



1
00:00:06,760 --> 00:00:04,660
Nasus cube quest Centennial challenge

2
00:00:09,220 --> 00:00:06,770
hopes to accelerate the technological

3
00:00:12,010 --> 00:00:09,230
capabilities tiny satellites known as

4
00:00:14,500 --> 00:00:12,020
cube sets that may help the space agency

5
00:00:17,260 --> 00:00:14,510
achieve future mission goals faster and

6
00:00:18,790 --> 00:00:17,270
more affordably many modern technologies

7
00:00:21,430 --> 00:00:18,800
help us while we go about our daily

8
00:00:23,350 --> 00:00:21,440
lives weather forecasting faster

9
00:00:25,930 --> 00:00:23,360
internet genres cellphone signals

10
00:00:29,020 --> 00:00:25,940
worldwide communications aerial view

11
00:00:32,050 --> 00:00:29,030
maps navigation and many many more

12
00:00:33,760 --> 00:00:32,060
all through the use of satellites but

13
00:00:35,860 --> 00:00:33,770

satellites are big and expensive

14

00:00:38,560 --> 00:00:35,870

especially we include the cost of

15

00:00:41,080 --> 00:00:38,570

getting them into space cube SATs

16

00:00:42,790 --> 00:00:41,090

however are changing all of that thanks

17

00:00:45,100 --> 00:00:42,800

to shrinking electronic components and

18

00:00:47,229 --> 00:00:45,110

miniaturize sensors things we used to

19

00:00:49,870 --> 00:00:47,239

rely on larger satellites to do can now

20

00:00:51,819 --> 00:00:49,880

be done with much smaller ones these

21

00:00:53,830 --> 00:00:51,829

satellites are called cubes s because

22

00:00:56,440 --> 00:00:53,840

they're literally shaped like that cubes

23

00:01:00,549 --> 00:00:56,450

just a bit larger than your average

24

00:01:03,670 --> 00:01:00,559

coffee mug a 1u size cube set is 10 by

25

00:01:06,249 --> 00:01:03,680

10 by 10 centimeters build a frame twice

26

00:01:08,800 --> 00:01:06,259

that size you get a 2 you set a

27

00:01:12,459 --> 00:01:08,810

satellite that's equivalent to six cubes

28

00:01:14,980 --> 00:01:12,469

is called a 16 cube set and so on nasa

29

00:01:17,769 --> 00:01:14,990

sees cube sets as unique tools for space

30

00:01:19,539 --> 00:01:17,779

exploration a cooperative group of cube

31

00:01:21,849 --> 00:01:19,549

sets could simultaneously make

32

00:01:23,739 --> 00:01:21,859

measurements over a large region for

33

00:01:25,480 --> 00:01:23,749

example tracking a Marshall weather

34

00:01:27,209 --> 00:01:25,490

system in a ways that a single

35

00:01:30,609 --> 00:01:27,219

conventional satellite couldn't

36

00:01:32,529 --> 00:01:30,619

what's more tiny cube sets typically are

37

00:01:35,260 --> 00:01:32,539

much more affordable in comparison to

38

00:01:37,539 --> 00:01:35,270

their larger counterparts they can take

39

00:01:40,330 --> 00:01:37,549

less time and cost much less to put

40

00:01:42,760 --> 00:01:40,340

together and test their small cube-like

41

00:01:45,010 --> 00:01:42,770

architecture means Cube sets take up

42

00:01:47,440 --> 00:01:45,020

less space in a launch vehicle require

43

00:01:49,719 --> 00:01:47,450

less fuel to get into space and are

44

00:01:52,599 --> 00:01:49,729

easier to deploy instead of launching

45

00:01:54,399 --> 00:01:52,609

only one satellite on a single rocket we

46

00:01:56,639 --> 00:01:54,409

compact fifteen or twenty Cube sets as

47

00:01:59,499 --> 00:01:56,649

hitchhikers along with a larger payload

48

