1
00:00:06,420 --> 00:00:09,610
welcome

2
00:00:12,799 --> 00:00:11,450
griffin

3
00:00:14,750 --> 00:00:12,809
queen

4
00:00:20,030 --> 00:00:14,760
in english

5
00:00:22,370 --> 00:00:20,040
welcomed the mediocre as you are here

6
00:00:23,870 --> 00:00:22,380
with us today in the room and those

7
00:00:25,760 --> 00:00:23,880
who are not seeing through the oil

8
00:00:27,620 --> 00:00:25,770
once and what are through the

9
00:00:29,810 --> 00:00:27,630
phone line today will We are going to be talking

10
00:00:31,700 --> 00:00:29,820
a little about the May Ven mission, which

11
00:00:34,130 --> 00:00:31,710
is our next mission to Mars and it is

12
00:00:36,320 --> 00:00:34,140
a mission that is going to help us

13
00:00:38,630 --> 00:00:36,330

understand the red planet a little more and

14
00:00:41,320 --> 00:00:38,640
give more information for the future to

15
00:00:43,850 --> 00:00:41,330
be able to arrive with human beings and

16
00:00:46,310 --> 00:00:43,860
introduce he began to introduce our

17
00:00:47,719 --> 00:00:46,320
team who is here with me just to

18
00:00:52,439 --> 00:00:47,729
talk a little more about the mission

19
00:00:56,590 --> 00:00:52,449
we have to be sprint he

20
00:00:56,590 --> 00:01:01,790
is the planetary scientist of the maiden team

21
00:01:09,720 --> 00:01:04,189
we have sandra guzmán who is the

22
00:01:15,840 --> 00:01:12,240
and finally we have diana calero who

23
00:01:19,260 --> 00:01:15,850
is the mission manager of the

24
00:01:21,050 --> 00:01:19,270
launch program that yes here in the

25
00:01:23,680 --> 00:01:21,060
center

26
00:01:25,840 --> 00:01:23,690
well

27
00:01:28,030 --> 00:01:25,850
before we begin I want to give you several

28
00:01:29,350 --> 00:01:28,040
instructions please keep your

29
00:01:32,110 --> 00:01:29,360
questions until the end of the

30
00:01:34,090 --> 00:01:32,120
conference and after the

31
00:01:36,190 --> 00:01:34,100
participants speak we will open for

32
00:01:40,450 --> 00:01:36,200
questions I with that I'm going to pass it on to you

33
00:01:42,430 --> 00:01:40,460
yesterday although very well thanks to andrés ok

34
00:01:45,280 --> 00:01:42,440
so what I want to do today is

35
00:01:46,690 --> 00:01:45,290
tell you about a mystery a mystery

36
00:01:50,950 --> 00:01:46,700
that we have that is a

37
00:01:52,820 --> 00:01:50,960
scientific mystery is a mystery on Mars and we

38
00:01:55,190 --> 00:01:52,830

can call it

39
00:01:57,690 --> 00:01:55,200
the strange case of the missing sample

40
00:02:03,090 --> 00:02:00,800
and so the first graph please

41
00:02:05,789 --> 00:02:03,100
then using our

42
00:02:09,300 --> 00:02:05,799
spaceships that are already in orbit of

43
00:02:12,540 --> 00:02:09,310
mars we know clearly that mars is

44
00:02:16,530 --> 00:02:12,550
there full of ravines and dry riverbeds

45
00:02:19,770 --> 00:02:16,540
dry rivers basically and the second

46
00:02:22,470 --> 00:02:19,780
graph please in the same way we know

47
00:02:25,370 --> 00:02:22,480
clearly using our roberts

48
00:02:28,110 --> 00:02:25,380
that they are in the surface of mars that

49
00:02:31,020 --> 00:02:28,120
mars is also full of a large

50
00:02:33,449 --> 00:02:31,030
amount of minerals that are only

51
00:02:35,470 --> 00:02:33,459
formed in the presence of water stagnant water

52
00:02:40,990 --> 00:02:37,740
so the video please

53
00:02:44,789 --> 00:02:41,000
then as we see in the video

54
00:02:49,240 --> 00:02:44,799
ancient mars was a place full of

55
00:02:52,539 --> 00:02:49,250
heat and it was very warm and humid and

56
00:02:56,020 --> 00:02:52,549
with a sufficiently curious sample so

57
00:02:57,900 --> 00:02:56,030
that the water is liquid on the

58
00:03:01,509 --> 00:02:57,910
surface for a long time

59
00:03:03,660 --> 00:03:01,519
and then perhaps it was still a place where there

