

## European Space Laboratory Columbus is ready for launch

TC	Text	Picture
10 00 40 00	<p>The European Space Laboratory Columbus is ready for launch.</p> <p>The Laboratory is closed; all systems are checked and installed. The next step is to transfer Columbus and the external payload carrier by canister to the Space Shuttle Atlantis, where they will be mounted into the cargo bay in the second week of November.</p> <p>Then, there will be less than one month to go until ESA's Space laboratory is launched into space towards the International Space Station.</p>	<p>Col tilted in SSPF</p> <p>Col tilted and moving through SSPF</p> <p>Col in SSPF facility</p> <p>Shuttle launch</p> <p>ISS</p>
10 01 07 21	<p>Statement Alan Thirkettle, ESA ISS Programme Manager:</p> <p><i>"We're about to go through a big transition on the programme. We have been designing, developing and waiting to fly for a long, long time. And in the next 4 months we are going to put 45 tones up onto the Station, with Node 2, with Columbus, and then following earlier on in the new year with ATV, so that gives us the opportunity at last to be onboard the Station, to perform the world class science and technology that we want to do; to have the astronauts on there to perform the iterative science, the added value of human beings in space to perform the science and technology work they can do; and also for them to prepare for exploration missions in the future. But, perhaps more than all of that, it will be an opportunity for all of that to become an inspiration for the youth of Europe, to get the kids and students to really take up the science and engineering that is so necessary for Europe to develop in the decades to come."</i></p>	<p>Thirkettle with Columbus in background</p>
10 02 07 00	<p>Columbus is one of the most important European contributions to the International Space Station.</p>	<p>Columbus in SSPF</p>
10 02 12 11	<p>In the same way as other ISS elements,</p>	<p>STS-98 Ext ISS</p>

	<p>Columbus will be taken out of the Shuttle's cargo bay with a robotic arm.</p> <p>It will then be attached to another European built element, the Node 2.</p>	<p>View of Destiny taken out of Cargo bay STS-98 Ext</p> <p>View of Destiny being attached to ISS</p>
10 02 24 18	<p>Statement Bernardo Patti, ESA Columbus Project Manager:</p> <p><i>“As you can see this is a laboratory, this is a pressurized laboratory, it's about 5 meter long, 4 meter diameter, and it accommodates what you can see here, scientific experiments; here you have four racks and you can accommodate up to 16 racks of scientific experiments. And it allows three crew members to operate this module and to generate science in a short sleeve environment. In addition to that there is an external platform outside up to four facilities and we are going to launch two of them, SOLAR and EuTEF and they are accommodated outside on the so-called EPF.”</i></p>	<p>Patti inside of Columbus with Racks in background</p>
10 03 04 08	<p>Each Rack is a laboratory in its own right, for research in different disciplines in space.</p>	<p>Ducros animation walls dissolving:</p>
10 03 10 02	<p>The European Drawer Rack is designed for scientific experiments in a variety of subjects in all of its 7 interchangeable drawers.</p>	<p>European Drawer Rack animation and Rack overlay</p>
10 03 18 06	<p>The European Physiology Modules are dedicated to experiments to better understand the workings of the human body.</p>	<p>European Physiology Modules animation and Rack overlay</p>
10 03 25 01	<p>Biolab is designed for biological research in Space, investigating the role that microgravity plays on all functions of an organism.</p> <p>Together with the EPM, experiments in medical and pharmaceutical research will be performed aimed at the application of improving health on Earth.</p>	<p>Biolab animation and Rack overlay</p>
10 03 42 17	<p>The Fluid Science Laboratory allows research into the dynamics of fluids, the first experiment to be performed might help to better understand the flow of the fluids in</p>	<p>Fluid Science Laboratory animation and Rack overlay</p>

