23:12,310 --> 01:23:10,159

operational procedures for commercial

2114
01:23:14,229 --> 01:23:12,320
users and drive down costs on commercial

2115
01:23:16,709 --> 01:23:14,239
crude spacecraft to generate additional

2116
01:23:18,310 --> 01:23:16,719
demand with clds

2117
01:23:20,390 --> 01:23:18,320
we also recommend implementing

2118
01:23:21,510 --> 01:23:20,400
regulatory reforms that enhance

2119
01:23:23,350 --> 01:23:21,520
innovation

2120
01:23:25,030 --> 01:23:23,360
and creating a transparent environment

2121
01:23:26,310 --> 01:23:25,040
which is conducive to private sector

2122
01:23:28,950 --> 01:23:26,320
investment

2123
01:23:31,110 --> 01:23:28,960
we applaud ostp strategic vision and

2124
01:23:32,870 --> 01:23:31,120
industry outreach and we are dedicated

2125
01:23:34,149 --> 01:23:32,880
to working closely with nasa the

2126
01:23:36,149 --> 01:23:34,159
department of commerce and the

2127
01:23:39,030 --> 01:23:36,159
department of transportation to help

2128
01:23:40,709 --> 01:23:39,040
implement this vision timely and safely

2129
01:23:42,550 --> 01:23:40,719
thank you again for the opportunity to

2130
01:23:48,550 --> 01:23:42,560
address the space council today thank

2131
01:23:52,629 --> 01:23:49,990
thank you and i'll now turn to the

2132
01:23:54,550 --> 01:23:52,639
deputy secretary of transportation um

2133
01:23:56,790 --> 01:23:54,560
polly trottenbergen if you could she

2134
01:23:58,070 --> 01:23:56,800
spoke of the the collaboration with with

2135
01:23:59,669 --> 01:23:58,080
the department of transportation if you

2136
01:24:01,430 --> 01:23:59,679
could talk a bit about that yeah thank

2137
01:24:02,709 --> 01:24:01,440
you so much madam vice president glad to

2138
01:24:04,390 --> 01:24:02,719

be here on behalf of department of

2139
01:24:06,229 --> 01:24:04,400
transportation and the federal aviation

2140
01:24:08,229 --> 01:24:06,239
administration and we certainly agree

2141
01:24:10,870 --> 01:24:08,239
that the private sector plays a critical

2142
01:24:12,550 --> 01:24:10,880
role in american leadership in space

2143
01:24:14,950 --> 01:24:12,560
we've been working collaboratively with

2144
01:24:17,110 --> 01:24:14,960
the industry to create a streamlined

2145
01:24:18,950 --> 01:24:17,120
launch and reinforcing licensing

2146
01:24:21,030 --> 01:24:18,960
requirement rule we've also been working

2147
01:24:22,629 --> 01:24:21,040
with the industry before the official

2148
01:24:24,149 --> 01:24:22,639
licensing process begins to help

2149
01:24:25,830 --> 01:24:24,159
understand the industry needs and

2150
01:24:27,350 --> 01:24:25,840
innovative concepts and help guide them

2151
01:24:29,189 --> 01:24:27,360
through the process we're going to

2152
01:24:31,510 --> 01:24:29,199
continue to do so while ensuring that

2153
01:24:33,350 --> 01:24:31,520
our regulatory environment continues to

2154
01:24:35,110 --> 01:24:33,360
foster industry growth but of course

2155
01:24:36,070 --> 01:24:35,120
focuses on safety for the american

2156
01:24:37,430 --> 01:24:36,080
people

2157
01:24:39,990 --> 01:24:37,440
so far in commercial space we've

2158
01:24:42,310 --> 01:24:40,000
established a great safety record 550

2159
01:24:43,990 --> 01:24:42,320
operations licensed with none resulting

2160
01:24:45,830 --> 01:24:44,000
in a public death or injury but we know

2161
01:24:46,870 --> 01:24:45,840
we need to keep focusing on that safety

2162
01:24:48,149 --> 01:24:46,880
record

2163
01:24:49,910 --> 01:24:48,159

and i'm pleased to say we are

2164
01:24:52,870 --> 01:24:49,920
strengthening interagency partnerships

2165
01:24:55,669 --> 01:24:52,880
today i'm proud to announce that the faa

2166
01:24:58,229 --> 01:24:55,679
and the ntsb have signed a memorandum of

2167
01:24:59,910 --> 01:24:58,239
agreement to clarify each organization's

2168
01:25:01,510 --> 01:24:59,920
responsibilities investigating

2169
01:25:04,229 --> 01:25:01,520
commercial launch and re-enter in

2170
01:25:06,229 --> 01:25:04,239
re-entry safety events i'd like to take

2171
01:25:08,470 --> 01:25:06,239
a moment to thank the ntsb chair

2172
01:25:10,870 --> 01:25:08,480
jennifer hamandi the acting faa

2173
01:25:13,110 --> 01:25:10,880
administrator billy nolan and kevin

2174
01:25:14,629 --> 01:25:13,120
coleman who's faa's leader in commercial

2175
01:25:16,870 --> 01:25:14,639
space for all their leadership in

2176
01:25:18,390 --> 01:25:16,880
putting this agreement together

2177
01:25:20,310 --> 01:25:18,400
i finally want to say that we're looking

2178
01:25:21,990 --> 01:25:20,320
ahead and preparing for the future we're

2179
01:25:23,590 --> 01:25:22,000
revising and updating a set of

2180
01:25:25,669 --> 01:25:23,600
recommended practices for human

2181
01:25:27,110 --> 01:25:25,679
spaceflight occupant safety we're

2182
01:25:28,709 --> 01:25:27,120
actively engaged with industry

2183
01:25:31,030 --> 01:25:28,719
stakeholders in the development of

2184
01:25:32,709 --> 01:25:31,040
consensus standards that will establish

2185
01:25:34,709 --> 01:25:32,719
safety norms across the human safe

2186
01:25:36,550 --> 01:25:34,719
flight industry and we're in the process

2187
01:25:38,390 --> 01:25:36,560
of standing up an aerospace rulemaking

2188
01:25:40,470 --> 01:25:38,400

committee that will engage stakeholders

2189
01:25:41,830 --> 01:25:40,480
on commercial human space flight i want

2190
01:25:43,270 --> 01:25:41,840
to thank you madam vice president for

2191
01:25:45,430 --> 01:25:43,280
your leadership and we look forward to

2192
01:25:48,390 --> 01:25:45,440
that continued collaboration

2193
01:25:49,510 --> 01:25:48,400
thank you great progress hi

2194
01:25:52,310 --> 01:25:49,520
so

2195
01:25:54,870 --> 01:25:52,320
essentially a lot of this discussion in

2196
01:25:56,470 --> 01:25:54,880
this panel has been about synchronizing

2197
01:25:59,750 --> 01:25:56,480
the work across

2198
01:26:01,910 --> 01:25:59,760
government and the commercial sector to

2199
01:26:04,229 --> 01:26:01,920
ensure our increased leadership

2200
01:26:05,750 --> 01:26:04,239
and um as we have heard there have been

2201
01:26:07,110 --> 01:26:05,760
many um

2202
01:26:08,629 --> 01:26:07,120
inflection points in terms of the

2203
01:26:09,669 --> 01:26:08,639
progress that the council has made

2204
01:26:11,270 --> 01:26:09,679
between

2205
01:26:13,189 --> 01:26:11,280
the last meeting and today in

2206
01:26:15,270 --> 01:26:13,199
furtherance of that approach i'm going

2207
01:26:17,669 --> 01:26:15,280
to ask three things uh

2208
01:26:19,830 --> 01:26:17,679
two of nasa and one of the department of

2209
01:26:21,750 --> 01:26:19,840
transportation one that

2210
01:26:24,550 --> 01:26:21,760
nasa will develop a plan

2211
01:26:27,189 --> 01:26:24,560
for a new microgravity national lab as

2212
01:26:30,149 --> 01:26:27,199
we transition from the iss to

2213
01:26:33,189 --> 01:26:30,159

the commercial space stations

2214
01:26:35,750 --> 01:26:33,199
two that nasa will finalize a plan for

2215
01:26:38,950 --> 01:26:35,760
an initial lunar surface

2216
01:26:41,430 --> 01:26:38,960
architecture within the next 150 days to

2217
01:26:43,830 --> 01:26:41,440
include a consideration for commercial

2218
01:26:45,350 --> 01:26:43,840
and international partnerships

2219
01:26:49,189 --> 01:26:45,360
and then for the department of

2220
01:26:51,350 --> 01:26:49,199
transportation to identify interim steps

2221
01:26:53,590 --> 01:26:51,360
within the next year to use the

2222
01:26:56,310 --> 01:26:53,600
authorities that currently exist

2223
01:26:58,470 --> 01:26:56,320
to ensure the safety of humans in space

2224
01:26:59,750 --> 01:26:58,480
flight and that obviously is a priority

2225
01:27:01,669 --> 01:26:59,760
for all of us

2226
01:27:03,510 --> 01:27:01,679
and with that i thank you all and i

2227
01:27:05,940 --> 01:27:03,520
thank our panelists and we'll move on to

2228
01:27:08,070 --> 01:27:05,950
the next session thank you very much

2229
01:27:09,260 --> 01:27:08,080
[Applause]

