**Juice one step closer to launch**

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| Image | Text |
| 10:00:00:00 | **TITLE: Juice on step closer to launch** |
| 10:00:08:00   * GV’s Juice at Airbus Defense and Space cleanroom, Toulouse, France – 19/01/2023 - ©ESA/Zetapress - M.Pedoussaut (2Shots) * Juice launch animation – Januari 2023 - ©ESA/ATG Medialab (5Shots) * Stills Juice at Airbus Defense and Space for Thermal Vacuum test, Toulouse, France – December 2022 - ©ESA/S. Corvaja (2Shots) | **After many years of study, development and testing, the European Space Agency’s Jupiter Icy Moons Explorer, Juice, has finally arrived at Europe’s Spaceport in Kourou, French Guiana. Here, engineers will perform some final tests and fuel the spacecraft before it is mounted onto an Ariane 5 rocket for its scheduled launch in April.**  **Before the spacecraft was transported to French Guiana it passed a few milestones; in December 2022, it completed its last thermal vacuum test in an Airbus Defence and Space facility in Toulouse.** |
| 10:00:43:22   * ITW Giuseppe Sarri, Project Manager of the Juice Mission inf ront of Juice at Airbus Defense and Space cleanroom, Toulouse, France – 19/01/2023 - ©ESA/Zetapress - M.Pedoussaut | **ITW Giuseppe Sarri, Project Manager of the Juice mission** Thermal test is very important because it's the test which confirms that the spacecraft can survive and work in the environment that it will see in space: so very cold. and vacuum. We already did the thermal test two years ago, but we decided to repeat it because four important instruments were not available. The test in December went very, very well. |
| 10:01:07:12   * GV Juice at Airbus Defense and Space cleanroom, Toulouse, France – 19/01/2023 - ©ESA/Zetapress - M.Pedoussaut * ESOC MCR Juice training simulations, Darmstadt, Germany – 26/01/2023 - ©ESA (4 shots) * Animation Juice during LEOP – January 2023 - ©ESA/ATG Medialab * Juice Solar Array deployment test at Airbus Defense and Space, Toulouse, France – June 2022 - ©Airbus Defense and Space * Animation of Juice Solar Array deployment – January 2023 - ©ESA/ATG Medialab * Juice start of journey animation – January 2023 - ©ESA/ATG Medialab * Juice start of journey animation – January 2023 - ©ESA/ATG Medialab * Juice Europa Flyby animation – January 2023 - ©ESA/ATG Medialab * Juice Calisto Flyby animation – January 2023 - ©ESA/ATG Medialab * Juice Ganymede Flyby animation – January 2023 - ©ESA/ATG Medialab | **In Toulouse, Juice also underwent a final software verification test, during which the spacecraft was controlled from ESA’s ESOC mission control centre in Darmstadt, Germany. Mission controllers simulated sending and receiving commands to and from the spacecraft during the launch and early operations phase of the mission. The crucial moment during this period will be the deployment of Juice’s enormous solar arrays, designed to power the mission in the dark reaches of the outer Solar System. Folded up like a complex origami box for launch, they will need to correctly unfurl and at just the right angle, or the spacecraft could overheat. Once Juice is safely powered by the Sun, it will be ready to begin its epic eight-year-long and extremely complex journey to Jupiter and its icy moons Europa, Callisto and Ganymede.** |
| 10:02:06:02   * ITW Giuseppe Sarri, Project Manager of the Juice Mission inf ront of Juice at Airbus Defense and Space cleanroom, Toulouse, France – 19/01/2023 - ©ESA/Zetapress - M.Pedoussaut | **ITW Giuseppe Sarri, Project Manager of the Juice mission, ESA**  The complexity of this mission is that it has a very difficult travelling to Jupiter. There are a lot of flybys of planets of the inner Solar System and of the moons of Jupiter. All that generates a lot of stress from the point of view of flight dynamics and mission analysis. Therefore, the team has to become familiar with this element, and this is done initially by running the operation using a twin of the spacecraft, a digital twin of the spacecraft. But later on, when the spacecraft will be in flight, we will use an engineering model, which is kind of a hardware brother of the spacecraft, which is used to debug the key operational procedures. |
