New training for ESA Astronauts

In Bonn, Germany two ESA astronauts are going through a brand new training programme. This training aims at teaching Matthias Maurer and Samantha Cristoferetti basic mechanical, electronic, electrical and pneumatic skills and how to use these skills to trouble shoot their equipment in space. This new training commissioned by ESA has been developed by the Dr. Reinold-Hagen stiftung and Space application Services.

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| Image | Text |
| **10:00:00:00** | **TITLE: New training for ESA astronauts** |
| 10:00:10:00* EXT. Dr. Reinold Hagen stiftung GV – Bonn, Germany – 12/12/2017 – ESA
* INT. Classroom astronauts following lesson – Dr. Reinold Hagen stiftung, Bonn, Germany – 12/12/2017 – ESA
* INT. astronauts in Workshop pneumatics – Dr. Reinold Hagen stiftung, Bonn, Germany – 12/12/2017 – ESA
* INT. astronauts in Workshop integrated tasks – Dr. Reinold Hagen stiftung, Bonn, Germany – 12/12/2017 – ESA
* INT. astronauts in Workshop pneumatics – Dr. Reinold Hagen stiftung, Bonn, Germany – 12/12/2017 – ESA
* INT. astronauts in Workshop integrated tasks – Dr. Reinold Hagen stiftung, Bonn, Germany – 13/12/2017 – ESA
 | Bonn, Germany, December 2017. At the Doctor Reinold-Hagen foundation ESA astronauts Samantha Cristoforetti and Matthias Maurer are taking part in a brand new Astronaut training programme.The objective? Teaching astronauts basic maintance and repairs skills. At this 7 day workshop the ESA astronauts are taught how to handle variety of tools and to solve various technical problems. For each problem they are given a chance to find different solutions as well as the opportunity to fail and learn from their initial mistakes. |
| 10:00:46:24* ITWOlivier Lamborelle– Dr. Reinold Hagen stiftung, Bonn, Germany – 13/12/2017 – ESA
 | **ITW Olivier Lamborelle – Services Department Manager, Space Application Services**This has not really been done in the past in that way because they my have been exposed to the tools occasionally in some various training. But here is the first time that we attempt to, that we put everything together in a really structured training with a good progression of skills. |
| 10:01:01:16* INT. astronauts in Workshop integrated tasks – Dr. Reinold Hagen stiftung, Bonn, Germany – 13/12/2017 – ESA
* INT. astronauts in Workshop electrical – Dr. Reinold Hagen stiftung, Bonn, Germany – 12/12/2017 – ESA
* INT. astronauts in Workshop mechanical – Dr. Reinold Hagen stiftung, Bonn, Germany – 13/12/2017 – ESA
* INT. astronauts in Workshop electrical – Dr. Reinold Hagen stiftung, Bonn, Germany – 12/12/2017 – ESA
* INT. astronauts in Workshop pneumatics – Dr. Reinold Hagen stiftung, Bonn, Germany – 12/12/2017 – ESA
* INT. astronauts in Workshop electrical – Dr. Reinold Hagen stiftung, Bonn, Germany – 12/12/2017 – ESA
* INT. astronauts in Workshop integrated tasks – Dr. Reinold Hagen stiftung, Bonn, Germany – 13/12/2017 – ESA
* INT. Samantha Cristoforetti repair on ISS – International space station – 2016 – ESA
 | The training has been commissioned by ESA and developed by two private companies, space application services from Belgium and the Dr. Reinold-hagen foundation from Germany. It consists of 4 different modules: first the astronauts are taught mechanical maintance and repair skills. In the second module the focus lies on electrical and electronic components. Then the astronauts learn about pneumatics and hydraulics. Finally all the acquired knowledge is brought together in the last module, integrated tasks. In this module the astronauts are given a new assignment each time. Every assignment offers a more complex problem to solve using all of their newly acquired skills. Skills that can prove to be invaluable aboard the ISS. |
| 10:01:50:03* ITWSamantha Cristoforetti– Dr. Reinold Hagen stiftung, Bonn, Germany – 13/12/2017 – ESA
 | **ITW Samantha Cristoferetti – ESA Astronaut**What people don’t always realize is that a lot of what we do on the space station as crewmember really is in some form maintenance and repair. The space station is a very complex machine and we have to keep it in good shape. So this course is great, this is what this course is about maintenance and repair. It is very much targeted to the tools and typical tasks that we have on the space station. |
