# SpacetoGround

1
00:00:03,040 --> 00:00:05,000
"HOUSTON, STATION ON SPACE TO GROUND."

2
00:00:05,000 --> 00:00:07,580
WELCOME TO SPACE TO GROUND, I'M ISIDRO REYNA.

3
00:00:07,580 --> 00:00:12,790
THIS WEEK, NASA'S SPACEX CREW-2 ARRIVED
TO THE INTERNATIONAL SPACE STATION.

4
00:00:12,790 --> 00:00:16,830
THE CREW COMPRISED OF NASA ASTRONAUTS SHANE
KIMBROUGH AND MEGAN MCARTHUR,

5
00:00:16,830 --> 00:00:20,829
ALONG WITH JAXA ASTRONAUT■AKI■HOSHIDE■AND
ESA ASTRONAUT THOMAS■PESQUET,

6
00:00:20,829 --> 00:00:23,900
ARRIVED IN ORBIT TO BEGIN A SIX-MONTH SCIENCE
MISSION ON THE SPACE STATION.

7
00:00:23,900 --> 00:00:28,220
THE CREW DRAGON SPACECRAFT, NAMED ENDEAVOUR,
DOCKED AUTONOMOUSLY

8
00:00:28,220 --> 00:00:32,329
TO THE FORWARD PORT OF THE STATION'S HARMONY
MODULE ON SATURDAY, APRIL 24TH.

9
00:00:32,329 --> 00:00:33,890
SUPPLIES TO SUPPORT HUMAN RESEARCH

10
00:00:33,890 --> 00:00:36,770
AND STEM ACTIVITIES ARRIVED ALONGSIDE THE
CREW.

11
00:00:36,770 --> 00:00:38,770
THE ASTRONAUTS WERE MET WITH HUGS AND SMILES

12
00:00:38,770 --> 00:00:41,000
FROM THEIR CREW-1 AND STATION TEAMMATES.

13
00:00:41,000 --> 00:00:43,730
ON APRIL 27TH, NASA ASTRONAUT SHANNON WALKER

14
00:00:43,730 --> 00:00:46,260
HANDED OVER STATION COMMAND TO AKI HOSHIDE

15
00:00:46,260 --> 00:00:48,900
DURING A TRADITIONAL CHANGE OF COMMAND CEREMONY.

16
00:00:48,900 --> 00:00:50,970
HOSHIDE, JAPAN'S SECOND STATION COMMANDER,

17
00:00:50,970 --> 00:00:55,110
WILL NOW LEAD EXPEDITION 65 UNTIL OCTOBER
OF THIS YEAR.

18
00:00:55,458 --> 00:00:57,158
"AKI, I RELINQUISH COMMAND."

19
00:00:59,895 --> 00:01:01,806
"CONGRATULATIONS."

20
00:01:02,645 --> 00:01:05,556
"AND SHANNON, I ACCEPT THE COMMAND, THANK
YOU."

21
00:01:06,525 --> 00:01:08,470
THE FOUR SPACEX CREW-1 ASTRONAUTS

22
00:01:08,470 --> 00:01:11,110
HAVE A NEW SPLASHDOWN DATE AFTER MISSION MANAGERS

23
00:01:11,110 --> 00:01:12,860
WAVED OFF WEDNESDAY'S PLANNED DEPARTURE

24
00:01:12,860 --> 00:01:15,180
DUE TO WEATHER CONDITIONS AT THE LANDING SITE.

25
00:01:15,180 --> 00:01:18,400
CHECK NASA TV FOR THE LATEST ON CONTINUOUS
LIVE COVERAGE

26
00:01:18,400 --> 00:01:21,380
OF THE DEPARTURE AND SPLASHDOWN OFF THE COAST
OF FLORIDA

27
00:01:21,380 --> 00:01:23,560
FOR MICHAEL HOPKINS, VICTOR GLOVER,

28
00:01:23,560 --> 00:01:25,530
SHANNON WALKER AND SOICHI NOGUCHI,

29
00:01:25,530 --> 00:01:28,580
ON BOARD CREW DRAGON RESILIENCE.

