ISS: BENEFITS FOR HUMANITY

A SNAPSHOT OF EARTH

NASA

1
00:00:09,830 --> 00:00:08,470
what happens if you wake up in the

2
00:00:12,310 --> 00:00:09,840
morning and you understand the state of

3
00:00:14,390 --> 00:00:12,320
the world as it is right now what could

4
00:00:16,790 --> 00:00:14,400
that data enable how can people make

5
00:00:18,950 --> 00:00:16,800
smarter decisions how could for example

6
00:00:21,670 --> 00:00:18,960
a farmer get better yield on his or her

7
00:00:24,390 --> 00:00:21,680
crops how could somebody help disaster

8
00:00:25,349 --> 00:00:24,400
response how can we use satellites to

9
00:00:27,429 --> 00:00:25,359
help

10
00:00:29,669 --> 00:00:27,439
humanity that in many ways was the

11
00:00:31,830 --> 00:00:29,679
underlying thesis of doing planet labs

12
00:00:33,590 --> 00:00:31,840
was to get data into the hands of people

13
00:00:36,549 --> 00:00:33,600

that could enable us to make smarter

14
00:00:38,470 --> 00:00:36,559
responses to that planet labs set out

15
00:00:41,110 --> 00:00:38,480
with the mission to photograph the

16
00:00:42,630 --> 00:00:41,120
entire earth every day

17
00:00:44,790 --> 00:00:42,640
and they thought how are we going to do

18
00:00:46,069 --> 00:00:44,800
this i said let's build our own

19
00:00:50,709 --> 00:00:46,079
satellite

20
00:00:52,310 --> 00:00:50,719
very large they are very expensive we

21
00:00:54,069 --> 00:00:52,320
took a different approach by making them

22
00:00:55,670 --> 00:00:54,079
really small we can launch lots of them

23
00:00:57,590 --> 00:00:55,680
and by launching lots of them we can

24
00:00:59,430 --> 00:00:57,600
cover this to get to this mission of

25
00:01:01,270 --> 00:00:59,440
imaging the whole earth every day if we

26
00:01:02,709 --> 00:01:01,280
can do that then we can literally change

27
00:01:05,429 --> 00:01:02,719
the way that we see the world and they

28
00:01:07,670 --> 00:01:05,439
called it the dove it's about size of a

29
00:01:10,550 --> 00:01:07,680
loaf of bread our doves

30
00:01:12,789 --> 00:01:10,560
are basically mainly a big camera with a

31
00:01:14,390 --> 00:01:12,799
telescope looking down

32
00:01:16,230 --> 00:01:14,400
to take pictures of the earth we

33
00:01:18,469 --> 00:01:16,240
initially developed the first dove

34
00:01:20,230 --> 00:01:18,479
satellite in our garage so we kept on

35
00:01:22,390 --> 00:01:20,240
iterating the dove design we made it

36
00:01:25,350 --> 00:01:22,400
better and better and eventually we put

37
00:01:27,429 --> 00:01:25,360
our first one into space

38
00:01:29,030 --> 00:01:27,439

we had no idea what the quality would be

39
00:01:30,630 --> 00:01:29,040
like i mean we didn't know if it was

40
00:01:32,469 --> 00:01:30,640
going to work but we got an image down

41
00:01:34,950 --> 00:01:32,479
and it was so beautiful

42
00:01:37,190 --> 00:01:34,960
and that we we knew at that point we

43
00:01:39,030 --> 00:01:37,200
could make this technology work

44
00:01:40,310 --> 00:01:39,040
wow we can really do this and we can

45
00:01:41,670 --> 00:01:40,320
achieve this mission which is something

46
00:01:43,270 --> 00:01:41,680
that is really needed for us to

47
00:01:45,030 --> 00:01:43,280
understand global change

48
00:01:47,109 --> 00:01:45,040
so we had done a couple of demonstration

49
00:01:49,670 --> 00:01:47,119
satellites but the next steps we wanted

50
00:01:52,069 --> 00:01:49,680
to do was to scale it up to test

51
