SPACE STATION STORIES

1
00:00:00,006 --> 00:00:01,076
>> [Background Music
& Countdown]

2
00:00:01,076 --> 00:00:07,946
It took 41 rocket launches just
to bring the building materials

3
00:00:07,946 --> 00:00:09,096
to the construction site,

4
00:00:09,096 --> 00:00:13,256
and more than 100 other
launches along the way to ferry

5
00:00:13,256 --> 00:00:14,686
up the human crew members

6
00:00:14,686 --> 00:00:17,646
and deliver the supplies they
would need to live and work.

7
00:00:17,646 --> 00:00:21,706
The largest peacetime
engineering

8
00:00:21,706 --> 00:00:24,206
and construction
project in human history,

9
00:00:24,206 --> 00:00:26,916
and it wouldn't have
happened in the nation's

10
00:00:26,916 --> 00:00:28,716
of the world hadn't
joined forces.

11
00:00:28,766 --> 00:00:30,196

But they did!

12
00:00:30,196 --> 00:00:34,696
And that cooperative spirit is
alive and thriving right now,

13
00:00:35,586 --> 00:00:37,976
onboard the International
Space Station!

14
00:00:38,516 --> 00:00:54,546
[Music]

15
00:00:55,046 --> 00:00:57,216
The major space agencies

16
00:00:57,326 --> 00:01:01,036
of the world each have their own
independent exploration program,

17
00:01:01,036 --> 00:01:04,596
yet they work together on
one project that's vital

18
00:01:04,696 --> 00:01:07,036
to human kinds future in space,

19
00:01:07,346 --> 00:01:09,426
operating a joint
research laboratory

20
00:01:09,426 --> 00:01:11,236
and technology development
station,

21
00:01:11,546 --> 00:01:13,556
250 miles above the earth.

22
00:01:13,976 --> 00:01:19,596

The United States, Russia,
Japan, Canada, and the nations

23
00:01:19,596 --> 00:01:21,866
of Europe each provide
and train crew member

24
00:01:21,926 --> 00:01:23,856
who operate this space station.

25
00:01:24,236 --> 00:01:26,936
>> We have come to know
each other very well,

26
00:01:26,936 --> 00:01:30,506
to really enjoy each other's
company, enjoy working together,

27
00:01:30,856 --> 00:01:32,566
I consider them very
close friends.

28
00:01:33,516 --> 00:01:49,126
[Foreign Language]

29
00:01:49,626 --> 00:01:53,166
>> I think each country has
[inaudible] unique, like,

30
00:01:53,436 --> 00:01:56,876
strengths and good part,
and also like weakness.

31
00:01:57,736 --> 00:01:59,546
So if we cooperate
with each other,

32
00:01:59,816 --> 00:02:04,466
we can cover the other nation's
weak part and help each other.

33
00:02:06,046 --> 00:02:08,886
>> Over the years, the partners
have contributed the vehicles

34
00:02:08,936 --> 00:02:11,966
that bring human beings
to orbit, and the ones

35
00:02:11,966 --> 00:02:14,826
that make regular deliveries
of supplies and materials,

36
00:02:14,826 --> 00:02:18,086
plus all the hardware and
samples to operate a set

37
00:02:18,086 --> 00:02:20,606
of scientific laboratories
and experiments

38
00:02:20,606 --> 00:02:23,006
that are achieving things that
couldn't be done on earth.

39
00:02:23,206 --> 00:02:27,446
The results, in terms of science
and technology development,

40
00:02:27,446 --> 00:02:28,866
are out of this world!

41
00:02:29,446 --> 00:02:31,166
>> Having different
perspectives,

42
00:02:31,226 --> 00:02:33,096
either different
scientific perspectives,

43
00:02:33,396 --> 00:02:34,996
different international
perspectives,

44
00:02:35,316 --> 00:02:37,986
has helped bring strength
to the work that we do.

45
00:02:38,556 --> 00:02:40,316
We've gotten to work with
some incredible people

46
00:02:40,316 --> 00:02:41,766
around the globe, and that,

47
00:02:41,766 --> 00:02:44,776
that we found what we think
were some significant findings.

48
00:02:44,776 --> 00:02:47,186
>> The Alpha Magnetic
Spectrometer is a high-energy

49
00:02:47,186 --> 00:02:50,236
particle physics experiment
designed to study cosmic rays,

50
00:02:50,366 --> 00:02:52,526
antimatter, dark
matter, and dark energy.

