Sentinel-5P VNR:

The preparations of ESA’s latest earth observation satellite SENTINEL-5P with the P for Precursor are finished and the satellite has been shipped to the Plesetsk Cosmodrome in Russia for launch in october 2017.

Sentinel-5P will ensure the continued data gathering on earth’s atmosphere and is the intermediary satellite to fill the gap between the past generation of atmospheric monitoring satellites and the future generation of sentinel-4 and 5 which will be launched in the early twenties. Sentinel-5P is part of Copernicus, the world’s largest environmental monitoring programme which is operated by the European Commission.

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| Image | Text |
| **10:00:10:00**  EXT. Airbus facility – Stevenage, UK – 20/07/2017 – ESA  INT. Cleanroom general view Sentinel-5P – Stevenage, UK – 20/07/2017 – ESA  ANIMATION – Sentinel-5P brought into orbit and release – Q3 2017 – ESA | July 2017, Stevenage, United Kingdom. In a cleanroom of this airbus defence and space facility the Sentinel-5P or Sentinel-5 Precursor is ready and awaiting shipping. Soon it will be launched into space with a rokot from the Plesetsk cosmodrome in Russia.  The Sentinel-5P is the most recent addition to the family of sentinel satellites monitoring our planet as part of the European commission’s Copernicus programme. And like all sentinels it has a very specific mission. |
| 10:00:42:00  INT. Airbus facility near Sentinel-5P – Stevenage, UK – 20/07/2017 – ESA | **ITW Josef Aschbacher, Director of *Earth* observation programmes, ESA**  *Sentinel-5P is the sixth sentinel satellite that is being launched in the Copernicus programme. And it is the first one that will measure atmospheric chemistry and greenhouse gasses from within the copernicus family. So it is an atmospheric mission and will provide information about air quality and greenhouse gas concentrations.* |
| 10:01:03:21  ANIMATION – Sentinel-5P on orbit, global view, tech view – Q3 2017 – ESA  INT. Cleanroom Sentinel-5P close on TROPOMI – Stevenage, UK – 20/07/2017 – ESA  INT. Cleanroom TROPOMI opening – Stevenage, UK – Q2 2017 – AIRBUS  INT. Cleanroom Sentinel-5P close on TROPOMI – Stevenage, UK – 20/07/2017 – ESA  INT. Cleanroom Sentinel-5P – Stevenage, UK – 20/07/2017 – ESA  ANIMATION – Sentinel-5 close up and on orbit global – unknown date – EUMETSAT | Sentinel-5P will be flying in a sun-synchronous polar orbit at an altitude of 804 kilometres above the earth. From here it will measure concentrations of ozone, Nitrogen dioxide, sulphur dioxide, methane and other trace gasses in our troposphere. To do this sentinel-5P uses a brand new state of the art instrument developed in a joint venture between ESA and The Netherlands called TROPOMI. TROPOMI stands for tropospheric monitoring instrument and is an optical instrument covering bands from ultraviolet, to near infrared and shortwave infrared. |
| 10:01:40:01  INT. Cleanroom Sentinel-5P – Stevenage, UK – 20/07/2017 – ESA | **ITW Kevin McMullan Sentinel-5P project manager, ESA**  *Tropomi is an imaging spectrometer. It looks at the earth in resolutions of 3,5 to 7 kilometres. It identifies the constituency of the atmosphere and it also characterises those constituencies. So by measuring a swath of 2600 kilometres we get a a line across the surface of the earth.Where we can identify all the gasses that are in there and their concentrations.* |
| 10:02:04:03  ANIMATION – Sentinel-5P 360° view – Q3 2017 – ESA  ANIMATION – Sentinel-5 close-up + in orbit– 2016 – ESA  ANIMATION – Sentinel-5P fly-by, Scanning for trace gasses– Q3 2017 – ESA | Sentinel-5P is a precursor to the sentinel-5 mission which will fly on the Metop Second Generation satellite in 2021. It is also a gap filler. With older atmospheric measurement satellites nearing the end of their life ESA wants to ensure that the long term datasets they have collected since the 1990’s will be continued until the launch of the sentinel-4 and 5 missions in the early 2020’s. Until then Sentinel-5P will guaranty an un interrupted collection of data. The measurements of sentinel-5P are extremely important as data on air pollution can prompt legislation and guide government efforts to reduce air pollution, which in turn will benefit the heath of the population. But its data can be used for other purposes as well. |
| 10:02:52:19  INT. Cleanroom Sentinel-5P – Stevenage, UK – 20/07/2017 – ESA | **Itw Claus Zehner Sentinel-5P mission Manager, ESA**  *Sentinel-5P will also contribute to climate monitoring. It will extend already existing so called essential climate variables that have been generated within the ESA climate change initiative. For example longterm dataset of total ozone or longterm dataset of methane. and this data is really import to understand how climate is changing and how your can react to it. How to set metigation actions* |
| 10:03:21:12  INT. Cleanroom general view Sentinel-5P – Stevenage, UK – 20/07/2017 – ESA  ANIMATION – Sentinel-5P front view – Q3 2017 – ESA | Soon Scientists worldwide can start using new atmospheric data provided by Sentinel-5P and its TROPOMI instrument. By observing our atmosphere Sentinel-5P monitors the health of the air we breathe, impacting the health of millions of people. |
