1
00:00:00,580 --> 00:00:02,850
Here’s a look at some of the top NASA stories
of 2014 …

2
00:00:02,850 --> 00:00:11,969
“That’s one small step for [a] man; one
giant leap for mankind.”

3
00:00:11,969 --> 00:00:16,520
With 2014 marking the 45th anniversary of
Neil Armstrong’s historic first step on

4
00:00:16,520 --> 00:00:21,789
the moon, NASA outlined plans for America's
next giant leap in space exploration -- to

5
00:00:21,789 --> 00:00:24,130
send astronauts to Mars.

6
00:00:24,130 --> 00:00:28,850
To prepare for that leap, NASA stepped up
development in 2014 of many game-changing

7
00:00:28,850 --> 00:00:31,250
technologies and capabilities.

8
00:00:31,250 --> 00:00:35,840
The agency worked on solar electric propulsion
technology ,which could enable cost-effective

9
00:00:35,840 --> 00:00:38,370
trips to deep space destinations …

10
00:00:38,370 --> 00:00:43,650
Destinations that could include a human mission
in the 2020s to an asteroid placed into orbit

11
00:00:43,650 --> 00:00:49,660
around the moon by a robotic spacecraft, as

part of NASA’s Asteroid Redirect Mission.

12
00:00:49,660 --> 00:00:54,660
Agency officials plan to announce more specific
details about potential candidate asteroids

13
00:00:54,660 --> 00:00:58,160
and the design of the mission[1] in early
2015.

14
00:00:58,160 --> 00:01:04,820
The successful first flight test in June of
the saucer-shaped Low Density Supersonic Decelerator,

15
00:01:04,820 --> 00:01:09,280
demonstrated an inflatable system that could
be used to land heavier and larger payloads

16
00:01:09,280 --> 00:01:13,550
than ever before on planets with atmospheres
…

17
00:01:13,550 --> 00:01:18,050
The International Space Station continued
its role as a unique platform off the Earth

18
00:01:18,050 --> 00:01:23,170
where astronauts are working for the Earth,
with biomedical research … and with payloads

19
00:01:23,170 --> 00:01:29,070
delivered by commercial partners SpaceX and
Orbital Sciences Corporation – such as the

20
00:01:29,070 --> 00:01:34,650
first 3-D printer in space… which could
be used to manufacture parts in space….

21
00:01:34,650 --> 00:01:38,680
… and the addition of an Earth science instrument

to the space station’s exterior to monitor

22
00:01:38,680 --> 00:01:44,290
ocean surface wind speed and direction for
use in weather forecasting and for monitoring

23
00:01:44,290 --> 00:01:47,880
large-scale changes in the Earth’s climate.

24
00:01:47,880 --> 00:01:53,850
In September, NASA selected two U.S. commercial
providers, Boeing and SpaceX, to develop the

25
00:01:53,850 --> 00:01:58,750
systems to transport astronauts from U.S.
soil to and from the space station … with

26
00:01:58,750 --> 00:02:05,160
a goal of ending the nation’s sole reliance
on Russia in 2017.

27
00:02:05,160 --> 00:02:09,560
Development of the rocket and spacecraft designed
to carry astronauts on NASA’s Journey to

28
00:02:09,560 --> 00:02:12,190
Mars progressed in 2014 …

29
00:02:12,190 --> 00:02:16,760
The green light was given in August, to start
building the Space Launch System heavy lift

30
00:02:16,760 --> 00:02:20,720
rocket, following successful completion of
a key review.

31
00:02:20,720 --> 00:02:26,150
New manufacturing facilities began testing
operations and prototypes built with new,

32
00:02:26,150 --> 00:02:29,010
more lightweight composite materials were
evaluated.

33
00:02:29,010 --> 00:02:37,230
“And liftoff at dawn, the dawn of Orion
and a new era of American space exploration.”

34
00:02:37,230 --> 00:02:42,180
The successful first flight test of NASA’s
Orion spacecraft in December, was a historic

35
00:02:42,180 --> 00:02:46,459
moment for the agency and a critical step
on the Journey to Mars.

36
00:02:46,459 --> 00:02:52,480
The 4.5 hour trip to space and back, tested
the Orion systems critical to crew safety

37
00:02:52,480 --> 00:02:57,451
in preparation for deep space missions by
astronauts to an asteroid and then on to the

38
00:02:57,451 --> 00:02:58,680
Red Planet.

39
00:02:58,680 --> 00:03:04,849
NASA’s fleet of Mars robotic explorers continued
its work in 2014…

40
00:03:04,849 --> 00:03:09,430
The Mars Atmosphere and Volatile Evolution
spacecraft arrived at the Red Planet in September

41
00:03:09,430 --> 00:03:11,739
as the newest member of the fleet.

