**Minerva: Samantha Cristoforetti returns to the ISS**

Italian ESA astronaut Samantha Cristoforetti will soon return to space for her second mission on board the International Space Station, ISS. She is expected to fly to the International Space Station with a SpaceX crew dragon capsule form Kennedy Space centre in Florida in the spring of 2022. Samantha’s mission is called Minerva. She will stay on board for several months before returning to Earth, carrying out vital science and operations on behalf of researchers and international partners worldwide. The first days of her mission may partly overlap with the stay of fellow ESA Astronaut Matthias Maurer.

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| Image | Text |
| 10:00:00:00 | **TITLE:**  |
| 10:00:10:00* Establishing shots of Samantha Cristoforetti at EAC - 30 november 2021 – EAC, Cologne, Germany [Credits: ESA]
* GVs Samantha Cristoforetti training at Johnson Space Center - Houston, Texas, USA, 2021 [Credits: ESA/NASA] – 2 shots
* Establishing shots of Samantha Cristoforetti at EAC - 30 november 2021 – EAC, Cologne, Germany [Credits: ESA] – 2 shots
* Matthias Maurer Cosmic Kiss mission launch campaign - liftoff – November 2021 – Kennedy space center, Florida, USA - [Credits: NASA] – 2 shots
* GVs Futura Mission launch from Baikonur, Kazakhstan and docking to the International Space Station- 23rd-24th November 2014 [Credits: ESA/Roscosmos] – 4 shots
 | **Exciting days lie ahead for ESA astronaut Samantha Cristoforetti as she trains for her second long-duration mission aboard the International Space Station, ISS. Known as Minerva, this mission will see the Italian ESA astronaut launched to the Station from NASA’s Kennedy Space center in Florida in a Crew Dragon spacecraft. For her first mission, Futura, which was provided by Italian Space Agency ASI and began in 2014, Samantha flew to the ISS on a Soyuz vehicle.** |
| 10:00:40:20* Soundbites: Samantha Cristoforetti – ENGLISH - 30 november 2021 – EAC, Cologne, Germany [Credits: ESA]
 | **Samantha Cristoforetti, Astronaut, ESA:**Regarding the vehicle, the training experience has been definitely quite different. On Soyuz, I was a flight engineer, so sort of like a co-pilot, I had a very deep knowledge of the systems, and I was a full backup of the commander for all the tasks on board. On Dragon, I will be a mission specialist, so I will not have a direct interaction with the systems on board. That will be the responsibility of my crewmates Kjell and ‘Farmer’. So my training load was a lot smaller in this case. |
|  10:01:20:13* GVs Samantha Cristoforetti carries out experiments onboard the International Space Station-2014-2015 [Credits: ESA/NASA] – 4shots
* GVs Matthias Maurer carries out experiments onboard the International Space Station- 2021-2022 [Credits: ESA/NASA]
* Establishing shots of Samantha Cristoforetti at EAC - 30 november 2021 – EAC, Cologne, Germany [Credits: ESA]
* Image of statue of Minerva – unknown origin, internet
* Image of old roman coin with Minerva on it - unknown origin, internet
* GVs Samantha Cristoforetti training at Johnson Space Center - Houston, Texas, USA, 2021 [Credits: ESA/NASA] – 2 shots
* GVs Samantha Cristoforetti carries out maintenance onboard the International Space Station, dragon capsule docking - 2014-2015 [Credits: ESA/NASA]
 | **Like all ESA astronauts, Samantha will carry out many scientific experiments on the ISS and within the European Columbus laboratory. The Space Station’s weightless environment provides opportunities for research that is not possible on the ground. On the ISS, Samantha may even have a brief cross-over with ESA astronaut Matthias Maurer before his return to Earth.****The name of Samantha’s second mission, Minerva, in inspired by the Roman Goddess of wisdom, handicrafts, and the arts. It is a homage to the competence and craftsmanship of all those who make human spaceflight possible. The name also represents the traits Samantha attributes to human spaceflight.** |
| 10:02:01:07* Soundbites: Samantha Cristoforetti – ENGLISH - 30 november 2021 – EAC, Cologne, Germany [Credits: ESA]
 | **Samantha Cristoforetti, Astronaut, ESA:**I also like to play with words and for each letter that makes up the name Minerva I can think of the word with that initial letter that gives context and meaning to my flight to space. But in a broader sense to human spaceflight. So M for Marvel, I for inspiration and N for nourishment, which can be physical nourishment, but also spiritual, nourishment. E for exploration, R for research, V for voyage and A for adventure.  |
