The Aurora programme, the European Space Agency’s (ESA) human exploration initiative, was approved as an optional element of the European Space Strategy in December 2001. Even though the programme is at present in a preparatory phase, European scientists and engineers are already preparing a long-term plan for the robotic and human exploration of the inner Solar System, in particular those planets holding promise for traces of life. By late 2004, the European Space Agency will decide whether to go on with this ambitious programme that, through a series of robotic and human missions, will culminate in a human mission to Mars.

Through this Programme Europe will be well placed to play a key role in the human exploration of the Solar System. The technology development effort that is required to fulfill the ambitious goals of the Aurora Programme will result in a true source of innovation and in highly skilled work for European industries, research centers and academia.

Together with a number of technology developments and validations, a number of increasingly complex robotic missions are planned that will prepare the way to safe human exploration. The first two of these missions are being currently studied at ESA. They are a mission devoted to searching for traces of life on the surface of Mars (ExoMars) and a mission aiming at bringing back the first sample of Martian soil to be studied on the Earth (Mars Sample Return).

The ExoMars Mission

Due to be launched in 2009, ExoMars is aimed at studying the Martian environment and searching for evidence of life, past or present, on the planet’s cold, arid surface. Using an inflatable braking device or a parachute system, a descent module will deliver a large rover to the Martian surface.

The autonomous roving vehicle, powered by conventional solar arrays, will spend many months exploring the hostile terrain. The 40 kg payload (known as Pasteur, after the famous French microbiologist) will include a drill as well as a sampling and handling device that will enable it to analyse soil from sites that may be hospitable to primitive Martian life forms.

The rover navigation system, including optical sensors, on board software and autonomous operation capability as well as the life detecting payload, will be built thanks to the know-how gained by Europe in many years of successful space missions.

The rover reproduced here has been designed in the Concurrent Design Facility (CDF) of ESA/ESTEC.

More info available at: http://www.esa.int/export/esaMI/Aurora/
Aurora Programme ExoMars Rover - Paper Model 1:15 scale (page 1)
**ExoMars Rover Paper Model**

**Assembly Instructions**

**STEP 1**
Cut, fold & glue the rover body

**STEP 2**
Cut fold & glue the rover wheels (6)
Left: simple mode - Right: detailed mode

**STEP 3**
Cut fold & glue the drill elements. If you prefer cut a metallic clips for the rods.

**STEP 4**
Cut fold & glue wheels connection elements

**STEP 5**
Glue the drill to the rover body

**STEP 6**
Assembly the wheels structure

**STEP 7**
Glue the wheels structure to the rover body

**STEP 8**
Assembly the camera mount. If you prefer replace paper rods with metallic clips

**STEP 9**
Glue the camera mount to the rover

**STEP 10**
Assembly the solar panels structure

**STEP 11**
Glue the solar panels structure to the rover