Main task starts with science mission where rover needs to collect samples .

Where requiremnts are

* Wide angle camera
* High resolution
* Sensors to determine soil for life existence
* Life detection capability instrument
* Hazardous chemicals not allowed and to use after permission
* Equipments and tech in rover to measure and to analysis of soil for ex, Quality and applicability of the onboard and laboratory analysis (moisture,
* temperature, science capability of choice).
* ● Quality of the sample returned (weight, depth, possible contamination).
* ● Scientific knowledge of astrobiology.

Next task is delivery mission

* Mechanisms of rover is needed here
* Wheels should be made such that it travels rough terrain
* A marked path needs to be followed so it should have such sensors like a line follower bot
* Robot consist of picker instrument to pick open box

Maintenace task

* The gripper should use parallel handles
* System to on off switches
* 6 \* of freedom is best for movements
* Actuators to open drawers, perform screw driver jobs

Navigation system:

* Finding ar teags
* All directional antennas to find 3 posts which are 20 m far from the gps

Drones

* Speed that will according to conditions

Components used

Actutators – anything which things move

1)neumatic, hydraulic,electric

2)sensors to detect ar tags and other environment factors needed for detection of life( humidity , temperature , pressure)

3)backup systems if there is some failure

4)materials used for chassis and arm

5)drive systems – differential drive , wheels