| 10:02:36:20* Artemis-1 animation – 2020 [Credits: NASA/ESA/ATG Medialab]
* etching of Minerva – unknown origin, internet
* Minerva animated mission patch - 2022 [Credits: ESA]
* Animation gateway station in orbit – 2019 - [Credits: NASA/ESA/ATG Medialab]
 | **The theme of exploration, voyage and the human achievements of spaceflight are also echoed in Samantha’s new mission patch, which features Minerva’s sacred owl.** **The eye of the owl is a yellow Moon, casting a white glow onto Earth. Its beak is reminiscent of the shape of the International Space Station, while the two lines also symbolise Samantha’s two missions to space.** **The owl’s body is made up of waves of ever darker blue, encouraging humankind to rise to the challenge as we move farther into deep space. An ambition Samantha shares.**  |
| 10:03:12:17* Soundbites: Samantha Cristoforetti – ENGLISH - 30 november 2021 – EAC, Cologne, Germany [Credits: ESA]
* European Service Module-2 in the operations and checkout center – Kennedy Space Center, USA – October 2021 [Credits: ESA]
* European Service Module-1 with Orion, Final Stacking with SLS in Vehicle Assembly Building Timelapse - Kennedy Space Center, USA – October 2021 [Credits: ESA]
* Soundbites: Samantha Cristoforetti – ENGLISH - 30 november 2021 – EAC, Cologne, Germany [Credits: ESA]
 | **Samantha Cristoforetti, Astronaut, ESA:**I'm very excited, of course, about the next programme of human space exploration, the Artemis programme. ESA plays a major role in that we provide the service module for Orion, for the spaceship that will bring astronauts back to the Moon, to the orbit of the Moon. And I really hope that this is just the beginning and that Europe and the countries and the member states of ESA and ESA will be more and more ambitious when it comes to capabilities regarding human spaceflight so that we can be more and more in the future equal partners as we expand our presence in space. |
| 10:04:03:06* GVs Samantha Cristoforetti training at Johnson Space Center - Houston, Texas, USA, 2021 [Credits: ESA/NASA] – 2 shots
* Establishing shots of Samantha Cristoforetti at EAC - 30 november 2021 – EAC, Cologne, Germany [Credits: ESA]
* GVs Samantha Cristoforetti training at Johnson Space Center - Houston, Texas, USA, 2021 [Credits: ESA/NASA]
* View from ISS port window Alpha mission – 2021 [Credits: ESA]
* Exterior view ISS- unknown date [Credits: ESA/NASA]
 | **Samantha has a full schedule of training in the lead-up to launch – splitting her time between the European Astronaut Centre in Cologne, Germany, and NASA’s Johnson Space Centre in Houston, Texas, – as ESA counts down to another action-packed mission in orbit.**  |
| 10:04:18:01 | **ESA outro** |
| 10:04:30:01 | **End of A-roll** |
| **10:04:41:15** | **B-ROLL** |
| **BR001** **10:00:00:00** | **BR001: Soundbites: Samantha Cristoforetti – ENGLISH** **30 november 2021 – EAC, Cologne, Germany**  |
| 10:00:05:00 | So for my first mission to futura a few years ago, I launched to the ISS on a time proven Russian vehicle called Soyuz. It was a crew of three, a Russian, an American and myself, and we launched from the Baikonur Cosmodrome in Kazakhstan. Next time, the process in a way will be fairly similar, were we'll launch in a rocket, arrived at the space station in, you know, in several hours. We will be in a capsule type vehicle which will return to Earth at the end of the mission in a similar way under parachutes. This time, we will land in water. Last time I went, I landed on on solid ground. The difference, of course, is the vehicle this is a is a newer vehicle was developed fairly recently, in the last decade. It's called Dragon and we will launch from Florida, from Cape Canaveral. So the place where the Space Shuttle used to launch from. So just like the cosmodrome of Baikonur when I launched from the first time this time as well is definitely a place full of of history of of human spaceflight that took place there. [76.7] |
