



Spaceto**Ground**

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

2
00:00:05,000 --> 00:00:07,799
WELCOME TO SPACE TO GROUND, I AM KAYLA LAFRANCE.

3
00:00:07,799 --> 00:00:11,510
THE INTERNATIONAL SPACE STATION IS STILL GROWING
AND ADAPTING,

4
00:00:11,510 --> 00:00:14,369
EVEN AFTER 20 YEARS OF CREWED MISSIONS.

5
00:00:14,891 --> 00:00:18,029
THIS WEEK, THE CREW ONBOARD THE ORBITING LABORATORY

6
00:00:18,029 --> 00:00:22,180
PREPARED FOR THE NEWEST EXTERNAL ADDITION
TO THE STATION,

7
00:00:22,180 --> 00:00:24,360
THE NANORACK BISHOP AIRLOCK.

8
00:00:24,360 --> 00:00:27,860
LAUNCHED WITHIN THE SPACEX-21 EXTERNAL TRUNK,

9
00:00:27,860 --> 00:00:31,020
THIS NEW AIRLOCK WILL BE THE FIRST PERMANENT,

10
00:00:31,020 --> 00:00:34,220
COMMERCIAL ADDITION TO THE INTERNATIONAL SPACE
STATION.

11
00:00:34,220 --> 00:00:36,970
THE BISHOP AIRLOCK IS A BELL-SHAPED CANISTER

12
00:00:36,970 --> 00:00:39,480
THAT WILL BE ATTACHED TO THE TRANQUILITY MODULE.

13

00:00:39,480 --> 00:00:42,450

THE STATION CREW WILL THEN BE ABLE TO ACCESS

14

00:00:42,450 --> 00:00:45,940

THE 4 CUBIC METER INTERNAL VOLUME OF THE AIRLOCK

15

00:00:45,940 --> 00:00:48,100

THROUGH THE STATION HATCH TO INSTALL

16

00:00:48,100 --> 00:00:52,480

BOTH ACADEMIC AND PRIVATELY SOURCED PAYLOADS
AND INSTRUMENTS.

17

00:00:52,480 --> 00:00:55,120

ONCE PREPARED, THE AIRLOCK WILL THEN BE REMOVED

18

00:00:55,120 --> 00:00:57,890

FROM THE STATION BY THE ROBOTIC CANADARM2

19

00:00:57,890 --> 00:01:01,829

AND RELOCATED TO THE TRUSS TO DEPLOY CUBESATS,

20

00:01:01,829 --> 00:01:05,149

SMALL SATELLITES, AND TO EXPOSE EXTERNAL PAYLOADS

21

00:01:05,149 --> 00:01:06,786

TO THE SPACE ENVIRONMENT.

22

00:01:07,570 --> 00:01:09,729

WHEN SPACEX-21 ARRIVED AT STATION,

23

00:01:09,729 --> 00:01:12,370

IT CAME WITH MANY NEW EXPERIMENTS

24

00:01:12,370 --> 00:01:13,760

FOR THE CREW TO CONDUCT,

25
00:01:13,760 --> 00:01:17,720
INCLUDING THE CARDINAL HEART TISSUE STUDY.

26
00:01:17,720 --> 00:01:19,410
TAKING PLACE THIS WEEK,

27
00:01:19,410 --> 00:01:21,490
THE STUDY IS EXAMINING THE CHANGES

28
00:01:21,490 --> 00:01:24,090
THAT MICROGRAVITY CAUSES ON THE WORKLOAD

29
00:01:24,090 --> 00:01:25,780
AND SHAPE OF THE HUMAN HEART,

30
00:01:25,780 --> 00:01:28,780
BY USING 3D ENGINEERED HEART TISSUES.

31
00:01:28,780 --> 00:01:30,400
WHILE IT IS KNOWN THAT MICROGRAVITY

32
00:01:30,400 --> 00:01:32,049
AFFECTS THE HUMAN HEART,

33
00:01:32,049 --> 00:01:33,729
THE IMPACTS ARE STILL UNCLEAR

34
00:01:33,729 --> 00:01:36,650
FOR A PERSON LIVING MORE THAN A YEAR IN SPACE.

35
00:01:36,650 --> 00:01:38,430
THE CARDINAL HEART STUDY WILL WATCH HOW

36
00:01:38,430 --> 00:01:41,880
THESE CHANGES IN GRAVITY AFFECT CARDIOVASCULAR
CELLS

37

00:01:41,880 --> 00:01:44,850
AT THE CELLULAR AND TISSUE LEVEL.

38
00:01:44,850 --> 00:01:47,110
THESE RESULTS COULD PROVIDE NEW UNDERSTANDING

39
00:01:47,110 --> 00:01:49,000
OF HEART PROBLEMS ON EARTH,

40
00:01:49,000 --> 00:01:50,560
HELP IDENTIFY NEW TREATMENTS,

41
00:01:50,560 --> 00:01:53,640
AND SUPPORT DEVELOPMENT OF SCREENING MEASURES

42
00:01:53,640 --> 00:01:56,780
TO PREDICT CARDIOVASCULAR RISK PRIOR TO SPACEFLIGHTS

43
00:01:56,780 --> 00:02:02,497
AS WE AIM TO GO BEYOND EARTH ORBIT TO THE
MOON, MARS, AND BEYOND.

44
00:02:03,150 --> 00:02:04,380
KEEP SENDING YOUR QUESTIONS