60
00:03:05,750 --> 00:03:03,670
was life like microorganisms

61
00:03:08,030 --> 00:03:05,760
perhaps

62
00:03:12,740 --> 00:03:08,040
but then also as we see in the

63
00:03:16,809 --> 00:03:12,750

video then place marx way mars way

64
00:03:20,530 --> 00:03:16,819
is a place that is very cold and dry

65
00:03:24,330 --> 00:03:20,540
and then something really charistrophic

66
00:03:28,030 --> 00:03:24,340
must have happened to change part of the

67
00:03:31,720 --> 00:03:28,040
past that was very hot and a lot

68
00:03:34,260 --> 00:03:31,730
here was very close to a very dry and

69
00:03:36,900 --> 00:03:34,270
cold place as we see today

70
00:03:39,570 --> 00:03:36,910
ok so we have clues to

71
00:03:42,690 --> 00:03:39,580
help us with this mystery then

72
00:03:45,840 --> 00:03:42,700
we know that mars does not have a

73
00:03:47,840 --> 00:03:45,850
planetary magnetic field and then it did not

74
00:03:50,780 --> 00:03:47,850
have a good atmosphere

75
00:03:54,000 --> 00:03:50,790
like we have here on earth

76
00:03:56,460 --> 00:03:54,010
so I feel that we do not have that

77
00:03:59,790 --> 00:03:56,470
martin does not have venetians now so

78
00:04:03,510 --> 00:03:59,800
it is not protected against the

79
00:04:08,310 --> 00:04:03,520
solar wind either the solar wind is a very well

80
00:04:11,000 --> 00:04:08,320
away gas that continuously leaves the sun and

81
00:04:14,059 --> 00:04:11,010
fills the solar system

82
00:04:17,000 --> 00:04:14,069
and then since the solar wind

83
00:04:19,420 --> 00:04:17,010
can interact directly with the

84
00:04:23,540 --> 00:04:19,430
upper layer of the atmosphere of Mars

85
00:04:26,930 --> 00:04:23,550
it is possible that the solar wind is

86
00:04:28,690 --> 00:04:26,940
slowly sweeping the atmosphere of

87
00:04:33,700 --> 00:04:28,700
Mars

88
00:04:37,510 --> 00:04:33,710

and then it is possible that ours

89
00:04:42,950 --> 00:04:37,520
from mars is even rationed by the

90
00:04:48,680 --> 00:04:45,379
then the milan mission is

91
00:04:52,400 --> 00:04:48,690
designed to help us investigate

92
00:04:53,770 --> 00:04:52,410
this question to test this

93
00:04:57,800 --> 00:04:53,780
hypothesis

94
00:05:01,219 --> 00:04:57,810
so we are going to go into an

95
00:05:03,710 --> 00:05:01,229
elliptical orbit around the planet so that we

96
00:05:07,010 --> 00:05:03,720
do a network of observations

97
00:05:09,740 --> 00:05:07,020
around the planet and to measure all

98
00:05:10,719 --> 00:05:09,750
the particles that are perhaps

99
00:05:14,059 --> 00:05:10,729
escaping

100
00:05:15,839 --> 00:05:14,069
from the planet so the first graph

101
00:05:18,329 --> 00:05:15,849
please

102
00:05:21,359 --> 00:05:18,339
then we have several instruments that

103
00:05:24,749 --> 00:05:21,369
help us measure all the energies

104
00:05:27,980 --> 00:05:24,759
that enter the mars system such as

105
00:05:31,709 --> 00:05:27,990
sunlight and

106
00:05:33,370 --> 00:05:31,719
solar storms and mostly the

107
00:05:35,590 --> 00:05:33,380
solar wind

108
00:05:39,730 --> 00:05:35,600
and we also have various instruments

109
00:05:43,710 --> 00:05:39,740
that can measure all the particles

110
00:05:46,800 --> 00:05:43,720
that are coming out of the sample these

111
00:05:49,510 --> 00:05:46,810
instruments are called spectrometers

112
00:05:52,630 --> 00:05:49,520
so these instruments can measure

113
00:05:55,360 --> 00:05:52,640

the energies and the spices of the

114
00:05:56,900 --> 00:05:55,370
particles that are maybe coming out of

115
00:05:59,390 --> 00:05:56,910
the sample ours

116
00:06:02,120 --> 00:05:59,400
and lately we have instruments that

117
00:06:04,520 --> 00:06:02,130
measure magnetic fields and

118
00:06:07,730 --> 00:06:04,530
electric fields because the particles that

119
00:06:10,190 --> 00:06:07,740
are coming out are mostly

120
00:06:13,670 --> 00:06:10,200
increased there that have an electric charge

121
00:06:18,060 --> 00:06:13,680
so they have to follow the

122
00:06:21,510 --> 00:06:18,070
magnetic fields and electric fields

123
00:06:24,140 --> 00:06:21,520
so with these experiments we will

124
00:06:28,260 --> 00:06:24,150
be able to answer the question

125
00:06:31,980 --> 00:06:28,270
about Mars and what happened to change it

126
00:06:35,220 --> 00:06:31,990
from a very warm, very united place to a

127
00:06:38,430 --> 00:06:35,230
completely desolate place as we see

128
00:06:40,620 --> 00:06:38,440
today, so with this, the space

129
00:06:42,900 --> 00:06:40,630
for sandro who is going to tell us a little

130
00:06:44,169 --> 00:06:42,910
more about the development details of the

131
00:06:52,519 --> 00:06:49,010
ladies and gentlemen am avn mission has been on

132
00:06:55,699 --> 00:06:52,529
the journey since 2003 it has been

133
00:06:58,729 --> 00:06:55,709
ten long years since doctor and

134
00:07:02,149 --> 00:06:58,739
prussia kautsky to doctor janet lumman

135
00:07:04,939 --> 00:07:02,159
and doctor dublin who passed away

136
00:07:06,919 --> 00:07:04,949
a year ago sadly met to

137
00:07:09,469 --> 00:07:06,929
discuss the possibilities of a mission

138
00:07:12,379 --> 00:07:09,479

to mars to study the

139
00:07:14,119 --> 00:07:12,389
upper atmosphere of mars it seems incredible to me

140
00:07:16,790 --> 00:07:14,129
that ten years have passed and we are

141
00:07:20,149 --> 00:07:16,800
right now at the gates of the launch of

142
00:07:22,579 --> 00:07:20,159
this mission the date of November 18 was

143
00:07:25,309 --> 00:07:22,589
the date that was chosen when we made

144
00:07:27,859 --> 00:07:25,319
the concept of the mission in 2008

145
00:07:29,749 --> 00:07:27,869
the mission was confirmed in 2010 and

146
00:07:32,869 --> 00:07:29,759
two years later we are here and about

147
00:07:34,410 --> 00:07:32,879
to launch the mission visual 1 please

148
00:07:40,770 --> 00:07:36,930
over the course of these 10 years a

149
00:07:43,550 --> 00:07:40,780
small team of individuals with great

150
00:07:46,380 --> 00:07:43,560
tenacity and great talent have

151
00:07:48,960 --> 00:07:46,390
managed to propose designing build

152
00:07:51,180 --> 00:07:48,970
integrate and test

153
00:07:54,720 --> 00:07:51,190
all aspects of the

154
00:07:56,490 --> 00:07:54,730
maven satellite mission and including

155
00:07:58,590 --> 00:07:56,500
the launch vehicle in which

156
00:08:01,980 --> 00:07:58,600
taiana will explain in more detail

157
00:08:03,660 --> 00:08:01,990
the satellite team consists of the

158
00:08:06,230 --> 00:08:03,670
laboratory of space physics and atmosphere

159
00:08:09,420 --> 00:08:06,240
of the university of colorado

160
00:08:11,730 --> 00:08:09,430
consists of

161
00:08:15,300 --> 00:08:11,740
berklee university space science laboratory

162
00:08:18,150 --> 00:08:15,310
and consists of latin magnum which built

163
00:08:20,670 --> 00:08:18,160

the satellite nasa jet propulsion laboratory

164
00:08:23,970 --> 00:08:20,680
and laboratory and

165
00:08:27,110 --> 00:08:23,980
carter center where we run the

166
00:08:31,810 --> 00:08:27,120
mission of the wind maryland

167
00:08:36,430 --> 00:08:34,390
Marvin's satellite consists of eight

168
00:08:40,920 --> 00:08:36,440
instruments specially chosen

169
00:08:43,570 --> 00:08:40,930
to carry out this mission, as he explained to Jr.

