



1
00:00:00,770 --> 00:00:08,830

This
Week at NASA

2
00:00:08,830 --> 00:00:16,450

It is my privilege today to be here to share
NASA's Fiscal Year 2013 budget.

3
00:00:16,450 --> 00:00:21,090

NASA Administrator Charles Bolden and Chief
Financial Officer Beth Robinson

4
00:00:21,090 --> 00:00:26,540

outlined the president's Fiscal Year 2013
budget proposal for NASA during a news

5
00:00:26,540 --> 00:00:28,780

conference at NASA Headquarters.

6
00:00:28,780 --> 00:00:33,540

The proposed budget would enable NASA to continue
the space exploration program

7
00:00:33,540 --> 00:00:38,660

envisioned by President Obama, one that creates
jobs and spurs the American

8
00:00:38,660 --> 00:00:43,940

economy well into the future while sending
us farther into space than ever before.

9
00:00:43,940 --> 00:00:49,059

We've made steady and tangible progress
on the next-generation deep space crew

10
00:00:49,059 --> 00:00:53,570

capsule and our new heavy lift rocket that
will launch astronauts on journeys to

11

00:00:53,570 --> 00:00:57,110
destinations farther in our solar system.

12
00:00:57,110 --> 00:00:59,730
Those priorities are funded in this budget.

13
00:00:59,730 --> 00:01:04,699
Already we've been doing test firings of the
J-2X engine that will power the heavy lift's

14
00:01:04,699 --> 00:01:06,289
upper stage.

15
00:01:06,289 --> 00:01:11,340
Orion has undergone water drop tests for its
eventual ocean landings.

16
00:01:11,340 --> 00:01:14,929
Funding is included in this budget to keep
this important work going.

17
00:01:14,929 --> 00:01:27,579
20-12's first test of the J-2X, NASA's first
human-rated engine to be developed in 40

18
00:01:27,579 --> 00:01:30,170
years is in the books.

19
00:01:30,170 --> 00:01:33,560
Engineers at the Stennis Space Center conducted
a short, 1-

20
00:01:33,560 --> 00:01:37,119
point-8 second test firing of the J-2X powerpack.

21
00:01:37,119 --> 00:01:40,939
The powerpack comprises
components on the top portion of the engine

22

00:01:40,939 --> 00:01:46,530
designed to generate the thrust needed to
power the upper stage of NASA's Space Launch

23
00:01:46,530 --> 00:01:50,679
System, the next-generation heavy-
lift launch vehicle that will be capable of

24
00:01:50,679 --> 00:01:52,520
missions beyond low-Earth orbit.

25
00:01:52,520 --> 00:01:57,520
It's a pretty important test., we have
had the facility down for almost two years.

26
00:01:57,520 --> 00:02:01,459
So the
first test allows us to get the facility up

27
00:02:01,459 --> 00:02:05,929
and operational and to make sure that it can
do

28
00:02:05,929 --> 00:02:10,280
the things that it's supposed to do to support
the J-2X Powerpack test.

29
00:02:10,280 --> 00:02:14,700
Stennis is planning to conduct about a dozen
tests on the powerpack from now

30
00:02:14,700 --> 00:02:19,470
through this summer.

31
00:02:19,470 --> 00:02:24,090
The Expedition 30 crew conducted the International
Space Station's 30th Russian-

32
00:02:24,090 --> 00:02:25,950
based spacewalk.

33
00:02:25,950 --> 00:02:30,560
Cosmonauts Oleg Kononenko and Anton Shkaplerov spent a total

34
00:02:30,560 --> 00:02:35,950
of 6-hours, 15-minutes completing a variety of work on the orbiting outpost.

35
00:02:35,950 --> 00:02:39,200
The duo moved one of two 'Strela' cargo cranes from

36
00:02:39,200 --> 00:02:44,340
the Pirs Docking Compartment to the Poisk Mini-Research module, and installed

37
00:02:44,340 --> 00:02:49,400
a Materials Sample Experiment, which will investigate the effects of space on the mechanical

38
00:02:49,400 --> 00:02:51,650
properties of those materials.

