**EDRS-C for SpaceDataHighway**

**Ottobrunn, Germany, at the Airbus Defence and Space Compact range test facility the EDRS-C satellite is undergoing its final testing before being shipped to Kourou for launch. With EDRS-A already in orbit and performing well EDRS-C will be the second node of the European Data Relay System and the first dedicated EDRS satellite. This system has been designed to enable fast and reliable optical data transfer from low earth orbiting satellites to the ground via the EDRS nodes. By using the EDRS nodes the data transmission window is greatly increased allowing for much more data to be transferred to the ground in Quasi Real Time creating a real SpaceDataHighway**

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| 10:00:00 | ESA leader |
| 10:00:10 | Title: **EDRS-C for SpaceDataHighway** |
| 10:00:10:00   * Int. EDRS-C at CART Facility, Airbus Defense and Space, Ottobrunn, Germany - 21/03/2019 – ESA (4 shots) * Int. EDRS-A at CART Facility, Airbus Defense and Space, Toulouse, France – 2015 – ESA (3 shots) * Animation EDRS-A laser link to Sentinel-1 – unknown data - ESA * Animation EDRS-A and EDRS-C in orbit – unknown data - ESA * Int. EDRS-C at CART Facility, Airbus Defense and Space, Ottobrunn, Germany - 21/03/2019 – ESA | **At the Airbus Defence and Space Compact Antenna Test Range facility in Ottobrunn Germany the antennas of the new EDRS-C satellite are undergoing a final testing. After this the satellite will be shipped to Kourou for launch. EDRS-C is the second node of the European Data Relay System and the first dedicated EDRS satellite. The first node, EDRS-A, was launched in 2016 as a hosted payload on Eutelsat-9B. and has been providing fully commercial data relay services to the Sentinel satellites since 2018. EDRS-C will add additional capacity to this system, improve its robustness and further increase the coverage as it will be in a different geostationary orbit from EDRS-A. With EDRS ESA and Airbus are aiming to improve and accelerate data transmission from low Earth orbiting satellites to the ground where conventional data transmission has severe limitations.** |
| 10:01:12:07   * Interview Jean-Pascal Lejault, EDRS-C Spacecraft Manager, ESA - Airbus Defence and Space, Ottobrunn, Germany – 21/03/2019– ESA | **ITW Jean-Pascal Lejault, ESA EDRS-C Spacecraft Manager**  low Earth orbit spacecraft can’t always see their ground stations, which are fixed on the ground. Whereas the low earth orbit spacecraft are revolving around the earth. On the contrary EDRS-C is motionless with respect to the Earth and oversees half of the earth’s surface which means then ERDS-C is much more visible to a low earth orbit spacecraft compared to a ground station. |
| 10:01:37:19   * Animation EDRS, sentinel satellite and groundstation illustration – unknown date – ESA * Animation EDRS-A laser link to Sentinel-1 – unknown data - ESA * Animation Groundstations receiving data – unknown data - ESA * Animation laser link communications terminal making contact with LEO satellite – unknown date – ESA * Animation LEO satellite making contact with groundstation – Unknown date – ESA * Int. EDRS-C at CART Facility, Airbus Defense and Space, Ottobrunn, Germany - 21/03/2019 – ESA (2 shots) | **From their geostationary orbit EDRS satellites can both see the low orbiting imaging satellite as well as the ground stations. The data from the imaging satellite can be send via a laser link to EDRS, which then transmits data via radio frequency to the ground stations in Europe. This allows for longer data transfers as the connection can be maintained for a much longer period of time and which are also faster due to the high speed of the inter-satellite laser link. With the conventional approach of using polar ground stations for a direct download from the imaging satellite, this connection could only be established for about 10 out of every 90 minutes.**  **The EDRS is the first commercial system in the world to use optical communication between satellites . One of the main technical challenges has been to guarantee the accuracy and stability of the laser link required for a reliable transmission. However, the benefits in terms of speed and data capacity have been worth the effort put into it.** |