00:01:54,149 --> 00:01:52,079
the first fleets of satellites but what

52
00:01:55,830 --> 00:01:54,159
made that possible was actually access

53
00:01:57,109 --> 00:01:55,840
to space so here's the problem that in

54
00:01:59,109 --> 00:01:57,119
order to take pictures of the entire

55
00:02:00,310 --> 00:01:59,119
earth every day you're gonna need more

56
00:02:02,149 --> 00:02:00,320
than one or two satellites you're gonna

57
00:02:03,429 --> 00:02:02,159
need a whole lot of satellites and you

58
00:02:05,990 --> 00:02:03,439
need to be able to deploy them really

59
00:02:07,749 --> 00:02:06,000
fast and really there's only one obvious

60
00:02:11,750 --> 00:02:07,759
choice on how to deploy that and that's

61
00:02:16,309 --> 00:02:14,150
there was no other platform in the world

62
00:02:18,309 --> 00:02:16,319
in order to get access to space of of

63
00:02:20,229 --> 00:02:18,319

that fashion in that time period than

64
00:02:22,470 --> 00:02:20,239
the international space station nanomax

65
00:02:24,309 --> 00:02:22,480
is our key partner with nasa at

66
00:02:27,030 --> 00:02:24,319
nanoracks we understood plant lab's

67
00:02:28,630 --> 00:02:27,040
vision and we knew that we could help

68
00:02:30,150 --> 00:02:28,640
we worked together to figure out what

69
00:02:32,470 --> 00:02:30,160
was going to be the best way to get as

70
00:02:34,710 --> 00:02:32,480
many satellites as possible and we

71
00:02:37,190 --> 00:02:34,720
basically developed a new platform it

72
00:02:39,270 --> 00:02:37,200
goes out of the gym airlock

73
00:02:41,830 --> 00:02:39,280
it's picked up by a robotic arm pointed

74
00:02:43,270 --> 00:02:41,840
out in the space and it fires these

75
00:02:49,750 --> 00:02:43,280
little satellites off of the space

76
00:02:53,430 --> 00:02:51,589
they were able to secure 28 of our

77
00:02:54,949 --> 00:02:53,440
satellites to be launched from the

78
00:02:56,309 --> 00:02:54,959
international space station and that was

79
00:02:57,990 --> 00:02:56,319
known as flop one our first

80
00:02:58,949 --> 00:02:58,000
constellation this opened up the whole

81
00:03:01,190 --> 00:02:58,959
world

82
00:03:03,670 --> 00:03:01,200
to uh satellite developers people that

83
00:03:06,390 --> 00:03:03,680
could put things into orbit fast

84
00:03:08,309 --> 00:03:06,400
we now deploy these on a regular basis

85
00:03:10,790 --> 00:03:08,319
from the international space station and

86
00:03:12,630 --> 00:03:10,800
now today we're able to operate the

87
00:03:14,550 --> 00:03:12,640
largest fleet of earth imaging

88
00:03:15,670 --> 00:03:14,560

satellites in human history and none of

89
00:03:18,070 --> 00:03:15,680
that would have been possible without

90
00:03:22,390 --> 00:03:18,080
the international space station

91
00:03:25,830 --> 00:03:22,400
enable young small companies like

92
00:03:27,830 --> 00:03:25,840
ourselves to get going in space the iss

93
00:03:29,750 --> 00:03:27,840
provides a lot of opportunities for

94
00:03:32,149 --> 00:03:29,760
commercial companies to test and find

95
00:03:34,070 --> 00:03:32,159
where the market in space is going to be

96
00:03:36,309 --> 00:03:34,080
and so what we're seeing today is a

97
00:03:38,309 --> 00:03:36,319
proliferation of new ideas and new

98
00:03:40,470 --> 00:03:38,319
concepts it's almost like it's a

99
00:03:42,710 --> 00:03:40,480
renaissance of what's happening in space

100
00:03:44,710 --> 00:03:42,720
buckle up and strap down because this is