

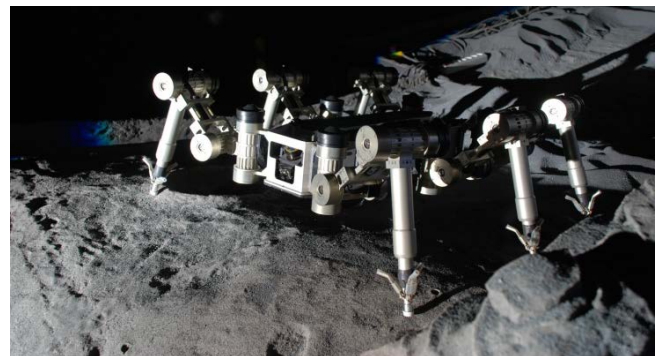
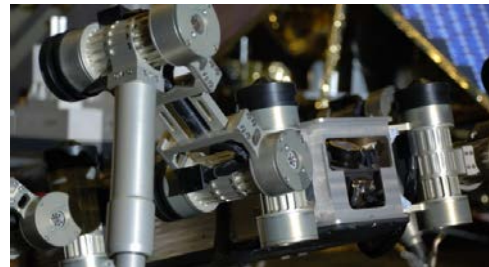
# Scarabaeus

## Six- Legged Creater Exploration

### System Description

The goal of the project is to develop and to program a multi-functional, multi-degree of freedom, autonomously walking-robot for rough, steep, and uneven terrain, e.g. canyon or crater walls.

The software is implemented on the basis of a real-time microkernel, which was developed by the DFKI for behavior-based programming and features robust (quasi-)parallel process execution and very low system overhead executed on the MPC565 microcontroller.



### Technical Details

- **Size:** 80 cm x 148 cm x 18 cm
- **Motors:** 18 x 13 Nm electric brushed motors
- **Sensoren:**
  - camera
  - gyroscope
  - pitch/roll
  - joint current and angle
  - laser scanner
  - foot pressure sensors
- Grippers for small objects on each foot including an custom made pressure sensors using piezo technology
- Motor driver PCB developed by the DFKI
- Embedded PC for direction control
- MPC565 microcontroller for movement coordination

**Application:** Space Robotics

**Projects:** **Scarabaeus**  
(2007- 2008)



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