| 10:02:42:23   * Interview Michael Witting, EDRS Project Manager, ESA - Airbus Defence and Space, Ottobrunn, Germany – 21/03/2019 – ESA | **ITW Michael Witting, EDRS Project Manager, ESA**  EDRS is called the SpaceDataHighway because it is linked to an optical fibre in space. It is a highway through which data travels at enormous speeds. In the case of EDRS that is up-to 1,8Gb per second and if you compare this to a conventional internet connection at home you can say that it is about a hundred times the speed that you get with your internet connection when you surf at home. So that is a real highway for data. |
| 10:03:06:15   * Int. EDRS-C at CART Facility, Airbus Defense and Space, Ottobrunn, Germany - 21/03/2019 – ESA (2 shots) * Animation laser link communications terminal making contact with LEO satellite – unknown date – ESA * EXT. Aerial forest fire – unknown date and location – Videoblocks * EXT. Rescue workers – unknown date and location – Videoblocks * EXT. Aerial of flooded landscape – unknown date and location – Videoblocks * Int. EDRS-C at CART Facility, Airbus Defense and Space, Ottobrunn, Germany - 21/03/2019 – ESA * Int. EDRS-C assembly, OHB systems Bremen, Germany, Germany - 2016 – ESA * Animation EDRS-satellites as Globenet – unknown date – ESA | **The main features of EDRS are its high transfer rate, and its near-permanent availability. This results in a quasi real time availability of the data on the ground, making EDRS ideal for relaying time-critical and sensitive information from Earth observation satellites to – for example - emergency response teams and security services on the ground.**  **This innovative system is the result of a public-private partnership between ESA and Airbus Defence and Space, in which ESA and Airbus have jointly developed the infrastructure and Airbus operates the service.**  **ESA and Airbus are already working on a third node, EDRS-D, to be positioned over the Pacific-Asia region as another steps towards worldwide use of this breakthrough technology.** |
| 10:03:55:11   * Interview Michael Witting, EDRS Project Manager, ESA - Airbus Defence and Space, Ottobrunn, Germany – 21/03/2019 – ESA | **ITW Michael Witting, EDRS Project Manager, ESA**  The ultimate goal will of course be to achieve global coverage so that we can transmit imagery that is taken anywhere in the world to Europe within quasi realtime, leaning almost immediately. |
| 10:04:07:14   * Interview Matthias Wiegand, Head of EDRS Infrastructure, Airbus Defence and Space - Airbus Defence and Space, Ottobrunn, Germany – 21/03/2019– ESA | **ITW Matthias Wiegand, Head of EDRS Infractructure, Airbus Defence and Space**  The EDRS-system is a unique system no one on earth has ever implemented a commercial operational system using laser communication. In that sense Airbus and specifically ESA and DLR are leading here in the world. |
| 10:04:24:19   * Int. EDRS-C at CART Facility, Airbus Defense and Space, Ottobrunn, Germany - 21/03/2019 – ESA (2 shots) * Animation 360 view of sentinel-2 – unknown date -ESA * Int. EDRS-C at CART Facility, Airbus Defense and Space, Ottobrunn, Germany - 21/03/2019 – ESA | **Both ESA and its industrial partners are convinced that optical communication in space is a key technology in order to fully exploit the vast amounts of data generated by the latest generation of low earth orbiting satellites. EDRS opens up a new era in space based telecommunications and the launch of EDRS-C is another step towards the completion of the SpaceDataHighway.** |
| 10:04:50:02 | **B-ROLL** |
| 10:04:50:02   * Int. EDRS-C at CART Facility, Airbus Defense and Space, Ottobrunn, Germany - 21/03/2019 – ESA | **GV's**  **EDRS-C at CART Facility**  **Airbus Defense and Space, Ottobrunn, Germany**  **21/03/2019**  **ESA** |