39
00:02:51,650 --> 00:02:56,090
The pair was unable to complete all of the originally planned work - including the

40
00:02:56,090 --> 00:03:00,670
installation of five protective shields on the Zvezda Service Module.

41
00:03:00,670 --> 00:03:07,150
This was the third spacewalk for Kononenko and the first for Shkaplerov.

42
00:03:07,150 --> 00:03:11,640
'So man meets machine aboard the International Space Station.'

43

00:03:11,640 --> 00:03:14,400

Another first inside the Space Station.

44

00:03:14,400 --> 00:03:19,490

Expedition 30 Commander Dan Burbank and Robonaut completed the first handshake between

45

00:03:19,490 --> 00:03:22,980

a humanoid robot and an astronaut in space.

46

00:03:22,980 --> 00:03:26,980

The historic milestone took place during a two-day checkout of Robonautís

47

00:03:26,980 --> 00:03:29,260

joints, hands and fingers.

48

00:03:29,260 --> 00:03:32,040

Robonaut is designed with the dexterity to complete work in

49

00:03:32,040 --> 00:03:35,540

space typically performed by humans.

50

00:03:35,540 --> 00:03:40,830

Designed at The Johnson Space Center, Robonaut was launched to the station on STS-133,

51

00:03:40,830 --> 00:03:46,970

the final flight of space shuttle Discovery.

52

00:03:46,970 --> 00:03:52,380

A special Valentineís Day treat for space fans in the Washington D.C. area.

53

00:03:52,380 --> 00:03:55,900

Three

NASA astronauts from recent ISS expeditions

54

00:03:55,900 --> 00:03:59,910

shared experiences from those missions
ñ complete with pictures.

55

00:03:59,910 --> 00:04:03,610

A captive Headquarters audience heard from
flight engineers

56

00:04:03,610 --> 00:04:10,400

Cady Coleman, of Expedition 26/27, Ron Garan
of Expedition 27/28, and Mike

57

00:04:10,400 --> 00:04:15,050

Fossum, an Expedition 28 Flight Engineer and
Commander of Expedition 29.

58

00:04:15,050 --> 00:04:20,590

ìSo weíre really excited to come to Washington
today and to NASA Headquarters to say

59

00:04:20,590 --> 00:04:24,340

thanks to all of the people here that helped
make this possible ñ that have worked for

60

00:04:24,340 --> 00:04:27,310

so
many decades on the International Space Station

61

00:04:27,310 --> 00:04:31,719

program and to now really see it come
into life.î

62

00:04:31,719 --> 00:04:35,770

ìFor me, if I couldíve packed up my whole
family and brought them, and ím actually

63

00:04:35,770 --> 00:04:40,090

taking this quote from Don Pettit who is up

there, I would've brought them.

64

00:04:40,090 --> 00:04:43,159

Thereís

actually no reason for people not to live

65

00:04:43,159 --> 00:04:46,599

there just all the time.î

66

00:04:46,599 --> 00:04:51,210

The astronauts participated in several other events later that day, including a Tweet-up

67

00:04:51,210 --> 00:04:55,669

at NASA Headquarters with Garan, a presentation by Coleman and Fossum at the

68

00:04:55,669 --> 00:05:00,231

Smithsonian National Air and Space Museum and an appearance by all three at The

69

00:05:00,231 --> 00:05:05,059

University of Maryland in College Park.

70

00:05:05,059 --> 00:05:09,180

If you enjoyed the ìSaturday Morning Scienceî demonstrations performed by astronaut

71

00:05:09,180 --> 00:05:14,430

Don Pettit during his previous space missions ñ Pettit, now a member of the

72

00:05:14,430 --> 00:05:16,499

Expedition 30 crew is back at it again.

73

00:05:16,499 --> 00:05:19,539

ìIím going to take a syringe with a little Teflon cannula.

