
NASA
SPACEX
SPACEX

1
00:00:05,049 --> 00:00:06,209
>>> GOOD AFTERNOON, EVERYONE.

2
00:00:06,209 --> 00:00:10,610
THIS IS THE PRELAUNCH NEWS
CONFERENCE FOR THE NASA SPACEX

3
00:00:10,610 --> 00:00:11,610
C.O.T.S.

4
00:00:11,610 --> 00:00:12,800
DEMONSTRATION FLIGHT.

5
00:00:12,800 --> 00:00:17,130
AND HERE TO DISCUSS THE UPCOMING
LAUNCH AND THE MISSION IS FILL

6
00:00:17,130 --> 00:00:21,439
McALISTER, THE DIRECTOR FOR NASA
COMMERCIAL SPACE FLIGHT

7
00:00:21,439 --> 00:00:28,019
DEVELOPMENT, ALLEN LINDENMOYER,
THE MANAGER FOR THE NASA

8
00:00:28,019 --> 00:00:34,220
COMMERCIAL CREW AND CARGO
PROGRAM, GWEN SHOPWELL, THE

9
00:00:34,220 --> 00:00:40,559
PRESIDENT OF SPACEX, AND JOEL
TUMBIOLO, THE LAUNCH WEATHER

10
00:00:40,559 --> 00:00:43,930
OFFICER FROM THE 45th WEATHER
SQUADRON AT CAPE CANAVERAL AIR

11
00:00:43,930 --> 00:00:44,930
FORCE PARTICIPATION.

12
00:00:44,930 --> 00:00:48,469
NOW, WE'LL BEGIN FIRST WITH
OPENING REMARKS FROM PHIL

13
00:00:48,469 --> 00:00:49,559
McALISTER.

14
00:00:49,559 --> 00:00:50,640
PHIL?

15
00:00:50,640 --> 00:00:51,679
>> THANKS VERY MUCH.

16
00:00:51,679 --> 00:00:55,820
SO, FIRST OFF, I'D LIKE TO JUST
CONGRATULATE MY FELLOW

17
00:00:55,820 --> 00:00:56,820
ANIMALISTS HERE.

18
00:00:56,820 --> 00:01:00,690
AL AND GWIN AND THE
ORGANIZATIONS THAT THEY

19
00:01:00,690 --> 00:01:03,719
REPRESENT FOR GETTING US THIS
FAR.

20
00:01:03,719 --> 00:01:05,220
IT REALLY IS A SIGNIFICANT
ACHIEVEMENT.

21
00:01:05,220 --> 00:01:11,260
WE'RE ON THE EVE OF A VERY BIG
MISSION, AND IT'S BEEN -- AND IT

22
00:01:11,260 --> 00:01:15,070
ITS CHALLENGES ALONG THE WAY,

GETTING THIS FAR AND ALSO FOR

23
00:01:15,070 --> 00:01:19,910
THE PARTNERSHIP WE'VE BEEN ABLE
TO FORGE BETWEEN NASA AND SPACEX

24
00:01:19,910 --> 00:01:23,280
HAS BEEN A HUGE SUCCESS STORY.

25
00:01:23,280 --> 00:01:27,150
IT'S ESTIMATED THAT WELL OVER
HALF OF STRATEGIC PARTNERSHIPS

26
00:01:27,150 --> 00:01:28,330
FAIL.

27
00:01:28,330 --> 00:01:33,780
SOME PUT THAT NUMBER CLOSER TO
80% AND YET, THIS PARTNERSHIP

28
00:01:33,780 --> 00:01:36,750
WITH TWO DIFFERENT
ORGANIZATIONS, TWO DIFFERENT

29
00:01:36,750 --> 00:01:39,410
CULTURES, EXPECTATIONS,
HISTORIES, HAVE COME TOGETHER

30
00:01:39,410 --> 00:01:43,150
AND STOOD THE TEST OF TIME, AND
WE HAVE REALLY FORGED A

31
00:01:43,150 --> 00:01:45,910
SUCCESSFUL RELATIONSHIP THAT'S
BEEN A VERY, VERY DIFFICULT

32
00:01:45,910 --> 00:01:47,930
THING, MANY CHALLENGES ALONG THE
WAY.

33
00:01:47,930 --> 00:01:52,170
AND YET, HERE WE ARE ON THIS EVE
OF THIS TEST FLIGHT.

34
00:01:52,170 --> 00:01:55,330
SO REGARDLESS OF WHAT HAPPENS
TOMORROW, I DO WANT TO

35
00:01:55,330 --> 00:01:58,210
CONGRATULATE BOTH ALLEN AND
GWYNNE AND THE ORGANIZATIONS

36
00:01:58,210 --> 00:02:00,230
THEY REPRESENT FOR GETTING US
THIS FAR.

37
00:02:00,230 --> 00:02:03,150
SO, I THINK THAT'S A GOOD SEGUE
INTO WHAT'S GOING TO HAPPEN

38
00:02:03,150 --> 00:02:05,300
TOMORROW.

39
00:02:05,300 --> 00:02:07,820
WE HAVE SAID MANY TIMES, AND I
THINK IT BEARS REPEATING, THAT

40
00:02:07,820 --> 00:02:10,860
THIS IS A TEST FLIGHT.

41
00:02:10,860 --> 00:02:13,820
NASA VIEWS TEST FLIGHTS
PRIMARILY AS LEARNING

42
00:02:13,820 --> 00:02:14,820
OPPORTUNITIES.

43
00:02:14,820 --> 00:02:18,750
THEY DON'T FIT VERY NEATLY INTO

CHARACTERIZATIONS OF SUCCESS AND

44
00:02:18,750 --> 00:02:20,160
FAILURE.

45
00:02:20,160 --> 00:02:24,370
WE KIND OF VIEW ANY TEST FLIGHT
TO BE A LEARNING OPPORTUNITY.

46
00:02:24,370 --> 00:02:27,420
AND IF IT GETS US IN A BETTER
POSTURE TO FLY THE NEXT TIME,

47
00:02:27,420 --> 00:02:29,040
THEN THAT'S REALLY A GOOD THING.

48
00:02:29,040 --> 00:02:32,670
FROM MY STANDPOINT PERSONALLY,
THIS MISSION WAS SUPPOSED TO BE

49
00:02:32,670 --> 00:02:36,380
JUST THE ORIGINAL C-2 MISSION,
WHICH WAS PRIMARILY MEANT TO

50
00:02:36,380 --> 00:02:41,641
DEMONSTRATION THE "DRAGON'S"
RENDEZVOUS AND PROXIMITY IN AND

51
00:02:41,641 --> 00:02:42,690
AROUND THE ISS.

52
00:02:42,690 --> 00:02:47,020
SO, TO THE EXTENT THAT SPACEX
ACHIEVES MOST OR ALL OF THOSE

53
00:02:47,020 --> 00:02:50,510
TEST OBJECTIVES, THAT WILL BE A
VERY GOOD THING AND I PERSONALLY

54

00:02:50,510 --> 00:02:52,170
WILL BE PLEASED WITH THE TEST.

55
00:02:52,170 --> 00:02:53,810
NOTICE I'M NOT SAYING SUCCESS.

56
00:02:53,810 --> 00:02:55,819
I'M SAYING I'LL BE PLEASED WITH
THE TEST.

57
00:02:55,819 --> 00:03:00,410
AND THEN TO THE EXTENT WE CAN
ACHIEVE SOME OR MOST OR ALL OF

58
00:03:00,410 --> 00:03:03,880
THE C-3 OBJECTIVES, THEN THAT
WILL BE EVEN BETTER.

59
00:03:03,880 --> 00:03:05,330
SO I'M REALLY LOOKING FORWARD TO
IT.

60
00:03:05,330 --> 00:03:07,959
AND JUST ONE OTHER THING THAT
BEARS REPEATING.

61
00:03:07,959 --> 00:03:12,620
WHILE THIS IS A SEMINOLE MOMENT,
IT'S A BIG MISSION, WE REALLY

62
00:03:12,620 --> 00:03:16,890
ARE JUST TALKING ABOUT ONE PIECE
OF NASA'S OVERALL PORTFOLIO.

63
00:03:16,890 --> 00:03:21,870
WE HAVE THE LARGEST SPAKE EVER
ON ITS WAY TO MARS RIGHT NOW.

64
00:03:21,870 --> 00:03:25,260
WE'VE GOT A DEEP SPACE CAPSULE

IN DEVELOPMENT AS WELL AS THE

65
00:03:25,260 --> 00:03:27,840
HEAVY LIFT LAUNCH VEHICLE IN
DEVELOPMENT, AS WELL AS

66
00:03:27,840 --> 00:03:31,010
THOUSANDS OF EXPERIMENTS AND
PAYLOADS THAT WE PLAN TO DO ON

67
00:03:31,010 --> 00:03:32,240
THE INTERNATIONAL SPACE STATION.

68
00:03:32,240 --> 00:03:35,330
SO NASA'S STILL GOING TO BE
PUSHING THE STATE-OF-THE-ART,

69
00:03:35,330 --> 00:03:38,360
DOING THOSE THINGS WE HAVE BEEN
DOING OVER THE DECADES.

70
00:03:38,360 --> 00:03:41,740
BUT IN ORDER FOR US TO ACTUALLY
BE ABLE TO AFFORD TO DO THOSE

71
00:03:41,740 --> 00:03:48,090
THINGS, WE FEEL LIKE IT'S TIME
AND READY FOR US TO TURN CARGO

72
00:03:48,090 --> 00:03:49,780
FOR DELIVERY TO THE
INTERNATIONAL SPACE STATION OVER

73
00:03:49,780 --> 00:03:55,410
TO THE PRIVATE SECTOR, ALLOWING
NASA TO TAKE SAVINGS AND PLOW IT

74
00:03:55,410 --> 00:03:58,340
INTO OTHER THINGS THAT WE'RE
GOING TO BE CONTINUING TO DO IN

75
00:03:58,340 --> 00:04:00,709
THE YEARS AND MONTHS AHEAD.

76
00:04:00,709 --> 00:04:01,709
WITH THAT, THANKS.

77
00:04:01,709 --> 00:04:03,200
I'LL SEND IT BACK TO GEORGE.

78
00:04:03,200 --> 00:04:04,660
>> ALL RIGHT, THANK YOU, PHIL.

79
00:04:04,660 --> 00:04:08,819
AND NOW TO ALLEN LINDENMORE,
MANAGER FOR NASA'S CREW AND

80
00:04:08,819 --> 00:04:11,250
CARGO PROGRAM.

81
00:04:11,250 --> 00:04:12,250
>> THANK YOU, GEORGE.

82
00:04:12,250 --> 00:04:16,299
WELL, THIS IS CERTAINLY A VERY
EXCITING DAY.

83
00:04:16,299 --> 00:04:19,691
WE'VE BEEN WORKING VERY HARD TO
GET TO THIS POINT, SO I'M SO

84
00:04:19,691 --> 00:04:23,870
PROUD OF OUR TEAMS THAT HAVE
WORKED SO HARD OVER THE YEARS

85
00:04:23,870 --> 00:04:27,020
AND THE PARTNERSHIP THAT WE'VE
DEVELOPED WITH SPACEX, AND

86
00:04:27,020 --> 00:04:32,680
ESPECIALLY OVER THE LAST FEW
WEEKS DOING THIS FINAL WORK TO

87
00:04:32,680 --> 00:04:37,169
BE SURE WE COULD DO EVERYTHING
WE COULD POSSIBLY DO TO HELP

88
00:04:37,169 --> 00:04:39,189
ASSURE THE SUCCESS OF THIS
MISSION.

89
00:04:39,189 --> 00:04:44,289
IT WAS CERTAINLY A GREAT EFFORT
BY EVERYBODY, AND THIS IS HARD.

90
00:04:44,289 --> 00:04:48,650
THIS MISSION IS EXTREMELY
COMPLICATED.

91
00:04:48,650 --> 00:04:54,740
THIS IS NOT EASY TO -- THE
ENERGY INVOLVED, THE PRECISION

92
00:04:54,740 --> 00:04:59,330
REQUIRED TO GET TO THE THOUSANDS
OF PARTS TO ALL WORK PERFECTLY

93
00:04:59,330 --> 00:05:06,039
TOGETHER TO ACHIEVE ORBIT AND
BERTHING WITH THE SPACE STATION

94
00:05:06,039 --> 00:05:10,030
IS EXTREMELY COMPLEX.

95
00:05:10,030 --> 00:05:12,199
WE'VE ESTABLISHED THESE
INCREMENTAL MILESTONES WITH

96

00:05:12,199 --> 00:05:15,729
SPACEX AND THEY HAVE ACHIEVES
ALL THESE MILESTONES ALONG THE

97
00:05:15,729 --> 00:05:21,620
WAY, SO THIS COULD BE THE LAST
MILESTONE IN OUR AGREEMENT TO

98
00:05:21,620 --> 00:05:22,830
COMPLETE THIS DEMONSTRATION

99
00:05:22,830 --> 00:05:23,860
PHASE.

100
00:05:23,860 --> 00:05:28,669
LET'S TALK ABOUT THE FIRST
EXPLORATION SPACEX ACHIEVED IN

101
00:05:28,669 --> 00:05:30,229
2010.

102
00:05:30,229 --> 00:05:33,659
THAT WAS THE FIRST DEMONSTRATION
FOR OUR C.O.T.S.

103
00:05:33,659 --> 00:05:34,659
PROGRAM.

104
00:05:34,659 --> 00:05:36,949
THAT WAS DIFFICULT IN ITSELF.

105
00:05:36,949 --> 00:05:40,819
THE FIRST -- ACTUALLY, IT WAS
THE SECOND FLIGHT OF THE

106
00:05:40,819 --> 00:05:45,449
BRAND-NEW "FALCON 9" ROCKET,
FIRST FLIGHT OF THE "DRAGON"

107

00:05:45,449 --> 00:05:48,919
SPACECRAFT THAT SUCCESSFULLY
ACHIEVED ORBIT, 2 1/2 ORBITS

108
00:05:48,919 --> 00:05:53,059
LATER RE-ENTERED AND WAS
RECOVERED.

109
00:05:53,059 --> 00:05:56,990
AND THAT, OF COURSE, WAS MAKING
HISTORY IN ITSELF.

110
00:05:56,990 --> 00:05:58,830
THIS TIME, IT IS MUCH MORE
COMPLICATED.

111
00:05:58,830 --> 00:06:01,219
LET ME TALK ABOUT THIS MISSION.

112
00:06:01,219 --> 00:06:06,050
THIS "DRAGON" IS GOING TO BE THE
FIRST VEHICLE, SPACECRAFT THAT

113
00:06:06,050 --> 00:06:09,740
SPACEX HAS DEVELOPED WITH A HEAT
REJECTION AND POWER GENERATION

114
00:06:09,740 --> 00:06:10,740
SYSTEM.

115
00:06:10,740 --> 00:06:12,999
THAT MEANS IT'S THE FIRST TIME
YOU WILL SEE THE SPACECRAFT

116
00:06:12,999 --> 00:06:17,520
DEPLOY ITS SOLAR ARRAYS IN ORDER
TO GENERATE POWER DURING THE

117
00:06:17,520 --> 00:06:18,520
MISSION.

118
00:06:18,520 --> 00:06:22,330
IT WILL HAVE A JETTISONED SOLAR
ARRAY COVERS THAT MUST COME OFF.

119
00:06:22,330 --> 00:06:26,710
IT HAS A CHARGING SYSTEM, COOLER
PUMPS, RADIATOR, CABIN

120
00:06:26,710 --> 00:06:30,029
CIRCULATION FANS AND ALL THIS
EQUIPMENT THAT IS NECESSARY IN

121
00:06:30,029 --> 00:06:33,689
ORDER TO MEET THE REQUIREMENTS
FOR MEETING WITH THE

122
00:06:33,689 --> 00:06:36,199
INTERNATIONAL SPACE STATION.

123
00:06:36,199 --> 00:06:40,029
THIS DRAGON WILL BE THE FIRST
TIME WE'LL SEE THE FLIGHT OF THE

124
00:06:40,029 --> 00:06:44,529
RENDEZVOUS IN PROXIMITY SENSORS,
THE LIDARS AND IMAGERS THAT ARE

125
00:06:44,529 --> 00:06:47,939
REQUIRED TO GIVE THE PROPER
RANGE AND RANGE RATE INFORMATION

126
00:06:47,939 --> 00:06:54,499
AS THE VEHICLE GETS CLOSER AND
CLOSER TO THE SPACE STATION.

127
00:06:54,499 --> 00:06:59,099
THIS IS THE FIRST TIME THAT
SPACEX IS FLYING A COMMON

128
00:06:59,099 --> 00:07:00,800
BIRTHING MECHANISM.

129
00:07:00,800 --> 00:07:04,020
THIS IS THE MECHANISM THAT'S
USED ON ALL OF THE VEHICLES THAT

130
00:07:04,020 --> 00:07:09,199
ATTACH, THAT ARE BIRTHED TO THE
SPACE STATION.

131
00:07:09,199 --> 00:07:12,990
THAT IS ASSEMBLED ON TO THIS
DRAGON AS WELL AS A HATCH.

132
00:07:12,990 --> 00:07:16,490
THIS IS THE FIRST TIME WE'LL SEE
THE OPERATION OF A HATCH THAT

133
00:07:16,490 --> 00:07:20,569
SPACEX DEVELOPED, SO WE CAN
ENTER THE VEHICLE.

134
00:07:20,569 --> 00:07:26,020
SO, ALSO THE FIRST TIME WE'LL
SEE THE OPERATION OF THE NEW

135
00:07:26,020 --> 00:07:27,599
FLIGHT COMPUTERS ON THE VEHICLE.

136
00:07:27,599 --> 00:07:31,479
THESE ARE SPECIALLY REDUNDANT
COMPUTERS IN ORDER TO MEET THE

137
00:07:31,479 --> 00:07:35,831
REQUIREMENTS NECESSARY FOR THE
SAFETY REQUIREMENTS OF THE SPACE

138
00:07:35,831 --> 00:07:36,831

STATION.

139
00:07:36,831 --> 00:07:40,169
SO, THOSE WILL BE DEMONSTRATED
ON THIS MISSION.

140
00:07:40,169 --> 00:07:43,999
AND THIS IS ALSO THE FIRST TIME
WE'LL SEE THE TRUNK SEPARATED

141
00:07:43,999 --> 00:07:46,949
FROM THE "DRAGON" SPACECRAFT.

142
00:07:46,949 --> 00:07:50,629
ON THE PREVIOUS MISSION WHEN THE
DRAGON WAS SEPARATED RIGHT AT

143
00:07:50,629 --> 00:07:51,629
THE TRUNK PLAIN.