| 10:02:56:10   * Juice exploring Jupiter and Ganymede animation – January 2023 - ©ESA/ATG Medialab * Juice orbiting Jupiter animation – January 2023 - ©ESA/ATG Medialab * The orbits of the Galilean moons animation – July 2021 - ©ESA/ATG Medialab * Juice orbits around Ganymede animation – January 2023 - ©ESA/ATG Medialab * Juice orbits around Ganymede animation Close-up – January 2023 - ©ESA/ATG Medialab * inside the galean moon Ganymede animation – July 2021 - ©ESA/ATG Medialab | **This revolutionary mission to the Jupiter system is a key part of ESA’s Cosmic Vision programme, addressing two of its core themes: How does the Solar Sytem work? and What are the conditions for planet formation and the emergence of life?**  **By studying Jupiter both as a planet and as a whole system, Juice will teach us more about how planetary systems like Jupiter’s work in our Solar System and beyond.**  **The exploration of Jupiter’s icy moons Ganymede, Callisto and Europa could provide insight into the possible emergence of life, as we believe that these frozen worlds hold an abundance of water beneath their ice crusts.** |
| 10:03:41:07   * ITW Giuseppe Sarri, Project Manager of the Juice Mission inf ront of Juice at Airbus Defense and Space cleanroom, Toulouse, France – 19/01/2023 - ©ESA/Zetapress - M.Pedoussaut * Juice Ganymede Flyby animation – January 2023 - ©ESA/ATG Medialab * ITW Giuseppe Sarri, Project Manager of the Juice Mission inf ront of Juice at Airbus Defense and Space cleanroom, Toulouse, France – 19/01/2023 - ©ESA/Zetapress - M.Pedoussaut * Jupiter’s magnetic environment animation – July 2021 - ©ESA/ATG Medialab | **ITW Giuseppe Sarri, Project Manager of the Juice mission, ESA**  Certainly, one of the most exciting elements of the mission would be when we enter in orbit around Ganymede, and we will do a really deep mapping tomography of the moon. Ganymede is a very large moon, bigger than Mercury. // We know that there is a lot of water and like Earth there is a magnetic field which is protecting the surface from the radiation from space. |
| 10:04:07:16   * GV’s Juice at Airbus Defense and Space cleanroom, Toulouse, France – 19/01/2023 - ©ESA/Zetapress - M.Pedoussaut (3shots) * Juice Solar Array deployment test at Airbus Defense and Space, Toulouse, France – June 2022 - ©Airbus Defense and Space (2shots) * Juice orbits around Ganymede animation – January 2023 - ©ESA/ATG Medialab * Juice orbits around Ganymede animation Close-up – January 2023 - ©ESA/ATG Medialab * Juice exploring Jupiter and Ganymede animation – January 2023 - ©ESA/ATG Medialab | **Juice is a prime example of international collaboration between industry, institutions and agencies. The spacecraft will be the heaviest mission ESA has launched to deep space, it has solar arrays measuring a whopping 85 square metres and will be the first spacecraft to orbit a moon other than our own.**  **With its arrival at Europe’s Spaceport, Juice takes another step towards its highly anticipated April launch, the beginning of its voyage to the largest planet of our Solar System.** |
| **10:04:42:05** | **B-ROLL** |
| * ITW Giuseppe Sarri, Project Manager of the Juice Mission inf ront of Juice at Airbus Defense and Space cleanroom, Toulouse, France – 19/01/2023 - ©ESA/Zetapress - M.Pedoussaut | **Soundbites**  **Giuseppe Sarri, Project Manager of the Juice mission, ESA – English**  **Giuseppe Sarri** We have completed the environmental thermal test, the mechanical test, and the electrical test. Therefore, we have confirmed that the spacecraft is basically ready to fly, and the next step would be next week we are going to integrate the solar array. And after that is the packing of the spacecraft, the packing of all the equipment that will be that will be necessary in order to operate the spacecraft when we are in kourou. And then the shipment Kourou.  **Giuseppe Sarri**  In December we have completed our last thermal test. Thermal test is very important because it's the test which confirms that the spacecraft can survive and work in the environment that it will see in space: so very cold. and vacuum. We already did the thermal test two years ago, but we decided to repeat it because four important instruments were not available. The test in December went very, very well.  **Giuseppe Sarri** About two years before launch, we started a campaign of tests, which are called system validation tests. Those are tests where the spacecraft, which is in Toulouse, is controlled and operated by the mission control team, which is in Darmstadt. Exactly as it would fly and using flight operational procedure. This test is extremely important because it confirms that the spacecraft can be operated in flight.  **Giuseppe Sarri** And the complexity of this mission is that it has a very difficult travelling to Jupiter. There are a lot of flyby's of planets of the inner solar system and of the moons of Jupiter. All that generates a lot of stress from the point of view of flight dynamics and mission analysis. Therefore, the team has to become familiar with this element, and this is done initially by running the operation using a twin of the spacecraft, a digital twin of the spacecraft. But later on, when the spacecraft will be in flight, we will use an engineering model, which is kind of a hardware brother of the spacecraft, which is used to debug the key operational procedures.  **Giuseppe Sarri** We have decided to have a tribute to Galileo Galilei, who, as a first pointed the telescope to the sky, discovered the three moons, the four moons of Jupiter, and we decided to engrave on a large plaque part of his book, Desiderius Nuntius, where he wrote about his discovery. So we will have the cover page and the first to pages with the first two observations.  **Giuseppe Sarri** There are two scientific objective of the Juice mission, which are in line with the objective of the cosmic vision. Which are the first one: the understanding of the formation and evolution of our solar system. And that we can do by exploring a mini solar system, which is the Jovian system. And the second one is the characterisation of the environment, which can potentially support life, and in particular in the three icy moons of Jupiter. Certainly one of the most exciting elements of the mission would be when we enter in orbit around Ganymede, and we will do a really deep mapping tomography of the moon. Ganymede is a very large moon, is bigger than Mercury, so it's basically a planet. We know that there is a lot of water and like in earth there is a magnetic field which is protecting the surface from the radiation from space. |
| **10:08:59:20**   * ITW Giuseppe Sarri, Project Manager of the Juice Mission inf ront of Juice at Airbus Defense and Space cleanroom, Toulouse, France – 19/01/2023 - ©ESA/Zetapress - M.Pedoussaut | **Soundbites**  **Giuseppe Sarri, Project Manager of the Juice mission, ESA – French**   * What is the current mission status of juice? * What test happened in Toulouse in December. * What sort of tests happened between the spacecraft in Toulouse and the Space Operations Centre in Darmstadt. What was tested and how did this test go. * What makes the Juice mission special for the team in darmstadt? * What can you tell us about the plaque on the spacecraft? * What are the main questions that juice will adress by observing the Jupiter system. |
| **10:13:17:02**   * ITW Giuseppe Sarri, Project Manager of the Juice Mission inf ront of Juice at Airbus Defense and Space cleanroom, Toulouse, France – 19/01/2023 - ©ESA/Zetapress - M.Pedoussaut | **Soundbites**  **Giuseppe Sarri, Project Manager of the Juice mission, ESA – Italtian**   * What is the current mission status of juice? * What test happened in Toulouse in December. * What sort of tests happened between the spacecraft in Toulouse and the Space Operations Centre in Darmstadt. What was tested and how did this test go. * What makes the Juice mission special for the team in darmstadt? * What can you tell us about the plaque on the spacecraft? * What are the main questions that juice will adress by observing the Jupiter system. |
| **10:17:30:05**   * GV’s Juice at Airbus Defense and Space cleanroom, Toulouse, France – 19/01/2023 - ©ESA/Zetapress - M.Pedoussaut | **GV’s Juice in cleanroom at Airbus Defense and Space, Toulouse** |
| **10:22:20:12**   * ESOC MCR Juice training simulations, Darmstadt, Germany – 26/01/2023 - ©ESA | **GV’s Juice mission team at MCR, ESOC** |
| 10:24:00:10   * Animations of Juice – January 2023 - ©ESA/ATG Medialab | **Juice journey animation sequence**   * **Juice launch** * **Juice comes to life** * **Juice orbiting Jupiter** * **Juice flyby of Europa** * **Juice flyby of Calisto** * **Juice Flyby of Ganymede** * **Exploring Jupiter and Ganymede** * **Juice orbits around Ganymede** * **Juice orbits around Ganymede close-up** |
| **10:31:19:17** | **ESA OUTRO** |
| **10:31:31:17** | **END** |