170
00:08:46,510 --> 00:08:43,580
The instruments are divided into three

171
00:08:49,420 --> 00:08:46,520
packages. The first package is the

172
00:08:50,950 --> 00:08:49,430
practical one: Particles and fields,

173
00:08:53,440 --> 00:08:50,960
magnetic fields, and electric fields,

174
00:08:56,170 --> 00:08:53,450
which are designed to characterize the

175
00:08:59,620 --> 00:08:56,180
sun and the moon. solar wind and

176
00:09:02,920 --> 00:08:59,630
exhaust escapements from mars the

177
00:09:04,840 --> 00:09:02,930
particle and fields package was approved

178
00:09:06,960 --> 00:09:04,850
by the special sciences laboratory

179
00:09:09,430 --> 00:09:06,970
at the university of berkeley

180
00:09:13,630 --> 00:09:09,440
the second package the second

181
00:09:14,370 --> 00:09:13,640
instrument is the science one detector

182
00:09:17,110 --> 00:09:14,380
of

183
00:09:20,380 --> 00:09:17,120
this engine is a supplied instrument

184
00:09:22,990 --> 00:09:20,390
by the university of colorado the

185
00:09:25,270 --> 00:09:23,000
atmospheric and space music physics laboratory

186
00:09:27,730 --> 00:09:25,280
of the university of colorado

187
00:09:29,890 --> 00:09:27,740
and this instrument will study and

188
00:09:31,960 --> 00:09:29,900

characterize the global aspects of

189
00:09:35,070 --> 00:09:31,970
mars the upper wheels to the

190
00:09:37,920 --> 00:09:35,080
atmosphere of mars

191
00:09:40,740 --> 00:09:37,930
the last instrument in the

192
00:09:42,480 --> 00:09:40,750
mass spectrometer that was Provided

193
00:09:46,800 --> 00:09:42,490
by cars space flight center the

194
00:09:48,330 --> 00:09:46,810
special center facing this will measure the

195
00:09:52,009 --> 00:09:48,340
combustion of these types of

196
00:09:53,840 --> 00:09:52,019
neutral gases and gases from the atmosphere

197
00:09:58,100 --> 00:09:53,850
the one seen in the following visual

198
00:10:03,170 --> 00:10:00,500
this is an image of the

199
00:10:06,290 --> 00:10:03,180
fully integrated smart beniat satellite a the

200
00:10:09,139 --> 00:10:06,300
instruments are mounted on the

201
00:10:11,810 --> 00:10:09,149
main face of the satellite the disk you see

202
00:10:14,870 --> 00:10:11,820
in front this is the antenna that will

203
00:10:18,160 --> 00:10:14,880
help us communicate with the satellite

204
00:10:20,840 --> 00:10:18,170
with the earth a the

205
00:10:24,830 --> 00:10:20,850
magnetometers are mounted on

206
00:10:28,580 --> 00:10:24,840
the tips of the solar panels

207
00:10:33,170 --> 00:10:28,590
the satellite measures more It is about 37 feet

208
00:10:36,290 --> 00:10:33,180
long at about 15 meters, it weighs

209
00:10:38,730 --> 00:10:36,300
about 2 and a half thousand tons at

210
00:10:42,240 --> 00:10:38,740
5,600 pounds,

211
00:10:42,240 --> 00:10:44,249
it is about the size of a school bus, it

212
00:10:50,869 --> 00:10:47,999
also carries a package so that

213
00:10:53,519 --> 00:10:50,879

we can communicate with

214
00:10:55,949 --> 00:10:53,529
the rovers that are currently on

215
00:10:58,710 --> 00:10:55,959
earth the elektra packet but does

216
00:11:04,109 --> 00:10:58,720
the relay of the data from the rovers

217
00:11:09,030 --> 00:11:04,119
curiosity and opportunity of the

218
00:11:09,040 --> 00:11:13,720
the video please

219
00:11:18,340 --> 00:11:16,210
and here is a video of a little

220
00:11:21,480 --> 00:11:18,350
quick of the transportation of the satellite

221
00:11:25,720 --> 00:11:21,490
from denver to the kennedy space center

222
00:11:30,000 --> 00:11:25,730
here is the behind the container with

223
00:11:33,310 --> 00:11:30,010
the satellite leaving flight cc-17

224
00:11:36,610 --> 00:11:33,320
here is the satellite being mounted on

225
00:11:38,470 --> 00:11:36,620
the detrot action team

226
00:11:40,930 --> 00:11:38,480
at the kennedy space center where we did

227
00:11:41,820 --> 00:11:40,940
a lot of testing of the satellite before

228
00:11:45,700 --> 00:11:41,830
we could

229
00:11:48,910 --> 00:11:45,710
mount it aboard the cone of the rocket

230
00:11:54,700 --> 00:11:48,920
here is a test that we did

231
00:11:59,200 --> 00:11:57,270
and continuing there is a

232
00:12:01,150 --> 00:11:59,210
test that we did

233
00:12:03,400 --> 00:12:01,160
rotating to make sure that the

234
00:12:06,700 --> 00:12:03,410
satellite is completely balanced and

235
00:12:09,250 --> 00:12:06,710
that there is no problem with the

236
00:12:12,370 --> 00:12:09,260
instruments and with the satellite and in this

237
00:12:14,730 --> 00:12:12,380
in this portion we see the satellite being

238
00:12:21,760 --> 00:12:14,740

integrated with the

239
00:12:24,790 --> 00:12:21,770
cone of the rocket and it's already closed and it