2230
01:27:17,350 --> 01:27:09,270
[Music]

2231
01:27:21,350 --> 01:27:19,590
and now i will welcome the next

2232
01:27:23,590 --> 01:27:21,360
panelists

2233
01:27:26,229 --> 01:27:23,600
and um

2234
01:27:29,510 --> 01:27:26,239
this is our final session on rules for

2235
01:27:33,030 --> 01:27:29,520
commercial novel space activities

2236
01:27:34,709 --> 01:27:33,040
and with us we have dr ruth stitwell

2237
01:27:37,590 --> 01:27:34,719
who is the executive director of

2238
01:27:38,470 --> 01:27:37,600

aerospace policy solutions welcome we

2239
01:27:40,149 --> 01:27:38,480
have

2240
01:27:43,430 --> 01:27:40,159
dr chris

2241
01:27:46,950 --> 01:27:43,440
comston kuhnstadter please who is the

2242
01:27:49,510 --> 01:27:46,960
senior vice president at xl catlin

2243
01:27:51,110 --> 01:27:49,520
and we have mr babek

2244
01:27:53,350 --> 01:27:51,120
navravesh

2245
01:27:55,270 --> 01:27:53,360
excuse me please forgive me i'm gonna

2246
01:27:58,390 --> 01:27:55,280
i'm gonna do that again it's important

2247
01:28:00,470 --> 01:27:58,400
to pronounce correctly it's nick ravish

2248
01:28:02,550 --> 01:28:00,480
and he is a partner at morrison and

2249
01:28:04,229 --> 01:28:02,560
forrester welcome to the three of you

2250
01:28:07,750 --> 01:28:04,239
and um

2251
01:28:09,990 --> 01:28:07,760
as we have talked earlier uh and it was

2252
01:28:12,149 --> 01:28:10,000
mentioned actually i was at the chabot

2253
01:28:14,229 --> 01:28:12,159
space center in oakland

2254
01:28:15,430 --> 01:28:14,239
recently and heard from our private

2255
01:28:17,189 --> 01:28:15,440
sector

2256
01:28:20,070 --> 01:28:17,199
folks about

2257
01:28:21,990 --> 01:28:20,080
how they are how the technology is

2258
01:28:24,629 --> 01:28:22,000
moving so quickly

2259
01:28:26,470 --> 01:28:24,639
and their innovation is moving forward

2260
01:28:28,629 --> 01:28:26,480
so rapidly

2261
01:28:30,470 --> 01:28:28,639
to the point that

2262
01:28:33,590 --> 01:28:30,480
the companies who are developing these

2263
01:28:36,149 --> 01:28:33,600

capabilities don't fall squarely into

2264
01:28:38,070 --> 01:28:36,159
any into existing regulations the

2265
01:28:40,070 --> 01:28:38,080
regulations that were written were

2266
01:28:41,990 --> 01:28:40,080
written long before most of this

2267
01:28:44,629 --> 01:28:42,000
innovation and technology actually

2268
01:28:47,910 --> 01:28:44,639
developed and so

2269
01:28:49,110 --> 01:28:47,920
this panel is designed to offer us

2270
01:28:51,430 --> 01:28:49,120
additional

2271
01:28:53,669 --> 01:28:51,440
perspectives about the need

2272
01:28:55,590 --> 01:28:53,679
for clear and

2273
01:28:58,229 --> 01:28:55,600
predictable which is very important

2274
01:29:00,790 --> 01:28:58,239
predictable and flexible

2275
01:29:03,030 --> 01:29:00,800
regulatory frameworks and so with that

2276
01:29:05,990 --> 01:29:03,040
i'm going to start with dr st well

2277
01:29:08,310 --> 01:29:06,000
stillwell and ask

2278
01:29:10,070 --> 01:29:08,320
what is the context in which this

2279
01:29:11,669 --> 01:29:10,080
discussion is occurring and how are you

2280
01:29:15,110 --> 01:29:11,679
thinking about

2281
01:29:17,110 --> 01:29:15,120
current novel space activities and um

2282
01:29:19,590 --> 01:29:17,120
and the situation we're in in terms of

2283
01:29:21,350 --> 01:29:19,600
the regulatory challenges

2284
01:29:23,350 --> 01:29:21,360
thank you madam vice president it is an

2285
01:29:25,030 --> 01:29:23,360
honor to speak with you today

2286
01:29:27,030 --> 01:29:25,040
commercial space itself as you said is

2287
01:29:29,270 --> 01:29:27,040
not new we've had commercial satellites

2288
01:29:31,350 --> 01:29:29,280

since the 1960s commercial space

2289
01:29:33,750 --> 01:29:31,360
launches since the 1980s and the

2290
01:29:36,070 --> 01:29:33,760
regulatory frameworks evolved gradually

2291
01:29:38,470 --> 01:29:36,080
with the industry but the last decade

2292
01:29:39,910 --> 01:29:38,480
has seen radical change in both volume

2293
01:29:43,270 --> 01:29:39,920
and diversity

2294
01:29:47,430 --> 01:29:43,280
in 2011 the us licensed one commercial

2295
01:29:48,390 --> 01:29:47,440
space launch in 2021 it was 64.

2296
01:29:49,910 --> 01:29:48,400
six

2297
01:29:51,030 --> 01:29:49,920
with space tourists on board for the

2298
01:29:52,310 --> 01:29:51,040
first time

2299
01:29:54,709 --> 01:29:52,320
if the difference were just our

2300
01:29:56,550 --> 01:29:54,719
increased volume then the path forward

2301
01:29:58,950 --> 01:29:56,560
would be straightforward but the

2302
01:30:00,629 --> 01:29:58,960
diversity in operations and in the

2303
01:30:02,790 --> 01:30:00,639
addition of novel space activities

2304
01:30:05,750 --> 01:30:02,800
creates a regulatory challenge but it is

2305
01:30:07,669 --> 01:30:05,760
also a regulatory opportunity to clarify

2306
01:30:10,229 --> 01:30:07,679
and streamline existing government

2307
01:30:12,310 --> 01:30:10,239
structures to ensure we have the agility

2308
01:30:14,629 --> 01:30:12,320
that enables innovation

2309
01:30:17,669 --> 01:30:14,639
novel space activities are emerging in

2310
01:30:19,830 --> 01:30:17,679
suborbital on orbit and in deep space

2311
01:30:22,149 --> 01:30:19,840
like or on orbit servicing in space

2312
01:30:24,149 --> 01:30:22,159
manufacturing asteroid mining and soon

2313
01:30:25,590 --> 01:30:24,159

active debris removal and even rocket

2314
01:30:27,030 --> 01:30:25,600
cargo

2315
01:30:29,510 --> 01:30:27,040
the last few years have seen a lot of

2316
01:30:31,590 --> 01:30:29,520
work to define and refine the whole of

2317
01:30:33,830 --> 01:30:31,600
government approach and establishing and

2318
01:30:36,229 --> 01:30:33,840
funding a lead agency that is important

2319
01:30:38,149 --> 01:30:36,239
progress because the traditional

2320
01:30:40,070 --> 01:30:38,159
well-worn areas of space activity we

2321
01:30:42,310 --> 01:30:40,080
have very clear lines of regulatory

2322
01:30:44,550 --> 01:30:42,320
authority for launch and re-entry the

2323
01:30:46,470 --> 01:30:44,560
transportation phase it falls within the

2324
01:30:48,709 --> 01:30:46,480
department of transportation that's

2325
01:30:50,709 --> 01:30:48,719
clear the allocation of spectrum and

2326
01:30:52,629 --> 01:30:50,719
avoiding signal interference very

2327
01:30:54,310 --> 01:30:52,639
clearly fcc

2328
01:30:56,390 --> 01:30:54,320
but when we get into other commercial

2329
01:30:58,550 --> 01:30:56,400
areas that require not just

2330
01:30:59,910 --> 01:30:58,560
authorization but continuing supervision

2331
01:31:02,390 --> 01:30:59,920
in space

2332
01:31:05,110 --> 01:31:02,400
we need a clear predictable

2333
01:31:07,189 --> 01:31:05,120
flexible regulatory approach to support

2334
01:31:09,110 --> 01:31:07,199
an industry with applications we may not

2335
01:31:11,189 --> 01:31:09,120
yet have envisioned

2336
01:31:14,149 --> 01:31:11,199
and to ensure that they have a state

2337
01:31:15,590 --> 01:31:14,159
safe environment in which to operate

2338
01:31:18,149 --> 01:31:15,600

our forward-looking approach should

2339
01:31:20,629 --> 01:31:18,159
clarify the regulatory structure to be

2340
01:31:22,790 --> 01:31:20,639
fully transparent so that the industry

2341
01:31:25,030 --> 01:31:22,800
has neither the obligation nor the

2342
01:31:27,350 --> 01:31:25,040
opportunity to go forum shopping for

2343
01:31:29,990 --> 01:31:27,360
authorization

2344
01:31:33,110 --> 01:31:30,000
and most importantly to make sure that

2345
01:31:34,790 --> 01:31:33,120
none of our obligations go unmet

2346
01:31:36,709 --> 01:31:34,800
i thank the council for their attention

2347
01:31:42,700 --> 01:31:36,719
to this very important issue

2348
01:31:47,350 --> 01:31:44,790
[Applause]