74

00:05:19,539 --> 00:05:24,680
I'm going to squirt drops of water
out and look what happens when those drops

75
00:05:24,680 --> 00:05:27,770
of water get close to that charged knitting
needle.î

76
00:05:27,770 --> 00:05:32,319
NASA and the American Physical Society have
partnered to share unique videos of

77
00:05:32,319 --> 00:05:38,240
Pettit using everyday objects to demonstrate
physics in his new series, iScience Off

78
00:05:38,240 --> 00:05:39,370
the Sphere."

79
00:05:39,370 --> 00:05:44,150
The videos will be posted on the APS Website,
Physics Central.

80
00:05:44,150 --> 00:05:47,270
Winners
providing answers to challenge questions posed

81
00:05:47,270 --> 00:05:54,689
during the series will be recognized
by Pettit during a future episode from space.

82
00:05:54,689 --> 00:05:59,099
The Glenn Research Center recently hosted
media representatives at its Space Power

83
00:05:59,099 --> 00:06:00,099
Facility.

84
00:06:00,099 --> 00:06:05,219
There, inside the clean room High Bay facility,

a new communications test bed

85
00:06:05,219 --> 00:06:10,969
that'll fly on the International Space Station
was going through its checkout.

86
00:06:10,969 --> 00:06:14,289
The
Space Communications and Navigation, or SCA_N

87
00:06:14,289 --> 00:06:20,809
test bed will be the first space
hardware for exploring the promise of software-defined

88
00:06:20,809 --> 00:06:22,050
radio technology.

89
00:06:22,050 --> 00:06:26,840
The interesting part of this SCAN test bed
are its three software defined radios.

90
00:06:26,840 --> 00:06:29,349
These
are radios that can be completely reconfigured

91
00:06:29,349 --> 00:06:32,029
on orbit by software.

92
00:06:32,029 --> 00:06:35,479
That means new
operating environments, new applications that

93
00:06:35,479 --> 00:06:38,439
will change the characteristics of how it
communicates.

94
00:06:38,439 --> 00:06:43,741
After crating in a special container provided
by the Kennedy Space Center, the SCA_N

95
00:06:43,741 --> 00:06:49,620
test bed will be sent to Japan's Tanegashima
Space Center for its scheduled launch to

96
00:06:49,620 --> 00:06:54,250
the ISS later this year.

97
00:06:54,250 --> 00:06:58,150
In recognition of the contributions by African-Americans
to the cause of space

98
00:06:58,150 --> 00:07:04,539
exploration, This Week @NASA profiles Karen
Harper, IT Workforce Manager for the

99
00:07:04,539 --> 00:07:09,449
Office of the Chief Information Officer at
NASA Headquarters.

100
00:07:09,449 --> 00:07:13,689
iGood morning this is Karen Harper, how may
I help you?i

101
00:07:13,689 --> 00:07:19,930
iThe responsibility that I have within the
office of the CIO is to look at their IT workforce

102
00:07:19,930 --> 00:07:26,979
and make sure that we have the appropriate
competencies to do the job within the IT

103
00:07:26,979 --> 00:07:28,300
community for the agency.i

104
00:07:28,300 --> 00:07:35,139
iIn that is looking at workforce analysis,
workforce gaps in terms of the IT community

105
00:07:35,139 --> 00:07:37,340

and
then being able to make recommendations to

106

00:07:37,340 --> 00:07:42,790

the CIO where we perceive to be gaps and
how we can plan for the future and the next

107

00:07:42,790 --> 00:07:46,970

generation of workers -- the IT workers within
NASA.î

108

00:07:46,970 --> 00:07:55,279

il started out with the Air Force in human
resource management, so that prepared me for

109

00:07:55,279 --> 00:07:58,909

13, 14 years -- looking at the workforceî

110

00:07:58,909 --> 00:08:06,869

îStarting in 1995 I started working for Glenn
Research Center as the legislative liaison

111

00:08:06,869 --> 00:08:13,389

officer for the center director, and in that
position I had the opportunity to help advocate