240
00:12:26,770 --> 00:12:24,800
's already on top of the rocket and tomorrow he's going to

241
00:12:29,290 --> 00:12:26,780
tell you more about the rocket and the

242
00:12:34,460 --> 00:12:29,300
process we follow after

243
00:12:40,130 --> 00:12:36,280
are the most advanced classes

244
00:12:45,140 --> 00:12:40,140
activities that we have will be to move

245
00:12:47,810 --> 00:12:45,150
the rocket to the

246
00:12:51,830 --> 00:12:47,820
integration facility in the integration building

247
00:12:55,030 --> 00:12:51,840
to the launch field and this to load

248
00:12:57,879 --> 00:12:55,040
the fuel and of course this will

249
00:13:00,400 --> 00:12:57,889
launch it on Monday

250
00:13:04,280 --> 00:13:00,410
the launch is scheduled for

251
00:13:05,050 --> 00:13:04,290
Monday at 1 and 28 pm

252
00:13:16,249 --> 00:13:05,060
in

253
00:13:18,430 --> 00:13:16,259
the afternoon the trip to Mars after

254
00:13:21,110 --> 00:13:18,440
launch is going to be 10 months

255
00:13:25,610 --> 00:13:21,120
we launch in November and we are going to reach

256
00:13:26,980 --> 00:13:25,620
Mars in September 2014 the

257
00:13:29,120 --> 00:13:26,990
operations team is fully

258
00:13:31,069 --> 00:13:29,130
trained and ready to operate the

259
00:13:34,009 --> 00:13:31,079
satellite and the main science broadcast

260
00:13:38,059 --> 00:13:34,019
from the satellite is going to last for a year

261
00:13:40,759 --> 00:13:38,069
after a month once it reaches

262
00:13:42,519 --> 00:13:40,769
mars we take a month to check

263
00:13:45,559 --> 00:13:42,529

all the systems and

264
00:13:47,750 --> 00:13:45,569
then we proceed with a year of

265
00:13:50,420 --> 00:13:47,760
operations

266
00:13:54,260 --> 00:13:50,430
once we enter into orbit to

267
00:13:56,230 --> 00:13:54,270
mars it is a very elliptical orbit at the

268
00:13:59,330 --> 00:13:56,240
lowest part they will be 150

269
00:14:03,380 --> 00:13:59,340
kilometers at the highest part it is 6000

270
00:14:06,230 --> 00:14:03,390
kilometers and with that measurement the orbit goes

271
00:14:07,880 --> 00:14:06,240
to the dam for process and around

272
00:14:10,900 --> 00:14:07,890
the entire planet in order to capture

273
00:14:14,620 --> 00:14:10,910
all aspects of the latitudes of

274
00:14:16,780 --> 00:14:14,630
the Martian atmosphere

275
00:14:19,600 --> 00:14:16,790
the project has been

276
00:14:22,690 --> 00:14:19,610
consistently on time and under

277
00:14:25,750 --> 00:14:22,700
budget since we made

278
00:14:28,270 --> 00:14:25,760
the proposal in 2008 and we have the

279
00:14:31,690 --> 00:14:28,280
team is very excited we are very

280
00:14:36,910 --> 00:14:31,700
ready to make this project a

281
00:14:42,519 --> 00:14:39,430
well of course nothing happens without the

282
00:14:46,199 --> 00:14:42,529
people and it's all about the team and we

283
00:14:49,509 --> 00:14:46,209
are all very very excited about

284
00:14:52,439 --> 00:14:49,519
this mission this one in this photo you can see

285
00:14:54,370 --> 00:14:52,449
this part of the team in any way

286
00:14:57,069 --> 00:14:54,380
Those are all the people who have

287
00:14:59,439 --> 00:14:57,079
worked in the mission, but it is there and

288
00:15:01,480 --> 00:14:59,449

it is a team, as I said before, with

289
00:15:04,300 --> 00:15:01,490
a lot of tenacity, a lot of talent, and that we

290
00:15:06,519 --> 00:15:04,310
have reached this

291
00:15:09,970 --> 00:15:06,529
particular moment. I want to show you three

292
00:15:13,480 --> 00:15:09,980
people in this photo so that they

293
00:15:15,720 --> 00:15:13,490
can meet Mr. doctor bruce and

294
00:15:17,889 --> 00:15:15,730
chaos that is the

295
00:15:19,660 --> 00:15:17,899
main investigator of the mission is

296
00:15:23,470 --> 00:15:19,670
the man who is on the left in the

297
00:15:26,370 --> 00:15:23,480
photo holding the banner the man who

298
00:15:29,740 --> 00:15:26,380
is in the middle is the

299
00:15:33,940 --> 00:15:29,750
director of the mission he has said

300
00:15:36,130 --> 00:15:33,950
and the left hand is completely

301
00:15:39,280 --> 00:15:36,140
Carlos Gómez Rosas, Puerto

302
00:15:42,250 --> 00:15:39,290
Rico was born and he is going to be the

303
00:15:45,070 --> 00:15:42,260
operations manager of the mission and right now he

304
00:15:48,030 --> 00:15:45,080
is in Denver, he is getting ready to

305
00:15:51,329 --> 00:15:48,040
fly the satellite,

306
00:15:55,079 --> 00:15:51,339
we are very excited and excited about the

307
00:15:58,580 --> 00:15:55,089
success of this mission in the team,

308
00:16:01,370 --> 00:15:58,590
we are ready and eating Well,

309
00:16:04,610 --> 00:16:01,380
I want this to pass the microphone on to Diane

310
00:16:06,680 --> 00:16:04,620
right now, thanks Andrés, my name

311
00:16:08,720 --> 00:16:06,690
is Diana Calero and I'm the

312
00:16:10,370 --> 00:16:08,730
broadcast manager here for the launch

313
00:16:12,680 --> 00:16:10,380

service launch program

314
00:16:15,440 --> 00:16:12,690
here at the

315
00:16:18,200 --> 00:16:15,450
Kennedy Space Center and I want to

316
00:16:20,690 --> 00:16:18,210
talk to you a little about the procedure that

317
00:16:24,940 --> 00:16:20,700
is holds the rocket and the

318
00:16:27,490 --> 00:16:24,950
maiden spacecraft when they got here to kennedy