	the outer core of Earth.	
10 03 54 12	External experiment facilities can be mounted outside Columbus. Two of these will be launched Together with Columbus this year.	Ducros Animation
	The first, called EuTEF, includes several technology demonstration experiments, including exposure to space of new materials.	EuTEF or external platform - animation
	The other, SOLAR, measures the radiation from the Sun to understand its influence on Earth's atmosphere and its climate.	Solar or external platform - animation
10 04 22 20	The internal facilities are already installed in Columbus so that the experiments can start immediately after it has arrived at the ISS.	Facilities inside in launch configuration KSC B-Roll
10 04 28 11	On board the ISS ESA astronaut Leopold Eyharts will support the activation and check-out of Columbus and its experiment facilities.	Eyharts training shots at KSC int Columbus
10 04 37 18	Statement Leopold Eyharts, ESA astronaut:  <i>“Well the scope of the Columbus mission is this is the first mission of Columbus, so we are going to bring it up in the Shuttle, and then unload it from the payload bay of the shuttle and then attach it to the Station, and then we make all he connections and activate the module. And then there will be for the rest of the flight, which is a long duration flight for me, a lot of commissioning tasks for me, which means making sure that all of the systems, all of the scientific facilities are working correctly.”</i>	Eyharts inside Columbus trainer
10 05 07 06	While Leopold Eyharts and his crewmates will conduct experiments in Columbus, the researchers on ground can take part in their investigations as if they too were on board -thanks to advanced communication technology and imaging systems.	Thomas Reiter working on MEFLI
10 05 22 14	The experiments carried out in Columbus will be scheduled and supervised from the Columbus Control Centre at	Col-CC ext view with sign and int views from

	.Oberpfaffenhofen in Germany. Through this Control Centre, researchers all over Europe can receive the results of their experiments in real time.	Astrolab
10 05 38 06	Former ESA astronaut Reinhold Ewald is one of the ESA mission directors for the Columbus operations.	B-Roll Col-CC during Astrolab
10 05 45 01	Statement Reinhold Ewald: ESA Columbus Mission Director:  <i>“The Columbus Control Centre will come into action soon. We are simulating right now the mission of the Columbus laboratory. The Columbus laboratory will be attached to the International Space Station and then the Columbus Control Centre will join the sequence of Control Centres all over the world; Houston, Moscow and then Munich will be called to control the systems of the Columbus laboratory.”</i>	Reindold Ewald with the Col-CC operations room in background
10 06 12 03	Although Columbus is smaller in length than the other modules of the ISS, thanks to the ingenuity of the European Engineers that have designed Columbus, it offers the same number of racks for research as the American and Japanese laboratories.  And by being smaller, all the initial internal and external payloads are launched together with the module, thereby saving extra launches, time and expense.	Columbus, as it's packed to go to KSC  Industry working on it in Bremen
10 06 38 01	Once in place Columbus will begin to bear the fruits of Europe's investment in the ISS programme.	ISS ext view
10 06 44 11	Its scientific results will give us a greater understanding of life on Earth and further the development of technology.	ISS Int. EMCS with Reiter
10 06 52 06	And it will undoubtedly make every European feel proud that their space agency, ESA is a part of the biggest international research project ever undertaken.	ISS orbital sunset

10 07 02 22 End.

## **B-Roll**

10 07 04 00	Start
10 07 14 00	Alan Thirkettle : interview (same as in the A-roll)- English
10 08 23 00	Alan Thirkettle : interview : question 2 - English
10 09 45 00	Bernardo Patti : interview (same as in the A-roll)- English
10 10 35 00	Bernardo Patti : interview : question 2 - English
10 11 07 00	Léopold Eyharts : interview(same as in the A-roll)-English
10 11 47 00	Léopold Eyharts : interview : same in French
10 12 13 00	Reinhold Ewald : interview(same as in the A-roll)-English
10 12 50 00	Reinhold Ewald : interview : same in German
10 13 14 00	views of Columbus in KSC – 7 shots
10 14 17 00	ESA end TV Leader