144
00:07:51,629 --> 00:07:55,089
THYME, THE TRUNK AND DRAGON WILL
BE SEPARATED FROM THE SECOND

145
00:07:55,089 --> 00:07:58,249
STAGE, FLY OUT OF THE WAYSTATION
AND THEN IT WILL BE SEPARATED

146
00:07:58,249 --> 00:07:59,759
BEFORE THE RE-ENTRY.

147
00:07:59,759 --> 00:08:03,219
WE'LL ALSO SEE THE FIRST-TIME
OPERATION OF THE

148
00:08:03,219 --> 00:08:07,539
SPACEX-DEVELOPED C.O.T.S./UHF
COMMUNICATIONS UNIT, WHICH A

149

00:08:07,539 --> 00:08:10,669
RADIO SPACEX HAS BUILT THAT HAS
ALREADY BEEN FLOWN AND

150
00:08:10,669 --> 00:08:12,789
PREPOSITIONED ON THE SPACE
STATION.

151
00:08:12,789 --> 00:08:14,740
THIS IS GOING TO ALLOW
COMMUNICATIONS BETWEEN THE

152
00:08:14,740 --> 00:08:18,340
STATION AND THE DRAGON DURING
THE MISSION AS WELL AS A CREW

153
00:08:18,340 --> 00:08:24,110
COMMAND PANEL THAT CAN GIVE
SPECIFIC COMMANDS TO THE

154
00:08:24,110 --> 00:08:25,110
VEHICLE.

155
00:08:25,110 --> 00:08:26,789
SO THERE'S A LOT OF FIRSTS.

156
00:08:26,789 --> 00:08:27,999
FIRST FLIGHT WAS TOUGH.

157
00:08:27,999 --> 00:08:32,339
THIS IS EVEN MORE COMPLEX.

158
00:08:32,339 --> 00:08:34,450
IT IS A TEST FLIGHT.

159
00:08:34,450 --> 00:08:38,699
EVERYTHING IS A LEARNING
EXPERIENCE, SO WE'RE CERTAINLY

160

00:08:38,699 --> 00:08:44,329
GOING TO HAVE A LOT OF LEARNING
ON THIS FLIGHT.

161
00:08:44,329 --> 00:08:47,529
SO, THIS PROGRAM REPRESENTS A
NEW WAY OF DOING BUSINESS FOR

162
00:08:47,529 --> 00:08:49,290
NASA, AND YOU HEAR US TALK ABOUT
THAT.

163
00:08:49,290 --> 00:08:51,810
I WANT TO TALK ABOUT THAT A
MINUTE.

164
00:08:51,810 --> 00:08:54,339
INSTEAD OF USING TRADITIONAL
CONTRACTING APPROACHES, WE'RE

165
00:08:54,339 --> 00:08:56,440
USING A COMMERCIAL MODEL.

166
00:08:56,440 --> 00:08:58,209
SO, WHAT DOES THAT MEAN?

167
00:08:58,209 --> 00:09:03,680
THAT MEANS IT STARTS WITH A
SOLID VALUE PROPOSITION.

168
00:09:03,680 --> 00:09:08,240
COMPANIES HAVE PROPOSED TO US
SOMETHING UNIQUE, SOMETHING THAT

169
00:09:08,240 --> 00:09:13,600
WAS SPECIAL, SOMETHING THAT HAD
VALUE, THAT THEY BELIEVED COULD

170
00:09:13,600 --> 00:09:18,220
BE STRONG ENOUGH TO CAPTURE A

SHARE OF THE EXISTING MARKET, OR

171
00:09:18,220 --> 00:09:21,250
PERHAPS CREATE AND OPEN NEW
MARKETS.

172
00:09:21,250 --> 00:09:26,300
SO, WE HAD THIS COMPETITION IN
2006, AND THAT WAS THE CORE OF

173
00:09:26,300 --> 00:09:29,110
WHAT WE WERE LOOKING FOR -- WHAT
IS THE VALUE PROPOSITION, WHAT

174
00:09:29,110 --> 00:09:35,120
IS IT THAT IS DIFFERENT, THAT
CAN HELP LOWER THE COST AND MAKE

175
00:09:35,120 --> 00:09:39,130
SPACE MORE ACCESSIBLE?

176
00:09:39,130 --> 00:09:42,050
THEN YOU HAVE TO ACHIEVE THE
FINANCING.

177
00:09:42,050 --> 00:09:45,230
YOU MUST SECURE THE FINANCING
AND THE CAPITAL RESOURCES

178
00:09:45,230 --> 00:09:48,089
NECESSARY TO BRING THIS PRODUCT
TO MARKET.

179
00:09:48,089 --> 00:09:51,660
ASSUMING THAT'S SUCCESSFUL, THEN
OF COURSE, YOU ENTER INTO THE

180
00:09:51,660 --> 00:09:53,970
DESIGN, THE FABRICATION AND THE
TEST PHASE.

181
00:09:53,970 --> 00:09:58,209
AND FINALLY, YOU BRING THE
PRODUCT TO MARKET, SELL IT AND,

182
00:09:58,209 --> 00:10:01,100
HOPEFULLY, YOU HAVE A PROFITABLE
ENTERPRISE.

183
00:10:01,100 --> 00:10:03,449
SO, THAT'S THE COMMERCIAL MODEL.

184
00:10:03,449 --> 00:10:06,079
THAT'S WHAT WE'RE USING.

185
00:10:06,079 --> 00:10:11,759
SPACEX WAS A VERY STRONG
CONTENDER IN OUR COMPETITION,

186
00:10:11,759 --> 00:10:13,620
AND WE BELIEVE THEY HAD ONE OF
THE STRONGEST VALUE

187
00:10:13,620 --> 00:10:15,700
PROPOSITIONS.

188
00:10:15,700 --> 00:10:19,230
WE APPLIED SOME OF THE FINANCING
TO HELP THIS MOVE ALONG, NOT

189
00:10:19,230 --> 00:10:20,630
ALL.

190
00:10:20,630 --> 00:10:23,959
WE ARE INVESTOR IN THE PROJECT.

191
00:10:23,959 --> 00:10:28,329
AND OF COURSE, I WOULD SAY IT
HAS BEEN QUITE SUCCESSFUL SO FAR

192
00:10:28,329 --> 00:10:30,560
WITH THE DEVELOPMENT OF THE
"FALCON 9," AND THEY HAVE

193
00:10:30,560 --> 00:10:33,329
ALREADY LINED UP A NUMBER OF
CUSTOMERS TO ACHIEVE A

194
00:10:33,329 --> 00:10:36,160
SUSTAINABLE BUSINESS.

195
00:10:36,160 --> 00:10:39,930
I THINK THIS IS AN EXAMPLE OF
AMERICAN ENTREPRENEURSHIP AT ITS

196
00:10:39,930 --> 00:10:43,160
BEST.

197
00:10:43,160 --> 00:10:50,560
SO, OF COURSE, WE WISH THE BEST
OF LUCK TO SPACEX TONIGHT, AND

198
00:10:50,560 --> 00:10:54,770
WE'RE LOOKING FORWARD TO MANY
MORE MISSIONS AND REGULAR CARGO

199
00:10:54,770 --> 00:10:56,959
SERVICE FLIGHTS TO THE
INTERNATIONAL SPACE STATION.

200
00:10:56,959 --> 00:10:58,680
>> THANK YOU, ALAN.

201
00:10:58,680 --> 00:11:00,480
AND NOW TO SPACEX.

202
00:11:00,480 --> 00:11:03,870
GWYNNE SHOTWELL, WHO'S THE

PRESIDENT OF SPACEX.

203
00:11:03,870 --> 00:11:04,890
GWYNNE.

204
00:11:04,890 --> 00:11:07,399
>> IT'S PROBABLY GOING TO BE
DIFFICULT -- WELL, IT IS GOING

205
00:11:07,399 --> 00:11:10,670
TO BE DIFFICULT FOR ME TO CONVEY
HOW EXCITED I AM TO BE BACK IN

206
00:11:10,670 --> 00:11:14,149
THIS ROOM, BECAUSE THAT MEANS
WE'RE FLYING SHORTLY.

207
00:11:14,149 --> 00:11:15,160
IT'S BEEN A BIT OF TIME SINCE
WE'VE FLOWN.

208
00:11:15,160 --> 00:11:19,500
THE C.O.T.S. C-1 MISSION WAS
SUCCESSFULLY EXECUTED IN

209
00:11:19,500 --> 00:11:26,519
DECEMBER OF 2010, AND I HAVE
ABOUT 1,850 FOLKS IN CALIFORNIA,

210
00:11:26,519 --> 00:11:31,639
BOTH AT OUR HEADQUARTERS AND OUR
VANDENBERG LAUNCH SITE IN TEXAS,

211
00:11:31,639 --> 00:11:35,370
HERE AT THE CAPE, AND OUR
FACILITIES IN WASHINGTON, D.C.

212
00:11:35,370 --> 00:11:39,110
SO, ALMOST 1,900 FOLKS THAT HAVE
BEEN REALLY WORKING VERY HARD,

213
00:11:39,110 --> 00:11:42,480
VERY LONG HOURS, AND I WANTED TO
TAKE THIS OPPORTUNITY TO THANK

214
00:11:42,480 --> 00:11:44,720
THEM AS WELL AS THEIR FAMILIES
WHO HAVE BEEN HANGING IN THERE

215
00:11:44,720 --> 00:11:46,600
WITH EACH OF THEM.

216
00:11:46,600 --> 00:11:51,269
SO, THANKS TO THE EMPLOYEES FOR
ALLOWING ME TO BE HERE TODAY AND

217
00:11:51,269 --> 00:11:52,829
TALK ABOUT THIS UPCOMING FLIGHT.

218
00:11:52,829 --> 00:11:55,220
I ALSO WANT TO THANK OUR
SUPPORTERS.

219
00:11:55,220 --> 00:11:59,459
WE'VE GOTTEN HUNDREDS OF E-MAILS
JUST TODAY WISHING US LUCK FOR

220
00:11:59,459 --> 00:12:01,720
THE FLIGHT UPCOMING HERE.

221
00:12:01,720 --> 00:12:05,839
OUR CUSTOMERS -- I'LL TALK ABOUT
NASA LAST, BUT WE HAVE A REALLY

222
00:12:05,839 --> 00:12:07,769
GREAT AND SUPPORTIVE SET OF
CUSTOMERS.

223
00:12:07,769 --> 00:12:10,860

IT'S GOT FALCON 9 MISSIONS
MANIFESTED.

224
00:12:10,860 --> 00:12:15,060
IT'S BEEN A GREAT PARTNERSHIP
AND SPACEX HAS BENEFITED

225
00:12:15,060 --> 00:12:18,440
TREMENDOUSLY FROM THE SUPPORT
NASA'S GIVEN.

226
00:12:18,440 --> 00:12:20,399
OUR INVESTORS HAVE BEEN GREAT AS
WELL.

227
00:12:20,399 --> 00:12:24,279
THEY'VE PUT QUITE A BIT OF MONEY
INTO SPACEX AND THIS C.O.T.S.

228
00:12:24,279 --> 00:12:25,279
PROGRAM.

229
00:12:25,279 --> 00:12:26,509
I WANT TO THANK THE U.S. AIR
FORCE.

230
00:12:26,509 --> 00:12:28,899
THEY ARE A KEY MISSION PARTNER
FOR US HERE ON THIS UPCOMING

231
00:12:28,899 --> 00:12:30,529
FLIGHT AS WELL AS THE FAA.

232
00:12:30,529 --> 00:12:31,870
I SEE GEORGE IN THE AUDIENCE.

233
00:12:31,870 --> 00:12:34,400
AND THERE'S BEEN A NUMBER OF
OTHER FOLKS WITHIN THE

234
00:12:34,400 --> 00:12:36,850
GOVERNMENT THAT HAVE BEEN
SUPPORTIVE AND HELPFUL FOR US TO

235
00:12:36,850 --> 00:12:37,850
GET HERE.

236
00:12:37,850 --> 00:12:39,779
FINALLY, OF COURSE, I HAVE TO
THANK NASA.

237
00:12:39,779 --> 00:12:42,290
SPACEX WOULD NOT BE THE COMPANY
THAT IT IS TODAY WITHOUT THEIR

238
00:12:42,290 --> 00:12:45,009
HELP AND SUPPORT, BOTH
FINANCIALLY AS WELL AS THE

239
00:12:45,009 --> 00:12:48,899
TECHNICAL GUIDANCE AND JUST
OVERALL HELPFULNESS THAT THEY'VE

240
00:12:48,899 --> 00:12:51,269
BEEN DURING THIS EXTRAORDINARY
PERIOD OF TIME.

241
00:12:51,269 --> 00:12:57,340
WE DID BEGIN THIS PROGRAM IN
AUGUST OF 2006, SO IT'S BEEN A

242
00:12:57,340 --> 00:13:01,570
LONG TIME COMING, AND WE'RE JUST
REALLY, WE'RE REALLY EXCITED TO

243
00:13:01,570 --> 00:13:02,730
BE HERE.

244
00:13:02,730 --> 00:13:05,440

SO, ALAN TALKED ABOUT A LOT OF
THE FIRSTS, SO I'M NOT GOING TO

245
00:13:05,440 --> 00:13:09,329
GO INTO THAT, BUT I DO WANT TO
TALK ABOUT THE MISSION ITSELF,

246
00:13:09,329 --> 00:13:10,770
JUST GIVE A LITTLE BIT OF
DETAILS.

247
00:13:10,770 --> 00:13:14,120
I WON'T FOCUS TOO MUCH ON THE
PROX OPS STUFF WITH THE

248
00:13:14,120 --> 00:13:15,160
INTERNATIONAL SPACE STATION.

249
00:13:15,160 --> 00:13:17,730
I'LL COME BACK TOMORROW AFTER A
SUCCESSFUL LIFT-OFF AND WE CAN

250
00:13:17,730 --> 00:13:20,069
TALK MORE DETAILS TOMORROW ABOUT
THAT.

251
00:13:20,069 --> 00:13:22,350
BUT I DO WANT TO TALK ABOUT THE
MISSION AND WHAT YOU GUYS CAN

252
00:13:22,350 --> 00:13:25,470
EXPECT AT 4:55 A.M.

253
00:13:25,470 --> 00:13:26,470
LOCAL.

254
00:13:26,470 --> 00:13:28,439
WE SHOULD BE LIFTING OFF "FALCON
9 DRAGON."

255
00:13:28,439 --> 00:13:32,939
ABOUT 9 1/2 MINUTES INTO THAT
FLIGHT, WE SHOULD BE SEPARATING

256
00:13:32,939 --> 00:13:37,290
THE DRAGON CAPSULE WITH THE
TRUNK, AND THEN WE WILL

257
00:13:37,290 --> 00:13:41,129
INITIALLY -- WE WILL BEGIN ON
ORBIT INITIALIZATION.

258
00:13:41,129 --> 00:13:45,009
WE'LL DEPLOY THE SOLAR ARRAYS
ABOUT 11 1/2 MINUTES.

259
00:13:45,009 --> 00:13:49,069
REALLY, A KEY MILESTONE THAT WE
SHOULD BE LOOKING FOR IS ABOUT

260
00:13:49,069 --> 00:13:58,050
2 1/2 HOURS IN, THEN, WHERE WE
OPEN THE GN AND CN DOOR.

261
00:13:58,050 --> 00:14:01,970
WE CAN TALK ABOUT THAT, BUT IT'S
A KEY NEW FEATURE FOR THIS.

262
00:14:01,970 --> 00:14:06,740
IT BASICALLY REVEALS THE
PROXIMATIZATION SENSORS TO SPACE

263
00:14:06,740 --> 00:14:12,620
SO WE CAN SEE THE SPACE STATION
AS WE'RE APPROACHING AND WE CAN

264
00:14:12,620 --> 00:14:13,820
BIRTH.

265

00:14:13,820 --> 00:14:18,810
SO, THAT'S A CRITICAL FUNCTION
FOR US AND THAT HAPPENS ABOUT 2

266
00:14:18,810 --> 00:14:21,819
HOURS AND 26 MINUTES, I BELIEVE.

267
00:14:21,819 --> 00:14:28,310
SO, THE FIRST 24 HOURS OR SO ARE
GOING TO BE SPENT CATCHING UP OR

268
00:14:28,310 --> 00:14:31,310
PHASING WITH THE INTERNATIONAL
SPACE STATION.

269
00:14:31,310 --> 00:14:37,379
ENTERING DAY TWO AT ABOUT HOUR
40, WE WILL START A FLY-UNDER,

270
00:14:37,379 --> 00:14:40,010
AND THAT WILL GO FOR ABOUT TEN
HOURS.

271
00:14:40,010 --> 00:14:42,980
SO, WHAT WE'RE DOING DURING THAT
FLY-UNDER IS THE MAJORITY OF THE

272
00:14:42,980 --> 00:14:45,259
C-2 PORTION OF THE ORIGINAL
MISSION.

273
00:14:45,259 --> 00:14:50,220
WE'LL BE TALKING TO THE SPACE
STATION THROUGH OUR CUCKOO RADIO

274
00:14:50,220 --> 00:14:51,999
THAT ALAN DESCRIBED.

275
00:14:51,999 --> 00:14:55,449
WE WILL ALSO BE DOING A RELATIVE

GPS DEMONSTRATION IN THAT TIME

276
00:14:55,449 --> 00:14:56,449
FRAME AS WELL.

277
00:14:56,449 --> 00:14:58,610
THOSE ARE CRITICAL OPERATIONS
AND TESTS THAT WE NEED TO

278
00:14:58,610 --> 00:15:02,270
EXECUTE, SHOW NASA THE DATA,
MAKE SURE WE'RE DOING WHAT WE'RE

279
00:15:02,270 --> 00:15:04,610
SUPPOSED TO BE DOING, MAKING
SURE THE COMS ARE WORKING.

280
00:15:04,610 --> 00:15:07,990
I BELIEVE THE SHUTTLE -- EXCUSE
ME, THE INTERNATIONAL SPACE

281
00:15:07,990 --> 00:15:11,160
STATION ALSO COMMANDS "DRAGON"
TO TURN ON ITS STROBE LIGHTS,

282
00:15:11,160 --> 00:15:15,139
JUST SO WE KNOW THE ASTRONAUTS
CAN COMMAND THROUGH CUCKOO AND

283
00:15:15,139 --> 00:15:18,260
THE COMMAND PANEL THAT'S ON THE
ISS.

284
00:15:18,260 --> 00:15:19,779
THEN WE'LL DO A RE-RESIDENT VUX.

