**ESA Ministerial Science**

**A ROLL FINAL**

Ministers from the 22 ESA member states and Canada will gather in Lucerne, Switzerland on 1-2 December to discuss future spending priorities for the ESA space programme.

Before the meeting, each ESA directorate has drawn-up a list of priorities to be considered by ministers. In this report, we hear from ESA’s science directorate – part of the Agency’s mandatory programme, which all member states sign up to – on its proposals for the future.

**10:00:00**

**A ROLL**

[SPACE ANIMATION, COMET 67P STILLS, ANIMATION OF GAIA MISSION, CREDIT: ESA]

ESA space science missions continue to transform our understanding of the Universe around us. Since the last Ministerial meeting in 2014, Rosetta and its Philae lander have continued to explore a comet in unprecedented detail…Gaia has produced the first catalogue of more than a billion stars…

[ANIMATION LISA PATHFINDER AND ROSETTA MISSIONS, CREDIT: ESA]

And LISA Pathfinder has proved the technology to detect gravitational waves in space…And these are just three highlights from more than 16 space science missions.

**10:00:50**

[INSET CLIP: Alvaro Giménez Cañete, Director Science, ESA]

*“What we want is to continue our successful programme which is actually providing the cutting edge space science, meeting the challenges of worldwide research.”*

[EXOMARS TRACE GAS ORBITER ANIMATION, CREDIT: ESA]

Although science is a mandatory programme for ESA members to support, the Directorate wants to ensure continuity of funding levels for ongoing and future missions…

**10:01:16**

[INSET CLIP: Alvaro Giménez Cañete, Director Science, ESA]

*“We need in this ministerial to stabilise the budget – to have constant purchasing power to allow us to develop a number of missions that ensure European leadership in space science in key domains.”*

[GVS CHEOPS SPACECRAFT IN CLEAN ROOM, CREDIT: AIRBUS DEFENCE AND SPACE]

Four of these missions are due for launch in the next two years: CHEOPS – which will search for Exoplanets…

[SOLAR FLARE – CREDIT: NASA/SDO]

Solar Orbiter – which will perform close-up studies of the Sun.

[ANIMATIONS OF BEPI COLOMBO MISSION, CREDIT: ESA]

BepiColombo – Europe’s first mission to Mercury.

[JAMES WEBB TELESCOPE GVS, CREDIT: NASA’S GODDARD SPACEFLIGHT CENTRE]

And – most ambitious of all – the giant new James Webb Space Telescope. An international partnership with NASA and CSA, this will give us a new view on the cosmos.

**10:02:01**

[INSET CLIP: Alvaro Giménez Cañete, Director Science, ESA]

*“This is also ensuring that we will continue to provide to European society – fascinating, motivating and inspiring projects.”*

[ANIMATION EUCLID MISSION, CREDIT ESA]

Other missions under development include Euclid – which will investigate dark energy – and JUICE, a mission to Jupiter’s icy moons.

[CHEOPS IN CLEANROOM SHOTS, CREDIT: AIRBUS DEFENCE AND SPACE]

From concept to design, construction to launch, all these missions take many years to realise. Continued levels of funding will ensure that ESA maintains its global role in space science.

**[ESA STING]**

**10:02:36**

**ESA MINISTERIAL SCIENCE – BROLL**

[TITLE] Alvaro Giménez Cañete, Director Science, ESA - Spanish

**10:06:50**

[TITLE] Alvaro Giménez Cañete, Director Science, ESA - English

*“What we want is to continue our successful programme which is actually providing the cutting edge space science, meeting the challenges of worldwide research.”*

**10:07:16**

[TITLE] Animation LISA PATHFINDER mission

Animation showing the two gold-platinum cubes inside the spacecraft. Credit: ESA

LISA Pathfinder is a technology demonstration mission and the first gravitational laboratory in space for fundamental physics. It will test the technologies that will be needed to detect and measure gravitational waves. Inside are two small gold-platinum cubes in freefall. The aim is to show that something can be built that is free of all forces, except gravity, and is sensitive enough to measure the tiniest of movements caused by the passage of a gravitational wave. A precision micro-propulsion system with tiny thrusters keep the spacecraft in perfect position, protecting the cubes from the external noise of the solar system.

**10:08:45**

[TITLE] Animation Gaia mission

Credit: ESA. Animation shows the Gaia spacecraft deploying its sunshield and then scanning the sky to make a three-dimensional map of our galaxy, the Milky Way. Gaia launched in 2013.

**10:09:20**

[TITLE] Animation Euclid mission

Credit: ESA. The future Euclid mission, which will map the geometry of the dark universe.

**10:09:42**

[TITLE] Animation Bepi Colombo mission

Credit: ESA. Animation of the joint European and Japanese Bepi Colombo mission to Mercury showing Earth in the background and then Mercury as the Mercury Planetary Orbiter separates from the Mercury Magnetospheric Orbiter.

**10:10:05**

**END**