319
00:16:29,770 --> 00:16:27,500
as mission manager i am

320
00:16:32,740 --> 00:16:29,780
responsible for leading a team of

321
00:16:37,930 --> 00:16:32,750
engineers to procure

322
00:16:41,590 --> 00:16:37,940
launch service for maiden it was the 35th

323
00:16:44,140 --> 00:16:41,600
company online the team of engineers

324
00:16:45,510 --> 00:16:44,150
is in charge of verifying all the

325
00:16:49,000 --> 00:16:45,520
necessary requirements

326
00:16:51,990 --> 00:16:49,010
between maiden and the rocket and all the

327
00:16:54,690 --> 00:16:52,000
places where the ship is going to be processed

328
00:16:57,990 --> 00:16:54,700
we have the responsibility to ensure

329
00:17:01,010 --> 00:16:58,000
that the ship integrates properly with

330
00:17:05,760 --> 00:17:01,020
the rocket and that the launch

331
00:17:07,370 --> 00:17:05,770
of the mission is a success reaching the

332
00:17:10,730 --> 00:17:07,380
ship

333
00:17:13,490 --> 00:17:10,740
in its orbit required at the

334
00:17:15,670 --> 00:17:13,500
appropriate time appropriate and within your

335
00:17:19,250 --> 00:17:15,680
budget

336
00:17:23,510 --> 00:17:19,260
the me even spacecraft arrived at the

337
00:17:26,449 --> 00:17:23,520
kennedy center on august 2nd and was

338
00:17:28,880 --> 00:17:26,459

transported to the building the building

339
00:17:28,880 --> 00:17:30,890
containing the clean rooms where

340
00:17:37,910 --> 00:17:35,300
the spacecraft will be processed was finished assembling and it was

341
00:17:40,970 --> 00:17:37,920
subjected to different

342
00:17:43,400 --> 00:17:40,980
tests of all its systems before it was

343
00:17:46,160 --> 00:17:43,410
integrated with the rocket

344
00:17:48,950 --> 00:17:46,170
when the ship was finished from all its

345
00:17:51,860 --> 00:17:48,960
tests it was coupled with the

346
00:17:54,010 --> 00:17:51,870
rocket charging adapter and I have a video here

347
00:17:56,020 --> 00:17:54,020
that I want to show you

348
00:17:58,700 --> 00:17:56,030
here you can see the

349
00:18:01,160 --> 00:17:58,710
ship being it is encapsulated in the

350
00:18:05,529 --> 00:18:01,170
echo cone it will not protect maiden

351
00:18:05,529 --> 00:18:07,139
from the dynamic pressure of the

352
00:18:13,379 --> 00:18:10,589
wind bus during its flight through

353
00:18:16,739 --> 00:18:13,389
the atmosphere while

354
00:18:18,209 --> 00:18:16,749
maiden was being processed and the two stages of

355
00:18:21,839 --> 00:18:18,219
assembly of the rocket called

356
00:18:25,079 --> 00:18:21,849
booster and sit arrived on 21

357
00:18:28,799 --> 00:18:25,089
August 5 and they were processed for many

358
00:18:31,579 --> 00:18:28,809
tests horizontally when they finish

359
00:18:35,159 --> 00:18:31,589
processing horizontally it is

360
00:18:38,639 --> 00:18:35,169
transported to the integration building it is

361
00:18:40,609 --> 00:18:38,649
placed vertically and on October 11

362
00:18:47,570 --> 00:18:43,859
the booster was placed and three days later

363
00:18:52,019 --> 00:18:47,580

the center came on November 8

364
00:18:54,590 --> 00:18:52,029
came maiden and it got up and docked

365
00:18:58,610 --> 00:18:54,600
on top of the rocket

366
00:19:01,630 --> 00:18:58,620
whenever that happened so there is

367
00:19:03,710 --> 00:19:01,640
a series of tests that are done to

368
00:19:05,900 --> 00:19:03,720
prove that all the

369
00:19:07,580 --> 00:19:05,910
rocket systems together work well and also

370
00:19:10,470 --> 00:19:07,590
with it

371
00:19:18,890 --> 00:19:15,360
the booster has the hardware motor and that it

372
00:19:24,299 --> 00:19:18,900
has a fuel that in a type of

373
00:19:28,740 --> 00:19:24,309
refined kerosene and runs one and is

374
00:19:31,950 --> 00:19:28,750
propelled with 860 thousand pounds of impulse

375
00:19:36,659 --> 00:19:31,960
the center has the engine now he has

376
00:19:39,510 --> 00:19:36,669
in and that uses liquid hydrogen as

377
00:19:43,320 --> 00:19:39,520
fuel and uses liquid oxygen

378
00:19:45,539 --> 00:19:43,330
as an oxidizer and is propelled with about 22

379
00:19:47,970 --> 00:19:45,549
thousand pounds of impulse

380
00:19:51,060 --> 00:19:47,980
one or two days before launch

381
00:19:54,479 --> 00:19:51,070
the rocket is rolled as medium board the

382
00:19:54,479 --> 00:19:55,739
integration building to the launch pad

383
00:20:02,999 --> 00:19:59,519
here the rocket is monitored until

384
00:20:05,399 --> 00:20:03,009
launch day where the

385
00:20:07,729 --> 00:20:05,409
procedure of loading the

386
00:20:09,789 --> 00:20:07,739
rocket tanks with the fuel and then

387
00:20:12,609 --> 00:20:09,799
launch

388
00:20:16,960 --> 00:20:12,619

after the rocket takes off the

389
00:20:20,890 --> 00:20:16,970
booster turns off after about 4 minutes

390
00:20:25,090 --> 00:20:20,900
and then the center is understood and about

391
00:20:26,430 --> 00:20:25,100
13 minutes into the flight

392
00:20:29,879 --> 00:20:26,440
the cone detaches

393
00:20:31,940 --> 00:20:29,889
the center understands once more to

394
00:20:34,340 --> 00:20:31,950
reach its

395
00:20:38,129 --> 00:20:34,350
own trajectory

396
00:20:40,730 --> 00:20:38,139
and about an hour into the flight they separate they