285
00:15:19,779 --> 00:15:22,709
SO WE'LL DO A FLY-UNDER ABOUT
2 1/2 KILOMETERS UNDER.

286
00:15:22,709 --> 00:15:26,329
THEN WE GO IN FRONT OF THE
STATION, RAISE ABOVE IT START

287
00:15:26,329 --> 00:15:30,310
FALLING BACK BEHIND IT, AND THIS
IS THE RE-RENDEZVOUS SECTION.

288
00:15:30,310 --> 00:15:35,260
THEN WE WILL START OPERATIONS
AROUND HOUR 70 OF THE MISSION.

289
00:15:35,260 --> 00:15:39,920
THEN IF ALL IS GOING WELL, BY
HOUR 75, WE SHOULD HAVE BIRTHED,

290
00:15:39,920 --> 00:15:42,160
WHICH IS GOING TO BE REALLY
GREAT.

291
00:15:42,160 --> 00:15:46,259
SO, I'VE TALKED VERY BRIEFLY
ABOUT THE TIME LINE OF THE

292
00:15:46,259 --> 00:15:47,259
MISSION.

293
00:15:47,259 --> 00:15:49,769
ALAN HAS TALKED ABOUT THE
FIRSTS.

294
00:15:49,769 --> 00:15:51,410
I AM REALLY EXCITED TO BE HERE.

295
00:15:51,410 --> 00:15:53,839
I KNOW EVERYBODY AT SPACEX IS
REALLY EXCITED FOR THIS

296
00:15:53,839 --> 00:15:56,610

PARTICULAR MISSION.

297
00:15:56,610 --> 00:15:58,709
AND THANKS, THANKS VERY MUCH.

298
00:15:58,709 --> 00:15:59,709
GEORGE?

299
00:15:59,709 --> 00:16:00,709
>> THANK YOU, GWYNNE.

300
00:16:00,709 --> 00:16:04,360
WE'LL LOOK NOW AT THE WEATHER
FORECAST FOR TOMORROW MORNING.

301
00:16:04,360 --> 00:16:09,450
JOEL TUMBIOLO, WEATHER OFFICER
FROM CAPE CANAVERAL AIR FORCE

302
00:16:09,450 --> 00:16:10,450
STATION.

303
00:16:10,450 --> 00:16:11,450
JOEL?

304
00:16:11,450 --> 00:16:12,499
>> GOOD AFTERNOON, EVERYONE.

305
00:16:12,499 --> 00:16:14,790
FOR THOSE WHO DON'T LIVE IN
FLORIDA AND HAVE BEEN HERE THE

306
00:16:14,790 --> 00:16:17,410
LAST FEW DAYS, YOU'VE KIND OF
GOTTEN A TASTE FOR WHAT OUR

307
00:16:17,410 --> 00:16:21,089
AFTERNOONS AND EVENINGS ARE LIKE
AROUND HERE DURING THE

308
00:16:21,089 --> 00:16:22,089
SUMMERTIME.

309
00:16:22,089 --> 00:16:25,170
WE'VE HAD WIDESPREAD
THUNDERSTORM ACTIVITY AND THINGS

310
00:16:25,170 --> 00:16:26,209
OF THAT NATURE.

311
00:16:26,209 --> 00:16:29,249
IT'S PRETTY COMMON FOR US TO SEE
THAT KIND OF WEATHER DURING THE

312
00:16:29,249 --> 00:16:30,740
SUMMERTIME MONTHS.

313
00:16:30,740 --> 00:16:34,600
SO, THE FIRST GOOD NEWS THAT I
HAVE IS THAT SINCE THIS IS AN

314
00:16:34,600 --> 00:16:37,249
EARLY-MORNING LAUNCH, THAT IS
TYPICALLY DURING THE SUMMERTIME,

315
00:16:37,249 --> 00:16:39,589
ANYWAY, OUR BEST WEATHER TIME OF
THE DAY.

316
00:16:39,589 --> 00:16:44,079
SO, FOR THAT REASON, WE ARE
LOOKING AT FAVORABLE CONDITIONS.

317
00:16:44,079 --> 00:16:46,710
IF I COULD HAVE THE SATELLITE
PICTURE UP TO KIND OF JUST GIVE

318
00:16:46,710 --> 00:16:50,850

YOU A SCENARIO OF WHAT WE CAN
EXPECT OVER THE NEXT 24 HOURS.

319
00:16:50,850 --> 00:16:54,220
AGAIN, BASICALLY, WE'VE HAD
AFTERNOON THUNDERSTORMS ROLL

320
00:16:54,220 --> 00:16:59,379
THROUGH THE AREA, A COMBINATION
OF TROPICAL MOISTURE AND OUR

321
00:16:59,379 --> 00:17:03,150
NORMAL LOCAL SEA BREEZE, AND
WE'VE ALSO HAD A LITTLE BIT OF A

322
00:17:03,150 --> 00:17:05,490
WEAK BOUNDARY MOVE THROUGH THE
AREA.

323
00:17:05,490 --> 00:17:09,839
COMBINATION OF ALL THOSE FACTORS
HAVE GIVEN US THE WIDESPREAD

324
00:17:09,839 --> 00:17:11,700
THUNDERSTORMS OVER THE LAST FEW
DAYS.

325
00:17:11,700 --> 00:17:14,860
THE GOOD NEWS IS, ONE OF THOSE
FEATURES, THE SURFACE TROUGH HAS

326
00:17:14,860 --> 00:17:19,339
KIND OF MOVED THROUGH THE AREA
EARLIER THIS MORNING, AND IT HAS

327
00:17:19,339 --> 00:17:22,180
TAKEN AWAY SOME OF THE MOISTURE
IN THE ATMOSPHERE AND MOVED IT

328
00:17:22,180 --> 00:17:23,790

OFF OUT OVER THE OCEAN.

329
00:17:23,790 --> 00:17:27,920
SO, WE ARE A LITTLE BIT DRIER
OVER THE PENINSULA TODAY.

330
00:17:27,920 --> 00:17:31,870
SO ALTHOUGH WE WON'T BE TOTALLY
THUNDERSTORM-FREE, THE COVERAGE

331
00:17:31,870 --> 00:17:35,180
OF THUNDERSTORMS WILL BE MUCH,
MUCH LESS THIS AFTERNOON AND

332
00:17:35,180 --> 00:17:38,100
EVENING THAN WHAT WE'VE SEEN
OVER THE LAST COUPLE DAYS.

333
00:17:38,100 --> 00:17:40,870
WE COULD HAVE ONE OR TWO IN THE
AREA, BUT AGAIN, I'M NOT

334
00:17:40,870 --> 00:17:45,040
EXPECTING THE WIDESPREAD, STRONG
THUNDERSTORM ACTIVITY WITH

335
00:17:45,040 --> 00:17:48,470
FREQUENT LIGHTNING AND ALL THAT
DURING THE AFTERNOON AND EVENING

336
00:17:48,470 --> 00:17:49,470
TODAY.

337
00:17:49,470 --> 00:17:50,630
SO THAT IS GOOD NEWS.

338
00:17:50,630 --> 00:17:54,040
AGAIN, ONCE WE GET INTO THE
OVERNIGHT HOURS, DURING THIS

339
00:17:54,040 --> 00:17:57,510
TIME OF THE YEAR, IT'S TYPICALLY
OUR BEST TIME OF THE YEAR.

340
00:17:57,510 --> 00:17:59,550
WHAT WE EXPECT DURING THE
OVERNIGHT HOURS IS JUST SOME

341
00:17:59,550 --> 00:18:00,950
PARTLY CLOUDY SKIES.

342
00:18:00,950 --> 00:18:05,010
THERE COULD BE A COUPLE SHOWERS
OVER THE OCEAN WANDERING AROUND,

343
00:18:05,010 --> 00:18:07,670
BUT THEY'RE NOT GOING TO BE TOO
MUCH OF A THREAT.

344
00:18:07,670 --> 00:18:09,810
OUR WINDS WILL BE FAVORABLE.

345
00:18:09,810 --> 00:18:12,180
RIGHT NOW THEY'RE OUT OF THE
NORTH AND THEY'LL BE OUT OF THE

346
00:18:12,180 --> 00:18:15,420
NORTHEAST AND EAST LATER ON THIS
AFTERNOON WITH OUR SEA BREEZE.

347
00:18:15,420 --> 00:18:17,800
ONCE WE GET INTO THE OVERNIGHT
HOURS, AS THIS IS THE FORECAST

348
00:18:17,800 --> 00:18:21,060
FOR TOMORROW MORNING, WE'RE
GOING TO HAVE A LIGHT EASTERLY

349
00:18:21,060 --> 00:18:23,080

WIND, PROBABLY ON THE ORDER 56
TO 10 KNOTS.

350
00:18:23,080 --> 00:18:26,210
NOT REALLY EXPECTING ANY
CONCERNS AS FAR AS WIND.

351
00:18:26,210 --> 00:18:29,660
AND AGAIN, JUST ONE SCATTERED
CLOUD DECK AT AROUND 25,000

352
00:18:29,660 --> 00:18:30,670
FEET.

353
00:18:30,670 --> 00:18:33,200
COULD BE A COUPLE ISOLATED
SHOWERS IN THE AREA, BUT AGAIN,

354
00:18:33,200 --> 00:18:36,070
WE'RE NOT EXPECTING THAT TO BE
TOO MUCH OF A CONCERN.

355
00:18:36,070 --> 00:18:38,530
AND AS FAR AS THE PROBABILITY OF
VIOLATING ONE OF OUR WEATHER

356
00:18:38,530 --> 00:18:42,390
RULES, IT'S ONLY A 30% CHANCE OF
THAT OCCURRING, WHICH FOR THIS

357
00:18:42,390 --> 00:18:44,920
TIME OF THE YEAR IS A FAIRLY LOW
NUMBER.

358
00:18:44,920 --> 00:18:47,770
AND AGAIN, OUR MAIN CONCERN IS
WHAT WE CALL THE CUMULUS CLOUD

359
00:18:47,770 --> 00:18:51,590
ROLL, WHICH IS JUST BASICALLY

CLOUDS IN THE AREA, AND IF THEY

360
00:18:51,590 --> 00:18:54,320
REACH A CERTAIN TEMPERATURE AND
IF THEY'RE A CERTAIN DISTANCE

361
00:18:54,320 --> 00:18:56,610
AWAY FROM THE LAUNCHPAD, WE HAVE
TO WATCH THEM.

362
00:18:56,610 --> 00:18:59,490
BUT AGAIN, THAT CONCERN IS VERY,
VERY LOW.

363
00:18:59,490 --> 00:19:02,280
SO WE ARE LOOKING AT A VERY
FAVORABLE CONDITION EARLY

364
00:19:02,280 --> 00:19:03,280
TOMORROW MORNING.

365
00:19:03,280 --> 00:19:06,820
AS FAR AS TEMPERATURES, THEY
WILL BE IN THE LOW 70s, 73 TO 75

366
00:19:06,820 --> 00:19:09,890
DEGREES, SO NOT EXPECTING ANY
CONCERNS THERE.

367
00:19:09,890 --> 00:19:13,040
AND IF WE WERE TO GO INTO THE
THREE-DAY DELAY, FOR WHATEVER

368
00:19:13,040 --> 00:19:16,040
REASON, VERY SIMILAR CONDITION.

369
00:19:16,040 --> 00:19:18,150
THE ONLY CHANGE IS THAT OUR
WINDS WILL BE A LITTLE BIT MORE

370
00:19:18,150 --> 00:19:20,800
OUT OF THE SOUTHEAST, WHICH
COULD BRING A LITTLE BIT MORE

371
00:19:20,800 --> 00:19:24,220
MOISTURE AND A FEW MORE SHOWERS
AND CLOUDS IN THE AREA.

372
00:19:24,220 --> 00:19:29,050
BUT AGAIN, OVERALL, BEING AN
EARLY-MORNING LAUNCH, AGAIN,

373
00:19:29,050 --> 00:19:31,380
THIS TIME OF YEAR, THAT'S OUR
BEST TIME OF THE YEAR FOR

374
00:19:31,380 --> 00:19:34,590
WEATHER, AND WE'RE ONLY LOOKING
FOR A 40% CHANCE OF A VIOLATION.

375
00:19:34,590 --> 00:19:37,630
AGAIN, THAT'S FOR THE THREE-DAY
DELAY, IF THAT WERE TO BE

376
00:19:37,630 --> 00:19:38,630
NEEDED.

377
00:19:38,630 --> 00:19:41,830
SO, IN SUMMARY, AGAIN, WE COULD
HAVE ONE OR TWO THUNDERSTORMS,

378
00:19:41,830 --> 00:19:44,260
NOT NECESSARILY ON THE CAPE
HERE, BUT SOMEWHERE IN CENTRAL

379
00:19:44,260 --> 00:19:46,550
FLORIDA THAT WE'LL BE
MONITORING.

380

00:19:46,550 --> 00:19:49,700
ONCE THE SUN SETS, THOSE WILL
DIE OUT AND THEN WE'RE EXPECTING

381
00:19:49,700 --> 00:19:52,970
EXCELLENT CONDITIONS THROUGH THE
OVERNIGHT HOURS INTO TOMORROW

382
00:19:52,970 --> 00:19:53,970
MORNING.

383
00:19:53,970 --> 00:19:54,970
SO, THAT CONCLUDES MY BRIEFING.

384
00:19:54,970 --> 00:19:55,970
THANK YOU, GEORGE.

385
00:19:55,970 --> 00:19:57,540
>> ALL RIGHT, THANK YOU, JOEL.

386
00:19:57,540 --> 00:19:59,940
WE'RE READY NOW TO TAKE
QUESTIONS.

387
00:19:59,940 --> 00:20:03,120
PLEASE BE SURE TO GIVE YOUR NAME
AND YOUR AFFILIATION WHEN THE

388
00:20:03,120 --> 00:20:05,270
MICROPHONE COMES TO YOU.

389
00:20:05,270 --> 00:20:08,520
AND WE'LL START -- LET'S START
WITH MARCIA RIGHT HERE IN THE

390
00:20:08,520 --> 00:20:11,340
SECOND ROW AND THEN WE'LL COME
FORWARD.

391

00:20:11,340 --> 00:20:14,410
>> MARCIA DUNN, "ASSOCIATED
PRESS" FOR MS.

392
00:20:14,410 --> 00:20:15,410
SHOTWELL.

393
00:20:15,410 --> 00:20:17,880
TALK ABOUT YOUR SENSE OF WHAT
THIS MEANS FOR THE HISTORY OF

394
00:20:17,880 --> 00:20:21,590
SPACE FLIGHT FROM YOUR
PERSPECTIVE, FROM THE COMPANY'S

395
00:20:21,590 --> 00:20:24,710
PERSPECTIVE, AND HOW IMPORTANT
IT IS FOR YOU TO SUCCEED, AT

396
00:20:24,710 --> 00:20:27,950
LEAST, IN SOME OF YOUR
OBJECTIVES.

397
00:20:27,950 --> 00:20:34,190
>> WELL, IF SUCCESSFUL, THERE'S
NO QUESTION, THIS IS A HISTORIC

398
00:20:34,190 --> 00:20:35,190
FLIGHT.

399
00:20:35,190 --> 00:20:38,400
THERE'S BEEN ONLY FOUR NATIONS
OR GROUPS OF NATIONS THAT HAVE

400
00:20:38,400 --> 00:20:41,430
BIRTHED OR DOCKED A SPACECRAFT
TO THE INTERNATIONAL SPACE

401
00:20:41,430 --> 00:20:42,430
STATION.

402
00:20:42,430 --> 00:20:47,430
IT'S EUROPE, RUSSIA, THE UNITED
STATES, OF COURSE, AND JAPAN.

403
00:20:47,430 --> 00:20:52,860
SO, YEAH, WE REALLY STAND IN AWE
OF HAVING THE OPPORTUNITY TO

404
00:20:52,860 --> 00:20:55,160
ATTEMPT THIS.

405
00:20:55,160 --> 00:20:57,770
THIS IS A TEST FLIGHT.

406
00:20:57,770 --> 00:21:00,410
WHAT'S IMPORTANT FROM A SPACEX
PERSPECTIVE ON A TEST FLIGHT IS

407
00:21:00,410 --> 00:21:02,130
TO MAKE SURE WE LEARN SOMETHING.

408
00:21:02,130 --> 00:21:05,490
HOPEFULLY, WE LEARN A LOT, AND
HOPEFULLY, WE MAKE A LOT OF

409
00:21:05,490 --> 00:21:06,530
PROGRESS.

410
00:21:06,530 --> 00:21:10,410
BUT REALLY, WHAT WE'RE HERE TO
DO IS TO DEMONSTRATE THE

411
00:21:10,410 --> 00:21:14,180
SPACECRAFT, RING IT OUT TO THE
MAXIMUM EXTENT POSSIBLE, AND

412
00:21:14,180 --> 00:21:16,790
OBVIOUSLY THE ULTIMATE GOAL IS

TO BIRTH.

413
00:21:16,790 --> 00:21:17,790
>> JAY?

414
00:21:17,790 --> 00:21:20,460
>> JAY BARBERIE WITH NBC.

415
00:21:20,460 --> 00:21:21,460
MS.

416
00:21:21,460 --> 00:21:27,031
SHOTWELL, WHAT EVERYBODY IS
EXPECTING HERE, YOU'RE

417
00:21:27,031 --> 00:21:30,020
DELIVERING CARGO, WHICH IS GREAT
AND IT'S NEEDED, BUT WHAT

418
00:21:30,020 --> 00:21:33,780
THEY'RE LOOKING AT IS WHEN WILL
AMERICAN ASTRONAUTS BE BACK

419
00:21:33,780 --> 00:21:36,460
FLYING FROM THESE SHORES?

420
00:21:36,460 --> 00:21:41,330
WE KNOW OF SPACEX'S INTEREST TO
FLY AMERICAN ASTRONAUTS.

421
00:21:41,330 --> 00:21:42,330
MR.

422
00:21:42,330 --> 00:21:45,530
MUSK SAID BACK IN JANUARY
2011 THAT HE WOULD FLY "FALCON

423
00:21:45,530 --> 00:21:50,340
9" 17 MORE TIMES BEFORE HUMANS

WOULD FLY.

424
00:21:50,340 --> 00:21:54,270
NOW, I UNDERSTAND THAT YOU'VE
PROBABLY REVAMPED THE SCHEDULE A

425
00:21:54,270 --> 00:21:55,270
LITTLE BIT.