2349
01:31:48,149 --> 01:31:47,360
dr kunstader can you talk a bit about

2350
01:31:53,189 --> 01:31:48,159
the

2351
01:31:55,590 --> 01:31:53,199
you are thinking about

2352
01:31:58,629 --> 01:31:55,600
responsible behavior in space and and

2353
01:32:01,590 --> 01:31:58,639
how the industry can incentivize

2354
01:32:03,430 --> 01:32:01,600
responsible activity in space

2355
01:32:05,110 --> 01:32:03,440
thank you madam vice president and thank

2356
01:32:07,510 --> 01:32:05,120
you to the national space council for

2357
01:32:09,030 --> 01:32:07,520
inviting me to speak with you today

2358
01:32:11,669 --> 01:32:09,040
space is a fundamental part of the

2359
01:32:13,990 --> 01:32:11,679
global economy and space insurance for

2360
01:32:16,070 --> 01:32:14,000
launch and in orbit operations is a

2361
01:32:17,430 --> 01:32:16,080
critical enabler of innovation and

2362
01:32:19,510 --> 01:32:17,440
investment

2363
01:32:21,510 --> 01:32:19,520

we provide the financial certainty that

2364
01:32:23,669 --> 01:32:21,520
allows companies to develop novel

2365
01:32:25,910 --> 01:32:23,679
technologies and applications and

2366
01:32:29,110 --> 01:32:25,920
encourages investors including the u s

2367
01:32:30,629 --> 01:32:29,120
government to support these activities

2368
01:32:32,550 --> 01:32:30,639
the rapid growth in the number of

2369
01:32:34,310 --> 01:32:32,560
satellites and other objects in orbit

2370
01:32:35,910 --> 01:32:34,320
heightens the very real risk of

2371
01:32:37,830 --> 01:32:35,920
collision this is really an

2372
01:32:39,430 --> 01:32:37,840
environmental issue the space

2373
01:32:41,430 --> 01:32:39,440
environment

2374
01:32:43,189 --> 01:32:41,440
accurate tracking and timely collision

2375
01:32:46,390 --> 01:32:43,199
avoidance are crucial to ensuring that

2376
01:32:48,310 --> 01:32:46,400
our capabilities in space remain intact

2377
01:32:50,229 --> 01:32:48,320
i'm here to suggest solutions and to

2378
01:32:52,629 --> 01:32:50,239
urge the space community including the

2379
01:32:54,870 --> 01:32:52,639
united states government to act today to

2380
01:32:57,189 --> 01:32:54,880
minimize problems tomorrow

2381
01:32:59,110 --> 01:32:57,199
in my work i partner with satellite and

2382
01:33:01,110 --> 01:32:59,120
launch operators and manufacturers

2383
01:33:02,790 --> 01:33:01,120
government agencies and many others to

2384
01:33:04,870 --> 01:33:02,800
promote safety and incentivize

2385
01:33:07,110 --> 01:33:04,880
responsible space activity

2386
01:33:09,030 --> 01:33:07,120
we actively support companies developing

2387
01:33:11,350 --> 01:33:09,040
innovative solutions for space traffic

2388
01:33:13,830 --> 01:33:11,360

management such as miniature beacons and

2389
01:33:15,750 --> 01:33:13,840
ground-based radars for tracking objects

2390
01:33:17,430 --> 01:33:15,760
and small low-power propulsion for

2391
01:33:19,430 --> 01:33:17,440
collision avoidance

2392
01:33:21,430 --> 01:33:19,440
and post-mission disposal and we

2393
01:33:23,590 --> 01:33:21,440
encourage our clients to implement these

2394
01:33:25,430 --> 01:33:23,600
and other solutions

2395
01:33:27,350 --> 01:33:25,440
just as we in the insurance community

2396
01:33:30,470 --> 01:33:27,360
can incentivize our clients and others

2397
01:33:32,390 --> 01:33:30,480
to be safe and responsible so too the us

2398
01:33:34,790 --> 01:33:32,400
government through regulation and being

2399
01:33:37,270 --> 01:33:34,800
a role model can lead the way at home

2400
01:33:39,910 --> 01:33:37,280
and abroad in incentivizing adoption of

2401
01:33:41,669 --> 01:33:39,920
measures to keep space safe for all

2402
01:33:43,910 --> 01:33:41,679
you know when i was a kid seat belts

2403
01:33:46,149 --> 01:33:43,920
were an extra cost option in cars you

2404
01:33:47,990 --> 01:33:46,159
had to pay extra for safety

2405
01:33:50,149 --> 01:33:48,000
the us government saw the significant

2406
01:33:52,709 --> 01:33:50,159
role the seat belts played in saving

2407
01:33:54,550 --> 01:33:52,719
lives and mandated them in all cars

2408
01:33:56,870 --> 01:33:54,560
today you won't find a car on the road

2409
01:33:59,270 --> 01:33:56,880
without seat belts in the same way the u

2410
01:34:01,350 --> 01:33:59,280
s government can recognize the role that

2411
01:34:03,830 --> 01:34:01,360
beacons radars propulsion and other

2412
01:34:05,350 --> 01:34:03,840
technologies play in space safety

2413
01:34:07,350 --> 01:34:05,360

through encouraging development and

2414
01:34:09,590 --> 01:34:07,360
incentivizing adoption of technologies

2415
01:34:12,229 --> 01:34:09,600
and practices that promote safety and

2416
01:34:14,470 --> 01:34:12,239
responsibility the us government along

2417
01:34:16,070 --> 01:34:14,480
with the space insurance providers can

2418
01:34:18,310 --> 01:34:16,080
help the space industry to make them

2419
01:34:19,910 --> 01:34:18,320
ubiquitous and second nature just like

2420
01:34:21,750 --> 01:34:19,920
seat belts

2421
01:34:24,070 --> 01:34:21,760
a significant collision in space will

2422
01:34:26,229 --> 01:34:24,080
have a chilling effect not only on space

2423
01:34:28,149 --> 01:34:26,239
insurance but on all space activity and

2424
01:34:30,550 --> 01:34:28,159
we can't afford that we support

2425
01:34:32,550 --> 01:34:30,560
america's continuing leadership in space

2426
01:34:34,950 --> 01:34:32,560
and we look forward to adoption of novel

2427
01:34:43,350 --> 01:34:34,960
solutions to make safe space safer and

2428
01:34:48,470 --> 01:34:45,910
mr nekrovesh how can as has been

2429
01:34:51,510 --> 01:34:48,480
discussed clear and predictable and

2430
01:34:52,709 --> 01:34:51,520
flexible regulations

2431
01:34:55,750 --> 01:34:52,719
be

2432
01:34:57,430 --> 01:34:55,760
conducive with a constructive investment

2433
01:34:58,470 --> 01:34:57,440
environment how are you thinking about

2434
01:35:00,950 --> 01:34:58,480
that i

2435
01:35:02,550 --> 01:35:00,960
i i think we all believe we should

2436
01:35:04,070 --> 01:35:02,560
reject false choices

2437
01:35:06,149 --> 01:35:04,080
we can do both so can you talk a little

2438
01:35:07,750 --> 01:35:06,159

bit about that i'd be happy to

2439
01:35:09,510 --> 01:35:07,760
thank you madam vice president and thank

2440
01:35:11,669 --> 01:35:09,520
you to the national space council for

2441
01:35:13,270 --> 01:35:11,679
the opportunity to speak today

2442
01:35:15,030 --> 01:35:13,280
this is a very exciting time for the

2443
01:35:17,430 --> 01:35:15,040
commercial space industry

2444
01:35:19,110 --> 01:35:17,440
2021 witnessed more than 15 billion

2445
01:35:21,189 --> 01:35:19,120
dollars invested in space-related

2446
01:35:22,870 --> 01:35:21,199
businesses nearly doubling the amount

2447
01:35:24,870 --> 01:35:22,880
from the year before

2448
01:35:27,030 --> 01:35:24,880
venture capital accounted for the great

2449
01:35:28,870 --> 01:35:27,040
majority of those dollars as it has for

2450
01:35:30,950 --> 01:35:28,880
the past few years

2451
01:35:33,750 --> 01:35:30,960
we saw more venture capital targeting

2452
01:35:35,669 --> 01:35:33,760
space startups than ever before both in

2453
01:35:37,669 --> 01:35:35,679
terms of absolute dollars and number of

2454
01:35:39,030 --> 01:35:37,679
transactions and that should come as no

2455
01:35:41,270 --> 01:35:39,040
surprise

2456
01:35:42,870 --> 01:35:41,280
venture investors are comfortable making

2457
01:35:45,110 --> 01:35:42,880
bets on early stage high growth

2458
01:35:47,270 --> 01:35:45,120
businesses which present greater degrees

2459
01:35:49,270 --> 01:35:47,280
of risk than businesses favored by other

2460
01:35:51,430 --> 01:35:49,280
industries

2461
01:35:52,950 --> 01:35:51,440
but the check sizes of venture investors

2462
01:35:55,189 --> 01:35:52,960
tend to be smaller

2463
01:35:57,669 --> 01:35:55,199

and maturing space technology startups

2464
01:36:00,629 --> 01:35:57,679
looking to accelerate growth need access

2465
01:36:02,550 --> 01:36:00,639
to more significant sources of capital

2466
01:36:04,950 --> 01:36:02,560
institutional investors

2467
01:36:06,629 --> 01:36:04,960
including long-term minded investors

2468
01:36:08,229 --> 01:36:06,639
like public sector pension plans and

2469
01:36:11,350 --> 01:36:08,239
sovereign wealth funds

2470
01:36:13,430 --> 01:36:11,360
offer the promise of larger check sizes

2471
01:36:16,470 --> 01:36:13,440
and more patient capital

2472
01:36:18,070 --> 01:36:16,480
just what growing space businesses need

2473
01:36:19,590 --> 01:36:18,080
yet these investors are historically

2474
01:36:21,189 --> 01:36:19,600
risk-averse

2475
01:36:22,310 --> 01:36:21,199
they may be stewards of their national

2476
01:36:25,350 --> 01:36:22,320
wealth

2477
01:36:27,110 --> 01:36:25,360
or fiduciaries responsible for investing

2478
01:36:29,590 --> 01:36:27,120
monies to bet to provide retirement

2479
01:36:31,830 --> 01:36:29,600
benefits to beneficiaries

2480
01:36:33,510 --> 01:36:31,840
they are by necessity careful

2481
01:36:35,030 --> 01:36:33,520
and while a limited allocation to

2482
01:36:37,669 --> 01:36:35,040
riskier propositions in any

2483
01:36:39,750 --> 01:36:37,679
well-balanced portfolio is appropriate

2484
01:36:42,870 --> 01:36:39,760
their approach to investing often tends

2485
01:36:46,550 --> 01:36:44,629
the promotion and development of a

2486
01:36:47,750 --> 01:36:46,560
comprehensive legal and regulatory

2487
01:36:49,590 --> 01:36:47,760
regime

2488
01:36:52,390 --> 01:36:49,600

to govern the emerging private sector

2489
01:36:54,790 --> 01:36:52,400
capabilities in space would do much to

2490
01:36:56,550 --> 01:36:54,800
reassure institutional investors and

2491
01:36:57,990 --> 01:36:56,560
promote private investment in commercial

2492
01:36:59,750 --> 01:36:58,000
space

2493
01:37:01,109 --> 01:36:59,760
efforts to clarify the rights and

2494
01:37:02,709 --> 01:37:01,119
obligations of companies and

2495
01:37:05,270 --> 01:37:02,719
counterparties

2496
01:37:07,669 --> 01:37:05,280
improve legal certainty in key areas

2497
01:37:10,790 --> 01:37:07,679
and otherwise the reduce the risks

2498
01:37:12,950 --> 01:37:10,800
the inherent risks and thereby

2499
01:37:15,350 --> 01:37:12,960
improve the value proposition

2500
01:37:16,550 --> 01:37:15,360
of space-related investments should be

2501
01:37:18,070 --> 01:37:16,560
encouraged

2502
01:37:19,750 --> 01:37:18,080
to be sure

2503
01:37:22,070 --> 01:37:19,760
this effort requires us to improve and

2504
01:37:23,990 --> 01:37:22,080
harmonize our domestic laws and

2505
01:37:25,750 --> 01:37:24,000
regulatory regimes

2506
01:37:27,189 --> 01:37:25,760
but this effort must be a multilateral

2507
01:37:29,510 --> 01:37:27,199
one as well

2508
01:37:31,430 --> 01:37:29,520
space is the province of all humankind

2509
01:37:34,550 --> 01:37:31,440
and all nations and peoples

2510
01:37:35,990 --> 01:37:34,560
public and private actors alike stand to

2511
01:37:37,270 --> 01:37:36,000
benefit from it

2512
01:37:39,270 --> 01:37:37,280
thank you

2513
01:37:40,550 --> 01:37:39,280

you

2514
01:37:41,050 --> 01:37:40,560
[Applause]

2515
01:37:44,470 --> 01:37:41,060
[Music]

2516
01:37:46,070 --> 01:37:44,480
[Applause]