42
00:03:11,739 --> 00:03:17,020

MAVEN is on a mission to investigate how the
past loss of atmospheric gases impacted the

43
00:03:17,020 --> 00:03:19,040
Martian climate through time.

44
00:03:19,040 --> 00:03:24,210
Samples from the first rock drilled at the
base of Mount Sharp by the Curiosity rover,

45
00:03:24,210 --> 00:03:28,520
provided the first confirmation of a mineral
mapped from orbit by the Mars Reconnaissance

46
00:03:28,520 --> 00:03:29,660
Orbiter.

47
00:03:29,660 --> 00:03:33,849
And the science instruments were selected
for the Mars 2020 rover, the next robotic

48
00:03:33,849 --> 00:03:37,349
explorer NASA will send to Mars in 2020.

49
00:03:37,349 --> 00:03:42,300
It will conduct unprecedented science and
exploration technology investigations, including

50
00:03:42,300 --> 00:03:48,629
potential habitability of the current environment
and directly searching for signs of past life.

51
00:03:48,629 --> 00:03:54,410
“NASA’s role in studying and protecting
our home planet has never been stronger.”

52
00:03:54,410 --> 00:03:59,550
NASA Administrator Charlie Bolden called 2014
the “Year of Earth” for NASA – with

53
00:03:59,550 --> 00:04:04,400
the agency planning to launch five Earth science missions within a year’s time …

54
00:04:04,400 --> 00:04:08,760
The first images from the Global Precipitation Measurement mission, launched in February,

55
00:04:08,760 --> 00:04:14,500
of an “extra-tropical cyclone” – illustrated the mission’s ability to provide next generation,

56
00:04:14,500 --> 00:04:17,609
detailed observations of global precipitation.

57
00:04:17,609 --> 00:04:22,630
In April, NASA celebrated Earth Day with the hugely popular online “global selfie”

58
00:04:22,630 --> 00:04:26,789
postings from around the world to help promote environmental awareness.

59
00:04:26,789 --> 00:04:31,860
And the test data from the Orbiting Carbon Observatory-2 mission following its launch

60
00:04:31,860 --> 00:04:35,849
in July, confirmed the health of the spacecraft’s instruments.

61
00:04:35,849 --> 00:04:41,120
OCO-2 will help track our impact on the amount of carbon dioxide in the atmosphere and the

62
00:04:41,120 --> 00:04:45,169
various human-made and natural sources of CO-2

63

00:04:45,169 --> 00:04:52,190
2014 included new discoveries, new intriguing
mysteries and new reasons to explore our solar

64
00:04:52,190 --> 00:04:54,180
system – and beyond …

65
00:04:54,180 --> 00:04:59,300
In November, the European Space Agency's Rosetta
spacecraft – which has three NASA instruments

66
00:04:59,300 --> 00:05:04,009
onboard – successfully landed its Philae
robotic probe on the surface of a speeding

67
00:05:04,009 --> 00:05:07,689
comet -- the first-ever soft landing of a
spacecraft on a comet …

68
00:05:07,689 --> 00:05:14,069
And, NASA’s Kepler Space Telescope discovered
a new Earth-sized planet in April, about 500

69
00:05:14,069 --> 00:05:18,490
light-years from us that also may have liquid
water.

70
00:05:18,490 --> 00:05:22,999
The agency’s premier aeronautics research
centers continued work on solutions to help

71
00:05:22,999 --> 00:05:29,150
improve the safety, efficiency and comfort
of air travel … while reminding people NASA

72
00:05:29,150 --> 00:05:31,309
is with you when you fly.

73
00:05:31,309 --> 00:05:36,139
A demonstration in November featured a wing

that can change shape in flight -- this could

74
00:05:36,139 --> 00:05:40,719
lead to technology for quieter and more fuel-efficient
airliners …

75
00:05:40,719 --> 00:05:46,479
In September, NASA co-hosted an event that
showcased two new technologies being evaluated

76
00:05:46,479 --> 00:05:51,530
that could improve takeoff time predictability
of flights and help flight dispatchers choose

77
00:05:51,530 --> 00:05:55,039
more efficient routes around bad weather.

78
00:05:55,039 --> 00:06:01,930
“Home of the brave …”

79
00:06:01,930 --> 00:06:07,520
And in May, NASA celebrated the renaming of
its Dryden Flight Research Center to The Neil

80
00:06:07,520 --> 00:06:12,449
A. Armstrong Flight Research Center – and
designated Hugh Dryden’s name to the center's

81
00:06:12,449 --> 00:06:14,430
aeronautical test range.