426
00:21:55,270 --> 00:21:58,280
COULD YOU TELL US HOW MANY TIMES
YOU EXPECT TO FLY "FALCON 9,"

427
00:21:58,280 --> 00:22:02,220
WHERE IT WILL BE BEFORE YOU WILL
BE ABLE TO TALK TO NASA OR GET

428
00:22:02,220 --> 00:22:06,340
READY TO FLY AMERICAN ASTRONAUTS
FROM HERE AGAIN?

429
00:22:06,340 --> 00:22:07,630
>> SURE, JAY.

430
00:22:07,630 --> 00:22:12,670
I THINK WE'RE STILL VERY CLOSE
TO THE 17 FLIGHTS THE "FALCON 9"

431
00:22:12,670 --> 00:22:13,670
TARGET.

432
00:22:13,670 --> 00:22:16,660
WE ANTICIPATE THREE FLIGHTS
TODAY, "FALCON 9" AND "DRAGON"

433
00:22:16,660 --> 00:22:17,690
FLIGHTS THIS YEAR.

434
00:22:17,690 --> 00:22:23,860

NEXT YEAR WE HOPE TO FLY BOTH
TWICE UNDER THE CRS PROGRAM, AND

435
00:22:23,860 --> 00:22:26,290
THEN WE HAVE SIX ADDITIONAL
FLIGHTS, WHICH INCLUDE THE

436
00:22:26,290 --> 00:22:29,200
ADVENT OF THE "FALCON HEAVY"
NEXT YEAR.

437
00:22:29,200 --> 00:22:34,790
AND THEN IN 2014, I'VE GOT A
LAUNCH ALMOST EVERY MONTH.

438
00:22:34,790 --> 00:22:37,600
I'VE GOT ONLY A COUPLE SPOTS
LEFT ON THE MANIFEST.

439
00:22:37,600 --> 00:22:42,400
SO BY THE END OF '14 OR EARLY
'15 WHEN WE HOPE TO FLY HUMANS

440
00:22:42,400 --> 00:22:46,740
FOR THE FIRST TIME, WE SHOULD
HAVE, I GUESS IF I WERE TO BE

441
00:22:46,740 --> 00:22:51,690
ADDING WHILE I WAS GOING, IT'S
PROBABLY 20 OR SO, LITTLE OVER

442
00:22:51,690 --> 00:22:52,780
20 FLIGHTS.

443
00:22:52,780 --> 00:22:54,950
>> EXCUSE ME, 20 FLIGHTS?

444
00:22:54,950 --> 00:22:55,970
>> OF "FALCON 9."

445
00:22:55,970 --> 00:22:56,970
>> UH HUH?

446
00:22:56,970 --> 00:23:00,080
>> THEN LET'S GO BACK AND FIGURE
OUT HOW MANY "FALCON 9" AND

447
00:23:00,080 --> 00:23:01,080
"DRAGON" FLIGHTS.

448
00:23:01,080 --> 00:23:02,950
THREE THIS YEAR, TWO NEXT YEAR.

449
00:23:02,950 --> 00:23:09,320
IN '14, THREE FLIGHTS AND THEN A
NUMBER OF TEST FLIGHTS OF THE

450
00:23:09,320 --> 00:23:12,620
"DRAGON" AND ITS CREW
CONFIGURATION IN '14 AS WELL.

451
00:23:12,620 --> 00:23:16,500
BY THE WAY, I'M PRESUMING THAT
WE ARE ONE OF THE WINNERS.

452
00:23:16,500 --> 00:23:18,900
I KIND OF JUMPED AHEAD OF MYSELF
HERE, SORRY.

453
00:23:18,900 --> 00:23:22,850
OF THE ONGOING PROCUREMENT WITH
NASA FOR THE CCI CAMP, THE

454
00:23:22,850 --> 00:23:24,370
COMMERCIAL CREW PROGRAM.

455
00:23:24,370 --> 00:23:27,800
>> BUT YOU'RE REALLY SAYING THAT
YOU REALLY EXPECT ALL OF THIS

456
00:23:27,800 --> 00:23:31,620
HAS TO GO CORRECTLY, HAS TO GO
RIGHT, YOU HAVE NO PROBLEMS, AND

457
00:23:31,620 --> 00:23:35,100
THEN YOU'RE REALLY TALKING ABOUT
THE VERY EARLIEST, AT THE END OF

458
00:23:35,100 --> 00:23:39,250
2015, EARLY 2016, IS THAT
CORRECT?

459
00:23:39,250 --> 00:23:43,610
>> OUR PLAN RIGHT NOW IS TO FLY
CREW WITHIN THREE YEARS.

460
00:23:43,610 --> 00:23:49,240
SO HOPEFULLY IN EARLY, CERTAINLY
BY MID-2015, WE SHOULD BE FLYING

461
00:23:49,240 --> 00:23:50,240
CREW.

462
00:23:50,240 --> 00:23:51,240
AND NOT ALL THOSE FLIGHTS HAVE

463
00:23:51,240 --> 00:23:53,700
TO BE SUCCESSFUL IN ORDER TO
ACHIEVE THAT.

464
00:23:53,700 --> 00:23:56,250
OBVIOUSLY, WE WOULD LOVE FOR
EVERY FLIGHT WE HAVE ON OUR

465
00:23:56,250 --> 00:23:57,610
MANIFEST TO BE SUCCESSFUL.

466
00:23:57,610 --> 00:24:01,040

IT WOULD CERTAINLY MAKE MY JOB
INCREDIBLY EASY.

467
00:24:01,040 --> 00:24:03,880
BUT I DON'T THINK -- I DON'T
WANT TO SAY I DON'T THINK THAT'S

468
00:24:03,880 --> 00:24:05,860
REALISTIC.

469
00:24:05,860 --> 00:24:07,020
THIS IS A TOUGH BUSINESS.

470
00:24:07,020 --> 00:24:10,510
>> JUST SO I UNDERSTAND THIS,
YOU'RE FLYING THREE FLIGHTS THIS

471
00:24:10,510 --> 00:24:11,510
YEAR, WHICH IS 2012.

472
00:24:11,510 --> 00:24:12,510
>> CORRECT.

473
00:24:12,510 --> 00:24:13,510
>> OKAY.

474
00:24:13,510 --> 00:24:16,030
NOW, YOU SAY YOU'RE GOING TO FLY
TWO NEXT YEAR, WHICH IS 2013.

475
00:24:16,030 --> 00:24:22,610
>> TWO "FALCON 9" "DRAGON"
FLIGHTS, PLUS SIX ADDITIONAL

476
00:24:22,610 --> 00:24:23,730
"DRAGON" FLIGHTS.

477
00:24:23,730 --> 00:24:26,150
>> SO EIGHT OF NEXT YEAR?

478
00:24:26,150 --> 00:24:27,230
>> THAT'S THE PLAN.

479
00:24:27,230 --> 00:24:28,320
>> SO THAT WILL BE IN '13.

480
00:24:28,320 --> 00:24:32,760
SO IN '15, ABOUT ONE A MONTH, I
THINK YOU SAID THERE.

481
00:24:32,760 --> 00:24:38,470
AND THIS IS WHEN YOU HOPE THAT
YOU COULD GET READY AND, I

482
00:24:38,470 --> 00:24:42,820
ASSUME, I DON'T KNOW IF YOU HAVE
TO DO EVERYTHING ON PAD 40 OR IF

483
00:24:42,820 --> 00:24:45,190
YOU'LL GO TO PAD 39B.

484
00:24:45,190 --> 00:24:47,450
YOU'VE GOT A LOT OF THINGS OUT
THERE YET TO DO.

485
00:24:47,450 --> 00:24:50,200
>> WE HAVE A LOT OF WORK IN
FRONT OF US TO FLY CREW, THAT IS

486
00:24:50,200 --> 00:24:51,200
TRUE.

487
00:24:51,200 --> 00:24:54,460
>> OKAY, BUT YOU HOPE TO BE ABLE
TO DO IT IN 2015.

488
00:24:54,460 --> 00:24:55,460
>> THAT'S CORRECT.

489
00:24:55,460 --> 00:24:57,140
>> OKAY, THANK YOU.

490
00:24:57,140 --> 00:25:04,730
>> CLARA MOSKOWITS WITH
SPACE.COM.

491
00:25:04,730 --> 00:25:07,620
WHICH SECTION OF THE FLIGHT IS
MAYBE THE MOST DIFFICULT OR

492
00:25:07,620 --> 00:25:11,110
NAIL-BITING FOR YOU GUYS AT
SPACEX?

493
00:25:11,110 --> 00:25:12,920
>> YOU KNOW, I THINK WE'RE GOING
TO BE BITING OFF OUR FINGERS

494
00:25:12,920 --> 00:25:17,790
BETWEEN NOW AND HOUR 75.

495
00:25:17,790 --> 00:25:19,890
LAUNCH IS OBVIOUSLY KEY.

496
00:25:19,890 --> 00:25:22,140
YOU'VE GOT TO GET "DRAGON"
SUCCESSFULLY TO ORBIT, SO THAT'S

497
00:25:22,140 --> 00:25:24,790
A PRETTY NERVE-RACKING TIME
FRAME.

498
00:25:24,790 --> 00:25:27,490
THIS ISN'T ACTUALLY A DIFFICULT
MISSION FROM THE PERSPECTIVE OF

499
00:25:27,490 --> 00:25:28,640

THE LAUNCH WINDOW.

500
00:25:28,640 --> 00:25:30,600
WE HAVE A NEAR INSTANTANEOUS
LAUNCH WINDOW.

501
00:25:30,600 --> 00:25:35,320
SO IF BY 4:45 AND A COUPLE OF
SECONDS, WE HAVEN'T LIFTED OFF,

502
00:25:35,320 --> 00:25:39,030
WE WILL HAVE TO SCRUB -- WE
ACTUALLY DO HAVE OPPORTUNITIES

503
00:25:39,030 --> 00:25:42,160
EVERY DAY, BUT THEY HAVE MASSIVE
PROPELLANT REQUIREMENTS IN ORDER

504
00:25:42,160 --> 00:25:45,190
TO CATCH UP TO THE SPACE
STATION, SO THE OPTIMUM TIME FOR

505
00:25:45,190 --> 00:25:49,110
US TO FLY AGAIN WOULD BE THE
22nd.

506
00:25:49,110 --> 00:25:51,860
I DON'T THINK THERE'S GOING TO
BE A LOT OF SLEEP IN THE NEXT 70

507
00:25:51,860 --> 00:25:56,130
OR 75 HOURS FOR FOLKS AT SPACEX.

508
00:25:56,130 --> 00:25:57,640
IT'S ALL HARD.

509
00:25:57,640 --> 00:26:02,490
>> HI, ROBERT PEARLMAN WITH
COLLECTSPACE.COM.

510
00:26:02,490 --> 00:26:06,960
I GUESS FOR GWYNNE, BUT ALSO FOR
ANYONE ON THE PANEL.

511
00:26:06,960 --> 00:26:09,500
THERE'S BEEN A LOT OF TALK ABOUT
SUCCESS AND ABOUT THIS BEING A

512
00:26:09,500 --> 00:26:12,590
TEST FLIGHT AND LEARNING THINGS
AND BEING PLEASED, BUT WHAT

513
00:26:12,590 --> 00:26:15,510
DEFINES MISSION SUCCESS FOR
THIS?

514
00:26:15,510 --> 00:26:17,970
IS IT JUST GETTING OFF THE PAD
AND YOU LEARN SOMETHING THAT

515
00:26:17,970 --> 00:26:18,970
WAY?

516
00:26:18,970 --> 00:26:21,480
OR DO YOU HAVE TO BE ENTIRELY
SUCCESSFUL FOR IT TO BE DECLARED

517
00:26:21,480 --> 00:26:22,480
MISSION SUCCESS?

518
00:26:22,480 --> 00:26:26,460
>> YOU WANT ME TO TAKE THAT?

519
00:26:26,460 --> 00:26:32,290
>> WELL, I CAN ANSWER THAT FROM
OUR SPACE ACT AGREEMENT, IN

520
00:26:32,290 --> 00:26:36,900
TERMS OF OUR FORMAL AGREEMENT

WITH SPACEX.

521
00:26:36,900 --> 00:26:42,600
WE HAVE A NUMBER OF OBJECTIVES
LISTED, STARTING FROM LICENSING,

522
00:26:42,600 --> 00:26:46,170
GROUND OPERATIONS, THE LAUNCH
ACTIVITY, ON-ORBIT OPERATIONS

523
00:26:46,170 --> 00:26:50,020
THROUGH, YOU KNOW, THE BIRTHING
PERIOD AND THE CONTROLLED ENTRY

524
00:26:50,020 --> 00:26:51,020
AND RECOVERY.

525
00:26:51,020 --> 00:26:54,050
ALL OF THESE ARE INCREMENTAL
MILESTONES THAT WE'VE LISTED AS

526
00:26:54,050 --> 00:27:01,220
SUCCESS CRITERIA, BUT THE NATURE
OF THIS FLIGHT IS SUCH THAT IF

527
00:27:01,220 --> 00:27:04,900
THEY ARE NOT ALL ACHIEVED, WELL
THEN THEY WOULD ROLL INTO THE

528
00:27:04,900 --> 00:27:07,330
NEXT FLIGHT.

529
00:27:07,330 --> 00:27:10,070
SO ACHIEVING ANY ONE OF THOSE
INCREMENTAL STEPS WOULD BE

530
00:27:10,070 --> 00:27:13,750
CONSIDERED A SUCCESS AND THE
THINGS THAT WERE NOT ACHIEVED,

531
00:27:13,750 --> 00:27:16,680
THEN WE WOULD ROLL INTO THE NEXT
FLIGHT.

532
00:27:16,680 --> 00:27:22,220
>> KEN KRAMER FOR "SPACE FLIGHT"
MAGAZINE FOR MS.

533
00:27:22,220 --> 00:27:23,850
SHOTWELL AND
ANYONE.

534
00:27:23,850 --> 00:27:27,560
YOU'VE HAD TO DO A LOT OF
ADDITIONAL TESTING OVER THE LAST

535
00:27:27,560 --> 00:27:29,570
FEW MONTHS BECAUSE YOU'VE
COMBINED THESE TWO MISSIONS,

536
00:27:29,570 --> 00:27:30,570
OKAY?

537
00:27:30,570 --> 00:27:31,760
AND YOU'VE HAD A LOT OF
INTERACTION WITH NASA.

538
00:27:31,760 --> 00:27:36,080
I WONDER IF YOU COULD DESCRIBE A
LITTLE BIT WHAT IS THE NATURE OF

539
00:27:36,080 --> 00:27:38,440
THAT TESTING LITTLE BIT OF
DETAIL, WHAT YOU'VE HAD TO DO.

540
00:27:38,440 --> 00:27:42,000
HAVE YOU UNCOVERED ANY ISSUES
THAT YOU HAD TO FIX AND THINGS

541

00:27:42,000 --> 00:27:43,000
LIKE THAT?

542
00:27:43,000 --> 00:27:44,000
THANK YOU.

543
00:27:44,000 --> 00:27:45,000
>> SURE.

544
00:27:45,000 --> 00:27:51,410
SO, WE DID A BASELINE WITH NASA
IN DECEMBER OF LAST YEAR, AND

545
00:27:51,410 --> 00:27:55,640
THAT WAS TO FOCUS ON THE
PRIMARY, THE BASELINE MISSION.

546
00:27:55,640 --> 00:27:58,860
AND THEN WE CONTINUED TO WORK ON
THE ELEMENTS OF, SUCH AS

547
00:27:58,860 --> 00:28:02,090
RE-ENTRY AND ALSO CONTINUE TO
WORK ON CONTINGENCY OPERATIONS

548
00:28:02,090 --> 00:28:03,110
SINCE THEN.

549
00:28:03,110 --> 00:28:05,780
WE'VE DONE A NUMBER OF
REGRESSION TESTS WITH NASA HAND

550
00:28:05,780 --> 00:28:11,540
IN HAND ON THE GN&C SIDE AS WELL
AS ON THE SOFTWARE SIDE.

551
00:28:11,540 --> 00:28:17,160
MOST RECENTLY, WE LOCKED DOWN
OUR SOFTWARE IN MID-APRIL, AND

552
00:28:17,160 --> 00:28:19,600
WE'VE CONTINUED TO WORK WITH
NASA VERY CLOSELY ON THE

553
00:28:19,600 --> 00:28:21,410
SOFTWARE ASSURANCE PROCESS.

554
00:28:21,410 --> 00:28:23,860
WE HAD A LOT OF CHANGES SINCE
THAT PRIMARY BASELINE IN

555
00:28:23,860 --> 00:28:28,270
DECEMBER, AND WE WENT THROUGH
EVERY CHANGE WITH NASA HELP,

556
00:28:28,270 --> 00:28:29,940
REMINDED ME OF BEING IN COLLEGE.

557
00:28:29,940 --> 00:28:32,190
STARTED AT 7:00 IN THE MORNING,
WENT UNTIL MIDNIGHT.

558
00:28:32,190 --> 00:28:35,740
BY THE WAY, THE NASA FOLKS WERE
ONLINE AT 9:00 UNTIL 2:00 IN THE

559
00:28:35,740 --> 00:28:38,470
MORNING, DAYS IN A ROW.

560
00:28:38,470 --> 00:28:41,070
AND WE WENT THROUGH EVERY
SOFTWARE CHANGE, EVERY COT

561
00:28:41,070 --> 00:28:43,780
CHANGE AND EVERY CONFIGURATION
CHANGE SINCE THE BASELINE IN

562
00:28:43,780 --> 00:28:45,160
DECEMBER.

563
00:28:45,160 --> 00:28:49,070
WE FOUND NO ISSUES WITH THE
SOFTWARE, SO THERE SHOULD BE NO

564
00:28:49,070 --> 00:28:51,920
ISSUES ABOUT MY SOFTWARE
WRITTEN.

565
00:28:51,920 --> 00:28:54,980
WE DID FIND A COUPLE PROCESS
AREAS THAT WE CAN WORK ON AND DO

566
00:28:54,980 --> 00:28:58,610
BETTER, BUT THERE WERE NO
SUBSTANTIAL ACTIONS OR ISSUES

567
00:28:58,610 --> 00:29:01,960
THAT CAME OUT OF THAT REVIEW.

568
00:29:01,960 --> 00:29:04,110
THE SPACECRAFT IS FUNDAMENTALLY
A NEW SPACECRAFT.

569
00:29:04,110 --> 00:29:06,730
WE FLEW A VERSION OF IT IN
DECEMBER, BUT THIS IS A MUCH

570
00:29:06,730 --> 00:29:08,690
MORE SOPHISTICATED SPACECRAFT.

