**EXOMARS PROGRESS UPDATE**

**A ROLL FINAL**

Suggested web cue:

ExoMars 2020 has passed a number of milestones. The European carrier module was delivered in March. The European rover, which contains nine instruments, has been assembled by Airbus UK and is under environmental testing in Toulouse. It should be integrated with the spacecraft by the end of the year. The spacecraft is now in the Thales Alenia Space test facilities in Cannes to start the environmental and performance verification test campaign that will last until February 2020.

However, there remain some important challenges ahead for the parachute system of the descent module. Recent balloon high-altitude drop tests were unsuccessful. As a result, the next and final two drop tests, scheduled between January and March 2020, must be fully successful otherwise the mission cannot launch in 2020.

The joint ESA and Russian mission consists of four elements: a carrier module to propel the spacecraft to Mars, a descent module, a surface science platform and the Rosalind Franklin rover, which will use its drill up to depths of two meters to search for signs of life.

This film contains an interview with ESA’s ExoMars programme team leader Francois Spoto.

A-ROLL STARTS 10:00:00

VT STARTS: 10:00:10

10:00:10

[EXOMARS 2016 LAUNCH SHOTS, BAIKONUR]

The ExoMars missions began in 2016 with the successful launch and deployment of the Trace Gas Orbiter.

10:00:20

[ANIMATION EXOMARS 2016 TRACE GAS ORBITER; CREDIT ESA

INSET CLIP: FRANCOIS SPOTO, EXOMARS PROGRAMME TEAM LEADER, ESA]

(Out of vision) *“This first ExoMars spacecraft is now nicely orbiting around Mars. It’s fulfilling very well its scientific mission… (in vision) and it has proven as well its capability to relay data from Mars assets to the Earth and we use for that the American rover.”*

10:00:37

[EXOMARS ROVER TESTS; CREDIT: AIRBUS/ESA/RUAG]

This proven capability will be needed to communicate with Europe’s first Mars rover:

10:00:42

[ANIMATION EXOMARS 2020 ROVER; CREDIT: ESA]

Rosalind Franklin - for the newest ExoMars mission in 2020.

10:00:49

[LANDING ANIMATED VIEW OF OXIA PLANUM FROM STILLS; CREDIT: TU DORTMUND UNIVERSITY]

A landing site in an area called Oxia Planum has been recommended for this joint ESA and Russian mission - which has four elements.

10:00:59

[INSET CLIP: FRANCOIS SPOTO]

*“We have a carrier module to push the spacecraft to Mars. We have a descent module to bring the landing assets - the rover for the Europeans and the landing platform for the Russian partner - down to Mars. And we have the rover which is the main interest of Europeans into the mission…”*

10:01:17

[EXOMARS 2020 ANIMATION; CREDIT: ESA]

(Out of vision) *“This rover carries 9 payload instruments that will fulfil the mission which is to discover traces of present or past life on the planet.”*

10:01:25

[EXOMARS 2020 ROVER CLEAN ROOM SHOTS; CREDIT: AIRBUS]

The rover, which was built at Airbus UK, is now undergoing final tests in Toulouse, France.

The European carrier module and the Russian landing platform were delivered earlier this year and, together with the descent module, are undergoing final environmental tests in Cannes, France.

10:01:48

[ANIMATION EXOMARS DESCENT MODULE; CREDIT: ESA]

But there are challenges ahead for the descent module. In 2016, the ExoMars entry descent and lander demonstrator module crashed. This was due to a problem with the onboard computer ending the descent sequence prematurely.

[KIRUNA DROP TEST FILM; CREDIT SWEDISH SPACE CORPORATION,

VORTICITY LTD, THALES ALENIA SPACE]

But in recent high-altitude drop tests for the ExoMars 2020 lander, the main parachutes suffered damage before fully inflating. This will require further crucial tests between January and March 2020.

10:00:10

[INSET CLIP: FRANCOIS SPOTO]

*“So now we have recomposed a qualification plan that is not only made of the two high altitude drop tests that have to be successful to claim qualification but we organised, with the support of the Americans, additional ground extraction tests to basically test much more and much more often the extraction of the canopies from bags and we do that with some instrumentation that the Americans will make available to us.”*

10:02:21

[EXOMARS 2020 ANIMATION; CREDIT: ESA]

This go - no go situation means it’s a challenging time ahead for the mission. A race against the clock.