397
00:20:42,960 --> 00:20:40,740
see me and go to Mars

398
00:20:46,680 --> 00:20:42,970
thank you

399
00:20:48,360 --> 00:20:46,690
first with a question that we have

400
00:20:50,610 --> 00:20:48,370
received through the

401
00:20:52,919 --> 00:20:50,620
internet network social networks these

402
00:20:55,590 --> 00:20:52,929
questions come to us directly from

403
00:20:57,230 --> 00:20:55,600
twitter the first The question that we have that did

404
00:21:01,080 --> 00:20:57,240
not arrive is

405
00:21:03,899 --> 00:21:01,090
from Daniel that you contribute now this mission

406
00:21:08,380 --> 00:21:03,909
that contributes to the arrival of the

407
00:21:15,220 --> 00:21:12,650
well then the mission of Marta de

408
00:21:18,050 --> 00:21:15,230
Milan is a scientific mission

409
00:21:21,830 --> 00:21:18,060
so we are focused on

410
00:21:25,100 --> 00:21:21,840
him trying to solve the mystery as

411
00:21:28,300 --> 00:21:25,110
I said but obviously we are part of the

412
00:21:31,220 --> 00:21:28,310
mars exploration program

413
00:21:32,680 --> 00:21:31,230

so obviously our science helps us

414
00:21:38,440 --> 00:21:34,930
to make this program

415
00:21:41,620 --> 00:21:38,450
so specifically we are going to

416
00:21:47,910 --> 00:21:41,630
better understand how planets work

417
00:21:51,630 --> 00:21:47,920
as systems and then it is part of d

418
00:21:53,700 --> 00:21:51,640
to send human beings to mars one

419
00:21:56,400 --> 00:21:53,710
day obviously we have to understand well

420
00:21:59,760 --> 00:21:56,410
how planets work as

421
00:22:03,810 --> 00:21:59,770
systems then from our mission

422
00:22:05,870 --> 00:22:03,820
this part of the program to explore

423
00:22:07,940 --> 00:22:05,880
mars

424
00:22:09,590 --> 00:22:07,950
thank you very much our prosperity

425
00:22:14,330 --> 00:22:09,600
question also came through

426
00:22:16,790 --> 00:22:14,340
twitter you don't ask it they cry moreno and

427
00:22:20,000 --> 00:22:16,800
the question of what are the risks when

428
00:22:21,440 --> 00:22:20,010
going to mars bleed be saved well for

429
00:22:25,490 --> 00:22:21,450
of course the risks of going to

430
00:22:28,700 --> 00:22:25,500
mars humans going to mars is good 10

431
00:22:32,420 --> 00:22:28,710
joy at the moment we last 10 months on the

432
00:22:33,740 --> 00:22:32,430
way to love you it is not an easy journey and

433
00:22:35,300 --> 00:22:33,750
the propulsion systems

434
00:22:37,460 --> 00:22:35,310
we currently have are not

435
00:22:40,340 --> 00:22:37,470
fast enough to make a

436
00:22:43,100 --> 00:22:40,350
human journey To Mars, a

437
00:22:47,810 --> 00:22:43,110
much faster production method will be required. There

438
00:22:51,710 --> 00:22:47,820

are also problems with radiation,

439
00:22:53,210 --> 00:22:51,720
as Chávez explained. To Mars, it does not have the

440
00:22:55,100 --> 00:22:53,220
magnetic field that the Earth has to

441
00:22:57,610 --> 00:22:55,110
protect humans, so we

442
00:23:00,440 --> 00:22:57,620
have to better understand the planet at

443
00:23:01,760 --> 00:23:00,450
a systems level. In order to

444
00:23:02,660 --> 00:23:01,770
know how we can protect

445
00:23:04,760 --> 00:23:02,670
humans,

446
00:23:06,910 --> 00:23:04,770
the radiation is going to be intense. The

447
00:23:10,370 --> 00:23:06,920
solar wind constantly hits the planet

448
00:23:13,390 --> 00:23:10,380
and we have to understand

449
00:23:17,590 --> 00:23:13,400
all these mechanisms before we can

450
00:23:19,810 --> 00:23:17,600
put humans on the planet.

451
00:23:22,210 --> 00:23:19,820
Thank you very much. This is the next question that

452
00:23:24,669 --> 00:23:22,220
comes from that you see stung through

453
00:23:26,830 --> 00:23:24,679
twitter also what will be the

454
00:23:30,320 --> 00:23:26,840
approximate duration of the mission and

455
00:23:32,750 --> 00:23:30,330
how long it will take to get there

456
00:23:35,330 --> 00:23:32,760
the duration of the mission will be one

457
00:23:37,330 --> 00:23:35,340
year once since we want all

458
00:23:40,279 --> 00:23:37,340
the systems

459
00:23:43,430 --> 00:23:40,289
we arrive at mars in september the series

460
00:23:46,460 --> 00:23:43,440
22 of 2014 and we are going to take more or less

461
00:23:47,990 --> 00:23:46,470
a month checking all the systems

462
00:23:52,310 --> 00:23:48,000
once all the systems are

463
00:23:54,919 --> 00:23:52,320

checked the year begins and this we are going

464
00:23:57,860 --> 00:23:54,929
to take all the data we need

465
00:24:00,110 --> 00:23:57,870
the satellite has enough fuel

466
00:24:02,360 --> 00:24:00,120
to be able to narrow the The

467
00:24:04,700 --> 00:24:02,370
scientific mission for seven more years has

468
00:24:08,049 --> 00:24:04,710
provided us with permission from NASA,

469
00:24:11,539 --> 00:24:08,059
NASA headquarters to be able to do

470
00:24:14,149 --> 00:24:11,549
is continue with the scientific mission, but

471
00:24:16,909 --> 00:24:14,159
in the year that we have planned,

472
00:24:22,090 --> 00:24:16,919
we will be able to take this all the science

473
00:24:24,730 --> 00:24:22,100
that we have planned for me. well

474
00:24:27,880 --> 00:24:24,740
ask also the least of the question

475
00:24:30,370 --> 00:24:27,890
comes from carlos a little interesting if there

