ESA Highlights Le Bourget 2019

The Paris Air show at Le Bourget Airport is a perfect the occasion to look back at the European Space Agency’s achievements over the last 2 years. Since the end of 2017 many historic missions began or ended. During a ministerial meeting last October the groundwork has been laid for ‘Space19+’ the ESA-ministerial conference next November in Seville where ESA’s future will be decided.

|  |  |
| --- | --- |
| Image | Text |
| 10:00:00:00 | TITLE: Highlights mid-2019 |
| 10:00:10:00* ANIMATION. Cassini-Huygens Spacecraft fly by Saturn. – unknown date –NASA
* ANIMATION. Cassini fly by and dive through saturns rings – 2017 – NASA (2shots)
* ANIMATION. Cassini-Huygens Huygens landing on Titan – unknown date –NASA
* EXT. Onboard camera on Huygens – unknown date – ESA
* EXT. Araine 5 Bepi-Colombo launch - Arianespace, Kourou French-Guiana - October 2018 - ESA (2 shots)
* ANIMATION. Bepi-Colombo on route to mercury -2018 – ESA
* ANIMATION. Gaia in space – unknown date – ESA
* ANIMATION. Gaia scanning and star map unfolding– unknown date – ESA
* ANIMATION. Images of galaxies and stars – 2018 – ESA (2shots)
 | SCIENCEIn science 2017 marked the end ofCassini-Huygens . For 13 years this ESA-NASA mission explored Saturn. ESA probe Huygens was the first spacecraft to land on Titan, one of Saturn’s moons.In October 2018 Bepi-Colombo was launched from Kourou, direction Mercury. A cooperation between ESA and , the Japanese space agency with 2 orbiters now on their way for a 7 year journey to the least studied planet of our solar system.In April 2018 ESA made history with the release of the GAIA catalogue. The star catalogue contains measurements of nearly 1.7 billion stars and provides the most accurate information on their positions, brightness, distance, motion, colour and temperature.  |
| 10:01:03:03* ANIMATION. Sentinel-3B fly-by - 2018 – ESA
* ANIMATION. Sentinel-2 in orbit 360° - unknown date – ESA
* ANIMATION. Sentinel-1 fly-by - unknown date – ESA
* ANIMATION. Sentinel-5P fly-by - 2017 – ESA
* Aerial. Heavy industry area with smokestacks – unknown date – videoblocks
* Ext. Sea surf Noordwijk, The Netherlands – April 2019 – ESA
* Ext. Aerial snow covered mountain ridge – unknown polar region – unknown date – Videoblocks
* ANIMATION. Nitrogen Dioxide analysis – 7/01/2019 – CAMS
* ANIMATION. Dust Aerosol forecast – 24/04/2019 – CAMS
* EXT. Aeolus Vega launch – Arianespace Kourou, French Guiana – ESA - August 2018
* ANIMATION. Aeolus fly-by – 2017 – ESA
* ANIMATION. Aeolus measuring winds – 2017 – ESA
* ANIMATION. Metop-C in orbit – ESA – 2018 (2shots)
 | EARTH OBSERVATIONIn Earth Observation 2018 saw the completion on orbit of the first wave of Sentinel satellites for EU’s Copernicus programme to better understand our planet and its climate change. These satellites are now monitoring air pollution, sea level, ice coverage and more, providing operational data to users worldwide.In August 2018 ESA launched satellite, Aeolus, the first satellite to gather data on the winds for the meteorological community. Also in November 2018 Metop-C, another meteo satellite was launched completing Europe’s effort for weather prediction.  |
| 10:01:45:18* INT. Galileo sat in cleanroom for fitcheck – Arianespace, Kourou, French-Guiana – 2018 – ESA
* ANIMATION. Galileo constellation – unknown date – ESA
* ANIMATION. Galileo sat in space– 2017 – ESA
 | GALILEO2018 saw the conclusion of 10 years of continuous Galileo deployment. With 26 satellites in orbit the constellation is now operational. A major achievement for Europe which now has the only publicly owned satellite navigation system and the best positioning performances worldwide. |