2517
01:37:48,149 --> 01:37:46,080
well thank you to the panelists i'd like

2518
01:37:49,750 --> 01:37:48,159
to now turn to members of the council

2519
01:37:52,629 --> 01:37:49,760
for your

2520
01:37:54,229 --> 01:37:52,639
perspective on novel space activities

2521
01:37:55,910 --> 01:37:54,239
and i'm going to start

2522
01:37:57,189 --> 01:37:55,920
come back to you bill

2523
01:37:59,669 --> 01:37:57,199
and talk a bit

2524
01:38:01,910 --> 01:37:59,679
can you talk a bit about

2525
01:38:04,310 --> 01:38:01,920
how you're thinking about this subject

2526
01:38:05,750 --> 01:38:04,320
in particular novel space activities and

2527
01:38:06,870 --> 01:38:05,760
where we are and where we need to be as

2528
01:38:11,109 --> 01:38:06,880
a government

2529
01:38:14,709 --> 01:38:11,119
we are going to see an explosion of

2530
01:38:16,629 --> 01:38:14,719
increasing economic activity in space

2531
01:38:18,950 --> 01:38:16,639
now it's interesting that we take so

2532
01:38:21,910 --> 01:38:18,960
much of it for granted and look how much

2533
01:38:24,310 --> 01:38:21,920
of it has already expanded

2534
01:38:25,910 --> 01:38:24,320
we take for granted the fact that we get

2535
01:38:27,990 --> 01:38:25,920
live

2536
01:38:28,870 --> 01:38:28,000
uh interviews from

2537
01:38:31,590 --> 01:38:28,880
london

2538
01:38:32,950 --> 01:38:31,600

about queen elizabeth

2539
01:38:35,590 --> 01:38:32,960
my daughter

2540
01:38:39,189 --> 01:38:35,600
can't drive from point a to point b

2541
01:38:40,790 --> 01:38:39,199
without putting it in her gps

2542
01:38:42,550 --> 01:38:40,800
uh

2543
01:38:45,430 --> 01:38:42,560
and

2544
01:38:47,510 --> 01:38:45,440
the universe is the future

2545
01:38:48,790 --> 01:38:47,520
there's no limit as to what we're going

2546
01:38:50,470 --> 01:38:48,800
to see

2547
01:38:51,990 --> 01:38:50,480
so

2548
01:38:54,550 --> 01:38:52,000
they're going to be not only the

2549
01:38:57,430 --> 01:38:54,560
commercial activities which have been

2550
01:39:00,229 --> 01:38:57,440
listed here and many many more that are

2551
01:39:03,189 --> 01:39:00,239
going to occur such as

2552
01:39:04,310 --> 01:39:03,199
mining of asteroids

2553
01:39:06,070 --> 01:39:04,320
mining

2554
01:39:08,709 --> 01:39:06,080
on the moon

2555
01:39:11,510 --> 01:39:08,719
what kind of regulatory

2556
01:39:14,950 --> 01:39:11,520
effort is going to be there

2557
01:39:16,950 --> 01:39:14,960
if we ever perfect fusion

2558
01:39:19,830 --> 01:39:16,960
there's going to be a lot of harvesting

2559
01:39:22,229 --> 01:39:19,840
of helium-3 that's on the surface of the

2560
01:39:26,629 --> 01:39:23,830
and by the way

2561
01:39:27,990 --> 01:39:26,639
it's not only going to be a domestic

2562
01:39:29,750 --> 01:39:28,000
marketplace

2563
01:39:31,350 --> 01:39:29,760

it's going to be an international

2564
01:39:33,590 --> 01:39:31,360
marketplace

2565
01:39:36,149 --> 01:39:33,600
i appreciate so much what you've been

2566
01:39:38,870 --> 01:39:36,159
doing trying to get other nations to

2567
01:39:42,149 --> 01:39:38,880
sign the artemis accords

2568
01:39:49,270 --> 01:39:45,990
sets a a community of standards that

2569
01:39:50,629 --> 01:39:49,280
says we go in peace but we're going to

2570
01:39:52,950 --> 01:39:50,639
do this

2571
01:39:56,070 --> 01:39:52,960
helping out our neighbors we're going to

2572
01:39:58,550 --> 01:39:56,080
have commonality of

2573
01:40:02,390 --> 01:39:58,560
space infrastructure so that we could

2574
01:40:03,270 --> 01:40:02,400
help each other if we get into trouble

2575
01:40:05,669 --> 01:40:03,280
but

2576
01:40:07,510 --> 01:40:05,679
the future

2577
01:40:09,109 --> 01:40:07,520
there are things that are going to occur

2578
01:40:12,310 --> 01:40:09,119
that we don't even know what the

2579
01:40:14,229 --> 01:40:12,320
questions are to ask now

2580
01:40:16,709 --> 01:40:14,239
so it's going to be an exciting future

2581
01:40:19,510 --> 01:40:16,719
but it's going to be a very very uh

2582
01:40:22,550 --> 01:40:19,520
important one of trying to figure out

2583
01:40:26,070 --> 01:40:22,560
how we regulate all of this in an

2584
01:40:29,270 --> 01:40:27,510
thank you

2585
01:40:30,790 --> 01:40:29,280
and again being

2586
01:40:33,189 --> 01:40:30,800
intentional

2587
01:40:35,270 --> 01:40:33,199
to ensure we don't in any way suppress

2588
01:40:37,109 --> 01:40:35,280

innovation

2589
01:40:38,709 --> 01:40:37,119
um

2590
01:40:40,310 --> 01:40:38,719
with all of the other parameters being

2591
01:40:43,430 --> 01:40:40,320
intact

2592
01:40:45,030 --> 01:40:43,440
uh including flexibility yeah

2593
01:40:47,189 --> 01:40:45,040
i'm going to turn now to the principal

2594
01:40:49,270 --> 01:40:47,199
deputy director of the

2595
01:40:51,189 --> 01:40:49,280
national intelligence stacey dixon and

2596
01:40:52,950 --> 01:40:51,199
if you can talk a bit about

2597
01:40:55,189 --> 01:40:52,960
how you were thinking about the issue of

2598
01:40:57,030 --> 01:40:55,199
novel space activity

2599
01:40:58,870 --> 01:40:57,040
thank you madam vice president

2600
01:41:00,950 --> 01:40:58,880
america has done a great job enabling

2601
01:41:02,790 --> 01:41:00,960
private innovation in space

2602
01:41:05,750 --> 01:41:02,800
our biggest challenge now is how to

2603
01:41:07,750 --> 01:41:05,760
harvest it to support national security

2604
01:41:09,430 --> 01:41:07,760
you must foster even more u.s space

2605
01:41:11,109 --> 01:41:09,440
startups to thrive

2606
01:41:13,109 --> 01:41:11,119
engage early with the intelligence

2607
01:41:15,109 --> 01:41:13,119
community and help solve our most

2608
01:41:17,910 --> 01:41:15,119
challenging problems

2609
01:41:20,629 --> 01:41:17,920
today we already enjoy gps satellite

2610
01:41:22,229 --> 01:41:20,639
communications weather satellites and

2611
01:41:23,669 --> 01:41:22,239
images of our earth for many different

2612
01:41:25,350 --> 01:41:23,679
applications

2613
01:41:27,590 --> 01:41:25,360

our commercial image industry will

2614
01:41:29,910 --> 01:41:27,600
improve upon all these services by

2615
01:41:32,709 --> 01:41:29,920
transforming how we build rockets

2616
01:41:34,870 --> 01:41:32,719
manufacture and launch satellites

2617
01:41:37,590 --> 01:41:34,880
refuel them on orbit

2618
01:41:40,709 --> 01:41:37,600
create habitats in space manage space

2619
01:41:42,550 --> 01:41:40,719
traffic and find resources on the moon

2620
01:41:44,950 --> 01:41:42,560
our national security depends upon these

2621
01:41:46,709 --> 01:41:44,960
capabilities not just for defending

2622
01:41:48,229 --> 01:41:46,719
ourselves in space or better

2623
01:41:50,629 --> 01:41:48,239