| 10:02:14:15* INT. astronauts in Workshop integrated tasks – Dr. Reinold Hagen stiftung, Bonn, Germany – 13/12/2017 – ESA
* INT. Alexander Gerst repair on ISS – International space station – 2014 – ESA
* INT. Samantha Cristoforetti repair on ISS – International space station – 2016 – ESA
* INT. ESOC ISS controlroom– ESOC Darmstadt, Germany – unknown date – ESA
* INT. Alexander Gerst repair on ISS – International space station – 2014 – ESA
* INT. Samantha Cristoforetti repair on ISS – International space station – 2016 – ESA
* EXT. Thomas Pesquet EVA repair on ISS – International space station – 2017 – ESA
 | With this programme ESA wants to make its astronauts even more skilled and self-reliant when they are in space. Today when a problem occurs on the ISS or in flight, astronauts rely in no small part on their communication with ground control. Which will help identify the problem and guide the astronauts through the repair or maintenance procedure. But ESA wants to be prepared for the day when there is no procedure or when communication might be delayed.  |
| 10:02:43:24* ITWMatthias Maurer– Dr. Reinold Hagen stiftung, Bonn, Germany – 13/12/2017 – ESA
 | **ITW Matthias Maurer – ESA Astronaut**Currently we fly to the ISS and we always have ground control supporting us but if in the future we will be flying to the moon or to mars. Then we will switch and become more a kind of explorer which needs to work more independently. So we need to be able to also solve problems without having ground control telling us immediately the recipe or the procedure on how to fix the problem. |
| 10:03:10:09* ANIMATION. ESA rocket landing on the moon. – unknown date – ESA
* ANIMATION. moonbase – unknown date – ESA
* EXT. ISS. Sunrise over the earth – unknown date - ESA
 | Thanks to this new training ESA astronauts will be even better prepared for the challenges that await them. With such highly trained and skilled astronauts the European space agency looks to the future with confidence and aims to boldly go where none have gone before.  |
| **10:03:28:19** | **B-ROLL** |
| * ITWOlivier Lamborelle– Dr. Reinold Hagen stiftung, Bonn, Germany – 13/12/2017 – ESA
 | **ITW Olivier Lamborelle – Services Department Manager, Space Application Services – ENGLISH*** The objective of the course
* ISS repair procedure and new skills
* Partners of the trainingprogramme
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| 10:04:57:21* ITWOlivier Lamborelle– Dr. Reinold Hagen stiftung, Bonn, Germany – 13/12/2017 – ESA
 | **ITW Olivier Lamborelle – Services Department Manager, Space Application Services – FRENCH*** This is a new training, the first of its kind
* ISS repair procedure and new skills
* Partners of the trainingprogramme
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| 10:06:14:28* ITWSamantha Cristoforetti– Dr. Reinold Hagen stiftung, Bonn, Germany – 13/12/2017 – ESA
 | **ITW Samantha Cristoferetti – ESA Astronaut – ENGLISH*** Benefits of this training in regards to ISS
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| 10:07:06:23* ITWSamantha Cristoforetti– Dr. Reinold Hagen stiftung, Bonn, Germany – 13/12/2017 – ESA
 | **ITW Samantha Cristoferetti – ESA Astronaut – ITALIAN*** Benefits of this training in regards to ISS
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| 10:08:00:17* ITWMatthias Maurer– Dr. Reinold Hagen stiftung, Bonn, Germany – 13/12/2017 – ESA
 | **ITW Matthias Maurer – ESA Astronaut – ENGLISH*** What is learned in this training
* Difference with other trainings
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| 10:09:00:17* ITWMatthias Maurer– Dr. Reinold Hagen stiftung, Bonn, Germany – 13/12/2017 – ESA
 | **ITW Matthias Maurer – ESA Astronaut – GERMAN*** Skills for the future of space exploration
* What is learned in this training
* Difference with other trainings
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| 10:10:50:24* ITWJorg Peter Hochstätter– Dr. Reinold Hagen stiftung, Bonn, Germany – 13/12/2017 – ESA
 | **ITW Jorg Peter Hochstätter – Engineer,** **Dr. Reinold Hagen stiftung – FRENCH*** Importance of safety measures
* Learning to work with tools
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| 10:12:05:06* INT. astronauts in Workshop pneumatics – Dr. Reinold Hagen stiftung, Bonn, Germany – 12 and 13/12/2017 – ESA
 | **GV astronauts training at Dr. Reinold Hagen Stiftung** |
| **10:14:52:20** | **END** |