571
00:29:08,690 --> 00:29:12,150
HAS A LOT MORE SUBSYSTEMS ON IT,
AS ALAN TALKED ABOUT.

572
00:29:12,150 --> 00:29:17,380
AND WE ARE APPROACHING A MANNED,
A CRUDE BODY, THE ISS.

573

00:29:17,380 --> 00:29:21,080
AND YOU WANT TO MAKE SURE YOU'VE
GOT ALL EYES LOOKING AT

574
00:29:21,080 --> 00:29:22,250
EVERYTHING.

575
00:29:22,250 --> 00:29:23,690
AND I THINK WE ACCOMPLISHED
THAT.

576
00:29:23,690 --> 00:29:25,630
IT'S BEEN AN EXTRAORDINARY
COUPLE OF WEEKS.

577
00:29:25,630 --> 00:29:26,690
I'M SURE WE WORE THE NAS WERE

578
00:29:26,690 --> 00:29:29,130
FOLKS OUT.

579
00:29:29,130 --> 00:29:35,180
>> HI, VAUGHN SIMON.

580
00:29:35,180 --> 00:29:38,540
A QUESTION FOR THE NASA
REPRESENTATIVES.

581
00:29:38,540 --> 00:29:41,870
IT SEEMS TO BE A VERY DIFFERENT
APPROACH TO A MISSION WHERE IN

582
00:29:41,870 --> 00:29:44,320
THE PAST, NASA WOULD OPERATE THE
MISSION, AND NOW YOU'RE ALMOST

583
00:29:44,320 --> 00:29:45,320
REGULATING IT.

584

00:29:45,320 --> 00:29:49,460
I'M CURIOUS HOW THAT ROLE CHANGE
HAS GONE INSIDE THE

585
00:29:49,460 --> 00:29:50,460
ORGANIZATION.

586
00:29:50,460 --> 00:29:52,690
HAS IT BEEN DIFFICULT TO MAKE
THAT TRANSITION?

587
00:29:52,690 --> 00:29:55,440
AND I GUESS FOR SPACEX, YOU KIND
OF ANSWERED THE PRIOR QUESTION

588
00:29:55,440 --> 00:29:58,790
SIMILAR TO THAT, JUST WHAT IT'S
LIKE TO BE REGULATED IN THIS NEW

589
00:29:58,790 --> 00:30:07,560
ENVIRONMENT.

590
00:30:07,560 --> 00:30:10,530
>> THERE'S NO DOUBT THAT THIS IS
DIFFERENT FOR US.

591
00:30:10,530 --> 00:30:14,500
WE ARE VERY ACCUSTOMED TO
ESTABLISHING A LARGE LIST OF

592
00:30:14,500 --> 00:30:24,140
DETAILED REQUIREMENTS THAT WE
ASSURE ARE VERIFIED AND MET FOR

593
00:30:24,140 --> 00:30:26,220
ALL OF OUR MISSIONS.

594
00:30:26,220 --> 00:30:33,310
THIS TIME, WE HAD TO THINK LIKE
A CUSTOMER OF SERVICES, SORT OF

595
00:30:33,310 --> 00:30:35,070
AN END-TO-END CARGO DELIVERY.

596
00:30:35,070 --> 00:30:36,070
HERE'S OUR CARGO.

597
00:30:36,070 --> 00:30:40,010
WE EXPECT IT TO BE DELIVERED IN
THE SAME SHAPE WE GAVE IT TO YOU

598
00:30:40,010 --> 00:30:41,330
AND RECOVERED.

599
00:30:41,330 --> 00:30:43,520
AND THAT WAS A WHOLE DIFFERENT
MINDSET FOR US, BECAUSE THE

600
00:30:43,520 --> 00:30:48,460
REQUIREMENTS THEN CAME DOWN
SUBSTANTIALLY TO WHAT OUR NEEDS

601
00:30:48,460 --> 00:30:53,580
WERE, AND THEN WE FOCUSED ONLY
ON THE FIRM REQUIREMENTS THAT

602
00:30:53,580 --> 00:30:56,880
WERE REQUIRED TO ASSURE THE
SAFETY OF THE SPACE STATION.

603
00:30:56,880 --> 00:31:00,730
SO, THAT WAS A DIFFERENT,
DIFFERENT APPROACH FOR US.

604
00:31:00,730 --> 00:31:02,950
AND I THINK IT WORKED OUT VERY
WELL.

605
00:31:02,950 --> 00:31:06,190

OF COURSE, IN TERMS OF THE SPACE
STATION VERIFICATION, AS GWYNNE

606
00:31:06,190 --> 00:31:09,590
MENTIONED, PART OF LOOKING AT
ALL THE CHANGES AND VERIFYING

607
00:31:09,590 --> 00:31:12,880
AND RUNNING IT THROUGH OUR JOINT
SIMULATIONS IS PART OF A

608
00:31:12,880 --> 00:31:16,250
STANDARD PROCESS THAT WE WOULD
DO FOR ANY VEHICLE, BUT THE REST

609
00:31:16,250 --> 00:31:19,340
OF IT WAS PRETTY MUCH UP TO
SPACEX IN TERMS OF THE

610
00:31:19,340 --> 00:31:23,560
CONFIGURATIONS OF THE VEHICLES,
THE CARGO CAPACITIES, THE

611
00:31:23,560 --> 00:31:24,860
VOLUMES.

612
00:31:24,860 --> 00:31:32,790
AND WE LEARNED TO UTILIZE WHAT
SPACEX WAS OFFERING, INSTEAD OF

613
00:31:32,790 --> 00:31:35,090
VERY SPECIFIC REQUIREMENTS.

614
00:31:35,090 --> 00:31:38,250
>> AND JUST ONE MORE -- IF I
COULD ADD ONE MORE THING.

615
00:31:38,250 --> 00:31:41,370
NASA'S ROLE IS NOT REGULATORY IN
THIS REQUIREMENT.

616
00:31:41,370 --> 00:31:44,870
I CAN SEE WHERE YOU MIGHT MAKE
THAT ASSUMPTION, BUT THE FAA IS

617
00:31:44,870 --> 00:31:45,900
ONE OF OUR PARTNERS.

618
00:31:45,900 --> 00:31:47,610
THEY'RE NOT UP HERE TODAY, BUT
THEY ARE CERTAINLY ONE OF OUR

619
00:31:47,610 --> 00:31:49,690
PARTNERS AND THEY HAVE THE
REGULATORY ROLE FOR THIS

620
00:31:49,690 --> 00:31:50,710
MISSION.

621
00:31:50,710 --> 00:31:55,210
NASA'S ROLE IS MORE LIKE ALAN
SAID.

622
00:31:55,210 --> 00:31:59,340
I KIND OF THINK OF IT MORE AS AN
INVESTOR, A VERY INTERESTED

623
00:31:59,340 --> 00:32:00,340
INVESTOR.

624
00:32:00,340 --> 00:32:02,890
AND IF YOU LOOK ACROSS THE NASA
PORTFOLIO, WE PURCHASE

625
00:32:02,890 --> 00:32:05,480
COMMERCIAL SERVICES FOR A LOT OF
DIFFERENT THINGS.

626
00:32:05,480 --> 00:32:07,430

WE'VE JUST NEVER DONE IT IN
HUMAN SPACE FLIGHT.

627
00:32:07,430 --> 00:32:12,330
SO, THERE WAS A LOT OF EXPERTISE
AND HISTORICAL EXPERIENCE THAT

628
00:32:12,330 --> 00:32:13,870
WE COULD DRAW ON.

629
00:32:13,870 --> 00:32:17,560
WE PURCHASE OUR ROBOTIC LAUNCH
SERVICES COMMERCIALLY AS WELL,

630
00:32:17,560 --> 00:32:20,950
SO BEEN ABLE TO INCORPORATE SOME
OF THOSE LESSONS LEARNED.

631
00:32:20,950 --> 00:32:24,960
SO, WHILE IT WAS NEW, IT WASN'T
COMPLETELY NEW, YOU KNOW.

632
00:32:24,960 --> 00:32:27,100
IT'S HARD TO CHARACTERIZE THESE
THINGS AS EITHER HALF EMPTY OR

633
00:32:27,100 --> 00:32:31,160
HALF FULL, BUT THERE WAS A LOT
OF HISTORICAL EXPERIENCE FOR US

634
00:32:31,160 --> 00:32:34,800
TO LEVERAGE, BUT IT HAS
DEFINITELY BEEN A CHANGE IN THE

635
00:32:34,800 --> 00:32:39,280
HUMAN SPACE FLIGHT AREA, AND
IT'S TAKEN MANY YEARS, BUT WE'VE

636
00:32:39,280 --> 00:32:44,390
DONE A PRETTY GOOD JOB, I THINK,

OVER THAT TIME.

637
00:32:44,390 --> 00:32:45,730
>> WITH VOICE OF AMERICA.

638
00:32:45,730 --> 00:32:49,740
IN TERMS OF COMMAND AND CONTROL
OF "DRAGON" AND ALSO "FALCON,"

639
00:32:49,740 --> 00:32:52,680
WHO ACTUALLY HAS THE LEAD IF
ANYTHING GOES WRONG?

640
00:32:52,680 --> 00:32:57,670
WOULD IT BE SPACEX OR NASA WHO
HAS FULL CONTROL OF, ESPECIALLY

641
00:32:57,670 --> 00:33:02,710
"DRAGON," ESPECIALLY DURING
FLY-UNDER, APPROACH AND BIRTH?

642
00:33:02,710 --> 00:33:07,810
>> SPACEX COMMANDS THE "DRAGON"
CAPSULE AND OPERATES IT.

643
00:33:07,810 --> 00:33:13,620
THE CREW ON BOARD THE ISS, AND I
BELIEVE THE CREW, THE OPERATORS

644
00:33:13,620 --> 00:33:16,750
IN MISSION CONTROL, HAVE THE
ABILITY TO CALL AN ABORT.

645
00:33:16,750 --> 00:33:19,900
SO NASA HAS THE ABILITY TO CALL
"DRAGON" OFF IF THEY ARE

646
00:33:19,900 --> 00:33:21,470
CONCERNED ABOUT ANYTHING.

647
00:33:21,470 --> 00:33:26,060
"DRAGON" AUTONOMOUSLY COULD
ABORT AS WELL, AND WE COULD

648
00:33:26,060 --> 00:33:27,470
OBVIOUSLY COMMAND AN ABORT.

649
00:33:27,470 --> 00:33:33,610
SO, WE OPERATE THE VEHICLE IN
ANY NOMINAL SITUATION, BUT THE

650
00:33:33,610 --> 00:33:37,240
INTERNATIONAL -- THE CREW ON THE
INTERNATIONAL SPACE STATION, MCC

651
00:33:37,240 --> 00:33:41,350
IN HOUSTON, "DRAGON" ITSELF AND
SPACEX MISSION CONTROL CAN

652
00:33:41,350 --> 00:33:43,350
COMMAND AN ABORT.

653
00:33:43,350 --> 00:33:47,870
>> LET ME JUST ADD, CERTAINLY
SPACEX IS FLYING AND IN COMMAND

654
00:33:47,870 --> 00:33:51,960
OF THE VEHICLE, BUT THERE ARE
VERY SPECIFIC LIST OF FLIGHT

655
00:33:51,960 --> 00:33:54,620
RULES THAT AS THE VEHICLE
APPROACHES THE PARTICIPATION,

656
00:33:54,620 --> 00:33:59,740
THERE ARE PREDEFINED RULES IN
TERMS OF REDUNDANCY, RELIABILITY

657
00:33:59,740 --> 00:34:03,080

AND PERFORMANCE OF THE VEHICLE,
AND IT WILL BE PASSING THROUGH

658
00:34:03,080 --> 00:34:09,349
THESE PERIODS AS IT APPROACHES,
WHICH IS AN OPERATION THAT IS

659
00:34:09,349 --> 00:34:15,320
MANAGED OUT OF HOUSTON MISSION
CONTROL, BUT THE ACTUAL

660
00:34:15,320 --> 00:34:18,700
CONTROLLING AND COMMAND OF THE
VEHICLE IS BY SPACEX.

661
00:34:18,700 --> 00:34:22,470
>> BILL HOROWITZ, CBS NEWS FOR
GWYNNE OR MAYBE FOR PHIL, I'M

662
00:34:22,470 --> 00:34:23,470
NOT SURE.

663
00:34:23,470 --> 00:34:26,030
YOU'RE TALKING 2015, IF ALL GOES
WELL, AND I UNDERSTAND THAT.

664
00:34:26,030 --> 00:34:28,630
NASA'S TOLD US REPEATEDLY THAT
BASED ON THE BUDGET PROFILE,

665
00:34:28,630 --> 00:34:32,100
YOU'RE OUT TO 2017 AT THIS POINT
AT THE EARLIEST, AND THIS YEAR'S

666
00:34:32,100 --> 00:34:34,790
BUDGET, IF YOU HAVE PROBLEMS, IT
COULD BE EVEN LATER.

667
00:34:34,790 --> 00:34:38,429
MY QUESTION IS, IS IT 2015 IS

WHAT YOU COULD DO IF FULLY

668
00:34:38,429 --> 00:34:39,429
FUNDED?

669
00:34:39,429 --> 00:34:41,740
AND DOES SPACEX HAVE THE ABILITY
TO MAKE SOMETHING HAPPEN EVEN IF

670
00:34:41,740 --> 00:34:44,129
THE NASA BUDGETS AREN'T FULLY
FUNDED?

671
00:34:44,129 --> 00:34:46,790
IN OTHER WORDS, ARE YOU
COMMITTED TO MAKING THIS HAPPEN

672
00:34:46,790 --> 00:34:52,780
ON A FASTER SCHEDULE ON YOUR
OWN?

673
00:34:52,780 --> 00:35:00,380
>> GIVEN WHAT WE'VE SEEN ABOUT
THE BUDGET THIS YEAR AND WHAT WE

674
00:35:00,380 --> 00:35:06,110
WOULD ANTICIPATE NEXT YEAR, WE
BELIEVE '15 IS A REASONABLE DATE

675
00:35:06,110 --> 00:35:07,230
TO FLY CREW.

676
00:35:07,230 --> 00:35:11,230
NOW, IF BUDGETS WERE TO GET CUT
DRAMATICALLY FROM CURRENT OR

677
00:35:11,230 --> 00:35:17,320
ANTICIPATED LEVELS, THEN WE
MIGHT LOOK AT A STRETCH-OUT.

678
00:35:17,320 --> 00:35:22,380
SPACEX WAS FOUNDED, ACTUALLY, TO
TAKE CREW AND EXPLORERS TO

679
00:35:22,380 --> 00:35:23,380
SPACE.

680
00:35:23,380 --> 00:35:26,610
SO, WE WOULD PROCEED,
REGARDLESS.

681
00:35:26,610 --> 00:35:29,710
HOWEVER, IT WOULD TAKE LONGER
BECAUSE IT'S A LOT OF CAPITAL

682
00:35:29,710 --> 00:35:31,080
FOR A COMPANY TO RAISE.

683
00:35:31,080 --> 00:35:32,080
IT WOULD TAKE LONGER.

684
00:35:32,080 --> 00:35:35,480
>> PHIL, COULD YOU TALK ABOUT
THAT A LITTLE BIT?

685
00:35:35,480 --> 00:35:36,680
OR MAYBE ALAN?

686
00:35:36,680 --> 00:35:37,680
WHOEVER.

687
00:35:37,680 --> 00:35:40,000
>> WELL, YOU KNOW, IT'S
IMPOSSIBLE TO SPECULATE ON

688
00:35:40,000 --> 00:35:41,000
FUTURE BUDGETS.

689

00:35:41,000 --> 00:35:42,660
WE'RE GOING TO GET WHAT WE'RE
GOING TO GET, AND WE'LL SEE -- I

690
00:35:42,660 --> 00:35:46,310
THINK I CAN SAY FOR SURE THAT WE
WILL MAKE THE BEST USE OF

691
00:35:46,310 --> 00:35:48,410
WHATEVER BUDGET THAT WE DO GET.

692
00:35:48,410 --> 00:35:51,440
I WOULD SAY IN TERMS OF THE
SCHEDULE, THAT'S ANOTHER

693
00:35:51,440 --> 00:35:52,440
DIFFICULT THING TO PREDICT.

694
00:35:52,440 --> 00:35:56,250
JUST LIKE THE BUDGETS, THERE IS
A CONNECTION THERE, OBVIOUSLY,

695
00:35:56,250 --> 00:36:01,080
BETWEEN THE BUDGETS AND HOW FAST
WE CAN GO.

696
00:36:01,080 --> 00:36:03,230
BUT I THINK IT'S IMPORTANT TO
REALIZE THAT THERE IS A

697
00:36:03,230 --> 00:36:06,810
DISTINCTION BETWEEN WHEN THEY
COULD FIRST FLY PEOPLE AND WHEN

698
00:36:06,810 --> 00:36:09,300
THEY WOULD BE CERTIFIED TO FLY
NASA ASTRONAUTS TO THE

699
00:36:09,300 --> 00:36:10,330
INTERNATIONAL SPACE STATION.

700
00:36:10,330 --> 00:36:14,280
THOSE ARE TWO DIFFERENT DATES,
AND I THINK WHEN NASA SAYS 2017,

701
00:36:14,280 --> 00:36:17,560
THAT'S SORT OF OUR BEST ESTIMATE
AS TO WHEN WE WILL ACTUALLY HAVE

702
00:36:17,560 --> 00:36:19,540
A CERTIFIED VEHICLE FLYING TO
THE ISS.

703
00:36:19,540 --> 00:36:22,710
BUT WE'RE NOT GOING TO PRECLUDE
AN EARLIER AVAILABILITY OF

704
00:36:22,710 --> 00:36:23,710
SERVICES.

705
00:36:23,710 --> 00:36:26,930
SO, WE RECOGNIZE THAT MANY OF
OUR PARTNERS BELIEVE THEY CAN

706
00:36:26,930 --> 00:36:29,180
GET THERE QUICKER, AND WE
CERTAINLY DON'T WANT TO SLOW

707
00:36:29,180 --> 00:36:30,180
THEM UP.

708
00:36:30,180 --> 00:36:35,050
SO, WE ARE GOING TO ALLOW FOR AN
EARLIER AVAILABILITY OF

709
00:36:35,050 --> 00:36:36,050
SERVICES.

710
00:36:36,050 --> 00:36:38,321

BUT WHEN WE LOOK AT THE PICTURE,
WE THINK IT'S SAFE TO SAY, WE

711
00:36:38,321 --> 00:36:42,810
THINK A REASONABLE ESTIMATE, AND
IT'S JUST AN ESTIMATE, IS 2017.