understanding the activities of our

2624
01:41:52,229 --> 01:41:50,639
adversaries but also for providing

2625
01:41:55,510 --> 01:41:52,239
critical services that support our

2626
01:41:57,270 --> 01:41:55,520
entire economy and our way of life

2627
01:41:59,030 --> 01:41:57,280
we must build out the new space

2628
01:42:00,950 --> 01:41:59,040
infrastructure to sustain the next

2629
01:42:03,350 --> 01:42:00,960
generation of ideas

2630
01:42:05,270 --> 01:42:03,360
if not we will have to rely on someone

2631
01:42:06,870 --> 01:42:05,280
else to do it for us

2632
01:42:09,030 --> 01:42:06,880
u.s space companies need more

2633
01:42:10,870 --> 01:42:09,040
predictability from our government

2634
01:42:13,189 --> 01:42:10,880
to raise the kind of venture capital and

2635
01:42:14,790 --> 01:42:13,199
take the kinds of business risks that

2636
01:42:17,669 --> 01:42:14,800
will drive our space economy to new

2637
01:42:19,109 --> 01:42:17,679
heights they need clear rules upon which

2638
01:42:20,550 --> 01:42:19,119

they can deliver those amazing

2639
01:42:22,950 --> 01:42:20,560
capabilities

2640
01:42:24,870 --> 01:42:22,960
a clear regulatory environment will

2641
01:42:26,550 --> 01:42:24,880
remove ambiguity and unlock new

2642
01:42:28,470 --> 01:42:26,560
frontiers for our bold commercial

2643
01:42:30,390 --> 01:42:28,480
industry to generate sustainable

2644
01:42:32,870 --> 01:42:30,400
businesses and improve our national

2645
01:42:35,510 --> 01:42:32,880
security in space

2646
01:42:37,510 --> 01:42:35,520
as both public and private entities

2647
01:42:39,910 --> 01:42:37,520
operate off planet we need an

2648
01:42:41,990 --> 01:42:39,920
established set of rules a shared and

2649
01:42:44,390 --> 01:42:42,000
reliable infrastructure and an

2650
01:42:46,470 --> 01:42:44,400
international code of conduct

2651
01:42:48,870 --> 01:42:46,480
as companies innovate new capabilities

2652
01:42:51,750 --> 01:42:48,880
for us they will also need our security

2653
01:42:54,390 --> 01:42:51,760
expertise and our partnership to operate

2654
01:42:56,229 --> 01:42:54,400
safely and free from future threats in

2655
01:42:57,510 --> 01:42:56,239
space

2656
01:42:59,109 --> 01:42:57,520
madam secretary

2657
01:43:00,709 --> 01:42:59,119
vice president the intelligence

2658
01:43:02,070 --> 01:43:00,719
community is committed to working on

2659
01:43:03,830 --> 01:43:02,080
these fundamental building blocks with

2660
01:43:05,350 --> 01:43:03,840
the rest of the us government thank you

2661
01:43:07,910 --> 01:43:05,360
so very much

2662
01:43:09,750 --> 01:43:07,920
uh and and as a natural segue to your

2663
01:43:12,550 --> 01:43:09,760

points i'm going to ask a general

2664
01:43:14,709 --> 01:43:12,560
dickinson who is u.s space command

2665
01:43:17,109 --> 01:43:14,719
commander to talk a bit about the

2666
01:43:19,830 --> 01:43:17,119
implications to national security

2667
01:43:21,510 --> 01:43:19,840
of novel space activities general thank

2668
01:43:23,030 --> 01:43:21,520
you madam vice president and it's an

2669
01:43:24,709 --> 01:43:23,040
honor to be here today

2670
01:43:26,870 --> 01:43:24,719
the innovation coming out of industry

2671
01:43:29,270 --> 01:43:26,880
today is bringing an enormous amount of

2672
01:43:31,590 --> 01:43:29,280
capability capacity and opportunity to

2673
01:43:34,070 --> 01:43:31,600
the table that we historically did not

2674
01:43:36,470 --> 01:43:34,080
have in national security space

2675
01:43:38,470 --> 01:43:36,480
commercial innovation is now outpacing

2676
01:43:41,270 --> 01:43:38,480
the demand signal from the government

2677
01:43:43,750 --> 01:43:41,280
this presents opportunities for the dod

2678
01:43:45,189 --> 01:43:43,760
to develop new and deeper relationships

2679
01:43:47,109 --> 01:43:45,199
with industry

2680
01:43:49,990 --> 01:43:47,119
commercial sector innovations can help

2681
01:43:53,430 --> 01:43:50,000
the joint force maintain a technological

2682
01:43:55,270 --> 01:43:53,440
advantage over china russia and others

2683
01:43:57,990 --> 01:43:55,280
harnessing the growing space economy

2684
01:44:00,149 --> 01:43:58,000
will also enable a more holistic

2685
01:44:02,310 --> 01:44:00,159
approach to the department's execution

2686
01:44:04,550 --> 01:44:02,320
of integrated deterrence and that is

2687
01:44:06,310 --> 01:44:04,560
exactly what we're doing today for

2688
01:44:09,189 --> 01:44:06,320

example the department of defense spent

2689
01:44:11,750 --> 01:44:09,199
more than 135 million dollars over the

2690
01:44:13,590 --> 01:44:11,760
past four years on commercial space

2691
01:44:15,270 --> 01:44:13,600
domain awareness data

2692
01:44:17,510 --> 01:44:15,280
commercials face capabilities and

2693
01:44:20,070 --> 01:44:17,520
services that enhance our ability to

2694
01:44:22,629 --> 01:44:20,080
identify characterize and respond

2695
01:44:25,430 --> 01:44:22,639
activities in space provide enhanced

2696
01:44:28,629 --> 01:44:25,440
flexibility to meet today's challenges

2697
01:44:30,229 --> 01:44:28,639
in an ever increasing contested domain

2698
01:44:32,550 --> 01:44:30,239
so as we look to develop a clear

2699
01:44:35,030 --> 01:44:32,560
regulatory environment it is important

2700
01:44:36,870 --> 01:44:35,040
that we encourage american ingenuity to

2701
01:44:38,629 --> 01:44:36,880
stay at the forefront of space

2702
01:44:41,189 --> 01:44:38,639
technology the strength of our

2703
01:44:43,430 --> 01:44:41,199
commercial partners directly contributes

2704
01:44:44,709 --> 01:44:43,440
to our national security as well as our

2705
01:44:46,950 --> 01:44:44,719
prosperity

2706
01:44:49,669 --> 01:44:46,960
a space domain where standards and norms

2707
01:44:51,590 --> 01:44:49,679
of behavior are identified and respected

2708
01:44:53,910 --> 01:44:51,600
is vital to our national security

2709
01:44:55,030 --> 01:44:53,920
mission just like it does in any other

2710
01:44:57,270 --> 01:44:55,040
domain

2711
01:44:59,669 --> 01:44:57,280
so the department of defense continues

2712
01:45:03,430 --> 01:44:59,679
to execute our mission in a responsible

2713
01:45:04,709 --> 01:45:03,440

manner to promote a safe secure stable

2714
01:45:07,030 --> 01:45:04,719
sustainable

2715
01:45:09,030 --> 01:45:07,040
and accessible space domain thank you

2716
01:45:10,870 --> 01:45:09,040
very much thank you general

2717
01:45:12,870 --> 01:45:10,880
i also want to recognize general raymond

2718
01:45:15,510 --> 01:45:12,880
who is here who is the chief of space

2719
01:45:17,630 --> 01:45:15,520
operations the u.s space force thank you

2720
01:45:22,870 --> 01:45:17,640
general

2721
01:45:26,470 --> 01:45:22,880
[Applause]

