**A new generation of European Launch Vehicles**

ESA is always working for the future of Europe in Space and key to this endeavour is the access to space. This objective is done in particular by supporting the development of new launchers and next year will be an important year: Vega C and Ariane 6 will fly for the first time.

Vega C is an enhanced version of the existing lightweight Vega with increased power and capacity.

Ariane 6 is Europe’s next heavyweight launcher that will replace Ariane 5. With Ariane 6 the approach is evolving in the assembly and production processes and also in the responsibilities shared between ESA and Industry.

In parallel of this preparation for a new generation of launchers ESA is working on its first reusable spacecraft, SpaceRider which will fly on top of a Vega C and should be confirmed at the Space19+ the Ministerial conference in Seville next November.

Already the future of European Space Transportation is clearly visible in French Guiana where Vega C and Ariane 6 are step by step becoming a reality.

This A & B Roll shows the latest images and also a new animation of Ariane 6 activities in Kourou. It includes an interview with Daniel Neuenschwander, ESA Director of Space Transportation, in English, German and French..

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| Image | Text |
| 10:00:00:00 | **TITLE: A new generation of European Launch Vehicles** |
| 10:00:10:00* ANIMATION. Ariane 6 stages arriving by truck at assembly-building – 2019 - ESA, ArianeGroup, ArianeSpace, CNES (2shots)
* ANIMATION. Ariane 6 core-stages assembly – 2019 - ESA, ArianeGroup, ArianeSpace, CNES (7shots)
* AERIAL. ELA 4 Ariane 6 launchpad construction site – Kourou, French Guiana – April 2019 – ESA
* AERIAL. ELA 4 Ariane 6 assembly building – Kourou, French Guiana – April 2019 – ESA (2shots)
* AERIAL. ELA 4 Ariane 6 launchpad construction site – Kourou, French Guiana – April 2019 – ESA (2shots)
* ANIMATION. Ariane 6 booster and fairing assembly – 2019 - ESA, ArianeGroup, ArianeSpace, CNES (2shots)
* AERIAL. ELA 4 Ariane 6 launchpad construction site – Kourou, French Guiana – April 2019 – ESA (3shots)
 | Trucks arrive with the first and second stage of Ariane 6 at the Launcher assembly building in Kourou. Here both stages are assembled horizontally before being transported to the mobile gantry for further integration. This is the process each Ariane 6 will go through. It is a new approach: Previous generations of Ariane, going back until the 1970’s were assembled vertically.  This simplifies the preparation process as it is for the a car factory assembly lines and soon it will be into practice at Europe’s spaceport.Here the construction of the new launch base for Ariane 6 is in its finalisation phase. On one side the Launcher assembly building and then the launch pad itself, with the big mobile gantry. Here Ariane 6’s boosters and fairing with payloads will be fitted. Ariane 6 facilities are taking shape, Europe’s future launchers are becoming reality! |
| 10:01:04:18* INTERVIEW. Daniel Neuenschwander, Director of Space transportation- Paris – 2019 – ESA (2shots)
 | **ITW DANIEL NEUENSCHWANDER: Director of Space Transportation, ESA**So first Ariane 6 the development goes full speed ahead, and now the industry has started the production of the first 14 launchers of Ariane 6in addition to the maiden flight. So 15 launchers in production today. On Vega C side all engines are tested and //we had the test of the Zefiro 40 which was the last engine test and now we are really on the final path towards the maiden flight of Vega C as well.  |
| 10:01:31:20 * ANIMATION. Vega-C on launchpad – 2017 – ESA
* EXT. ELV Vega Launch pad with mobile Gantry – 2018 – ESA (2Shots)
* INT. Cleanroom SSMS dispenser – Interspace, Toulouse, France – May 2019 – ESA (4shots)
* STILL. Artist impression SSMS-dispenser – unknown date – AVIO
* ANIMATION. Vega-C launch – 2017 – ESA
 | Vega C is the new and enhanced version of Europe’s lightweight launcher Vega. It will allow for an increased and versatile payload capacity from Kourou. In parallel ESA is supporting the development of a structure to launch multiple satellites, called Small Spacecraft Mission Service. This dispenser allows more than a dozen small satellites to be launched under the fairing of Vega and then Vega C, which will soon launch from Kourou for the first time.  |
| 10:02:04:15* INTERVIEW. Daniel Neuenschwander, Director of Space transportation- Paris – 2019 – ESA (2shots)
 | **ITW DANIEL NEUENSCHWANDER: Director of Space Transportation, ESA**We will have a proof of concept flight on Vega allowing to launch light satellites, a big number of small satellites and we are already now preparing the same for Vega C and Ariane 6. so all our European launchers which are in development today will have the capacity to offer a launch of a number of small satellites, light satellites//It’s a real market enhancement |
| 10:02:30:12* ANIMATION. Space Rider flight – May 2019 -ESA
* INT. IXV Fairing integration – Europe Spaceport, Kourou, French Guiana – 2015 – ESA (2shots)
* EXT. IXV Vega Launch - Europe Spaceport, Kourou, French Guiana – 2015 – ESA
* ANIMATION. Space Rider in orbit – May 2019 – ESA (2shots)
* ANIMATION. Space rider re-entry and landing – May 2019 – ESA (3shots)
* ANIMATION. Space Rider in orbit – May 2019 – ESA (2shots)
 | Another project for ESA is Space Rider,. It is the continuation of the Intermediate eXperimental Vehicle, IXV, the successful mission that flew in February 2015. Space Rider is an unmanned orbital vehicle that should provide Europe with its first operational reusable space transportation system. It will be able to return from space and will allow for experiments in microgravity, in-orbit validation of technologies, deployment of small satellites and might even be used for Earth observation applications or Servicing missions.  |