| 10:01:24:15 | Training has been similar in some ways, just like the first time you have two big chunks of training, you have training for being a crew member of the International Space Station. So learning about the space station systems and all the activities up there. And then you've got training for the vehicle that is bringing you to space station and back. So training for the ISIS is has been very, very similar to to my first time. In many ways for me much easier because it's it's, you know, the ISS has been my home for six months, just a few years ago. And so I am very familiar with life and operations up there. And it was really a matter of refreshing my knowledge and skills and fill in the gaps regarding the things that have changed over the course of the past few years. [54.1] |
|  10:02:21:17 | Regarding the vehicle, the training experience has been definitely quite different. On Soyuz, I was a flight engineer, so sort of like a co-pilot, I had a very deep knowledge of the systems and I was a full backup of the commander for all the tasks on board. On Dragon, I will be a mission specialist, so I will not have a direct interaction with the systems on board. That will be the responsibility of my crewmates Kjell and farmer. So my training load was was a lot smaller and in this case. It's also very different vehicle, I mean, Soyuz again a time proven design, it was designed with an approach that allowed crew members to really have control of the vehicle at a component level. If, if needed. Dragon, you interact more with the on board computer and there is a lot of automatic responses of the vehicle. So the the way that you interact as a crew member is, it's quite different.[74.7] |
| 10:03:39:12 | I am very much looking forward to returning to the International Space Station as an experienced crew member, as an experienced astronaut. First time was great. But in some ways, especially at the beginning, it was emotionally overwhelming. There was so much going on, so much to experience, so many impressions, so many physical sensations. Everything was new. It was like drinking from a firehose as you were trying to adapt and learn. And if I look back, some of those experiences, especially those first days, that are a little bit of a blur. So I'm very much looking forward to experience all that again with a lot more cognitive and emotional buffer. So I can. Observe myself as they adapt again to living in space, I can take better notes and hopefully have more detailed memories of the experience for myself and and to share. [68.7] |
| 10:04:51:01 | Yeah, my my colleague and friend Matthias is in space now as we as we speak, and there might even be a chance that we have an overlap so that I will arrive to space station and spend maybe a week or two with with him on ISS before his return. So that, of course, would be fantastic to have two Europeans onboard at the same time, and it hasn't happened for a while. It's been fantastic training alongside with Matthias. Of course, our training period also overlapped. And this was for him the first spaceflight. So he had to this approach that you really only have as as a Rookie of you know everything is, everything is new. Everything is a discovery and that incredible enthusiasm about sharing things also with the public. So it was very, very nice to to be in this training process with a person who is a friend. And we've known each other for a long time and we're more or less the same age and life experience, but with a different perspective: me, you know, an experienced flyer and he experiencing all of this for for the first time. But you, you know, again, he's a very experienced person in general and had a very, very methodical approach to his training. And I actually learnt a lot of things from him, little tricks and tips and things that he had learnt that he was always very eager to learn to pass along. So it was a fantastic experience. [93.9] |
| 10:06:28:04 | So I think that space and space exploration and human spaceflight, they are evolving at such a fast pace now that I even have a hard time imagining what the future holds for people who are children now and might be interesting in flying to space. And what will happen, you know? Fifteen twenty, twenty five years down the line. Who knows what the future holds for for that generation, but I certainly hope that many children now are getting that, that spark, that passion for or for space exploration and through that hopefully also for science and technology, and that many of them will be the the future leaders and in those fields. And they will help us develop all the solutions, at least the technological solutions that we so desperately need to, to tackle many of the challenges that we face as humanity. On the one hand, certainly expanding our presence in space and then also tackling the very big challenges we face here on our planet.[69.0] |