476
00:24:32,049 --> 00:24:30,380
ever was life as it should have

477
00:24:33,789 --> 00:24:32,059
been

478
00:24:37,529 --> 00:24:33,799
as a dinosaur or a mammal which of the

479
00:24:40,930 --> 00:24:37,539
two do you think that would have been

480
00:24:43,600 --> 00:24:40,940
then as I said it is possible that mars I

481
00:24:48,010 --> 00:24:43,610
feel that it was a very warm place and

482
00:24:51,460 --> 00:24:48,020
humid when it was a planet of old

483
00:24:53,890 --> 00:24:51,470
it is possible that there was life on Mars but

484
00:24:57,580 --> 00:24:53,900
we don't have we don't

485
00:25:00,820 --> 00:24:57,590
know about it and it has risen although there

486
00:25:03,180 --> 00:25:00,830
is no there is no life on the surface of

487
00:25:05,910 --> 00:25:03,190
Mars today so if there is life and

488
00:25:08,710 --> 00:25:05,920

then it had to be

489
00:25:11,380 --> 00:25:08,720
microorganisms there below the

490
00:25:13,270 --> 00:25:11,390
surface of mars

491
00:25:16,630 --> 00:25:13,280
this next question i think is

492
00:25:19,690 --> 00:25:16,640
for diana more if it is from jose what is the

493
00:25:23,230 --> 00:25:19,700
most crucial part of the component of

494
00:25:27,160 --> 00:25:23,240
making the rocket eat in terms of the

495
00:25:29,950 --> 00:25:27,170
whole procedure that it takes

496
00:25:32,080 --> 00:25:29,960
well there are many there are many parts it is

497
00:25:34,450 --> 00:25:32,090
crucial Because so many tests are done

498
00:25:37,960 --> 00:25:34,460
when the rocket arrives here

499
00:25:41,720 --> 00:25:37,970
Kennedy to whom and also when it is being

500
00:25:48,530 --> 00:25:45,680
I think that it is more crucial when the

501
00:25:52,220 --> 00:25:48,540
ship is already up and docked with the

502
00:25:55,100 --> 00:25:52,230
rocket because if something happens there he

503
00:25:57,700 --> 00:25:55,110
the ship is there you can't do some

504
00:26:00,800 --> 00:25:57,710
Sometimes you cannot go to

505
00:26:02,080 --> 00:26:00,810
the ship, do anything, if you have to

506
00:26:05,360 --> 00:26:02,090
change a

507
00:26:07,910 --> 00:26:05,370
sensor or something, you have to change something in the

508
00:26:10,730 --> 00:26:07,920
rocket, yes, I believe that the time

509
00:26:12,740 --> 00:26:10,740
when the ship is on top

510
00:26:16,250 --> 00:26:12,750
of the rocket makes things more

511
00:26:18,649 --> 00:26:16,260
complicated. If there is a problem with a

512
00:26:20,749 --> 00:26:18,659
system or something, thank you

513
00:26:24,379 --> 00:26:20,759

very much. We have another question and

514
00:26:26,779 --> 00:26:24,389
it is convenient to also have the question.

515
00:26:29,149 --> 00:26:26,789
Are there similarities between the type of rock on

516
00:26:33,720 --> 00:26:29,159
the surface of Mars and those on Earth,

517
00:26:43,680 --> 00:26:38,250
so if there are clearly two, the two

518
00:26:46,409 --> 00:26:43,690
planets are planets of type of earth

519
00:26:48,419 --> 00:26:46,419
but then the stones that are on

520
00:26:52,649 --> 00:26:48,429
the surface of mars have much more

521
00:26:55,980 --> 00:26:52,659
iron than those here on earth and it

522
00:26:59,820 --> 00:26:55,990
is also something interesting there is partly

523
00:27:02,279 --> 00:26:59,830
that some of the stones have

524
00:27:06,450 --> 00:27:02,289
a very strong magnetic field stronger

525
00:27:08,490 --> 00:27:06,460
than the stones and here on earth that

526
00:27:12,110 --> 00:27:08,500
has a magnetic magnetic field

527
00:27:16,289 --> 00:27:12,120
so you should see some

528
00:27:19,430 --> 00:27:16,299
different minerals and what it contains that have the

529
00:27:21,840 --> 00:27:19,440
magnetic field

530
00:27:24,060 --> 00:27:21,850
and finally we have another question

531
00:27:27,150 --> 00:27:24,070
also that came from through your baby

532
00:27:29,430 --> 00:27:27,160
decide if irene the packages the

533
00:27:32,130 --> 00:27:29,440
caps of popular tuesday they are the

534
00:27:35,990 --> 00:27:32,140
most suitable proof of the presence of

535
00:27:36,000 --> 00:27:40,300
and so I

536
00:27:47,230 --> 00:27:43,110
have done more than anything is that basically

537
00:27:49,570 --> 00:27:47,240
Mars does not have much water and so the

538
00:27:51,880 --> 00:27:49,580

question is a good question because

539
00:27:54,820 --> 00:27:51,890
obviously that person does know some

540
00:27:57,010 --> 00:27:54,830
details about Mars because In general, it does not

541
00:28:00,130 --> 00:27:57,020
have a lot of water, but then, as

542
00:28:03,360 --> 00:28:00,140
the question says, if there is a little

543
00:28:05,769 --> 00:28:03,370
bit of water there on the planet and

544
00:28:08,950 --> 00:28:05,779
we know

545
00:28:12,219 --> 00:28:08,960
using our Robert Kurz link that

546
00:28:14,889 --> 00:28:12,229
is on the surface that the dust from

547
00:28:18,599 --> 00:28:14,899
Mars has a little bit of water inside

548
00:28:23,430 --> 00:28:18,609
it. dust and also, as the

549
00:28:26,739 --> 00:28:23,440
question says, the caps of

550
00:28:29,739 --> 00:28:26,749
Mars also have water and a

551
00:28:33,159 --> 00:28:29,749
little water of love and so in

552
00:28:34,869 --> 00:28:33,169
general there is not much water but there is plenty of

553
00:28:36,700 --> 00:28:34,879
evidence that there is a little water

554
00:28:38,350 --> 00:28:36,710
and good morning

555
00:28:39,519 --> 00:28:38,360
and one question I think all the

556
00:28:41,769 --> 00:28:39,529
public that is most likely

557
00:28:44,529 --> 00:28:41,779
wondering that they are not seeing is what

558
00:28:46,690 --> 00:28:44,539
is the difference between this mission and the

559
00:28:49,810 --> 00:28:46,700
other mission to mars that we have had that we are