712
00:36:42,810 --> 00:36:44,100
COULD BE LONGER, COULD BE SHORT.

713
00:36:44,100 --> 00:36:48,430
>> BUT WE THINK THAT'S
REASONABLE.

714
00:36:48,430 --> 00:36:49,900
>> PETER KING ALSO OF CBS NEWS.

715
00:36:49,900 --> 00:36:51,670
THIS IS FOR MS.

716
00:36:51,670 --> 00:36:52,670
SHOTWELL.

717
00:36:52,670 --> 00:36:54,290
EVERYBODY'S TALKING ABOUT, OF
COURSE, COMMERCIAL SPACE, AND

718
00:36:54,290 --> 00:36:57,270
THERE HAVE BEEN A LOT OF
PARALLELS DRAWN BETWEEN WHAT'S

719
00:36:57,270 --> 00:37:02,020
HAPPENING HERE IN THE EARLY DAYS
OF AVIATION IN THE AIRLINES.

720
00:37:02,020 --> 00:37:05,070
THIS IS A COUPLE PARTS HERE.

721
00:37:05,070 --> 00:37:08,530

AT WHAT POINT HAVE YOU MADE BACK
YOUR INVESTMENT AND DOES THIS

722
00:37:08,530 --> 00:37:12,060
START BEING A PROFIT-MAKING
VENTURE RATHER THAN TRYING TO

723
00:37:12,060 --> 00:37:13,680
EARN BACK THE INVESTMENT?

724
00:37:13,680 --> 00:37:18,860
AND THE SECOND PART WOULD BE, DO
YOU EXPECT THAT YOU'RE GOING TO

725
00:37:18,860 --> 00:37:22,450
MAKE THE BULK OF YOUR MONEY ON
GOVERNMENT CONTRACTS, LIKE NASA,

726
00:37:22,450 --> 00:37:26,320
THE WAY THE AIRLINES DID IN THE
EARLY DAYS WITH THE AIR MAIL?

727
00:37:26,320 --> 00:37:30,810
OR IS IT GOING TO BE SPACE
TOURISM AND OTHER CONCERNS THAT

728
00:37:30,810 --> 00:37:35,150
REALLY PUSH YOU INTO THE BLACK?

729
00:37:35,150 --> 00:37:38,370
>> SPACEX AS A BUSINESS HAS DONE
VERY WELL FINANCIALLY.

730
00:37:38,370 --> 00:37:41,260
WE'VE BEEN FREE CASH FLOW
POSITIVE FOR FIVE YEARS AND

731
00:37:41,260 --> 00:37:44,960
PROFITABLE AS WELL.

732
00:37:44,960 --> 00:37:50,300
SO, THE VALUE OF THE COMPANY IS
NOT NECESSARILY -- IT'S VALUED

733
00:37:50,300 --> 00:37:51,300
DIFFERENTLY.

734
00:37:51,300 --> 00:37:58,250
THE COMPANY IS WORTH -- LET ME
NOT GO DOWN THAT PATH.

735
00:37:58,250 --> 00:38:01,640
WE'VE BEEN FREE CASH FLOW
POSITIVE AND PROFITABLE FOR MANY

736
00:38:01,640 --> 00:38:02,640
YEARS.

737
00:38:02,640 --> 00:38:04,100
SO LET'S TAKE THAT PIECE.

738
00:38:04,100 --> 00:38:06,980
NOW, THE SECOND PIECE YOU SAY IS
ARE WE GOING TO MAKE MOST OF OUR

739
00:38:06,980 --> 00:38:08,440
MONEY FROM THE GOVERNMENT?

740
00:38:08,440 --> 00:38:11,190
AND AS OF RIGHT NOW, THE
MAJORITY OF OUR MISSIONS, NOT

741
00:38:11,190 --> 00:38:13,480
NECESSARILY THE MAJORITY OF OUR
REVENUE, BUT THE MAJORITY OF OUR

742
00:38:13,480 --> 00:38:16,750
MISSIONS ARE COMMERCIAL OR
INTERNATIONAL GOVERNMENTS.

743
00:38:16,750 --> 00:38:19,770
WHAT WE REALLY WANT TO DO TO
SUSTAIN A HEALTHY BUSINESS IS TO

744
00:38:19,770 --> 00:38:23,700
HAVE GOOD PENETRATION IN EVERY
MARKET SECTOR.

745
00:38:23,700 --> 00:38:27,820
WE'D LOVE TO HAVE 30%
COMMERCIAL, 30% GOVERNMENT AND

746
00:38:27,820 --> 00:38:29,500
30% INTERNATIONAL GOVERNMENT.

747
00:38:29,500 --> 00:38:33,800
THAT WOULD PROTECT US FROM
DOWNTURNS IN ANY SINGLE SECTOR.

748
00:38:33,800 --> 00:38:38,940
WHAT'S ALSO IMPORTANT TO NOTE IS
WITH THE SPACEX SYSTEM, "FALCON

749
00:38:38,940 --> 00:38:43,260
9" FLIES TO TAKE "DRAGON" TO THE
INTERNATIONAL SPACE STATION FOR

750
00:38:43,260 --> 00:38:44,260
CARGO MISSIONS.

751
00:38:44,260 --> 00:38:47,200
HOPEFULLY, IT WILL FLY TO TAKE
CREW MISSIONS AS WELL, BUT IT

752
00:38:47,200 --> 00:38:49,750
ALSO DELIVERS SATELLITES TO
ORBIT.

753

00:38:49,750 --> 00:38:51,820
THAT'S A WELL-DEFINED MARKET.

754
00:38:51,820 --> 00:38:53,980
IT'S BEEN IN PLACE FOR SOME
TIME.

755
00:38:53,980 --> 00:38:57,640
THE U.S. ACTUALLY USED TO
DOMINATE LAUNCH IN THE '90s.

756
00:38:57,640 --> 00:39:01,080
WE FLEW THE MAJORITY OF THE
MISSIONS, COMMERCIAL MISSIONS.

757
00:39:01,080 --> 00:39:04,310
WE LOST THAT IN THE LATE '90s,
AND WE'RE STARTING TO SEE THAT

758
00:39:04,310 --> 00:39:06,340
COME BACK NOW WITH THE "FALCON
9."

759
00:39:06,340 --> 00:39:08,610
WE ARE COMPETITIVE
INTERNATIONALLY.

760
00:39:08,610 --> 00:39:13,400
WE'RE BEATING OTHERS AT COMPETED
DEALS, AND WE'RE BUILDING OUR

761
00:39:13,400 --> 00:39:15,619
MANIFEST TO KEEP THE COMPANY
HEALTHY.

762
00:39:15,619 --> 00:39:16,619
>> IRENE?

763
00:39:16,619 --> 00:39:17,619
>> THANKS.

764
00:39:17,619 --> 00:39:19,080
IRENE FOX WITH REUTERS.

765
00:39:19,080 --> 00:39:22,470
I HAVE A COUPLE FINANCIAL
QUESTIONS FOR YOU, GWYNNE, AND

766
00:39:22,470 --> 00:39:25,460
ONE FOR EITHER ALAN OR PHIL.

767
00:39:25,460 --> 00:39:28,930
LAST TIME I THINK WE TALKED TO
ELON, HE SAID THAT THIS PROGRAM

768
00:39:28,930 --> 00:39:33,950
TO DATE, THE "FALCON 9"
DEVELOPMENT, ALSO "FALCON 1" AND

769
00:39:33,950 --> 00:39:38,550
LAUNCH SITES AND "DRAGON" AND SO
FORTH IS $1 BILLION, OF WHICH

770
00:39:38,550 --> 00:39:43,310
NASA IS ROUGHLY $400 MILLION,
NOT COUNTING THE COMMERCIAL

771
00:39:43,310 --> 00:39:46,510
CREW, AND HE HAD PUT IN $100
MILLION.

772
00:39:46,510 --> 00:39:49,680
SO WHERE DID THE OTHER $500
MILLION COME FROM?

773
00:39:49,680 --> 00:39:53,100
>> SO, WE'VE ACTUALLY SPENT --
THAT WAS SOME TIME AGO, RIGHT?

774

00:39:53,100 --> 00:39:56,960
SO NOW WE'RE AT ABOUT $1.2
BILLION IN EXPENDITURE.

775
00:39:56,960 --> 00:40:00,690
NASA HAS PROVIDED ABOUT $390
MILLION SO FAR UNDER THE

776
00:40:00,690 --> 00:40:01,690
C.O.T.S.

777
00:40:01,690 --> 00:40:02,690
PROGRAM.

778
00:40:02,690 --> 00:40:04,440
WE'VE HAD ELON'S INVESTED $100
MILLION.

779
00:40:04,440 --> 00:40:07,120
WE'VE HAD OUTSIDE INVESTORS AT
$120 MILLION.

780
00:40:07,120 --> 00:40:12,090
OUR COMMERCIAL CUSTOMERS HAVE
PUT IN ABOUT THE SAME AS OUR CRS

781
00:40:12,090 --> 00:40:14,810
CUSTOMERS, SO JUST UNDER $300
MILLION THERE.

782
00:40:14,810 --> 00:40:15,990
AND THEN THERE'S THE CCDEV2.

783
00:40:15,990 --> 00:40:20,350
I SHOULDN'T SAY OUR COMMERCIAL
CUSTOMERS -- OUR OTHER-THAN-NASA

784
00:40:20,350 --> 00:40:21,660
CUSTOMERS.

785
00:40:21,660 --> 00:40:22,970
>> OKAY.

786
00:40:22,970 --> 00:40:26,020
AND I REALIZED YOU'RE, YOU KNOW,
IN A PROCUREMENT SITUATION NOW,

787
00:40:26,020 --> 00:40:31,540
BUT COULD YOU SAY ROUGHLY HOW
MUCH SPACEX INTENDS TO UNDERCUT

788
00:40:31,540 --> 00:40:36,950
THE RUSSIANS' $60 MILLION A SEAT
FOR FLYING ASTRONAUTS TO THE

789
00:40:36,950 --> 00:40:37,950
ISS?

790
00:40:37,950 --> 00:40:41,310
>> WE'VE BEEN VERY PUBLIC ABOUT
THAT.

791
00:40:41,310 --> 00:40:44,760
WE BELIEVE OUR CREW CAPABILITY,
THAT WE CAN OFFER THAT TO NASA

792
00:40:44,760 --> 00:40:47,850
FOR $140 MILLION PERMISSION.

793
00:40:47,850 --> 00:40:50,750
WE CAN TAKE SEVEN ASTRONAUTS, SO
THAT'S 20 MILLION BUCKS A SEAT.

794
00:40:50,750 --> 00:40:55,390
>> WE'RE GOING TO GO TO THE
PHONES NOW, AND PLEASE ASK JUST

795
00:40:55,390 --> 00:40:58,270
ONE QUESTION BECAUSE WE HAVE

QUITE A NUMBER OF PEOPLE ON THE

796
00:40:58,270 --> 00:40:59,270
PHONE.

797
00:40:59,270 --> 00:41:02,340
THEN WE'LL COME BACK HERE AND
TAKE A COUPLE MORE TO WRAP IT

798
00:41:02,340 --> 00:41:03,340
UP.

799
00:41:03,340 --> 00:41:08,730
MARK FROM "AVIATION WEEK."

800
00:41:08,730 --> 00:41:16,080
MARK, ARE YOU THERE?

801
00:41:16,080 --> 00:41:25,000
OKAY, HOW ABOUT ANDY COX FROM
THE WEATHER CHANNEL?

802
00:41:25,000 --> 00:41:36,320
ALL RIGHT, WE'VE GOT A PROBLEM
WITH THE PHONES, SO LET'S COME

803
00:41:36,320 --> 00:41:37,320
BACK HERE AND TAKE SOME MORE.

804
00:41:37,320 --> 00:41:43,799
WE'LL TAKE A COUPLE IN THE
FRONT.

805
00:41:43,799 --> 00:41:45,910
>> SAWYER ROSENSTEIN FOR
"TALKING SPACE."

806
00:41:45,910 --> 00:41:51,330
I DON'T KNOW IF THIS IS FOR PHIL

OR ALAN.

807
00:41:51,330 --> 00:41:56,360
AS THE AIRLINE INDUSTRY, IT WAS
ORIGINALLY GOVERNMENT-RUN, AND

808
00:41:56,360 --> 00:41:58,710
THEN IT BECAME COMMERCIALIZED.

809
00:41:58,710 --> 00:42:02,460
DO YOU FORESEE THAT BECOMING
SIMILAR WITH WHAT NASA PLANS TO

810
00:42:02,460 --> 00:42:06,039
DO WITH THE FUTURE OF COMMERCIAL
SPACE?

811
00:42:06,039 --> 00:42:07,039
>> ABSOLUTELY.

812
00:42:07,039 --> 00:42:09,290
I THINK IT'S NOT A PERFECT
ANALOGY, BUT IT'S A GOOD

813
00:42:09,290 --> 00:42:10,760
ANALOGY.

814
00:42:10,760 --> 00:42:13,070
WE'VE SEEN THE GOVERNMENT SORT
OF PUSH THE STATE OF THE ART AND

815
00:42:13,070 --> 00:42:15,020
THEN THE PRIVATE SECTOR COME
BACK IN.

816
00:42:15,020 --> 00:42:19,070
AND MY PERSONAL FEELING IS, AND
IT GOES BACK TO ONE OF THE

817

00:42:19,070 --> 00:42:22,460
EARLIER QUESTIONS ABOUT WHAT
THIS MISSION MEANS, I KIND OF

818
00:42:22,460 --> 00:42:25,810
SEE THAT TRANSITION AS BEING
INEVITABLE.

819
00:42:25,810 --> 00:42:28,010
I BELIEVE IT IS GOING TO HAPPEN
AT SOME POINT.

820
00:42:28,010 --> 00:42:31,000
IF IT'S NOT TODAY AND THIS
MISSION FALLS SHORT OF

821
00:42:31,000 --> 00:42:34,070
EXPECTATIONS, IT WILL HAPPEN IN
THE FUTURE, BECAUSE IT IS

822
00:42:34,070 --> 00:42:35,070
INEVITABLE.

823
00:42:35,070 --> 00:42:38,220
LOW EARTH ORBIT IS GOING TO BE A
PLACE, I BELIEVE, WHERE WE'RE

824
00:42:38,220 --> 00:42:43,890
GOING TO SEE A LOT OF ACTIVITY,
ECONOMIC ACTIVITY, SCIENTIFIC

825
00:42:43,890 --> 00:42:46,880
ACTIVITY, ACROSS THE BOARD.

826
00:42:46,880 --> 00:42:52,060
SO, I BELIEVE THERE IS A ROLE,
THERE IS CERTAINLY A PLACE FOR

827
00:42:52,060 --> 00:42:54,360
EVERYBODY, AND THE UNIVERSE IS A

VERY BIG PLACE, AND THE SOLAR

828
00:42:54,360 --> 00:42:55,690
SYSTEM IS A VERY BIG PLACE.

829
00:42:55,690 --> 00:42:58,310
SO NASA'S STILL GOT A LOT OF
WORK TO DO.

830
00:42:58,310 --> 00:43:01,630
BUT FOR THIS MORE ROUTINE
OPERATION OF GOING UP AND DOWN

831
00:43:01,630 --> 00:43:04,700
TO LOW EARTH ORBIT, IT'S
DIFFICULT, IT'S HARD.

832
00:43:04,700 --> 00:43:06,780
ALAN GAVE YOU A LITTLE GLIMPSE
OF THAT.

833
00:43:06,780 --> 00:43:09,590
BUT IT IS SOMETHING THAT WE'VE
BEEN DOING FOR DECADES NOW, AND

834
00:43:09,590 --> 00:43:14,450
IT'S SOMETHING WE'VE DONE OVER
100 TIMES BY NASA.

835
00:43:14,450 --> 00:43:17,390
AND SO, WE THINK NOW, THE TIME
IS RIGHT FOR ALL THOSE

836
00:43:17,390 --> 00:43:20,480
CONDITIONS, THAT WE'RE NOT
PUSHING THE STATE-OF-THE-ART.

837
00:43:20,480 --> 00:43:23,540
IT'S A WELL-DEFINED MISSION THAT
HAS POTENTIAL FOR OTHER

838
00:43:23,540 --> 00:43:24,990
CUSTOMERS IN ADDITION TO NASA.

839
00:43:24,990 --> 00:43:29,640
WHEN YOU PUT THAT ALL TOGETHER,
IT'S, IN MY OPINION AN

840
00:43:29,640 --> 00:43:33,060
INEVITABLE OUTCOME THAT THIS
WILL EVENTUALLY BE LOW EARTH

841
00:43:33,060 --> 00:43:35,640
ORBIT, AND I THINK THAT'S GOOD
FOR EVERYBODY, RIGHT?

842
00:43:35,640 --> 00:43:40,610
IT FREES NASA UP TO DO THE KINDS
OF THINGS THAT'S MADE US PROUD

843
00:43:40,610 --> 00:43:42,420
AS A NATION OVER THOSE YEARS.

844
00:43:42,420 --> 00:43:48,100
AND THE OTHER IMPORTANT THING IS
WE'VE HAD SOME SETBACKS IN HUMAN

845
00:43:48,100 --> 00:43:50,811
SPACE FLIGHT, AND THAT'S
REQUIRED US TO SORT OF HAVE A

846
00:43:50,811 --> 00:43:53,270
DISCUSSION WITHIN THE NATION
ABOUT WHETHER THIS IS SOMETHING

847
00:43:53,270 --> 00:43:54,360
WE STILL WANT TO DO.

848
00:43:54,360 --> 00:43:56,750

AND THERE'S BEEN SOME PEOPLE
AFTER EACH ONE OF THOSE SETBACKS

849
00:43:56,750 --> 00:44:00,800
HAVE ARGUED FOR US TO GET OUT OF
SPACE OR LOW EARTH ORBIT OR

850
00:44:00,800 --> 00:44:02,000
HUMAN SPACE FLIGHT.

851
00:44:02,000 --> 00:44:06,670
I BELIEVE THAT THIS TRANSITION
IS VERY IMPORTANT FOR CONTINUING

852
00:44:06,670 --> 00:44:09,600
THAT PUSH OUTWARD INTO THE SOLAR
SYSTEM.

853
00:44:09,600 --> 00:44:13,450
ONCE WE GET PRIVATE ENTERPRISE
AND ECONOMIC INTERESTS OUT TO

854
00:44:13,450 --> 00:44:16,310
LOW EARTH ORBIT, THERE WILL BE
NO TURNING BACK.