2722
01:45:28,310 --> 01:45:26,480
and um next uh deputy secretary john tan

2723
01:45:30,550 --> 01:45:28,320
of homeland security would you talk a

2724
01:45:32,870 --> 01:45:30,560
bit about how dhs is partnering with the

2725
01:45:35,350 --> 01:45:32,880
space industry in this regard

2726
01:45:37,030 --> 01:45:35,360
thank you very much madam vice president

2727
01:45:39,510 --> 01:45:37,040
uh and thank you madam vice president

2728
01:45:41,590 --> 01:45:39,520
for convening the national space council

2729
01:45:44,149 --> 01:45:41,600
and for convening this great community

2730
01:45:46,870 --> 01:45:44,159
of industry leaders of experts and of

2731
01:45:49,189 --> 01:45:46,880
academic leaders i think today we've all

2732
01:45:52,390 --> 01:45:49,199
heard how much this community talks

2733
01:45:55,030 --> 01:45:52,400
about ideas and about information flow

2734
01:45:57,270 --> 01:45:55,040
and data flow so to that end the

2735
01:45:58,790 --> 01:45:57,280
secretary of homeland security secretary

2736
01:46:02,229 --> 01:45:58,800
ali mayorkas

2737
01:46:05,990 --> 01:46:02,239
recently signed out dhs's

2738
01:46:08,390 --> 01:46:06,000

space policy and the focus was on ideas

2739
01:46:11,669 --> 01:46:08,400
and was on information flow in two

2740
01:46:14,310 --> 01:46:11,679
manners first in terms of ideas it's

2741
01:46:16,870 --> 01:46:14,320
really about intellectual property and

2742
01:46:20,390 --> 01:46:16,880
in terms of uh information flow it's

2743
01:46:23,270 --> 01:46:20,400
much about cyber security especially

2744
01:46:24,790 --> 01:46:23,280
on the ground but also on orbit there

2745
01:46:26,070 --> 01:46:24,800
are two ways that we're going to do this

2746
01:46:27,669 --> 01:46:26,080
through the department of homeland

2747
01:46:28,709 --> 01:46:27,679
security first

2748
01:46:30,550 --> 01:46:28,719
for the department of homeland

2749
01:46:33,270 --> 01:46:30,560
security's homeland security

2750
01:46:35,750 --> 01:46:33,280
investigations intellectual property

2751
01:46:38,629 --> 01:46:35,760
rights coordination center which protect

2752
01:46:41,270 --> 01:46:38,639
against intellectual property theft

2753
01:46:43,990 --> 01:46:41,280
against illicit trade practices and to

2754
01:46:46,070 --> 01:46:44,000
help ensure uh fairness in the global

2755
01:46:49,669 --> 01:46:46,080
marketplace and in terms of cyber

2756
01:46:51,830 --> 01:46:49,679
security uh dhs to include through dhs's

2757
01:46:54,229 --> 01:46:51,840
cyber security infrastructure and

2758
01:46:57,270 --> 01:46:54,239
security agency will continue to help

2759
01:46:59,430 --> 01:46:57,280
defend cyberspace also madam vice

2760
01:47:01,109 --> 01:46:59,440
president and to this community we want

2761
01:47:03,109 --> 01:47:01,119
to continue to engage with this

2762
01:47:05,510 --> 01:47:03,119
community community

2763
01:47:07,189 --> 01:47:05,520

industry leaders academia and we are

2764
01:47:09,350 --> 01:47:07,199
going to do so through our continued

2765
01:47:11,750 --> 01:47:09,360
leadership of the uh space systems

2766
01:47:14,550 --> 01:47:11,760
critical infrastructure working group

2767
01:47:16,390 --> 01:47:14,560
and through uh combination with this

2768
01:47:18,229 --> 01:47:16,400
entire interagency with your space

2769
01:47:20,550 --> 01:47:18,239
council in particular with the

2770
01:47:22,790 --> 01:47:20,560
department of commerce to continue to

2771
01:47:25,030 --> 01:47:22,800
lead our joint symposias which we've

2772
01:47:28,229 --> 01:47:25,040
actually had three over the last year

2773
01:47:29,669 --> 01:47:28,239
and the last one in june 2022 had over

2774
01:47:32,550 --> 01:47:29,679
1200

2775
01:47:34,790 --> 01:47:32,560
participants from industry and from

2776
01:47:36,870 --> 01:47:34,800
academia we look forward to continuing

2777
01:47:39,030 --> 01:47:36,880
to defend cyberspace and the idea so all

2778
01:47:41,270 --> 01:47:39,040
of these leading minds can continue to

2779
01:47:42,070 --> 01:47:41,280
push the boundaries of exploration thank

2780
01:47:46,470 --> 01:47:42,080
you

2781
01:47:48,390 --> 01:47:46,480
the secretary as well

2782
01:47:50,709 --> 01:47:48,400
i'm going to now ask three of our

2783
01:47:53,270 --> 01:47:50,719
council members in tandem or you can

2784
01:47:55,030 --> 01:47:53,280
just work it out

2785
01:47:57,030 --> 01:47:55,040
to talk a bit about

2786
01:48:00,310 --> 01:47:57,040
how your agencies

2787
01:48:01,750 --> 01:48:00,320
have um existing mandates for space

2788
01:48:03,990 --> 01:48:01,760

regulations

2789
01:48:06,229 --> 01:48:04,000
and what you have found to be the best

2790
01:48:08,470 --> 01:48:06,239
practices and so i'm going to ask deputy

2791
01:48:10,950 --> 01:48:08,480
secretary don graves deputy secretary

2792
01:48:13,189 --> 01:48:10,960
paulie trottenberg and the chairwoman of

2793
01:48:15,109 --> 01:48:13,199
the fcc jessica

2794
01:48:16,550 --> 01:48:15,119
rosenwursel to

2795
01:48:17,830 --> 01:48:16,560
share with us a bit about how you're

2796
01:48:20,149 --> 01:48:17,840
thinking about it and chairwoman wanted

2797
01:48:22,229 --> 01:48:20,159
me to start with you

2798
01:48:23,910 --> 01:48:22,239
sure well thank you madam vice president

2799
01:48:25,910 --> 01:48:23,920
for your leadership and for having me

2800
01:48:27,910 --> 01:48:25,920
here today this is the first time the

2801
01:48:30,070 --> 01:48:27,920
fcc is joining the national space

2802
01:48:31,990 --> 01:48:30,080
council i think that's a good thing

2803
01:48:34,070 --> 01:48:32,000
because we're doing a lot to help grow

2804
01:48:35,030 --> 01:48:34,080
commercial space policy in the 21st

2805
01:48:36,709 --> 01:48:35,040
century

2806
01:48:38,709 --> 01:48:36,719
and to respond to your question i want

2807
01:48:40,229 --> 01:48:38,719
to point to something we did just

2808
01:48:41,910 --> 01:48:40,239
starting yesterday

2809
01:48:44,629 --> 01:48:41,920
we have kicked off an effort to help

2810
01:48:46,470 --> 01:48:44,639
clean up outer space and our skies and

2811
01:48:48,390 --> 01:48:46,480
address orbital debris

2812
01:48:49,669 --> 01:48:48,400
to understand why that's important

2813
01:48:51,750 --> 01:48:49,679

you've really got to look back and

2814
01:48:53,830 --> 01:48:51,760
recognize that for billions of years

2815
01:48:54,950 --> 01:48:53,840
space was not a landscape for human

2816
01:48:57,270 --> 01:48:54,960
endeavors

2817
01:48:58,790 --> 01:48:57,280
but then the space race began and in

2818
01:49:01,830 --> 01:48:58,800
1958

2819
01:49:04,870 --> 01:49:01,840
nasa launched vanguard into the skies

2820
01:49:06,470 --> 01:49:04,880
and it still circles the planet today

2821
01:49:09,030 --> 01:49:06,480
now when vanguard was launched it was

2822
01:49:11,350 --> 01:49:09,040
this monument to american

2823
01:49:13,830 --> 01:49:11,360
commitment to the future of space but

2824
01:49:16,229 --> 01:49:13,840
today it also represents something else

2825
01:49:17,990 --> 01:49:16,239
it's a reminder that it's still up there

2826
01:49:19,510 --> 01:49:18,000
and we have work to do to address

2827
01:49:21,350 --> 01:49:19,520
orbital debris

2828
01:49:24,550 --> 01:49:21,360
in fact since vanguard was launched

2829
01:49:26,550 --> 01:49:24,560
we've had more than 10 000 satellites