00:02:01,569 --> 00:01:59,509

so far Cube sets have mostly been

49

00:02:03,190 --> 00:02:01,579

limited to operations in low-earth orbit

50

00:02:05,830 --> 00:02:03,200

but that's about to change

51
00:02:07,569 --> 00:02:05,840
NASA's Centennial Challenges wants to

52
00:02:10,270 --> 00:02:07,579
encourage people to come up with unique

53
00:02:12,430 --> 00:02:10,280
innovative ways to use or better yet

54
00:02:13,330 --> 00:02:12,440
create technologies that will take Cube

55
00:02:16,089 --> 00:02:13,340
sets Bowl

56
00:02:17,619 --> 00:02:16,099
where none have gone for the cube quest

57
00:02:19,540 --> 00:02:17,629
challenge reaches out to amateur

58
00:02:21,670 --> 00:02:19,550
inventors and technology enthusiasts to

59
00:02:24,490 --> 00:02:21,680
deliver Cube sets that can get to the

60
00:02:26,650 --> 00:02:24,500
moon and beyond the cube quest challenge

61
00:02:28,900 --> 00:02:26,660
offers cash prizes to qualified teams

62
00:02:32,320 --> 00:02:28,910
that can achieve any of several stated

63
00:02:34,839 --> 00:02:32,330

objectives in space part of the 5.5

64

00:02:36,820 --> 00:02:34,849

million dollars in prize money goes to

65

00:02:39,190 --> 00:02:36,830

the teams that successfully achieve a

66

00:02:41,320 --> 00:02:39,200

stable orbit around the moon a feat

67

00:02:44,140 --> 00:02:41,330

never before accomplished by a CubeSat

68

00:02:46,150 --> 00:02:44,150

doing so requires teams to successfully

69

00:02:49,150 --> 00:02:46,160

deliver solutions to challenges in

70

00:02:51,190 --> 00:02:49,160

navigation propulsion command and

71

00:02:54,220 --> 00:02:51,200

control that are unique to satellites

72

00:02:55,809 --> 00:02:54,230

venturing beyond Earth orbit Centennial

73

00:02:57,699 --> 00:02:55,819

Challenges also aims to encourage

74

00:03:00,190 --> 00:02:57,709

solutions to long-distance

75

00:03:02,289 --> 00:03:00,200

communications challenges so there are

76
00:03:04,330 --> 00:03:02,299
prizes for competitors whose Cube sets

77
00:03:06,789 --> 00:03:04,340
communicate at the fastest rate and

78
00:03:09,819 --> 00:03:06,799
transmit the largest amount of data over

79
00:03:12,069 --> 00:03:09,829
a limited time then we push CubeSat

80
00:03:14,680 --> 00:03:12,079
technology even further by offering

81
00:03:16,390 --> 00:03:14,690
other cash prizes to competitors who can

82
00:03:18,819 --> 00:03:16,400
communicate with their CubeSat from the

83
00:03:20,830 --> 00:03:18,829
farthest distance at least 4 million

84
00:03:23,080 --> 00:03:20,840
kilometers that's more than 10 times

85
00:03:24,849 --> 00:03:23,090
further than the moon there's also a

86
00:03:27,270 --> 00:03:24,859
prize for the CubeSat that's able to

87
00:03:29,650 --> 00:03:27,280
survive the longest in deep space

88
00:03:31,479 --> 00:03:29,660

NASA's cube quest Centennial challenge

89

00:03:33,970 --> 00:03:31,489

is open to anyone that wants to compete

90

00:03:35,800 --> 00:03:33,980

you think you can solve the problem well

91

00:03:38,770 --> 00:03:35,810

we will to see your solution

92

00:03:40,300 --> 00:03:38,780

just head to nasa.gov slash winning for

93

00:03:42,490 --> 00:03:40,310

more information about the Q Quest

94

00:03:44,530 --> 00:03:42,500

challenge and our other challenges B

95

00:03:46,900 --> 00:03:44,540

Park Centennial Challenges as we