| 10:08:35:24   * Interview Michael Witting, EDRS Project Manager, ESA - Airbus Defence and Space, Ottobrunn, Germany – 21/03/2019– ESA | **Michael Witting: EDRS Project Manager, ESA - English**  - What is EDRS?  - How does EDRS work?  - EDRS as a technological breakthrough  - EDRS operational since 2018 and successful  - The role of ESA in the EDRS programme  - The future of the EDRS programme  - The SpaceDataHighway  - What is EDRS-C? |
| 10:13:00:04   * Interview Michael Witting, EDRS Project Manager, ESA - Airbus Defence and Space, Ottobrunn, Germany – 21/03/2019– ESA | **Michael Witting: EDRS Project Manager, ESA - German**  - What is EDRS-C?  - What is EDRS?  - The role of ESA in the EDRS programme  - The future of the EDRS programme |
| 10:15:08:08   * Interview Christian Hunscher, Head of compact test range facility, Airbus Defence and Space - Airbus Defence and Space, Ottobrunn, Germany – 21/03/2019– ESA | **Christian Hunscher: Head of Compact Range Test Facility, Airbus Defence and Space -English**  - Where are we and what is being tested  - Why are these tested needed?  - Why are the test being done here?  - How will these test work?  - start of the antenna pattern test |
| 10:16:56:19   * Interview Christian Hunscher, Head of compact test range facility, Airbus Defence and Space, Ottobrunn, Germany – 21/03/2019– ESA | **Christian Hunscher: Head of Compact Range Test Facility, Airbus Defence and Space - German**  - What is being tested and this faclity?  - Why are these tested needed?  - How will these test work?  - start of the antenna pattern test |
| 10:18:46:03   * Interview Matthias Wiegand, Head of EDRS Infrastructure, Airbus Defence and Space - Airbus Defence and Space, Ottobrunn, Germany – 21/03/2019– ESA | **Matthias Wiegand: Head of EDRS Infracture, Airbus Defence and Space - English**  - What is EDRS?  - What will be the impact of EDRS on telecommunications in space?  - The role of Airbus in EDRS programme  - How does EDRS work compare to conventional satellite communications?  - The benefits of EDRS  - EDRS as a unique system |
| 10:21:22:13   * Interview Matthias Wiegand, Head of EDRS Infrastructure, Airbus Defence and Space - Airbus Defence and Space, Ottobrunn, Germany – 21/03/2019– ESA | **Matthias Wiegand: Head of EDRS Infracture, Airbus Defence and Space - German**  - What is EDRS?  - How does it work?  - What will be the impact of EDRS on the ground?  - What will be the impact of EDRS on telecommunications in space?  - The role of Airbus?  - EDRS as a unique system |
| 10:23:48:17   * Interview Jean-Pascal Lejault, EDRS-C Spacecraft Manager, ESA - Airbus Defence and Space, Ottobrunn, Germany – 21/03/2019– ESA | **Jean-Pascal Lejault: EDRS-C Spacecraft Manager, ESA - English**  - What is EDRS and what is its mission?  - What are the advantages of EDRS-C?  - Why is EDRS needed?  - What is the importance of speed in telecommunications?  - What where the technical challenges?  - How where the technical challenges overcome? |
| 10:27:53:13   * Interview Jean-Pascal Lejault, EDRS-C Spacecraft Manager, ESA - Airbus Defence and Space, Ottobrunn, Germany – 21/03/2019– ESA | **Jean-Pascal Lejault: EDRS-C Spacecraft Manager, ESA - French**  - What is EDRS and what is its mission?  - What where the technical challenges? |
| 10:31:06:04   * Interview Pablo Sarasa Delgado, EDRS Payload Maneger, ESA - Airbus Defence and Space, Ottobrunn, Germany – 21/03/2019– ESA | **Pablo Sarasa Delgado: EDRS Payload Manager, ESA - English**  - What is tested at the CART facility?  - Why does this need to happen here?  - EDRS and the SpaceDataHighway  - EDRS-C as the first dedicated EDRS-C satellite  - impact of EDRS on satellite telecommunications |
| 10:37:01:02   * Interview Pablo Sarasa Delgado, EDRS Payload Maneger, ESA - Airbus Defence and Space, Ottobrunn, Germany – 21/03/2019– ESA | **Pablo Sarasa Delgado: EDRS Payload Manager, ESA - Spanish**  - EDRS-C as the first dedicated EDRS-C satellite  - EDRS and the SpaceDataHighway  - Role of ESA in the EDRS programme |
| **10:40:04:21** | **END** |