| 10:02:06:14* EXT. Unloading and attachment of Columbus to the ISS, ISS Space – Feb. 2008 – ESA/NASA (2 shots)
* INT. Columbus interior, ISS Space – 2015 – ESA/NASA (1 shot)
* EXT. ISS seen from spaceshuttle – unknown date – NASA
* INT. P.Nespoli inside ISS – 2017 –ESA (2 shots)
* INT. Alexander Gerst Horizons mission inside ISS – 2018 – ESA/NASA (3 shots)
* INT. Luca Parmitano training at the neutral buoyancy pool –  [Sonny Carter](https://en.wikipedia.org/wiki/Sonny_Carter) Training Facility, Houston, TX, USA – 2019 – ESA/NASA
 | HUMAN SPACEFLIGHTIn 2018 ESA celebrated the 10th anniversary of its Columbus laboratory attached to the ISS. The International Space Station continuously visited by ESA astronauts. Paolo Nespoli stayed up there from July to December 2017. Then it was another 6 month mission for Alexander Gerst, who could also perform many scientific and technological experiments between June and December 2018.. Next July Luca Parmitano will fly to the ISS for his 2nd long duration mission. .  |
| 10:02:41:04* EXT. Alexander Gerst Soyuz Launch – Baikonur, Kazachstan – June 2018 - Roscosmos
* INT. Alexander Gerst Soyuz Launch -June 2018 - Roscosmos
* EXT. Alexander Gerst Soyuz Launch – Baikonur, Kazachstan – June 2018 – Roscosmos
* INT. Cleanroom ESM construction – Airbus Defense and Space, Bremen –2018 -ESA (2shots)
* ANIMATION. Orionspacecraft in flight – NASA – 2018
* EXT. Drone footage of ELA 4 – Kourou, French Guiana – April 2019 – ESA
* ANIMATION. Ariane 6 mobile gantry and launch – ESA/ ARIANE SPACE
* EXT. Drone footage of P120C hot firing test. – Kourou, French Guiana - 2018 – ESA
* ANIMATION. Vega-C in flight – unknown date – ESA
 | LAUNCHERSToday manned missions to the ISS can only de done with Russian Soyuz launches from Baikonur. But ESA is working on the service module for NASA’s new Orion capsule. currently prepared at Kennedy Space center in Florida.At the same time Europe ensures its independent access to space. In Kourou a new launch pad is being built for for ESA’s Ariane 6 launcher. In parallel its engines and different elements are tested in Europe for a first launch in 2020 ESA is also upgrading Vega, its lightweight launcher, with a more powerful solid rocket motor for Vega C. its maiden flight is scheduled early next year.  |
| 10:03:26:01* EXT. ESAC site – Madrid, Spain – ESA – 2014
* INT. ESAC conference room – Madrid, Spain – ESA - October2018 (2shots)
* STILL Space19+ logo – ESA – 2018
* ANIMATION. Ariane 6 launch – ESA/ ARIANE SPACE
 | MINISTERIALLast October in Madrid the European Space Agency’s vision for the future was endorsed by its Member States. This paves the way for ‘Space19+’, ESA’s Council at ministerial level next November in Seville. Here new proposals and funding will be decided for the coming years, shaping the future for a United Europe in space for 2019 and beyond. |
| **10:03:50:12** | **B-ROLL** |
| 10:03:50:12* Animation. Sentinel-1 in orbit and scanning – unknown date - ESA
 | **Sentinel-1 Animations**5 shots |
| 10:06:32:16* Animation. Sentinel-2 in orbit and scanning – unknown date - ESA
 | **Sentinel-2 Animations**5 shots |
| 10:10:45:00* Animation. Sentinel-3 in orbit and scanning – unknown date - ESA
 | **Sentinel-3 Animations**5 shots |
| 10:13:52:09* Animation. Sentinel-5P in orbit and scanning – unknown date - ESA
 | **Sentinel-5P Animations**9 shots |
| 10:20:05:18* Animation. Bepi-Colombo journey to mercury, in orbit and scanning – 2018 - ESA
 | **Bepi-Colombo Animations*** Launch
* journey
* arrival
* separation

13 shots |
| 10:23:24:08* Animation. Ariane 6, assembly and launch – June 2019 - ESA
 | **Ariane 6 Animations*** Horizontal assembly
* launch

32 shots |
| **10:35:12:06** | **ESA Space19+Outro** |
| **10:35:21:20** | **END of Programme** |