51
00:02:52,836 --> 00:02:56,706
There is 15 countries, about
600 engineers, physicists,

52
00:02:56,746 --> 00:02:59,706
scientists, technicians,
about 60 different institutes,

53

00:02:59,776 --> 00:03:01,786
universities, all
over the planet.

54
00:03:02,276 --> 00:03:04,296
You get the interaction
of all these people

55
00:03:04,296 --> 00:03:06,356
and in the end you have
something that's a whole lot

56
00:03:06,356 --> 00:03:08,096
better than what you would
have done by yourself.

57
00:03:08,096 --> 00:03:11,916
>> Each space agency takes
responsibility for a part

58
00:03:11,916 --> 00:03:14,366
of the mission by
operating a control room

59
00:03:14,366 --> 00:03:17,636
in their own country, which
focuses on daily operations

60
00:03:17,696 --> 00:03:19,276
in their own labs and modules.

61
00:03:19,436 --> 00:03:22,386
The heart of the
overall operation is

62
00:03:22,386 --> 00:03:25,226
at NASA's mission
control center in Houston,

63
00:03:25,256 --> 00:03:28,046

where a team coordinates what
all the partners are doing.

64
00:03:28,146 --> 00:03:31,666
>> The Ops Plan Team takes
all of the requirements handed

65
00:03:31,666 --> 00:03:34,716
down form the ISS program, from
the international partners,

66
00:03:35,446 --> 00:03:38,046
from the flight control team,
and from the science community,

67
00:03:38,186 --> 00:03:41,166
and we integrate all of those
requirements into a timeline,

68
00:03:41,416 --> 00:03:43,206
and we uplink it to the crew,

69
00:03:43,426 --> 00:03:46,646
and that's how the crew knows
what to do on a given day.

70
00:03:47,946 --> 00:03:51,736
>> With all that effort, over
all these years, the partners

71
00:03:51,736 --> 00:03:54,436
in the International Space
Station have created something

72
00:03:54,436 --> 00:03:57,006
that's already provided
benefits on earth,

73
00:03:57,296 --> 00:03:59,966
and encourage the growth of

a commercial space industry,

74
00:04:00,626 --> 00:04:03,656
and is perfectly positioned
[Background Music] to continue

75
00:04:03,656 --> 00:04:07,206
that mission, supporting
future human exploration

76
00:04:07,206 --> 00:04:08,096
into deep space.

77
00:04:08,246 --> 00:04:10,436
>> If you think about
all the capability that's

78
00:04:10,436 --> 00:04:13,676
on the space station today,
it brought out the best

79
00:04:13,676 --> 00:04:15,316
in each of the partners.

80
00:04:15,826 --> 00:04:19,156
>> The only way for exploration
to be successful is to have

81
00:04:19,156 --> 00:04:23,426
that global partnership
together, as we have had so far

82
00:04:23,426 --> 00:04:24,106
with the space station.

83
00:04:24,106 --> 00:04:26,906
>> We're going to use the
technology of the ATV,

84

00:04:27,316 --> 00:04:30,176
fly very successful
ISS resupply missions,

85
00:04:30,406 --> 00:04:32,166
to make this incredible
contribution

86
00:04:32,166 --> 00:04:33,106
to the Orion spacecraft.

87
00:04:33,526 --> 00:04:36,956
So the service module will
be a, a very critical parts

88
00:04:37,036 --> 00:04:38,166
to the Orion spacecraft.

89
00:04:38,166 --> 00:04:41,746
It will provide power, it
will provide terminal control,

90
00:04:41,876 --> 00:04:44,126
and most importantly, it
will provide propulsion

91
00:04:44,456 --> 00:04:45,136
to the crew module.

92
00:04:45,906 --> 00:04:48,346
>> Building on the robotics
technology we developed

93
00:04:48,346 --> 00:04:51,016
to support the space shuttle
program and then to build,

94
00:04:51,076 --> 00:04:52,936
to assemble the space station,

95
00:04:53,296 --> 00:04:55,836
Canada's developed a
next generation Canadarm.

96
00:04:56,516 --> 00:04:59,196
This is a state-of-the-art
suite of robotics prototypes

97
00:04:59,196 --> 00:05:02,446
that will be able to support
the critical next steps

98
00:05:02,896 --> 00:05:03,976
in exploring the solar system.

99
00:05:04,516 --> 00:05:19,926
[Foreign Language]

100
00:05:20,426 --> 00:05:23,836
>> Better understanding
and a common goal combined