for three decades the United States has processed launched and operated the world's first and only reusable spacecraft. The Space Shuttle is an engineering and operational marvel ferrying men and women from around the world into space in its 30 years of flight the shuttle has proven itself to be the most versatile spacecraft ever built. This remarkable spaceship has been the platform from which many of the world's great scientific instruments have been deployed it is carried astronauts who
have launched and repaired satellites that changed the way we communicate it

has enabled technology demonstrations and allowed space-based research in

physics and medicine and material science and has allowed the creation of a partnership of nations from around the world to assemble a world-class National Research Laboratory in orbit around our planet

with the final flight of shuttle Atlantis and its crew of four astronauts the space shuttle era comes to a close and America and the world bids a final
farewell to a sleek and one-of-a-kind ship that has helped history unfold in low-earth orbit

it all started more than three decades ago two Americans John Young and Robert Crippen blast off on a winged space plane named Columbia now more than thirty years later with the 33rd and final flight of Atlantis NASA adds a fitting coda to the space shuttle program even as the shuttle program ends the sts-135 mission will help ensure humankind can continue to live and work in space
Atlantis carries the Raffello

00:03:41,289 --> 00:03:46,329
multi-purpose Logistics Module or mplm

00:03:44,409 --> 00:03:48,819
to deliver a year's worth of supplies

00:03:46,330 --> 00:03:52,480
and spare parts for the international

00:03:48,819 --> 00:03:54,669
space station the orbiter delivers a

00:03:52,479 --> 00:03:56,679
system designed to remotely test the

00:03:54,669 --> 00:03:59,459
robotic refueling of satellites and

00:03:56,680 --> 00:04:02,730
return a failed cooling pump to Earth

00:03:59,460 --> 00:04:05,680
from a historical perspective the

00:04:02,729 --> 00:04:10,799
sts-135 astronauts are the first crew of

00:04:05,680 --> 00:04:10,800
four since STS 6 in 1983

00:04:19,139 --> 00:04:24,279
retired Navy captain Chris Ferguson

00:04:21,548 --> 00:04:27,250
commands Atlantis's crew as he makes his

00:04:24,279 --> 00:04:31,299
third trip to orbit he first flew on

00:04:27,250 --> 00:04:33,910
Atlantis as the pilot of sts-115 in 2006
then returned to orbit as commander of

endeavour on the sts-126 mission the

pilot of Atlantis is Marine Corps

Colonel Doug Hurley his first

spaceflight sts-127 coincided with the

40th anniversary of Apollo 11 in 2009 he

will be at the Control says Atlantis

undocks from the ISS for the shuttles

historic departure from the station dr.

sandy Magnus is mission specialist 1 a

veteran of two space flights she served

as ISS science officer for expedition 18

she first flew on Atlantis during

sts-112 in 2002 mission specialist 2 is
retired Air Force colonel Rex Walheim

this is his third and final spaceflight aboard Atlantis after STS 110 and sts-122

the flight of Atlantis marks the 37th shuttle mission to the space station the flight was originally manifested only as the launch on need rescue mission for STS 134 which at the time was scheduled as the shuttles final flight with the launch of Atlantis there will be no rescue shuttle standing by in case of an unexpected problem or emergency Atlantis astronauts would
remain aboard the space station

ultimately returning to Earth aboard a series of Russian Soyuz spacecraft

America's leadership ultimately recognized the value of one additional shuttle mission and the STS-135 flight

plan evolved into an historic 12-day mission delivering valuable equipment

parts and supplies to the completed and fully operational station it's an effort to posture the space station for about a year put in a good position until we can get our commercial cargo resupply system open early on flight day for the crew of
Atlantis will install the Raffaello Logistics Module moving van to the ISS

the station crew and shuttle astronauts

will unpack about 15,000 pounds of cargo for the current and future ISS crews

items such as food clothing spare parts for the station and scientific experiments at the same time the joint crews will be repacking Rafaela with over 12,000 pounds of shuttle related equipment stored on the ISS other items marked for return to earth and trash offloaded from the station well take stuff out of the node 2 nadir spot translate down the lab and most of the
stowage and transfer that we're doing will be in the permanent and key elements on board