560
00:28:51,490 --> 00:28:49,820
going to discover differently

561
00:28:55,410 --> 00:28:51,500
during this mission I don't know if maybe

562
00:29:01,530 --> 00:28:59,520
well this one I am going to start is different

563
00:29:06,350 --> 00:29:01,540

because this is a scientific mission that is going to

564
00:29:08,250 --> 00:29:06,360
love you it is a mission that in a

565
00:29:10,950 --> 00:29:08,260
certain way has many similarities

566
00:29:13,890 --> 00:29:10,960
with the meteorological satellites that

567
00:29:16,740 --> 00:29:13,900
we return here on earth not

568
00:29:19,440 --> 00:29:16,750
exactly as but but it is going to analyze

569
00:29:21,600 --> 00:29:19,450
the atmosphere of mars or are you going to try to

570
00:29:25,470 --> 00:29:21,610
understand the atmosphere of mars at a

571
00:29:26,880 --> 00:29:25,480
system level to try to see how it

572
00:29:30,390 --> 00:29:26,890
works what are the

573
00:29:34,830 --> 00:29:30,400
escape methods is the other missions will be more

574
00:29:38,550 --> 00:29:34,840
is to see what the terrain was like and how

575
00:29:41,700 --> 00:29:38,560
this formations They were on the

576
00:29:44,640 --> 00:29:41,710
planet Mars, it was going to be in a

577
00:29:47,070 --> 00:29:44,650
more scientific way, more focused on the

578
00:29:49,620 --> 00:29:47,080
atmosphere and maybe they can add a

579
00:29:53,880 --> 00:29:49,630
little more care to that,

580
00:29:55,920 --> 00:29:53,890
yes and no more, to clarify something very

581
00:29:58,890 --> 00:29:55,930
simple but important in our

582
00:30:01,980 --> 00:29:58,900
missions and it will go in orbit around

583
00:30:04,710 --> 00:30:01,990
mars since yesterday to the surface like

584
00:30:07,680 --> 00:30:04,720
the rovers that are there right now

585
00:30:09,900 --> 00:30:07,690
so it's something different

586
00:30:13,050 --> 00:30:09,910
and very important and also as

587
00:30:16,110 --> 00:30:13,060
sandra was saying our mission is

588
00:30:18,210 --> 00:30:16,120

focused specifically on one question

589
00:30:20,760 --> 00:30:18,220
it's scientific

590
00:30:22,880 --> 00:30:20,770
so obviously the others are

591
00:30:25,990 --> 00:30:22,890
doing

592
00:30:28,730 --> 00:30:26,000
science too but our mission

593
00:30:31,250 --> 00:30:28,740
has a complete package all the

594
00:30:35,720 --> 00:30:31,260
instruments we need to ask

595
00:30:37,670 --> 00:30:35,730
and answer the questions so it's a

596
00:30:40,190 --> 00:30:37,680
little bit different so all the

597
00:30:42,110 --> 00:30:40,200
instruments work together we have to

598
00:30:44,750 --> 00:30:42,120
have all the instruments to do

599
00:30:47,180 --> 00:30:44,760
our science i

600
00:30:49,940 --> 00:30:47,190
'm going to check i think maybe we have

601
00:30:51,200 --> 00:30:49,950
a call someone who

602
00:30:52,870 --> 00:30:51,210
has a question about the phone lines I

603
00:31:00,790 --> 00:30:57,510
don't know if I can confirm that but

604
00:31:02,470 --> 00:31:00,800
it seems that we don't have anyone and it seems

605
00:31:04,390 --> 00:31:02,480
that the last question that they are

606
00:31:08,180 --> 00:31:04,400
sending us through twitter is what

607
00:31:12,370 --> 00:31:08,190
fuel do they use for this mission

608
00:31:16,110 --> 00:31:12,380
the satellite itself uses of zinc I

609
00:31:19,150 --> 00:31:16,120
don't know the exact delusion of the

610
00:31:21,730 --> 00:31:19,160
name of the fuel but that's

611
00:31:25,860 --> 00:31:21,740
what the satellite has and the rocket uses

612
00:31:30,040 --> 00:31:25,870
another variety of fuels and

613
00:31:32,950 --> 00:31:30,050

the fuel booster rocket is

614
00:31:35,200 --> 00:31:32,960
called number one rocket propellant

615
00:31:41,030 --> 00:31:35,210
as it is a type of

616
00:31:43,430 --> 00:31:41,040
refined kerosene and in the center he uses

617
00:31:47,710 --> 00:31:43,440
liquid hydrogen and they both use

618
00:31:52,120 --> 00:31:49,750
well we thank the finalists

619
00:31:54,880 --> 00:31:52,130
I don't know if you want to add something but with

620
00:31:57,039 --> 00:31:54,890
that we are going to conclude our

621
00:31:58,090 --> 00:31:57,049
press conference today we want to thank

622
00:32:00,430 --> 00:31:58,100
all of you who They have accompanied us

623
00:32:04,020 --> 00:32:00,440
here and those who are not accompanied

624
00:32:06,070 --> 00:32:04,030
through television with ctv and

625
00:32:08,279 --> 00:32:06,080
also those who have not sent their

626
00:32:12,520 --> 00:32:08,289
question through social networks

627
00:32:14,520 --> 00:32:12,530
remember to tune in to nace atv

628
00:32:17,560 --> 00:32:14,530
on Monday, which is the day of the launch,

629
00:32:19,779 --> 00:32:17,570
they are committed to that from 1:28 in

630
00:32:22,980 --> 00:32:19,789
the afternoon it will be launching on an

631
00:32:22,980 --> 00:32:25,140
atlas 5 rocket.

632
00:32:44,729 --> 00:32:41,789
we have an available that

633
00:32:47,180 --> 00:32:44,739
and you can also follow us through the

634
00:32:49,609 --> 00:32:47,190
web

635
00:32:52,080 --> 00:32:49,619
www.lan.com we

636
00:32:54,419 --> 00:32:52,090
thank you very much for being here

637
00:32:55,979 --> 00:32:54,429
with us today our panelists