| 10:07:40:15 | Yeah, I'm very excited, of course, about the the next programme of human space exploration, the the Artemis programme. ESA plays a major role in that programme in that we provide the service module for Orion, for the space vehicle, the spaceship that will bring astronauts back to the Moon, to the orbit of of the Moon. And I really hope that this is just the beginning and that Europe and the countries and the member states of ESA and ESA will be more and more ambitious when it comes to capabilities regarding human space flight so that we can be more and more in the future equal partners as we expand our presence in space. |
| 10:08:36:04 | The name Minerva is inspired by Roman mythology. For the ancient Romans, Minerva was the goddess of wisdom, but also the protector of the arts and the handicrafts. So the name is intended as a homage to the competence and sophisticated craftsmanship of the women and the men who are part of the space community and make human spaceflight possible. Minerva was also a warrior goddess. She embodies the fortitude, toughness, discipline that is required of us, as well as the wisdom that we aspire to demonstrate as we consolidate and expand the human presence in space. [42.0] |
| 10:09:21:04 | I also like to play with words and for each letter that makes up the name Minerva. I can think of the word with that initial letter that gives context and meaning to my flight to space. But in a broader sense to human spaceflight. So M for Marvel, I for inspiration and N for nourishment, which can be physical nourishment, but also spiritual, nourishment. E for exploration are for research, V for voyage and A for adventure. 34.6] |
| 10:09:59:18 | The goddess Minerva is often depicted with her sacred owl. And so the owl is a prominent feature of the patch. It's featured in a very abstract way, which leaves the path open to many interpretations. Some people see waves, some people see planetary orbits. Some people even see a cradling hand. The body is made of waves of an ever darker shade of blue, which I interpret as an encouragement to rise up to the challenge and continue to explore farther and farther into the Solar System. |
| **BR002** **10:00:00:00** | **BR002: Soundbites: Samantha Cristoforetti – Italian****30 november 2021 – EAC, Cologne, Germany****-** Who was Minerva and why choose this name?- What do the letters of MINERVA stand for- The mission patch |
| 10:02:19:00 | **-** Difference between flying on a Soyuz for her first mission vs the second mission flight with Crew Dragon.- Training for the second mission onboard the Space Station |
| **BR003** **10:00:00:00** | **BR003: Soundbites: Samantha Cristoforetti – German****30 november 2021 – EAC, Cologne, Germany** **-** Who was Minerva and why choose this name?- What does Minerva represent for spaceflight- What do the letters of MINERVA stand for- The mission patch |
| **BR004** **10:00:00:00** | **BR004: Soundbites: Samantha Cristoforetti – French****30 november 2021 – EAC, Cologne, Germany** **-** Who was Minerva and why choose this name?- What do the letters of MINERVA stand for- The mission patch |
| **BR005****10:00:00:00** | **BR005: GVs Samantha Cristoforetti training at Johnson Space Center****Houston, Texas, USA, 2021 [Credits: ESA/NASA]** |
| **BR006****10:00:00:00** | **BR006: GVs Futura Mission launch from Baikonur, Kazakhstan and docking to the International Space Station****23rd-24th November 2014 [Credits: ESA/Roscosmos]** |
| **BR007** **10:00:00:00** | **BR007: GVs Samantha Cristoforetti carries out experiments onboard the International Space Station****2014-2015 [Credits: ESA/NASA]** |
| **BR008****10:00:00:00** | **BR008: GVs Samantha Cristoforetti carries out maintenance onboard the International Space Station****2014-2015 [Credits: ESA/NASA]** |
| **BR009****10:00:00:00** | **BR009: GVs Samantha Cristoforetti’s daily life onboard the International Space Station****2014-2015 [Credits: ESA/NASA]** |
| **BR010****10:00:00:00** | **BR010: Establishing shots of Samantha Cristoforetti at EAC****30 november 2021 – EAC, Cologne, Germany –** **[Credits: ESA]** |
| **BR011****10:00:00:00** | **BR011: Minerva animated mission patch****2022 [Credits: ESA]** |
| **10:47:32:10** | **Total runtime A + B-roll** |