Magnus serves as Raphael O's loadmaster with assistance from Waldheim the very first most important rule is do what sandy says because Sandy's lived up there and she's our loadmaster so she knows where where things go and we'll figure out ways to to make that shell happen and I didn't realize this until until we got into the planning of the mission is that the space station software was never designed to
accommodate more than one Logistics Module

we've had to perform a little I guess sleight of

and to get the space station to believe

that there's actually two logistics

modules on board atlantis will also deliver the robotics refueling payload

which will be tested using the space stations Dexter robot the space station

has a robotic arm for heavy lifting but

Dexter is a robotic hand capable of

performing fine my new tasks the payload

will be its first workout to see how
well it can perform on flight day five

the crew of Atlantis will support one

station based spacewalk performed by

expedition 28 astronauts Mike Fossum and Ron Garan the pair flew three years ago

on the sts-124 mission performing three spacewalks together to help install the

Japanese Kibo laboratory module during

this EBA Magnussen Hurley will provide robotic support for Fossum and Garin

Walheim will service the IV or

intravenous or for the spacewalk a failed cooling pump temporarily stowed

outside the station during a spacewalk
during the sts-133 mission will be

00:08:53,549 --> 00:08:58,949
removed and brought home by the shuttle

00:08:56,330 --> 00:09:00,990
thanks to the shuttles ability to return

00:08:58,950 --> 00:09:02,970
cargo engineers will have the

00:09:00,990 --> 00:09:05,279
opportunity to study the cause of the

00:09:02,970 --> 00:09:07,050
pumps failure while we're in the payload

00:09:05,279 --> 00:09:09,000
Bay attaching the pump module to the

00:09:07,049 --> 00:09:10,919
logistics carrier will retrieve this

00:09:09,000 --> 00:09:12,500
experiment for the special purpose

00:09:10,919 --> 00:09:15,419
dextrous manipulator that I will allow

00:09:12,500 --> 00:09:18,299
the robotics community to show the

00:09:15,419 --> 00:09:19,979
ability to do remote refueling and other

00:09:18,299 --> 00:09:20,609
dexterous tasks that might be involved

00:09:19,980 --> 00:09:23,039
in

00:09:20,610 --> 00:09:24,870
servicing satellites Fossum and Garin
will install the robotics refueling payload on a temporary platform near the Dexter robot and the Destiny lab. It really is the chance to show how well the SPD can function in space. Over the past three decades hundreds of thousands of people have dedicated their time, energy, and passion, and in many instances, their lives, as the shuttle was designed, developed, built, and flown. They are the people who have made the NASA team and the space shuttle program such a remarkable success from STS 1 through STS 135.
their legacy lives on as the shuttle leaves behind a fully assembled and operational space station to see a completed space station up there is really a testament to not only ingenuity of all the engineers and scientists and people on the ground who work in the space station but also people who work on the space shuttle it can make such an incredible reusable space vehicle to make that happen atlantis was the first one that I flew on for sts-112 and that will be my last mission as well so I have it has a holds
a special place in my heart for the
people who have worked on Atlantis for
so long I think it's special for them
that it will be a last mission you want
to represent the thousands and thousands
of people that have worked probably
their entire careers I don't know how
many people that we've talked to or met
that have been in the space shuttle
program since sts-1 we just want them to
know that what they've accomplished
is incredible and we'll do our best
to finish this program the way it
deserves to be finished nothing means
more I think to all four of us then to honor that legacy and and go out with as best a mission as we can fly it'll be an emotional moment I think for for a lot of folks who have seen the shuttle essentially to build the better part of the space station and to know that this will be the final time at least the one thing that strikes me is how remarkably dedicated we are that to me typifies the space workers they're a breed that is second to none you