855
00:44:16,310 --> 00:44:19,590
IT WILL NO LONGER BE SUBJECT TO
THE PREVAILING POLITICAL WINDS,

856
00:44:19,590 --> 00:44:22,710
AND THAT'S WHY I THINK THIS
TRANSITION'S SO IMPORTANT.

857
00:44:22,710 --> 00:44:25,050
IT WILL JUST KEEP PUSHING US
FURTHER AND FURTHER OUT.

858
00:44:25,050 --> 00:44:27,800
NO MORE LOOKING BACKWARDS, ONLY

LOOKING FORWARDS.

859
00:44:27,800 --> 00:44:29,980
>> ALL RIGHT, QUESTION RIGHT
HERE?

860
00:44:29,980 --> 00:44:33,170
>> SCOTT POWERS FROM "THE
ORLANDO SENTINEL."

861
00:44:33,170 --> 00:44:35,170
COUPLE QUESTIONS UNRELATED FOR
GWYNNE.

862
00:44:35,170 --> 00:44:38,270
A COUPLE NICE AGO, WE HAD NASTY
WEATHER BLOW THROUGH HERE.

863
00:44:38,270 --> 00:44:43,290
DID THAT CAUSE ANY SPECIFIC
PROBLEMS OR NEAR MISSES FOR YOU?

864
00:44:43,290 --> 00:44:44,760
>> NO, NOT AT ALL.

865
00:44:44,760 --> 00:44:49,251
AS A MATTER OF FACT, "DRAGON"
AND "FALCON 9" WERE IN THE

866
00:44:49,251 --> 00:44:51,350
HANGAR UNTIL LAST NIGHT.

867
00:44:51,350 --> 00:44:55,530
THEY DID GET ROLLED OUT AND
VERTICAL, HOWEVER, WITH NO

868
00:44:55,530 --> 00:44:56,530
ISSUES.

869

00:44:56,530 --> 00:44:59,130
SO, I GUESS SHE WAS OUT IN THE
RAIN A LITTLE BIT LAST NIGHT.

870
00:44:59,130 --> 00:45:01,730
I DON'T KNOW EXACTLY WHEN THE
RAIN STOPPED AND WHEN "FALCON 9"

871
00:45:01,730 --> 00:45:05,010
ROLLED OUT, BUT NO, NO ISSUES ON
THE VEHICLE.

872
00:45:05,010 --> 00:45:06,210
IT LOOKS SOLID.

873
00:45:06,210 --> 00:45:09,900
>> SECOND QUESTION HAS TO DO
WITH THE 17 MANIFESTED FLIGHTS

874
00:45:09,900 --> 00:45:10,900
YOU'VE GOT COMING UP.

875
00:45:10,900 --> 00:45:12,630
CAN YOU TELL US MORE ABOUT THAT?

876
00:45:12,630 --> 00:45:14,450
WHAT KIND OF CUSTOMER MIX YOU
HAVE, WHO YOU'VE GOT THOSE

877
00:45:14,450 --> 00:45:15,930
FLIGHTS COMING UP FOR?

878
00:45:15,930 --> 00:45:16,930
>> SURE.

879
00:45:16,930 --> 00:45:21,130
GOSH, IF I NAME SOME CUSTOMERS,
THEN I WILL INSULT THE ONES THAT

880

00:45:21,130 --> 00:45:22,130
I FORGET.

881
00:45:22,130 --> 00:45:26,710
SO LET'S TALK ABOUT THE SECTORS
THAT WE ARE WINNING IN.

882
00:45:26,710 --> 00:45:29,220
WE'VE BEEN VERY SUCCESSFUL IN
THE G.O.

883
00:45:29,220 --> 00:45:32,210
TELECOMMUNICATIONS
MARKET.

884
00:45:32,210 --> 00:45:36,270
WE'VE JUST SIGNED RECENTLY TWO
FOR ASIA BROADCAST SATELLITE AND

885
00:45:36,270 --> 00:45:38,050
TWO FOR SATMEX.

886
00:45:38,050 --> 00:45:41,250
WE HAVE SIGNED TWO MISSIONS FOR
ASIASAT, PRIOR TO THAT TWO

887
00:45:41,250 --> 00:45:42,570
"FALCON 9" MISSIONS.

888
00:45:42,570 --> 00:45:46,480
WE SIGNED THAICOM IN THAT MARKET
SECTOR.

889
00:45:46,480 --> 00:45:50,300
AND RIGHT AFTER THE "FALCON 9"
FLIGHT IN DECEMBER OF 2010, WE

890
00:45:50,300 --> 00:45:53,080
SIGNED SES, ONE OF THE MOST
CONSERVATIVE

891
00:45:53,080 --> 00:45:55,860
GEOTELECOMMUNICATIONS OPERATORS
ON THE PLANET.

892
00:45:55,860 --> 00:45:57,550
SO WE WERE REALLY PLEASED WITH
THAT SALE.

893
00:45:57,550 --> 00:46:01,460
SO, WE'RE MAKING GREAT INROADS
THERE IN THAT SECTOR.

894
00:46:01,460 --> 00:46:04,790
WE'VE GOT A COUPLE OF LOW EARTH
ORBIT MISSIONS FOR INTERNATIONAL

895
00:46:04,790 --> 00:46:10,280
GOVERNMENTS WE'VE SOLD TO TAIWAN
FOR OUR NFPO IN TAIWAN, WHICH IS

896
00:46:10,280 --> 00:46:11,619
THEIR SPACE AGENCY.

897
00:46:11,619 --> 00:46:14,250
WE SOLD TO THE CANADIAN SPACE
AGENCY.

898
00:46:14,250 --> 00:46:18,350
WE'VE SOLD TO ARGENTINA, TOO,
FOR CO-9, THE ARGENTINEAN SPACE

899
00:46:18,350 --> 00:46:19,350
AGENCY.

900
00:46:19,350 --> 00:46:21,280
WE'VE GOT A COUPLE COMMERCIAL
MISSIONS.

901

00:46:21,280 --> 00:46:23,700
WELL, OBVIOUSLY, WE SOLD -- I
WAS PRETTY PUBLIC ABOUT OUR

902
00:46:23,700 --> 00:46:26,740
IRIDIUM DEAL, PRETTY PROUD ABOUT
THAT, BIGGEST COMMERCIAL LAUNCH

903
00:46:26,740 --> 00:46:29,210
DEAL EVER SIGNED.

904
00:46:29,210 --> 00:46:33,150
THEN WE HAVE A NUMBER OF OTHER
MISSIONS THAT WE HAVE NOT BEEN

905
00:46:33,150 --> 00:46:34,150
PUBLIC ABOUT.

906
00:46:34,150 --> 00:46:36,510
WE JUST SIGNED A MISSION THIS
WEEK, AS A MATTER OF FACT.

907
00:46:36,510 --> 00:46:39,160
HOPEFULLY, WE'LL HAVE A PRESS
RELEASE ABOUT THAT NEXT WEEK.

908
00:46:39,160 --> 00:46:42,700
AND THEN WE ALSO ADDED A
MISSION, A TEST MISSION ON THE

909
00:46:42,700 --> 00:46:44,040
STRATA LAUNCH CONCEPT.

910
00:46:44,040 --> 00:46:47,350
>> OKAY, ONE QUESTION HERE AND
WE'LL TRY THE PHONES AGAIN.

911
00:46:47,350 --> 00:46:49,540
>> WITH NHK.

912
00:46:49,540 --> 00:46:53,910
IN TALKING TO OTHER FOLKS IN
INDUSTRY AND ALSO WITHIN THE

913
00:46:53,910 --> 00:46:57,340
AGENCY, YOU HAVE A LOT OF PEOPLE
ROOTING FOR SPACEX, NOT JUST FOR

914
00:46:57,340 --> 00:47:00,080
THE SUCCESS OF THE COMPANY, BUT
REALLY FOR THE SUCCESS OF

915
00:47:00,080 --> 00:47:01,080
COMMERCIAL SPACE.

916
00:47:01,080 --> 00:47:02,920
THEY SAY THAT EVEN ON
BACKGROUND, SO IT'S SOMEWHAT

917
00:47:02,920 --> 00:47:04,200
SURPRISING TO ME.

918
00:47:04,200 --> 00:47:07,170
AND I WONDER IF YOU COULD --
THAT'S A BURDEN FOR YOU.

919
00:47:07,170 --> 00:47:09,260
I MEAN, YOU'RE REALLY -- THERE'S
A LOT OF PEOPLE WHO HAVE A LOT

920
00:47:09,260 --> 00:47:10,260
WEIGHING ON YOUR LAUNCH.

921
00:47:10,260 --> 00:47:13,710
I WONDER IF YOU CAN DESCRIBE THE
SIGNIFICANCE OF THAT, THE

922
00:47:13,710 --> 00:47:16,110
IMPORTANCE OF THAT BURDEN THAT

YOU CARRY FORWARD?

923
00:47:16,110 --> 00:47:19,050
AND A FOLLOW-UP TO THAT IS, IF
YOU CAN GIVE US A PEEK INTO

924
00:47:19,050 --> 00:47:22,430
WHAT'S GOING ON IN HAWTHORNE,
SPECIFICALLY THE ACTIVITIES OF

925
00:47:22,430 --> 00:47:24,910
YOUR CHIEF DESIGNER?

926
00:47:24,910 --> 00:47:26,990
>> ELON.

927
00:47:26,990 --> 00:47:29,070
OKAY.

928
00:47:29,070 --> 00:47:33,480
YEAH, WE TAKE THE ROLE VERY
SERIOUSLY.

929
00:47:33,480 --> 00:47:38,360
WE KNOW THIS HAS BEEN TOUTED AS
A HUGE, HUGE MISSION.

930
00:47:38,360 --> 00:47:39,360
WE KEEP TRYING TO SAY IT'S A

931
00:47:39,360 --> 00:47:42,290
TEST.

932
00:47:42,290 --> 00:47:47,320
BUT NONETHELESS, IT'S A BIG JOB,
AND IT CERTAINLY IS NOT GOING --

933
00:47:47,320 --> 00:47:49,880
THE SUCCESS OR FAILURE --

SUCCESS IS NOT GOING TO BE THE

934
00:47:49,880 --> 00:47:52,300
SUCCESS OF THE COMMERCIAL SPACE
INDUSTRY AND FAILURE IS NOT

935
00:47:52,300 --> 00:47:55,240
GOING TO MEAN FAILURE OF THE
COMMERCIAL SPACE INDUSTRY.

936
00:47:55,240 --> 00:47:59,510
CERTAINLY, IT MAKES THINGS MUCH
EASIER IF WE DO BIRTH WITH THE

937
00:47:59,510 --> 00:48:04,840
STATION, BUT WE TAKE THAT ROLE
VERY SERIOUSLY.

938
00:48:04,840 --> 00:48:09,250
WE DIDN'T ASK FOR THAT ROLE, BUT
WE DO TAKE IT VERY SERIOUSLY.

939
00:48:09,250 --> 00:48:12,510
THAT'S WHY WE'VE BEEN MAKING
SURE TO DO EVERYTHING WE CAN ON

940
00:48:12,510 --> 00:48:14,630
THIS FLIGHT TO MAKE IT
SUCCESSFUL.

941
00:48:14,630 --> 00:48:17,599
>> DO YOU FEEL THAT YOU'RE
CARRYING --

942
00:48:17,599 --> 00:48:19,960
[INAUDIBLE]
>> YOU KNOW, I FEEL MORE THAT

943
00:48:19,960 --> 00:48:23,750
I'M CARRYING MY 1,860 EMPLOYEES

WITH ME.

944
00:48:23,750 --> 00:48:27,240
>> ALL RIGHT, LET'S GET TO THE
PHONES NOW.

945
00:48:27,240 --> 00:48:29,750
PLEASE ASK JUST ONE QUESTION
BECAUSE WE'RE RUNNING OUT OF

946
00:48:29,750 --> 00:48:30,750
TIME.

947
00:48:30,750 --> 00:48:31,750
MARK FROM "AVIATION WEEK."

948
00:48:31,750 --> 00:48:32,750
>> YES, THANKS.

949
00:48:32,750 --> 00:48:34,060
IF YOU CAN HEAR ME, MY QUESTION
IS, WHAT ARE THE LAUNCH

950
00:48:34,060 --> 00:48:35,060
OPPORTUNITIES BEYOND MAY 22nd?

951
00:48:35,060 --> 00:48:41,300
AND CAN YOU DISCUSS ANY SORT OF
DATES FOR BETA ANGLE AS THOSE

952
00:48:41,300 --> 00:48:47,690
HAVE BEEN CALCULATED FOR THIS
FLIGHT?

953
00:48:47,690 --> 00:48:49,660
>> VERY INFORMED QUESTION.

954
00:48:49,660 --> 00:48:54,420
SO, WE HAVE GREAT OPPORTUNITIES

TOMORROW MORNING, THE MORNING OF

955
00:48:54,420 --> 00:48:57,910
THE 22nd, THE 25th AND THE 29th.

956
00:48:57,910 --> 00:49:01,540
THOSE ARE VERY GOOD
OPPORTUNITIES FOR US.

957
00:49:01,540 --> 00:49:05,040
LESS GREAT OPPORTUNITIES IS THAT
WE HAVE AN OPPORTUNITY ON THE

958
00:49:05,040 --> 00:49:09,119
23rd AND THE 26th TO LAUNCH.

959
00:49:09,119 --> 00:49:11,280
THOSE WE'LL HAVE TO NEGOTIATE A
LITTLE BIT.

960
00:49:11,280 --> 00:49:15,940
I THINK WE HAVE A QUICK
FLY-UNDER, AND WE'RE NOT SURE WE

961
00:49:15,940 --> 00:49:19,720
CAN GET ALL THE DATA TO MAKE
SURE WE'RE SAFE TO APPROACH THE

962
00:49:19,720 --> 00:49:20,720
PARTICIPATION.

963
00:49:20,720 --> 00:49:24,910
AS FAR AS BETA CUTOFF, BETA IS
THE SUN ANGLE TO THE ORBIT

964
00:49:24,910 --> 00:49:26,840
PLAIN.

965
00:49:26,840 --> 00:49:29,090

WE'RE ENTERING A PERIOD OF VERY
HIGH-BID ANGLE TO THE

966
00:49:29,090 --> 00:49:30,600
INTERNATIONAL SPACE STATION.

967
00:49:30,600 --> 00:49:35,720
THINGS GET VERY HOT IN THAT TIME
FRAME, AND THERE IS A CUTOUT.

968
00:49:35,720 --> 00:49:41,110
SO, THE 29th IS OUR LAST
OPPORTUNITY TO LAUNCH BEFORE

969
00:49:41,110 --> 00:49:45,359
THIS CUTOUT, AND I DON'T KNOW
WHEN WE CAN COME -- I DON'T HAVE

970
00:49:45,359 --> 00:49:47,790
A SPECIFIC DATE WHEN WE COME
BACK, BUT IT'S AROUND THE LATE

971
00:49:47,790 --> 00:49:52,770
TEENS OF JUNE THAT WE CAN COME
BACK AND FLY AGAIN.

972
00:49:52,770 --> 00:49:53,870
>> OKAY.

973
00:49:53,870 --> 00:49:56,180
ANDY COX FROM THE WEATHER
CHANNEL.

974
00:49:56,180 --> 00:49:57,390
>> YES.

975
00:49:57,390 --> 00:50:00,320
AS YOU TALKED ABOUT EARLIER,
THIS IS A NEW WAY OF DOING

976
00:50:00,320 --> 00:50:01,320
BUSINESS FOR NASA.

977
00:50:01,320 --> 00:50:03,880
AND I THINK MANY OF US ON THE
OUTSIDE ARE ALSO TRYING TO

978
00:50:03,880 --> 00:50:06,710
ADJUST TO UNDERSTAND HOW THINGS
WORK COMPARED TO SHUTTLE

979
00:50:06,710 --> 00:50:09,250
OPERATIONS WE GOT USED TO OVER
30 YEARS.

980
00:50:09,250 --> 00:50:12,300
BUT MY QUESTION, NOT
SURPRISINGLY, HAS TO DO WITH THE

981
00:50:12,300 --> 00:50:14,230
COORDINATION BETWEEN SPACEX AND
THE WEATHER TEAMS AT CAPE

982
00:50:14,230 --> 00:50:15,230
CANAVERAL.

983
00:50:15,230 --> 00:50:18,760
SO, SHUTTLE LAUNCHES HAD THE
U.S. AIR FORCE 45th WEATHER

984
00:50:18,760 --> 00:50:21,720
SQUADRON METEOROLOGISTS IN
FLORIDA AND THE NATIONAL WEATHER

985
00:50:21,720 --> 00:50:23,890
SERVICE METEOROLOGISTS AND
MISSION CONTROL IN HOUSTON.

986
00:50:23,890 --> 00:50:27,630

THE ULTIMATE DECISION TO LAUNCH,
NOT FOR WEATHER, BUT AS A WHOLE,

987
00:50:27,630 --> 00:50:31,920
CAME FROM BOTH THE SHUTTLE
LAUNCH DIRECTOR AT KENNEDY AND

988
00:50:31,920 --> 00:50:33,640
ALSO THE FLIGHT DIRECTOR AT
MISSION CONTROL.

989
00:50:33,640 --> 00:50:35,400
SO, OBVIOUSLY, THE 45th IS
SUPPORTING THIS LAUNCH, BUT

990
00:50:35,400 --> 00:50:38,040
SPACEX, DO YOU HAVE YOUR OWN
METEOROLOGISTS IN CALIFORNIA OR

991
00:50:38,040 --> 00:50:40,560
DO YOU RELY COMPLETELY ON THE
AIR FORCE TEAM?

992
00:50:40,560 --> 00:50:43,580
AND ALSO, I GUESS WHO HAS THE
ULTIMATE AUTHORITY TO DECIDE

993
00:50:43,580 --> 00:50:44,580
WHETHER TO LAUNCH?

994
00:50:44,580 --> 00:50:49,330
>> THAT'S A GOOD QUESTION.

995
00:50:49,330 --> 00:50:53,060
I KNOW WE RELY VERY HEAVILY ON
THE WEATHER -- THE

996
00:50:53,060 --> 00:51:01,960
METEOROLOGICAL DEPARTMENT WITH
THE CAPE HERE.

997
00:51:01,960 --> 00:51:06,830
WE SEND UP SOME BALLOONS TO
CHECK WINDS ALOFT.

998
00:51:06,830 --> 00:51:10,010
THE RANGE DOES GIVE A RED,
YELLOW, GREEN DURING OUR

999
00:51:10,010 --> 00:51:14,151
COUNTDOWN SEQUENCE, HOWEVER, AND
IF WE'RE RED ON WEATHER, THEN WE

1000
00:51:14,151 --> 00:51:15,730
DON'T FLY.

