**JWST – MISSION PREPARATIONS**

**Title: JWST - Mission Preparations**

**Released: 9/5/2018**

**Language: English (Aroll) English, French, Danish (Broll)**

**Footage Type: TV Exchanges**

**Dur: 3’38”**

Suggested web intro:

In October 2018 a European rocket will launch the largest astronomical space telescope ever built. The James Webb Space Telescope (JWST), is an international collaboration between NASA, ESA and the Canadian Space Agency (CSA). It will use infrared light to study the birth and evolution of planets, stars and galaxies throughout our cosmic history, advancing our understanding of the Universe.

The JWST represents the next step for visible and infrared space astronomy after the Hubble Space Telescope, which launched in 1990, first opened new doors into our Universe. NASA, ESA and CSA have teamed up to build this extraordinary piece of science engineering. Expectations are high as the telescope and its instruments are currently finishing integration and undergoing major testing at NASA’s Goddard Space Flight Centre. This video includes interviews with ESA and NASA managers.

**JWST – Mission Preparations**

**A-ROLL**

**TAPE STARTS: 10:00:00**

**VT STARTS: 10:00:10**

10:00:10

[EXT/INT GVS NASA GODDARD SPACE FLIGHT CENTER]

At NASA’s Goddard Space Flight Centre, near Washington DC, an international collaboration is underway. Inside this clean room the James Webb Space Telescope is being tested and prepared for its ambitious mission. It is scheduled for launch in October 2018 on a European Ariane 5. And at three storeys high, with a distinctive, gold-coated, segmented mirror six and a half metres metres across, the James Webb will take space telescopes to a whole new level.

10:00:45

[INSET CLIP: Peter JENSEN, JWST Project Manager, ESA, with JWST ANIMATION]

*“It’s the biggest telescope we have ever launched to space and it’s bigger than the size of the fairing of the rocket. Also we have this big sunshield, which has the size of a tennis court. All this together does not fit within the faring of the rocket so basically we need to fold it up together and then to launch it into space and then around one week into space we basically unfold everything and afterwards we can all sleep a bit better because this is indeed a very challenging face of project.”*

10:01:12

[CLEAN ROOM SHOTS OF JWST MIRROR , NASA]

The James Webb will have seven times more light gathering power than its predecessor, the Hubble Space Telescope. It will also work in infrared rather than ultraviolet and visible light.

10:01:25

[SPACE IMAGES]

This will allow it to peer through the veils of gas and dust surrounding areas where stars and planets are being born.

10:01:34

[INSET CLIP: Pierre FERRUIT, JWST Project scientist, ESA]

*“James Webb has been built initially to see galaxies and when they form. These galaxies are assemblies of stars and we are trying to look at the first hundred million years of the Universe and at their formation. But at the end of the day it’s going to do much more than that and in particular a very exciting field where it will do a lot of, bring exciting results on exoplanets. We will be characterising the atmosphere of planets orbiting other stars. That’s really exciting.”*

10:02:05

[NASA CLEAN ROOM SHOTS OF JWST]

Named after a NASA administrator during the Apollo era, the James Webb Space Telescope is a joint project between NASA, ESA and the Canadian Space Agency.

10:02:16

[JWST ANIMATION SHOWING ITS INSTRUMENTS]

Europe provides the Ariane 5 launcher, a team to support the scientific operation of the telescope and two science instruments: the Near Infra Red Spectrograph, NIRSpec, and - in partnership with the USA - the mid-infrared camera and spectrograph, MIRI.

10:02:36

[INSET CLIP: Eric SMITH, JWST Programme Director, NASA]

*“International partnerships are actually critical to NASA Something like 90% of the missions, at least in astrophysics at NASA, involve international partners. From a selfish perspective, I want to get the best ideas from around the world to turn out the best science and so for that reason we like to canvas everybody to help us get those ideas.”*

10:02:57

[JWST ANIMATION SHOWING]

In return for Europe’s contributions to the telescope, scientists from ESA member states will gain access to this powerful observatory and receive at least 15% of its observing time, as for Hubble.

10:03:10

[EXT GVS SPACE TELESCOPE SCIENCE INSTITUTE]

The James Webb will be operated from the Space Telescope Science Institute in the American city of Baltimore.

10:03:17

[ANIMATION OF JWST EARTH/MOON/SUN LAGRANGE 2 POINT]

[Unlike Hubble, which orbits the Earth, the James Webb will orbit the L2 Lagrange point over 1.6 million kilometres from Earth, accompanying the Earth and the Moon in their yearly path around the Sun.

10:03:31

[ANIMATION JWST AND SPACE IMAGE]

Towards the end of the year, the telescope will be integrated with the sunshield and the spacecraft. It will then be a crucial step forwards towards providing astronomers with an unprecedented view of the Universe and the promise of extraordinary discoveries to come.

10:03:48

[ENDS]

**B-ROLL 2 10:03:47:24**

Pierre Ferruit JWST Project Scientist, ESA English

**B-ROLL 3 10:05:06:13**

Pierre Ferruit JWST Project Scientist, ESA French

**B-ROLL 4 10:06:49:22**

Peter Jensen JWST Project Manager, ESA English

**B-ROLL 5 10:07:47:08**

Peter Jensen JWST Project Manager, ESA Danish

**B-ROLL 6 10:08:43:20**

Eric Smith JWST Program Director, ESA English

**B-ROLL 7 1 10:09:49:01**

Space Telescope Science Institute Baltimore, USA Exterior GVs

**B-ROLL 8 10:10:20:01**

Goddard Space Flight Center Exterior and interior GVs **B-ROLL 9 10:11:33:22**

JWST launch animation **B-ROLL 10 10:13:43:11**

JWST deployment animation