112

00:08:13,389 --> 00:08:18,240

the technology, the importance of the NASA
Center within and throughout the state of

113

00:08:18,240 --> 00:08:19,240

Ohio.î

114

00:08:19,240 --> 00:08:20,240

îSee if you can take a look at the data here
and see if it compares to what we were

115

00:08:20,240 --> 00:08:21,240

talking about.î

116

00:08:21,240 --> 00:08:26,509

mentoring touches my heart and it's because when I was growing up, other than having

117

00:08:26,509 --> 00:08:31,979

a very loving family - I did not have any mentoring relationships.

118

00:08:31,979 --> 00:08:35,930

I was discouraged by a guidance counselor that told me I was not

119

00:08:35,930 --> 00:08:36,930

college material.

120

00:08:36,930 --> 00:08:41,580

It went to a deep place for me to prove that I could go to college (that)

121

00:08:41,580 --> 00:08:43,190

I was college material.

122

00:08:43,190 --> 00:08:47,000

I did graduate -- went on to pursue my masters.

123

00:08:47,000 --> 00:08:56,880

I think for a young person to be prepared, they need to get engaged in STEM disciplines

124

00:08:56,880 --> 00:09:02,450

and understand the value, of math and science in preparing yourself in whatever career

125

00:09:02,450 --> 00:09:05,270

that you choose.

126

00:09:05,270 --> 00:09:12,640

Thirty-five years ago, on February 18, 1977,

Enterprise ñ the first space shuttle orbiter,

127

00:09:12,640 --> 00:09:16,990

completed its first flight test at the Dryden Flight Research Center.

128

00:09:16,990 --> 00:09:22,440

Constructed without an engine, Enterprise was mounted atop a Boeing 747 Shuttle

129

00:09:22,440 --> 00:09:28,100

Carrier Aircraft to measure structural integrity, handling qualities and other capabilities

130

00:09:28,100 --> 00:09:30,680

prior to atmospheric flight.

131

00:09:30,680 --> 00:09:35,380

Enterprise never flew in space, but it was crucial to the Space Shuttle program.

132

00:09:35,380 --> 00:09:38,020

The approach and landing tests it performed that

133

00:09:38,020 --> 00:09:43,690

year demonstrated that the orbiter could fly in the atmosphere and land like an airplane,

134

00:09:43,690 --> 00:09:46,560

except without power ñ like a glider.

135

00:09:46,560 --> 00:09:54,980

Enterprise was named for the starship on the popular television series, ìStar Trek.î

136

00:09:54,980 --> 00:10:01,250

ì3-2-1 Öî

And February 20th is the 50th anniversary

137

00:10:01,250 --> 00:10:05,380

of John Glenn's historic flight aboard
Friendship 7.

138

00:10:05,380 --> 00:10:10,150

On that flight, Glenn became the first American
to orbit the Earth, circling

139

00:10:10,150 --> 00:10:12,150

the globe three times.

140

00:10:12,150 --> 00:10:15,550

As he passed over Perth, Western Australia,
residents there

141

00:10:15,550 --> 00:10:20,870

turned on house lights and street lights,
earning Perth the nickname, 'The City of

142

00:10:20,870 --> 00:10:21,870

Light'.

143

00:10:21,870 --> 00:10:25,211

There were some tense moments near the end
of the 4 hour- 55 minute

144

00:10:25,211 --> 00:10:30,150

Mercury mission, as flight controllers could
not determine if the capsule's heat shield

145

00:10:30,150 --> 00:10:32,710

was intact during re-entry.

146

00:10:32,710 --> 00:10:35,900

But the capsule returned to Earth without
incident.

147

00:10:35,900 --> 00:10:39,300

Glenn

was later celebrated as a national hero during

148

00:10:39,300 --> 00:10:42,710

a ticker-tape parade in New York City.

149

00:10:42,710 --> 00:10:44,690

And that's This Week @ NASA!

150

00:10:44,690 --> 00:10:49,930

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