2830
01:49:28,870 --> 01:49:26,560
launched into our skies

2831
01:49:31,189 --> 01:49:28,880
more than half of them are now defunct

2832
01:49:32,310 --> 01:49:31,199
they're not being used and many of them

2833
01:49:34,070 --> 01:49:32,320
were just launched with the

2834
01:49:35,830 --> 01:49:34,080
understanding that it was cheaper to

2835
01:49:37,990 --> 01:49:35,840
leave them up there than to ever make an

2836
01:49:40,950 --> 01:49:38,000
effort to de-orbit

2837
01:49:42,870 --> 01:49:40,960
so we've got to address this space junk

2838
01:49:44,550 --> 01:49:42,880

it's bad because it increases the risk

2839
01:49:45,350 --> 01:49:44,560
of collision

2840
01:49:47,510 --> 01:49:45,360
which

2841
01:49:49,830 --> 01:49:47,520
decreases the functionality of space and

2842
01:49:52,470 --> 01:49:49,840
it also makes it difficult to launch new

2843
01:49:54,790 --> 01:49:52,480
satellites at higher orbit

2844
01:49:56,629 --> 01:49:54,800
and for a long time policy in the united

2845
01:49:58,229 --> 01:49:56,639
states has been you don't really have to

2846
01:50:00,950 --> 01:49:58,239
take this stuff down

2847
01:50:01,990 --> 01:50:00,960
until 25 years after your mission is

2848
01:50:04,950 --> 01:50:02,000
complete

2849
01:50:07,510 --> 01:50:04,960
25 years is an awfully long time

2850
01:50:09,189 --> 01:50:07,520
our space economy is moving fast so at

2851
01:50:11,510 --> 01:50:09,199
the fcc we're going to make this effort

2852
01:50:14,149 --> 01:50:11,520
move faster and i've just proposed that

2853
01:50:15,510 --> 01:50:14,159
we change that 25-year period to five

2854
01:50:17,590 --> 01:50:15,520
years

2855
01:50:19,430 --> 01:50:17,600
we are also increasing the speed at

2856
01:50:21,990 --> 01:50:19,440
which we are addressing satellite

2857
01:50:23,910 --> 01:50:22,000
licensing by bulking up our ranks of

2858
01:50:26,310 --> 01:50:23,920
engineers and policy experts and we're

2859
01:50:29,189 --> 01:50:26,320
also for the first time making available

2860
01:50:30,470 --> 01:50:29,199
spectrum for commercial space launches

2861
01:50:33,109 --> 01:50:30,480
and these are the kind of things we're

2862
01:50:35,189 --> 01:50:33,119
doing to help grow the space economy and

2863
01:50:38,070 --> 01:50:35,199

also protect space and make sure it's

2864
01:50:39,750 --> 01:50:38,080
sustainable

2865
01:50:42,550 --> 01:50:39,760
thank you

2866
01:50:44,709 --> 01:50:42,560
trottenberg or graves

2867
01:50:46,870 --> 01:50:44,719
here we go thank you very much

2868
01:50:48,790 --> 01:50:46,880
thank you madam vice president uh as one

2869
01:50:50,550 --> 01:50:48,800
of the major regulatory agencies we

2870
01:50:53,750 --> 01:50:50,560
certainly recognize novel space

2871
01:50:55,990 --> 01:50:53,760
activities do require regulatory clarity

2872
01:50:58,229 --> 01:50:56,000
and flexibility and predictability

2873
01:51:00,390 --> 01:50:58,239
obviously from dot and faa's point of

2874
01:51:02,709 --> 01:51:00,400
view our focus is on ensuring the safety

2875
01:51:04,470 --> 01:51:02,719
of people and property and being mindful

2876
01:51:05,990 --> 01:51:04,480
of the economic national security and

2877
01:51:07,990 --> 01:51:06,000
foreign policy interests of the united

2878
01:51:09,830 --> 01:51:08,000
states i'm proud to say we've taken some

2879
01:51:11,350 --> 01:51:09,840
real steps to improve our regulatory

2880
01:51:13,750 --> 01:51:11,360
process and we're going to continue the

2881
01:51:15,750 --> 01:51:13,760
improvement but we created as i said the

2882
01:51:17,830 --> 01:51:15,760
streamlined launch and reentry licensing

2883
01:51:19,109 --> 01:51:17,840
requirements rule we published it in

2884
01:51:20,390 --> 01:51:19,119
march of last year and for us it's

2885
01:51:22,550 --> 01:51:20,400
really been a game changer

2886
01:51:24,550 --> 01:51:22,560
it did a few things first it combined

2887
01:51:26,950 --> 01:51:24,560
four disparate regulatory parts into one

2888
01:51:28,470 --> 01:51:26,960

so hopefully made the process easier it

2889
01:51:30,629 --> 01:51:28,480
replaced a lot of prescriptive

2890
01:51:32,709 --> 01:51:30,639
requirements with clear safety criteria

2891
01:51:34,149 --> 01:51:32,719
and performance-based requirements that

2892
01:51:36,070 --> 01:51:34,159
we believe will allow industry

2893
01:51:38,070 --> 01:51:36,080
flexibility and innovation

2894
01:51:40,070 --> 01:51:38,080
and it allowed for a single license to

2895
01:51:41,510 --> 01:51:40,080
cover multiple launches from multiple

2896
01:51:43,109 --> 01:51:41,520
sites something we heard was important

2897
01:51:45,270 --> 01:51:43,119
to the industry

2898
01:51:47,109 --> 01:51:45,280
in association with the rule the faa has

2899
01:51:49,030 --> 01:51:47,119
also published a number of advisory

2900
01:51:51,270 --> 01:51:49,040
circulars to help provide clarity to the

2901
01:51:52,790 --> 01:51:51,280
industry about how they might go about

2902
01:51:54,709 --> 01:51:52,800
demonstrating compliance with new

2903
01:51:56,310 --> 01:51:54,719
performance-based requirements and we

2904
01:51:57,510 --> 01:51:56,320
continue we hope to continue to work

2905
01:51:59,350 --> 01:51:57,520
with the industry we know there's going

2906
01:52:01,589 --> 01:51:59,360
to be ongoing work to make sure that we

2907
01:52:03,910 --> 01:52:01,599
have a regulatory regime which ensures

2908
01:52:05,030 --> 01:52:03,920
safety but provides clarity and industry

2909
01:52:07,430 --> 01:52:05,040
and and

2910
01:52:09,350 --> 01:52:07,440
clarity and certainty for the industry

2911
01:52:11,990 --> 01:52:09,360
so thank you

2912
01:52:14,229 --> 01:52:12,000
deputy secretary graves thank you thank

2913
01:52:16,550 --> 01:52:14,239

you madam vice president uh

2914
01:52:19,030 --> 01:52:16,560
building off of the really fantastic

2915
01:52:21,030 --> 01:52:19,040
points made by our panelists

2916
01:52:22,629 --> 01:52:21,040
we believe that it's absolutely critical

2917
01:52:24,390 --> 01:52:22,639
for the u.s to

2918
01:52:26,070 --> 01:52:24,400
ensure that all commercial space

2919
01:52:27,430 --> 01:52:26,080
missions are properly authorized and

2920
01:52:29,430 --> 01:52:27,440
supervised

2921
01:52:32,070 --> 01:52:29,440
and commerce's role as a regulator of

2922
01:52:34,470 --> 01:52:32,080
remote sensing satellites and high-tech

2923
01:52:36,790 --> 01:52:34,480
us exports as well as our work in

2924
01:52:39,030 --> 01:52:36,800
developing the architecture for space

2925
01:52:40,629 --> 01:52:39,040
traffic management and protecting

2926
01:52:42,870 --> 01:52:40,639
intellectual property

2927
01:52:45,270 --> 01:52:42,880
allows us to to have i think

2928
01:52:47,510 --> 01:52:45,280
particularly unique insights

2929
01:52:49,350 --> 01:52:47,520
into the innovative space operations and

2930
01:52:52,310 --> 01:52:49,360
the regulations that govern and

2931
01:52:54,790 --> 01:52:52,320
sometimes don't govern these operations

2932
01:52:56,390 --> 01:52:54,800
so first in industries with rapid

2933
01:52:58,229 --> 01:52:56,400
technological change it's important to

2934
01:53:01,270 --> 01:52:58,239
build a collaborative process that

2935
01:53:03,589 --> 01:53:01,280
incorporates continuous input from the

2936
01:53:05,510 --> 01:53:03,599
companies that are being regulated

2937