30
00:01:28,580 --> 00:01:30,140
THE NEW CREW HAS ALREADY BEGUN WORKING

31
00:01:30,140 --> 00:01:33,470
ON NUMEROUS EXPERIMENTS ABOARD THE ORBITING
LABORATORY,

32
00:01:33,470 --> 00:01:37,920
INCLUDING THE EUROPEAN SPACE AGENCY'S GRIP
AND GRASP STUDIES.

33
00:01:37,920 --> 00:01:40,760
THE GRIP EXPERIMENT STUDIES THE LONG-DURATION
SPACEFLIGHT EFFECTS

34
00:01:40,760 --> 00:01:43,830
ON THE ABILITIES OF HUMAN SUBJECTS TO REGULATE
GRIP FORCE

35
00:01:43,830 --> 00:01:47,020
AND UPPER LIMBS TRAJECTORIES WHEN MANIPULATING
OBJECTS DURING

36
00:01:47,020 --> 00:01:48,560
DIFFERENT KIND OF MOVEMENTS:

37
00:01:48,560 --> 00:01:52,920
OSCILLATORY MOVEMENTS, RAPID DISCRETE MOVEMENTS
AND TAPPING GESTURES.

38
00:01:52,920 --> 00:01:55,200
DATA FROM THIS EXPERIMENT MAY BE USED TO IDENTIFY

39
00:01:55,200 --> 00:01:57,610
POTENTIAL HAZARDS FOR ASTRONAUTS AS THEY MOVE

40
00:01:57,610 --> 00:01:59,630
BETWEEN GRAVITATIONAL ENVIRONMENTS.

41
00:01:59,630 --> 00:02:01,119
THESE STUDIES COULD ALSO CONTRIBUTE TO

42
00:02:01,119 --> 00:02:04,220
THE DESIGN AND CONTROL OF INTELLIGENT HAPTIC
INTERFACES

43
00:02:04,220 --> 00:02:07,320
TO BE USED IN CHALLENGING ENVIRONMENTS SUCH
AS DEEP SPACE,

44
00:02:07,320 --> 00:02:09,670
PLANETS AND THEIR MOONS, OR ASTEROIDS.

45
00:02:09,670 --> 00:02:12,389
THE REACHING AND GRASPING OR GRASP INVESTIGATION

46

00:02:12,389 --> 00:02:14,810
AIMS TO BETTER UNDERSTAND HOW THE CENTRAL
NERVOUS SYSTEM

47
00:02:14,810 --> 00:02:18,790
INTEGRATES INFORMATION FROM DIFFERENT SENSATIONS
SUCH AS SIGHT OR HEARING,

48
00:02:18,790 --> 00:02:21,560
ENCODED IN DIFFERENT REFERENCE FRAMES, IN
ORDER TO COORDINATE

49
00:02:21,560 --> 00:02:24,510
THE HAND WITH THE VISUAL ENVIRONMENT. MORE
SPECIFICALLY,

50
00:02:24,510 --> 00:02:27,739
THE SCIENCE TEAM SEEKS TO BETTER UNDERSTAND
IF, AND HOW,

51
00:02:27,739 --> 00:02:31,409
GRAVITY ACTS AS A REFERENCE FRAME FOR THE
CONTROL OF REACH-TO-GRASP.

52
00:02:31,409 --> 00:02:33,040
LIVING IN SPACE REQUIRES ADAPTATION

53
00:02:33,040 --> 00:02:35,480
FROM MORE THAN JUST THE ASTRONAUT'S BODY.

54
00:02:35,480 --> 00:02:36,969
THE ABSENCE OF A TRADITIONAL UP OR DOWN

55
00:02:36,969 --> 00:02:40,739
REQUIRES THE BRAIN TO ADAPT TO THE MICROGRAVITY
ENVIRONMENT OF SPACEFLIGHT.

56
00:02:40,739 --> 00:02:43,019
THIS INVESTIGATION PROVIDES FURTHER INSIGHT
INTO HOW

57
00:02:43,019 --> 00:02:45,769
THE BODY ADAPTS TO THE MICROGRAVITY ENVIRONMENT.