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| 10:03:39  INT. Airbus facility near Sentinel-5P – Stevenage, UK – 20/07/2017 – ESA | **ITW Josef Aschbacher, Director of *Earth* observation programmes, ESA - ENGLISH**  - Sentinel-5P is the sixth sentinel satellite that s being launched in the copernicus programme.  And it is the first one that will measure atmospheric chemistry and greenhouse gasses.  from within the copernicus family.  - Sentinel-5 and Sentinel-5P bring to copernicus a new dimension of measurements which is atmospheric chemistry and air quality measurements. They do not exist today in the copernicus context and therefore we really open a new charter in terms of measurements and this is what sentinel-5P brings.  - These atmospheric measurements are extremely important for mankind. first of all to see how our planet changes in terms of climate but also to see how air quality changes and over time. We have highly polluted areas which are of course transporting pollution from one place to the other so these fluxes of pollution or gasses is very important to monitor. But also if you take europe for example. Europe has introduced very strong legislation and regulations in order to reducegreenhouse gas emissions and this also has to be verified measure, a very good way of making sure these reductions are taking place at a large scale. |
| 10:05:23  INT. Airbus facility near Sentinel-5P – Stevenage, UK – 20/07/2017 – ESA | **ITW Josef Aschbacher, Director of *Earth* observation programmes, ESA – GERMAN**   * What is sentinel-5P and what does it do? * Why is sentienl-5P data important? |
| 10:06:46  INT. Cleanroom Sentinel-5P – Stevenage, UK – 20/07/2017 – ESA | **ITW Kevin McMullan Sentinel-5P project manager, ESA - English**  -So we started this Precursor mission because the scientists wanted the continuity of data at the moment we only have one spacecraft doing that for us and that is OMI and Omi is coming to the end of its lifetime. The next missions that will do this job is sentinel-4 on the metop second generation which will only be launched in the early twenties, in the meantime to ensure a continuity of data we need sentinel-5 precursor. It will be the only such mission doing this job until then.  - After we launch we will deploy the solar arrays and then one month later we will activate the instrument. and then it will fly in a sun-synchronous orbit at an altitude of 804 kilometres. And the lifetime is normal 7 years but it can be extended to 10 years.  - Tropomi is an imaging spectrometer. It looks at the earth in resolutions of 3,5 to 7 kilometres. It identifies the constituency of the atmosphere and it also characterises those constituencies. So by measuring a swath of 2600 kilometres we get a a line across the surface of the earth.Where we can identify all the gasses that are in there and their concentrations. |
| 10:08:09  INT. Cleanroom Sentinel-5P – Stevenage, UK – 20/07/2017 – ESA | **Itw Claus Zehner Sentinel-5P mission Manager, ESA- english**  - Sentinel-5P is the first atmospheric sentinelfollowing 5 other sentinels and the main purpose of this mission is information about air quality, air pollution.  this is really a new tool for the European commission to monitor from spaceair quality because air pollution has a negative impact on our health.  and toestudies have show that during each year that about 400000 pepplein the EC are dying prematurely because they are exposed to air pollution.  and this sentinel, sentinel-5p will provide information about Ozone, Nitrogen dioxide, sulfur dioxideother trace gasses that are impacting health that can be used for services like cams.  , the copernicus atmospheric monitoring service to do forecasting to special episodes of air pollution.  Even for example to provide information to people who have problemswith the heart or the lungs.  To react to prevent special exposure to airpollution . A second important part of this mission is that it is extendingalready existing datasets like on the GOME , Sciamachi and OMI-mission and by this it will contribute to longterm datasets that can be used for climate monitoring.  And also here they say your are being a commission service, It is called the copernicus climate change servicethat is looking at essential climate variables as provide from space.  in order to mitigate or define actions to react on climate change.  - Sentinel-5P is a precursor to the sentinel-5 mission which will be launched around 2021. But it is not only a precursor it is also a gap filler.  because it is filling the gap based on the data that we have coming for GOME, Sciamachi and OMI missions towards these future sentinel-4 and sentinel 5 missions. |
| 10:10:22  INT. Cleanroom Sentinel-5P – Stevenage, UK – 20/07/2017 – ESA | **Shots of Sentinel-5P fully assembled in cleanroom** |
| 10:13:10  ANIMATIONs – Sentinel-5P – Q3 2017 – ESA | **ANIMATIONS**   * **Sentinel-5P tech views** * **Solar array deployment** * **Fly-by** * **Measuring trace gases no tekst** * **Revisit time still globes** |
| **10:15:12** | **END** |
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