the International Space Station's expedition 25 will celebrate the 10th anniversary of the arrival of the first resident crew expedition 26 may bid bon voyage to the last flight of space shuttle Endeavour but even with all that on the agenda the station commander is excited to be advancing the station's use as a science laboratory so I see my role as with my background as a test pilot and engineers to is to is to keep the laboratories operating empower the crew to all of us to do great science and bring it back to our scientists here
on earth to make life better here and

and make our flying machines even better

so we can go beyond Earth orbit like all

their predecessors these station crew

members are the subjects for research

into how the human body behaves in the

absence of gravity particularly

investigations into the mechanisms

responsible for the losses in bone and

muscle mass the long-duration cruise

experience will be mostly bionet

experiments so when when my body will be

under in my brains will be under

investigation honestly speaking I don't
like very much these experiments but I understand that this is necessity to go further and further in space. Flights if we're going to spend several months going to another planet or somewhere else in the solar system the last thing we want to have happen is not to be able to function once we get there or even worse break your leg because you've lost so much bone density but the crew members have another scientific role they are the lab assistants for the earthbound researchers conducting dozens of experiments in a range of disciplines.
astronauts and cosmonauts carry out protocols for scientists from around the world on experiments running in lab facilities provided by the United States Europe Japan and Russia and they operate instruments aimed at the earth to learn more about the planet explain decisions do these experiments related to jet physics this is the researching and observing the earthly radiation levels seven meadows earthquakes symmetry singing we are learning how we can predict earthquakes the time and location earth observations have been conducted from the station since the
first long-duration crew came on board

on November second 2000 expedition 25

will be there to recognize the 10th

anniversary of continuous crude

operations it's 35 anniversary from

sales Apollo program this year 10 years

how we r is da launched from baikonur

and the ESCA we began many to fly man

flight on SS station it's great the sum

any DC space shuttle discovery is due

right after that anniversary commander

Steve Lindsey's crew will deliver the

permanent multi-purpose module which is

the cargo module Leonardo retrofitted
for permanent installation on the nadir side of unity it seems like the space station is really big but when you need all the stuff you need to live there for six months it gets pretty full and having another module to help with stowage is critically important to improving our efficiency and is doing our you know daily work on board among the cargo inside the pmm is Robonaut 2 330-pound humanoid robot programmed to perform repetitive tasks on the station and free the human crew members for more complicated work including spacewalk
preparation skripochka and your chicken

are on the plan for a spacewalk in November to install new hardware on the Russian segment of the station that will come just before your chicken Wheelock and Walker return home and Kelly becomes commander of expedition 26 then the flow of traffic accelerates first the crew is augmented with the arrival of another Soyuz spacecraft carrying cosmonauts dmitry kondratyev european space agency astronaut paolo nespoli NASA's Katie Collman then the station gets supplies deliveries from each of
the uncrewed cargo vehicles now serving

00:04:32,579 --> 00:04:37,129
the station the russian progress the

00:04:35,430 --> 00:04:40,050
european space agency's automated

00:04:37,129 --> 00:04:44,029
transfer vehicle and the japan aerospace

00:04:40,050 --> 00:04:47,189
exploration agency's h2 transfer vehicle

00:04:44,029 --> 00:04:49,259
this is the new type of vehicle the free

00:04:47,189 --> 00:04:51,660
flyer vehicle which means that it

00:04:49,259 --> 00:04:53,519
doesn't duck to the station directly but

00:04:51,660 --> 00:04:55,620
rather it approaches the station and

00:04:53,519 --> 00:04:57,299
from the station keeping close to it and

00:04:55,620 --> 00:05:00,629
then the upgrade on board of the ISS

00:04:57,300 --> 00:05:04,550
uses the robotic arm to made it to the

00:05:00,629 --> 00:05:09,629
docking mechanism progress can dock in

00:05:04,550 --> 00:05:11,930
any conditions in any conditions and it

00:05:09,629 --> 00:05:14,819
can be manually controlled by the crew
atv cannot be controlled by the crew so

we are only monitoring the automated

approach and final approach and we can

only stop it to be secure skripochka and

Kondratiev conduct two more Russian

segment spacewalks in January in

February before the arrival of the last

planned mission of space shuttle

Endeavour the shuttle crew will deliver

supplies and attach the Alpha Magnetic

Spectrometer to the zenith side of the

station's truss this long-awaited

science instrument will search for the

sources of antimatter and dark matter to
assist scientists looking for a clearer understanding of the origins of the universe this mission will be notable two for bringing the station commander together on orbit with his twin brother shuttle commander Mark Kelly it's actually the first time that too I think blood relatives have ever been in space together it's exciting you know I've known obviously know my brother a really long time and you know we're great friends and it's a real privilege to share the experience with someone you're so close to your mom and dad like the
idea of having two sons off the planet at the same time they don't like the idea of having one son off the planet at any time so you know they can just kind of stress them out a little bit Kelly killarians creepo chica are due to come home shortly after that space shuttle mission wraps up leaving behind a space station at a turning point one that is all but complete after 10 years of construction ready for its crews to move to full utilization to prepare us for the exploration to come we have learned a
lot and we will continue to learn a lot

158
00:06:55,500 --> 00:07:01,170
about how systems and people and how to

159
00:06:59,069 --> 00:07:03,149
operate in space for long periods of

160
00:07:01,170 --> 00:07:06,530
time and now I think it's time to see

161
00:07:03,149 --> 00:07:06,529
how we can take advantage of it