1001
00:51:15,730 --> 00:51:19,130
SO I GUESS THE ULTIMATE DECISION
IS WITH YOU GUYS.

1002
00:51:19,130 --> 00:51:23,960
>> YEAH, WE HAVE, IF I MAY, WE
HAVE THE SAME SAFETY-TRIGGERED

1003
00:51:23,960 --> 00:51:26,710
LIGHTNING RULES AS WE HAVE FOR
EVERY LAUNCH VEHICLE HERE ON THE

1004
00:51:26,710 --> 00:51:27,710
CAPE.

1005
00:51:27,710 --> 00:51:31,740
SO AS FAR AS THOSE RULES ARE
CONCERNED, WE HAVE THE AIR

1006
00:51:31,740 --> 00:51:35,920
FORCE, THE RANGE HAS THE OVERALL
AUTHORITY OVER GO OR NO GO AS

1007

00:51:35,920 --> 00:51:36,960
FAR AS FLIGHT IS CONCERNED.

1008
00:51:36,960 --> 00:51:37,960
>> DAN LEONI FROM "SPACE NEWS."

1009
00:51:37,960 --> 00:51:38,960
>> HI, EVERYBODY.

1010
00:51:38,960 --> 00:51:39,960
THANKS FOR DOING THE CALL AND
FOR TAKING THE PHONE.

1011
00:51:39,960 --> 00:51:43,120
I'M CURIOUS, WHY IS THE LAUNCH
OPPORTUNITY AN INSTANT WINDOW?

1012
00:51:43,120 --> 00:51:47,910
AND WILL ALL THE FOLLOW-UP
OPPORTUNITIES ALSO BE INSTANT

1013
00:51:47,910 --> 00:51:48,910
WINDOWS?

1014
00:51:48,910 --> 00:51:53,770
THE PREVIOUS TWO "FALCON 9"
LAUNCHES, THEY HAVE BOTH HAD

1015
00:51:53,770 --> 00:52:02,339
SOME SORT OF UNPLANNED HOLD.

1016
00:52:02,339 --> 00:52:03,700
>> IT'S NOT ACTUALLY AN
INSTANTANEOUS.

1017
00:52:03,700 --> 00:52:05,070
IT'S A NEAR INSTANTANEOUS
WINDOW.

1018

00:52:05,070 --> 00:52:09,050
THE PROBLEM IS YOU WANT TO CATCH
THE ORBIT PLAIN, YOU WANT TO

1019
00:52:09,050 --> 00:52:12,200
LAUNCH WHEN THE ORBIT PLAIN
FLIES AS CLOSE TO YOUR LAUNCH

1020
00:52:12,200 --> 00:52:14,910
SITE AS POSSIBLE AND MOVES.

1021
00:52:14,910 --> 00:52:19,520
SO, THE MORE YOU MISS IT, THE
MORE PROPELLANT YOU NEED TO

1022
00:52:19,520 --> 00:52:22,880
CATCH UP.

1023
00:52:22,880 --> 00:52:25,340
WE COULD PROBABLY -- YEAH, I
DON'T KNOW EXACTLY.

1024
00:52:25,340 --> 00:52:28,220
IT'S SOMETHING LIKE A COUPLE
KILOGRAMS A PROPELLANT PER

1025
00:52:28,220 --> 00:52:31,820
SECOND, BUT WE DON'T GENERALLY
RECYCLE IN A COUPLE SECONDS.

1026
00:52:31,820 --> 00:52:38,350
WE RECYCLE MANY TIMES, BUT TAKES
MANY MINUTES UP TO 40, 50

1027
00:52:38,350 --> 00:52:39,420
MINUTES.

1028
00:52:39,420 --> 00:52:41,910
WE WOULD NOT LAUNCH 50 MINUTES
LATER BECAUSE WE WOULDN'T HAVE

1029
00:52:41,910 --> 00:52:46,130
ENOUGH PROPELLANT ON BOARD TO
CATCH UP WITH THE SPACE STATION.

1030
00:52:46,130 --> 00:52:48,420
SO YEAH, SO, IT'S A VERY TIGHT
WINDOW.

1031
00:52:48,420 --> 00:52:51,120
IT'S NOT INSTANTANEOUS LIKE
INTERPLANETARY MISSIONS, BUT

1032
00:52:51,120 --> 00:52:52,849
IT'S VERY TIGHT.

1033
00:52:52,849 --> 00:52:58,240
>> IF I COULD ADD LITTLE,
GWYNNE.

1034
00:52:58,240 --> 00:53:02,040
THIS MISSION IS PARTICULARLY CON
STRAINING BECAUSE OF ALL THE

1035
00:53:02,040 --> 00:53:06,070
OBJECTIVES SPACEX IS TRYING TO
ACHIEVE.

1036
00:53:06,070 --> 00:53:09,070
THEREFORE, THEY NEED AS MUCH
PROPELLANT MARGIN AS THEY COULD

1037
00:53:09,070 --> 00:53:12,430
POSSIBLY GET, BUT THEY ARE
PROTECTING FOR NOT ONLY

1038
00:53:12,430 --> 00:53:16,190
COMPLETING THE C-2 OBJECTIVES,
BUT ALSO THE RE-RENDEZVOUS AND

1039
00:53:16,190 --> 00:53:18,990
COMING BACK AND BIRTHING FOR THE
C-2 OBJECTIVES.

1040
00:53:18,990 --> 00:53:21,869
AND THEN EVEN ON TOP OF THAT,
THEY WOULD LIKE TO PROTECT FOR

1041
00:53:21,869 --> 00:53:24,880
AN ABORT CASE, SO THAT THEY
COULD EVEN COME BACK AND TRY

1042
00:53:24,880 --> 00:53:25,880
AGAIN.

1043
00:53:25,880 --> 00:53:28,580
SO, BECAUSE OF THE NUMBER OF
OBJECTIVES ON THIS FLIGHT, THAT

1044
00:53:28,580 --> 00:53:29,910
REQUIRES A LOT OF PROPELLANT.

1045
00:53:29,910 --> 00:53:32,280
THEREFORE, THEY NEED TO HAVE
VERY PRECISE TIMING ON THE

1046
00:53:32,280 --> 00:53:35,410
LAUNCH IN ORDER TO HAVE WHAT
THEY NEED.

1047
00:53:35,410 --> 00:53:40,870
>> KERRY SHERIDAN FROM THE
FRENCH PRESS.

1048
00:53:40,870 --> 00:53:44,960
ALL RIGHT.

1049
00:53:44,960 --> 00:53:51,190
ALL RIGHT, JOSEPH ABBOTT FROM

"THE WACO TRIBUNE."

1050
00:53:51,190 --> 00:53:52,720
>> HELLO, THANKS.

1051
00:53:52,720 --> 00:53:59,630
MIKE GRIFFIN TESTIFYING BEFORE
CONGRESS LAST FALL WAS SNEERING

1052
00:53:59,630 --> 00:54:02,820
THAT YOU WOULD -- THIS IS FOR

1053
00:54:02,820 --> 00:54:04,609
GWYNNE SHOTWELL, I'M SORRY.

1054
00:54:04,609 --> 00:54:09,210
MIKE GRIFFIN WAS SAYING YOU
WOULD YET TO EVEN DELIVER THE

1055
00:54:09,210 --> 00:54:11,690
LAUNDRY TO THE ISS.

1056
00:54:11,690 --> 00:54:14,200
NOW THAT YOU'RE LOOKING LIKE
YOU'RE GOING TO BE DELIVERING

1057
00:54:14,200 --> 00:54:18,490
THE LAUNDRY, HOW DOES IT FEEL TO
BE HOPEFULLY PUTTING THAT

1058
00:54:18,490 --> 00:54:19,660
CRITICISM TO REST?

1059
00:54:19,660 --> 00:54:22,690
>> YOU KNOW, IT'S REALLY EASY TO
CRITICIZE, AND IT'S VERY

1060
00:54:22,690 --> 00:54:25,260
DIFFICULT TO SOLVE A PROBLEM AND

ACTUALLY DO SOMETHING.

1061
00:54:25,260 --> 00:54:28,960
SO, I TEND TO FOCUS ON THE
BUSINESS AND GETTING OUR JOBS

1062
00:54:28,960 --> 00:54:33,090
DONE AND NOT FOCUS ON THOSE THAT
WANT TO CRITICIZE ME OR MY

1063
00:54:33,090 --> 00:54:35,950
COMPANY.

1064
00:54:35,950 --> 00:54:38,740
>> BRENDAN McGARY FROM
"BLOOMBERG NEWS."

1065
00:54:38,740 --> 00:54:39,740
>> THANKS.

1066
00:54:39,740 --> 00:54:41,180
QUICK QUESTION.

1067
00:54:41,180 --> 00:54:49,380
WHEN DOES THE FIRST ACTUAL CARGO
SUPPLY MISSION BEGIN OR WHEN'S

1068
00:54:49,380 --> 00:54:56,703
THAT SCHEDULED TO BEGIN, OF THE
12 THAT SPACEX HAVE CONTRACTS

1069
00:54:56,703 --> 00:54:57,703
FOR?

1070
00:54:57,703 --> 00:54:59,630
>> ASSUMING GOOD PROGRESS ON
THIS NEXT FLIGHT, THE NEXT

1071
00:54:59,630 --> 00:55:03,300

FLIGHT WOULD BECOME THE CRS-1
FLIGHT, OR AS NASA CALLS IT,

1072
00:55:03,300 --> 00:55:07,610
SPACEX 1 FLIGHT, AND THAT FLIGHT
WILL BE READY TO FLY LATER THIS

1073
00:55:07,610 --> 00:55:09,700
YEAR, HOPEFULLY EARLY FALL.

1074
00:55:09,700 --> 00:55:13,130
>> ALL RIGHT, LET'S COME BACK
HERE AND TAKE A COUPLE QUESTIONS

1075
00:55:13,130 --> 00:55:15,560
AND THEN WE'LL WRAP IT UP.

1076
00:55:15,560 --> 00:55:16,560
DAN?

1077
00:55:16,560 --> 00:55:25,190
>> HI, DAN BILLOW FROM WESH TV
FOR GWYNNE SHOTWELL.

1078
00:55:25,190 --> 00:55:27,960
IS THERE A DOLLAR VALUE YOU CAN
PUT ON THIS MISSION?

1079
00:55:27,960 --> 00:55:30,359
HOW MUCH IS THIS COSTING, THIS
ONE MISSION?

1080
00:55:30,359 --> 00:55:33,450
AND IS THERE A WAY YOU CAN TELL
US HOW MUCH OF THAT IS PRIVATE

1081
00:55:33,450 --> 00:55:35,740
MONEY AND HOW MUCH IS GOVERNMENT
MONEY?

1082
00:55:35,740 --> 00:55:41,130
>> YOU KNOW, I DON'T WANT TO
DIVIDE UP THE VALUE OF -- I CAN

1083
00:55:41,130 --> 00:55:45,530
TELL YOU WE'VE SPENT ALMOST $680
MILLION ON THE C.O.T.S.

1084
00:55:45,530 --> 00:55:48,570
EFFORT
TO DATE.

1085
00:55:48,570 --> 00:55:53,560
AND HOPEFULLY, THAT'S THE END OF
IT, BECAUSE HOPEFULLY, WE HAVE

1086
00:55:53,560 --> 00:55:55,670
SUCCESS AND BIRTH.

1087
00:55:55,670 --> 00:56:00,400
>> I ALSO WANTED TO KNOW, IF I
COULD, GIVEN THAT ONE-SECOND OR

1088
00:56:00,400 --> 00:56:03,480
SO LAUNCH WINDOW AND THE FACT
THAT THIS ROCKET HAS FLOWN JUST

1089
00:56:03,480 --> 00:56:06,570
TWICE, I BELIEVE, THE FULL-OUT
"FALCON 9," WHAT DO YOU THINK IS

1090
00:56:06,570 --> 00:56:13,849
THE CHANCE YOU'LL JUST ACTUALLY
GET INTO ORBIT TOMORROW?

1091
00:56:13,849 --> 00:56:16,470
>> YOU KNOW, I DON'T KNOW THAT
ANYONE IS EVER GOOD AT

1092

00:56:16,470 --> 00:56:19,930
PREDICTING THESE THINGS.

1093
00:56:19,930 --> 00:56:21,660
WE HAVE NOT HIT A T-0.

1094
00:56:21,660 --> 00:56:27,950
I DON'T BELIEVE WE'VE HIT A T-0
YET ON OUR FIRST ATTEMPT.

1095
00:56:27,950 --> 00:56:29,820
WE GOT THERE ON THE SECOND
ATTEMPT FOR THE WET DRESS

1096
00:56:29,820 --> 00:56:30,820
REHEARSAL.

1097
00:56:30,820 --> 00:56:36,140
HOWEVER, OUR TEAM LEARNS EVERY
DAY MORE ABOUT THIS VEHICLE.

1098
00:56:36,140 --> 00:56:41,599
SO, I'M GOING TO GIVE MYSELF
BETTER THAN A 50/50 SHOT OF

1099
00:56:41,599 --> 00:56:45,360
LIFTING OFF TOMORROW, AND IF WE
LIFT OFF, I BELIEVE WE WILL GET

1100
00:56:45,360 --> 00:56:46,390
TO ORBIT.

1101
00:56:46,390 --> 00:56:47,420
>> RIGHT HERE.

1102
00:56:47,420 --> 00:56:49,710
>> JASON POTTER WITH WIRE.COM
AND FOR MS.

1103

00:56:49,710 --> 00:56:50,720
SHOTWELL.

1104
00:56:50,720 --> 00:56:52,950
YOU MENTIONED THAT THE "DRAGON"
THAT'S FLYING TOMORROW IS

1105
00:56:52,950 --> 00:56:56,010
DIFFERENT THAN THE "DRAGON" THAT
FLEW IN DECEMBER OF 2010.

1106
00:56:56,010 --> 00:56:57,500
CAN YOU ELABORATE A LITTLE BIT?

1107
00:56:57,500 --> 00:57:00,930
ARE THOSE MOSTLY INTERNAL
DIFFERENCES, SYSTEMS, OR

1108
00:57:00,930 --> 00:57:02,230
STRUCTURAL DIFFERENCES?

1109
00:57:02,230 --> 00:57:05,510
AND MOVING FORWARD TO THE
RESUPPLY MISSIONS, ARE THERE

1110
00:57:05,510 --> 00:57:09,660
KNOWN CHANGES THAT WILL HAPPEN
TO THE "DRAGON" BETWEEN THIS ONE

1111
00:57:09,660 --> 00:57:12,900
AND THE NEXT COUPLE LAUNCHES?

1112
00:57:12,900 --> 00:57:15,470
>> THERE'S NO PRIMARY STRUCTURAL
CHANGE TO THIS PARTICULAR

1113
00:57:17,470 --> 00:57:16,470
DRAGON.

1114

00:57:17,470 --> 00:57:19,990
IT HAS A POWER GENERATION
SYSTEM, MEANING SOLAR ARRAYS.

1115
00:57:19,990 --> 00:57:21,890
WE DID NOT HAVE THAT ON THE
FIRST ONE.

1116
00:57:21,890 --> 00:57:25,619
IT HAS A COMMON BIRTHING
MECHANISM, WHICH I GUESS IS A

1117
00:57:25,619 --> 00:57:27,560
STRUCTURAL CHANGE.

1118
00:57:27,560 --> 00:57:29,530
THAT'S THE INTERFACE BETWEEN
"DRAGON" AND THE INTERNATIONAL

1119
00:57:29,530 --> 00:57:30,530
SPACE STATION.

1120
00:57:30,530 --> 00:57:35,520
SO IT'S GOT THE POWER GENERATION
SYSTEM, THE CBM INTERFACE, AND

1121
00:57:35,520 --> 00:57:38,820
THEN THE PROXIMITY OPERATIONS
SENSOR SUITE.

1122
00:57:38,820 --> 00:57:42,290
THE OTHER DIFFERENCE IS LESS
PHYSICAL, BUT SOFTWARE IS

1123
00:57:42,290 --> 00:57:45,900
DRAMATICALLY MORE COMPLEX ON
THIS MISSION, AND WE ARE ALSO

1124
00:57:45,900 --> 00:57:51,000
REDUNDANT, DUEL REDUNDANT IN

EVERY SAFETY SYSTEM.

1125
00:57:51,000 --> 00:57:54,950
SO THE "DRAGON" WE FLEW IN
DECEMBER OF 2010 WAS A LARGELY

1126
00:57:54,950 --> 00:57:55,950
SINGLE STRING.

1127
00:57:55,950 --> 00:57:58,350
NOT COMPLETELY SINGLE STRING,
AND IT DID NOT HAVE THE OTHER

1128
00:57:58,350 --> 00:58:00,220
FEATURES THAT I TALKED ABOUT.

1129
00:58:00,220 --> 00:58:02,980
GOING FORWARD, THE CRS DRAGON
SHOULD LOOK LARGELY LIKE THIS.

1130
00:58:02,980 --> 00:58:06,540
THERE ARE SOME UPGRADES WE WOULD
LIKE TO WORK ON.

1131
00:58:06,540 --> 00:58:09,790
ONE, NASA WOULD LIKE US TO
INCREASE THE POWER CAPABILITY OF

1132
00:58:09,790 --> 00:58:14,700
DRAGON, SO WE'RE LOOKING AT
BEING ABLE TO PROVIDE MORE POWER

1133
00:58:14,700 --> 00:58:16,040
TO THE CARGO.

1134
00:58:16,040 --> 00:58:17,850
AND THAT REQUIRES MAYBE ONYX
ADJUSTMENTS.

1135

00:58:17,850 --> 00:58:23,240
BUT THEN THE NEXT BIG CHANGE
WOULD COME WITH THE INTEGRATED

1136
00:58:23,240 --> 00:58:25,589
LAUNCH ESCAPE SYSTEM ON THE
COMMERCIAL CREW PROGRAM.

1137
00:58:25,589 --> 00:58:28,560
>> ALL RIGHT, THAT'S ALL WE HAVE
TIME FOR.

1138
00:58:28,560 --> 00:58:32,350
THAT BRINGS US TO OUR NEXT MAJOR
MILESTONE, WHICH IS GOING TO BE

1139
00:58:32,350 --> 00:58:33,350
LAUNCH COVERAGE.

1140
00:58:33,350 --> 00:58:35,020
THAT STARTS AT 3:30 A.M.

1141
00:58:35,020 --> 00:58:38,190
EASTERN
TIME ON NASA TV.