

**Paper Title:**

ESA Preparation for Human Exploration

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**Organization(s):**

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**Abstract Text:**

The long term goal of the Aurora Exploration Programme is Human exploration of Mars. In preparation for this, exploration of the Moon is a necessary step to provide demonstration of capabilities, mandatory for long duration human spaceflight.

With the European Columbus module attached to the ISS, Europe has access to a world class laboratory in space for microgravity research, technology demonstration and preparation for future human exploration missions.

The ongoing phase of the exploration programme has been focused on defining the overall European strategy and exploration architecture within the global exploration environment. System studies as well as focused technology developments are in progress (e.g. development of regenerative life support).

The European Space Agency is now preparing the next steps for human space exploration by continuing the exploitation and utilisation of the ISS, by analysing the European use of the ISS w.r.t. possible evolution and overall lifetime extension, by addressing crew transportation developments, by studying particular European elements for human Lunar exploration and general human space exploration technologies.