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| 10:00:00 | ESA leader  |
| 10:00:10 | Title: **AEOLUS TO UNDERSTAND WINDS** |
| 10:00:10* INT. Aeolus GV in cleanroom, Airbus Defense & space –Toulouse, France – 05/06/2018- ESA
* EXT. Boat arriving GV – Kourou, French Guiana – Sept/okt 2016 – ESA
1. NT. Aeolus in laboratory, laser testing – Airbus Defense and space, Toulouse France- 2017 - Airbus defense and space
* Animation. Earth winds systems – june 2018 –ESA
* INT. Screen at KNMI Weather room – Utrecht, The Netherlands – feb 2018 – ESA
* Int. Weather studio with weatherman – videoblocks
* EXT. Release of Weather Balloon - HohenPeissenberg observatory , Germany – Feb 2018 – ESA
* INT. Airplane footage of Clouds – Sept 2017 – ESA
* Ext. Rolling waves – videoblocks
* Ext. Close anemometer and set-up Anne Grete Straume at KNMI –Utrecht, The Netherlands – feb 2018
 | In august the European space agency will launch a its latest earth explorer mission, Aeolus. The mission aims to further improve our understanding of winds and help increase the accuracy of weather forecasts. But this new satellite is unlike any other. For example its shipment to Kourou is by boat rather than plane because the sudden increase in atmospheric pressure upon landing could damage some of its delicate instruments. Aeolus is also the first space mission to acquire wind profiles on a global scale. This wind data is needed to create weather forecast and climate models. Today Meteorologist have to analyse winds by using weather balloons, tracking clouds, measuring temperature and looking at sea waves for surface winds. These methods however have severe limitations and give insufficient data. |
| 10:01:06:02 * INT. cleanroom, Airbus Defense & space –Toulouse, France – 05/06/2018- ESA
 | **ITW Anne Grete Straume - Aeolus Mission Scientist, ESA***All of these systems are not measuring all over the globe, at all altitudes from the surface… all the way up to the top of the atmosphere and in order for the model to get the winds right they need more observations. And this is where the Aeolus satellite will come in. Aeolus will measure winds from the surface all the way up to 30 kilometres and filling a gap in the current observing system of the earth for forecasts.* |
| 10:01:34:17* Animation. Aelous technical view – 2018 – Airbus Defense & Space
* INT. Aeolus in laboratory, laser testing – Airbus Defense and space, Toulouse France- 2017 - Airbus defense and space
* Animation. Aelous in orbit and measuring winds profiles – 2017 – ESA
* INT. Aeolus GV in cleanroom, Airbus Defense & space –Toulouse, France – 05/06/2018- ESA
 | To detect these wind profiles from space Aeolus uses a powerful Laser called Aladin, which stands for Atmospheric laser Doppler instrument. This instrument ejects an ultraviolet laser beam through the atmosphere. The air particles in the atmosphere, which are moving because of winds, reflect some of this light back to the spacecraft. By measuring the shift in frequency of this backscatter Aeolus can detect the wind speed and profiles at different altitudes. Aeolus is the first satellite to use this technology in space. This is why its development has been a long and costly process. The satellite is both a technological marvel and a real challenge. |
| 10:02:19:20 * INT. cleanroom, Airbus Defense & space –Toulouse, France – 05/06/2018- ESA
 | **ITW Anders Elfving – Aeolus Project Manager, ESA***We pulse our optics 50 times every second and this goes on year after year. And this intense pulse creates 1700 degrees on the optical surface of the optics. And we fatigue the optics in the long run. So we had tremendous development of the coatings of optics to withstand this high pulse, laser pulse ability. We are actually our own sun if I may say.*  |
| 10:02:51:10* INT. Aeolus in cleanroom – Airbus Interspace, Toulouse, France - March 2017 – ESA
* INT. Aeolus construction- Airbus Defense and space, Toulouse France- 2017 – Airbus
* INT. Aeolus in cleanroom – Airbus Interspace, Toulouse, France - March 2017 – ESA
* Animation. Aelous in orbit – 2017 – ESA
* INT. Aeolus in cleanroom – Airbus Interspace, Toulouse, France - March 2017 – ESA
* Animation. Aelous in orbit – 2017 – Airbus Defense & space
 | Despite its more than 16 years of development, Aeolus overcame all difficulties because the mission was of great importance to the scientific community, who have requested data on global wind profiles for the better part of two decades. Due to its low altitude Aeolus will have a life span of only 3 years. However ESA hopes the technology will be continued on similar satellites in the future, as the understanding of wind profiles is a key factor for meteorological and climate models which benefit us all. |
| **10:03:26:18** | **B-ROLL** |
|  | **ITW Anne Grete Straume - Aeolus Mission Scientist, ESA – English*** **How we measure winds today and why this isn’t enough**
* **How the Aladin instrument works**
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| **10:06:37:13** | **ITW Anne Grete Straume - Aeolus Mission Scientist, ESA – Norwegian*** **How the Aladin instrument works**
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| **10:08:14:19** | **ITW Anders Elfving – Aeolus Project Manager, ESA - English*** **The gap in wind data Aeolus will fill**
* **How Aeolus is an innovative project**
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| **10:09:45:06** | **ITW Anders Elfving – Aeolus Project Manager, ESA – Swedish*** **The capabilities of Aeolus and its benefits**
* **Challenges of the Aeolus technology**
* **Aeolus orbit and consequences**
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| **10:11:36:02****10:13:54:09** | * **Aeolus GV, Airbus & space cleanroom, Toulouse, France – 24 shots**

**END** |