

Project proposal

Title: IP64 Rover Chassis
 Supervisor: Pr. Auke Ijspeert (Biorob)
 Timeframe: Spring 2021

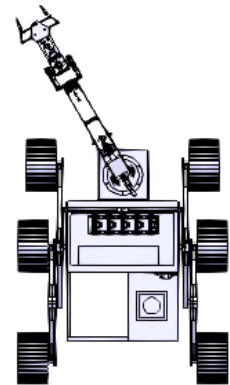
EPFL Xplore is an interdisciplinary project whose aim is to design and develop a Rover to participate in two international competitions: the University Rover Challenge and the European Rover Challenge. As contests, these competitions ask the rover to pass 4 outdoor missions and therefore it needs to show a certain degree of shielding against natural hazards.

Project description

Problematic

The rover is composed of multiple bays hosting electronic devices, batteries, motors, scientific instruments and other sensitive components. Thus, the student will have to design a chassis with accessible compartments that allow for dust and water shielding. By means of the design, the rover shall comply with the IP64 standard resulting in a close to complete shielding of the interior of the rover. Certain parts of the rover such as the avionics and the science may need to be removed between missions and therefore the interfaces shall be studied to enable the operator to simply retrieve a module without too much complexity.

The design shall also be optimized to limit the overall weight of the chassis.



Reference documents

[1] IP64 Protection Index : https://en.wikipedia.org/wiki/IP_Code

Contact

arman.ehsasi@epfl.ch
professeur@epfl.ch