**ExoMars Separation A-ROLL**

TAPE STARTS: 10:00:00

VT STARTS: 10:00:10

10:00:10

[EXOMARS LAUNCH SHOTS]

The joint European and Russian ExoMars 2016 mission launched on a Proton rocket from Baikonur in Kazakhstan on the 14th March.

10:00:20

[EXOMARS LAUNCH ANIMATION]

After a series of critical engine burns, the spacecraft left Earth’s orbit for its seven month, 500 million kilometre journey to Mars. The spacecraft consists of two modules – the Trace Gas Orbiter and Schiaparelli lander, designed to demonstrate technologies for entry, descent and landing.

10:00:41

[ANIMATION OF EXOMARS APPROACHING MARS & LANDER SEPARATION]

The lander will separate from the orbiter on the 16th October for a three day coast and a six minute descent to the surface. This will be the first landing attempt during the planet’s dust season.

10:00:55

[ANIMATION OF LANDING SITE FLYOVER & STILL IMAGES OF MERIDIANI PLANUM LANDING SITE ELLIPSE]

The lander is heading for the Meridiani Planum – an area that is currently being studied by NASA’s Opportunity rover and Europe’s Mars Express orbiter.

10:01:06

[ANIMATION OF LANDER’S DESCENT TO MARS & ENTERING ATMOSPHERE]

Schiaparelli will be activated a few hours before reaching the Martian atmosphere, when it will be travelling at some 21,000 kilometres per hour. The front heatshield – covered with 90 insulating tiles – will be subjected to temperatures of up to 1,500 degrees Celsius.

10:01:24

[ANIMATION OF PARACHUTE DEPLOYMENT & RELEASE; HEATSHIELD RELEASE AND LANDING]

Eleven kilometres above the surface, and slowed by the heatshield to around 1700 kilometres per hour, the parachute will be deployed. 12 metres across, it is based on technology used by ESA’s Huygens probe for the successful Titan landing.

Four minutes after entering the atmosphere and now descending at 320 kilometres per hour, Schiaparelli will release its front heatshield and turn on radar to assess its position above the surface.

Just over a minute later, after jettisoning the parachute and rear heatshield, the module will activate its thrusters, slowing down to less than 7 kilometres per hour.

Finally, two metres above the ground, the engines will switch off, and the lander will drop to the surface. The shock will be cushioned by a crushable structure built into the module. Confirmation of landing within two hours.

10:02:22

[ANIMATION OF MARS SURFACE]

Once on the ground, because it is powered by batteries, the probe has only a few days - until around October 23rd - to complete its science mission.

10:02:32

[STILLS OF LANDER SCIENCE INSTRUMENT POSITIONS & MARS]

The science payload on board, called DREAMS, consists of a suite of sensors to study the environment. It will measure wind speed and direction, humidity, pressure and temperature as well as the transparency of the atmosphere and atmospheric electric fields.

10:02:49

[ANIMATION OF EXOMARS 2020 MISSION]

Twelve hours after separation the Trace Gas Orbiter will fire its engine to raise its trajectory and take it into orbit around Mars - otherwise it would crash into the surface. This critical burn will last about 134 minutes. The orbiter can then begin its own science mission to study the Martian atmosphere.

10:03:09

[ENDS]

**ExoMars Separation B-roll**

10:03:09

[TITLE] Animation

Launch to arrival at Mars

This shows the Proton rocket launcher, the release of ExoMars from the launcher’s fairing and the spacecraft’s separation from the launcher’s third and final stage. The Schiaparelli lander is then released from the Trace Gas Orbiter towards Mars.