| 10:03:09:17* INTERVIEW. Daniel Neuenschwander, Director of Space transportation- Paris – 2019 – ESA
 | **ITW DANIEL NEUENSCHWANDER: Director of Space Transportation, ESA**We have today the access to space component which is covered through Ariane 6 and Vega C, we are developing at ESA STS space transportation also propulsion elements, engines for transport in space and with Space Rider we have an operational capability which will have to be decided in Seville end of the year for returning from space on Earth. |
| 10:03:34:18* ANIMATION. Space Rider in orbit – May 2019 – ESA
* EXT. Triple launch Soyuz, Ariane 5, Vega – Unknown date – ESA (2 shots)
* ANIMATION. Vega-C flight – 2017 – ESA
* ANIMATION. Ariane 6 Launch – May 2019 – ESA (3shots)
 | While the ministerial conference in Seville will decide on the further development of Space Rider, today, with its range of launch vehicles Europe is already able to launch any type of satellite into any orbit . The new portfolio under development aims to further secure this approach on the commercial launcher market, and at the same time ensures Europe’s independent access to space in the future.  |
| **10:04:01:04** | **B-ROLL** |
| **10:04:01:04** | **BR\_001****A-Roll without logo and titles****– audio split** |
| 10:08:02:08* INTERVIEW. Daniel Neuenschwander, Director of Space transportation- Paris – 2019 – ESA
 | **BR\_002****ITW DANIEL NEUENSCHWANDER: Director of Space Transportation, ESA – English*** So first Ariane 6 the development goes full speed ahead, and now the industry has started the production of the first 14 launchers in addition to the maiden flight, so 15 launchers in production today. On Vega C side all engines are tested and yesterday we had the test of the Zefiro 40 which was the last engine test and now we are really on the final path towards the maiden flight of Vega C.
* There are customers and there will be a lot of European Institution customers in this period where we hve the market introduction of Ariane 6 and Vega C and on both launchers we have already institutional missions
* Europe’ s effort on space transportation is doing its job. It means it is a collective work of industry, the European space agency with the support of its member states
* We will have a proof of concept flight on Vega allowing to launch light satellites, a big of small satellites and we are already now preparing the same for Vega C and Ariane 6 ; so all our European launchers which are in development today will have the capacity to offer a launch of a number of small satellites, light satellites. It’s a real market enhancement
* Space rider is a project that will provide Europe an operation capability to return from space, for a number of missions, ranging from micro gravity research over earth observation applications to Servicing missions
* -We have today the access to space component which is covered through Ariane 6 and Vega C, we are developing at ESA space transportation also propulsion elements, engines for transport in space and with Space Rider we have an operational capability which will have to be decided in Seville end of the year for returning from space on Earth
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| 10:10:24:20* INTERVIEW. Daniel Neuenschwander, Director of Space transportation- Paris – 2019 – ESA
 | **BR\_003****ITW DANIEL NEUENSCHWANDER: Director of Space Transportation, ESA – French*** Ariane 6 and Vega-C status
* SMSS, small satellite launches and Space Rider
* ESA Space transportation capacity, objectives
 |
| 10:12:12:21* INTERVIEW. Daniel Neuenschwander, Director of Space transportation- Paris – 2019 – ESA
 | **BR\_004****ITW DANIEL NEUENSCHWANDER: Director of Space Transportation, ESA – German*** Ariane 6 and Vega-C status
* SMSS, small satellite launches and Space Rider
* ESA Space transportation capacity, objectives
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| 10:14:13:21* Aerial footage ELA 4, Europe Spaceport Kourou, French Guiana - March-April 2019 - ESA
 | **BR\_005****Aerial footage ELA 4**Ariane 6 launchpad, assembly building and facilitiesEurope SpaceportKourou, French Guiana |
| 10:17:20:10* INT. Cleanroom SSMS dispenser – Interspace, Toulouse, France – May 2019 – ESA
 | **BR\_006****SSMS Dispenser in Cleanroom** |
| 10:19:54:13* ANIMATION. Ariane 6 integration and launch – May 2019 - ESA
 | **BR\_007****Animation Ariane 6 integration*** Ariane 6 stage delivery
* Horizontal Assembly
* Transport
* Vertical Assembly
* launch
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| 10:31:37:19* ANIMATION. Space Rider – May 2019 - ESA
 | **BR\_008****Animation Space Rider*** Vega-C launch
* Vega-C flight with Space Rider
* Space Rider in flight
* Space Rider different manoeuvres
* Space rider Re-entry and landing
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| 10:37:14:14* ANIMATION. Vega-C – 2017 – ESA
 | **BR\_009****Vega-C: launch and flight** |
| 10:38:32:07* GV’s Vega Launchpad,Europe Spaceport, Kourou, French Guiana – 2018- ESA
 | **BR\_010****GV’s Vega Launchpad** |
| 10:39:46:24* P5.2 test facility, DLR Lampoldshausen, Germany - January 2019 -ESA
 | **BR\_011****GV’s P5.2 testfacility****DLR Lampoldshausen** |
| 10:44:40:15* Aerial P120C firing test at BEAP, Europe Spaceport, Kourou, French Guiana -2018 and 2019 - ESA
 | **BR\_012****Aerial P120C firing test at BEAP** |
| **10:48:26:15** | **ESA OUTRO** |
| **10:48:34:10** | **END OF PROGRAMME** |