10:02:29

[INSET CLIP: FRANCOIS SPOTO]

*“All the Russian and European teams are now focused at completing the verification programme of the spacecraft in time for the qualification and acceptance review that is scheduled for April. If we would be successful with that review we would be authorised to ship the spacecraft to Baikonur for a launch within a window that opens on the 26th July and closes on 11th August. Missing that window means we would have to adjourn the launch by more than two years’ time and the next launch opportunity would only reappear on August 2022. So you can imagine that we are all very mobilised to resolve the last risks which we are facing - the parachute is one, the completion of the system test programme is another one, in order to get ready to catch this opportunity.”*

10:03:16

[ANIMATION EXOMARS 2020 LAUNCH; CREDIT ESA]

As well as the science landing platform, the Russians are providing ExoMars’ ride to Mars on a Proton rocket. The next few months will determine if this ride will be in 2020… or two years later.

10:03:31

[ESA STING]

10:03:35

[ENDS]

**B-ROLL**

**10:03:31:00**

**FRANCOIS SPOTO**

**EXOMARS PROGRAMME TEAM LEADER, ESA**

**[ENGLISH]**

*“This first ExoMars spacecraft is now nicely orbiting around Mars. It’s fulfilling very well its scientific mission… (in vision) and it has proven as well its capability to relay data from Mars assets to the Earth and we use for that the American rover.”*

*“We have a carrier module to push the spacecraft to Mars. We have a descent module to bring the landing assets - the rover for the Europeans and the landing platform for the Russian partner - down to Mars. And we have the rover which is the main interest of Europeans into the mission. This rover carries 9 payload instruments that will fulfil the mission which is to discover traces of present or past life on the planet.”*

*“The Russians have two main contributions to ExoMars. The first one is a descent module. Even though we provide to them free of charge a number of sensitive equipment to support the entry, descent and landing phase - the parachute is one example of those contributions - the Russians have basically the task to assemble and test the full descent module ready to be integrated within in the spacecraft. And this descent module has been now delivered to Cannes where it is assembled with the carrier module that we have procured from OHB to give a first configuration of the spacecraft. I say a first configuration because this spacecraft contains so far the structural model of the rover and this model of the rover will be substituted by the flight model after the flight model, which is under testing in Cannes, can join basically this activity of final satellite testing in Toulouse. The Russians have as well a second main contribution, which is the launch service. They make available to us a Proton launcher and they are in charge of the preparation of the launch campaign even though we make, together with Thales Italy, a large contribution to bring the spacecraft to the launch site and to prepare the spacecraft for the joint operation which will to be conducted just prior to the lift off.”*

**10:05:49:00**

**FRANCOIS SPOTO**

**EXOMARS PROGRAMME TEAM LEADER, ESA**

**[FRENCH]**

1. Critical milestones before launch
2. Russian contribution to the mission
3. Main achievements so far

**10:09:28:00**

**EXOMARS 2016 LAUNCH, BAIKONUR**

**14TH MARCH 2016**

Launch shots of ExoMars 2016 from Baikonur, 14th March 2016

**10:10:19:00**

**EXOMARS 2020 ROVER TESTS**

**CREDIT: AIRBUS/ESA/RUAG**

**10:11:00:00**

**EXOMARS 2020 ROVER TESTS**

**CREDIT: AIRBUS**

Rover tests at Airbus UK in Stevenage at the Mars Yard.

**10:11:35:00**

**EXOMARS 2020 ROVER ANIMATION**

**CREDIT: ESA**

**10:13:35:00**

**ANIMATED VIEW OF OXIA PLANUM LANDING SITE**

**FOR EXOMARS 2020 ROVER**

**CREDIT: TU DORTMUND UNIVERSITY**

**10:14:54:00**

**TESTING ASSEMBLING EXOMARS MISSION**

**COMPONENTS IN AIRBUS CLEAN ROOM**

**10:17:29:00**

**TESTING EXOMARS DESCENT MODULE PARACHUTE**

**KIRUNA, SWEDEN**

**CREDIT: SWEDISH SPACE CORPORATION, VORTICITY LTD, THALES ALENIA SPACE**

**10:18:51:00 END**