01:53:07,189 --> 01:53:05,520
second we need a clear and predictable

2938
01:53:10,070 --> 01:53:07,199

regulatory environment that allows

2939
01:53:13,109 --> 01:53:10,080
companies to experiment and innovate

2940
01:53:15,189 --> 01:53:13,119
within the bounds of as paulie said

2941
01:53:17,350 --> 01:53:15,199
clearly understood rules

2942
01:53:19,270 --> 01:53:17,360
finally we need a regulatory structure

2943
01:53:21,750 --> 01:53:19,280
that can change in response to the rapid

2944
01:53:23,669 --> 01:53:21,760
introduction of new technologies

2945
01:53:26,149 --> 01:53:23,679
recognizing the complexity of the

2946
01:53:27,589 --> 01:53:26,159
existing space regulatory framework i

2947
01:53:30,390 --> 01:53:27,599
believe that the us should consider

2948
01:53:31,830 --> 01:53:30,400
establishing a space portal to direct

2949
01:53:34,470 --> 01:53:31,840
new space entrepreneurs to the

2950
01:53:36,790 --> 01:53:34,480
applicable space authorization processes

2951
01:53:39,270 --> 01:53:36,800
and the right agencies a space portal

2952
01:53:41,430 --> 01:53:39,280
could offer an easy on entry point those

2953
01:53:44,149 --> 01:53:41,440
looking for guidance and assistance with

2954
01:53:47,030 --> 01:53:44,159
regulations across multiple agencies

2955
01:53:48,950 --> 01:53:47,040
thank you thank you

2956
01:53:51,750 --> 01:53:48,960
and thank you all for the work and the

2957
01:53:53,669 --> 01:53:51,760
thought that you've all put into

2958
01:53:56,709 --> 01:53:53,679
this issue still more work to be done

2959
01:53:59,430 --> 01:53:56,719
but the theme of this panel uh and and

2960
01:54:01,669 --> 01:53:59,440
this discussion has been collaboration

2961
01:54:03,830 --> 01:54:01,679
and um so thank you panelists for your

2962
01:54:05,589 --> 01:54:03,840
work and for your contribution to this

2963
01:54:06,629 --> 01:54:05,599

discussion and how we think about this

2964
01:54:08,870 --> 01:54:06,639
issue

2965
01:54:09,669 --> 01:54:08,880
and um and council members thank all of

2966
01:54:11,990 --> 01:54:09,679
you

2967
01:54:14,870 --> 01:54:12,000
so i will close us out with a couple of

2968
01:54:17,430 --> 01:54:14,880
thoughts uh one today we have heard from

2969
01:54:19,350 --> 01:54:17,440
members of industry we have heard from

2970
01:54:21,669 --> 01:54:19,360
educators we have heard from government

2971
01:54:23,109 --> 01:54:21,679
agencies we have heard from regulatory

2972
01:54:23,990 --> 01:54:23,119
agencies

2973
01:54:26,390 --> 01:54:24,000
and

2974
01:54:28,629 --> 01:54:26,400
a lot of our work is focused on what we

2975
01:54:29,910 --> 01:54:28,639
must do to develop a clear and

2976
01:54:32,870 --> 01:54:29,920
predictable

2977
01:54:35,350 --> 01:54:32,880
framework of rules that

2978
01:54:37,589 --> 01:54:35,360
are the function and the product of

2979
01:54:40,950 --> 01:54:37,599
again collaboration

2980
01:54:44,149 --> 01:54:40,960
with a mutual commitment to

2981
01:54:48,470 --> 01:54:44,159
maximizing the potential of space

2982
01:54:50,950 --> 01:54:48,480
and and also to ensure that america's

2983
01:54:53,430 --> 01:54:50,960
leadership continues to be what it has

2984
01:54:55,750 --> 01:54:53,440
been which is a source of inspiration

2985
01:54:58,550 --> 01:54:55,760
for people around the world

2986
01:55:01,270 --> 01:54:58,560
there's so much about our our spirit in

2987
01:55:02,709 --> 01:55:01,280
this regard that has been always

2988
01:55:05,510 --> 01:55:02,719

collaborative

2989
01:55:08,070 --> 01:55:05,520
and has been motivated

2990
01:55:09,750 --> 01:55:08,080
by what we can do for the benefit of all

2991
01:55:11,589 --> 01:55:09,760
people

2992
01:55:14,070 --> 01:55:11,599
so this is uh

2993
01:55:16,070 --> 01:55:14,080
work that will continue and it is an

2994
01:55:18,709 --> 01:55:16,080
excellent reason why we have the

2995
01:55:20,470 --> 01:55:18,719
national space council to continue this

2996
01:55:22,229 --> 01:55:20,480
kind of collaborative work and working

2997
01:55:24,470 --> 01:55:22,239
together to coordinate as well within

2998
01:55:26,790 --> 01:55:24,480
the united states government so my final

2999
01:55:29,350 --> 01:55:26,800
request is that

3000
01:55:31,030 --> 01:55:29,360
council members provide me with a

3001
01:55:33,830 --> 01:55:31,040
proposal

3002
01:55:36,149 --> 01:55:33,840
for the authorization and supervision of

3003
01:55:37,910 --> 01:55:36,159
commercial novel space activities within

3004
01:55:39,430 --> 01:55:37,920
180 days

3005
01:55:42,149 --> 01:55:39,440
and

3006
01:55:44,390 --> 01:55:42,159
what i'd ask is that your proposals

3007
01:55:45,669 --> 01:55:44,400
include how we will ensure space

3008
01:55:47,189 --> 01:55:45,679
operations

3009
01:55:50,390 --> 01:55:47,199
abide by

3010
01:55:52,470 --> 01:55:50,400
space safety norms and protocols as has

3011
01:55:55,030 --> 01:55:52,480
been discussed this afternoon

3012
01:55:57,189 --> 01:55:55,040
and with that i thank everyone i thank

3013
01:55:59,270 --> 01:55:57,199

our panelists i thank everyone who has

3014
01:56:01,830 --> 01:55:59,280
participated in this

3015
01:56:04,629 --> 01:56:01,840
afternoon's convening

3016
01:56:06,470 --> 01:56:04,639
before we conclude i will also announce

3017
01:56:09,589 --> 01:56:06,480
the new chair of the national space

3018
01:56:12,470 --> 01:56:09,599
council's user advisory group

3019
01:56:14,790 --> 01:56:12,480
and that is general les lyles

3020
01:56:16,310 --> 01:56:14,800
and he has a long history of public

3021
01:56:18,950 --> 01:56:16,320
service many of you have probably worked

3022
01:56:21,350 --> 01:56:18,960
with him including 35 years of service

3023
01:56:24,870 --> 01:56:21,360
in the united states air force and

3024
01:56:26,310 --> 01:56:24,880
leading the nasa advisory council his

3025
01:56:27,510 --> 01:56:26,320
perspective

3026
01:56:29,430 --> 01:56:27,520
is

3027
01:56:31,830 --> 01:56:29,440
extraordinary in terms of the work he

3028
01:56:33,830 --> 01:56:31,840
has done across multiple sectors

3029
01:56:36,229 --> 01:56:33,840
and while he is unable to join us today

3030
01:56:38,390 --> 01:56:36,239
i look forward to working with him and

3031
01:56:40,550 --> 01:56:38,400
his leadership i also want to thank

3032
01:56:43,270 --> 01:56:40,560
admiral jim ellis

3033
01:56:45,510 --> 01:56:43,280
as the outgoing chair for his service to

3034
01:56:47,350 --> 01:56:45,520
our nation and his leadership

3035
01:56:50,149 --> 01:56:47,360
of the uag

3036
01:56:53,030 --> 01:56:50,159
and soon we will release the names of

3037
01:56:55,350 --> 01:56:53,040
the other members of our user advisory

3038
01:56:57,589 --> 01:56:55,360

group but with that i will thank

3039
01:57:00,229 --> 01:56:57,599
everyone for your ongoing work and your

3040
01:57:01,830 --> 01:57:00,239
commitment for all you do everyone here

3041
01:57:04,149 --> 01:57:01,840
to inspire

3042
01:57:06,709 --> 01:57:04,159
our exploration and our involvement in

3043
01:57:12,629 --> 01:57:06,719
space and with that i wish you all a

3044
01:57:12,639 --> 01:57:20,760
thank you

3045
01:57:20,770 --> 01:57:39,430
[Music]

3046
01:57:43,350 --> 01:57:40,310
we

3047
01:57:49,189 --> 01:57:46,390
the history of this agency is marked

3048
01:57:51,189 --> 01:57:49,199
with broken barriers once viewed as