

A progressive lunar exploration with robotic outposts and human expansion

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We shall describe the perspectives on lunar exploration in a phased approach from recent lunar missions and with future projects.

In this context, we shall review the range of applications and requirements for robotics for the future. This includes applications on lunar vehicles in orbit or at libration points, on landers, for precursor self-standing instruments and on robotic outposts. A next generation of robotics is then required for the deployment as well larger infrastructures, and for the operation of lunar resource utilisation equipments, and for setting up a robotic village using advanced remote control, and artificial intelligence.

We shall also describe how the synergy between robots and humans can be used with efficiency on the Moon for establishing lunar bases and for preparing human expansion in the solar system.

Finally, we shall review the recommendations from the different ILEWG task groups that worked during the ICEUM4 conference, and suggest a plan of actions to implement them.