

2014 NASA RASC-AL ROBOTIC OPERATIONS

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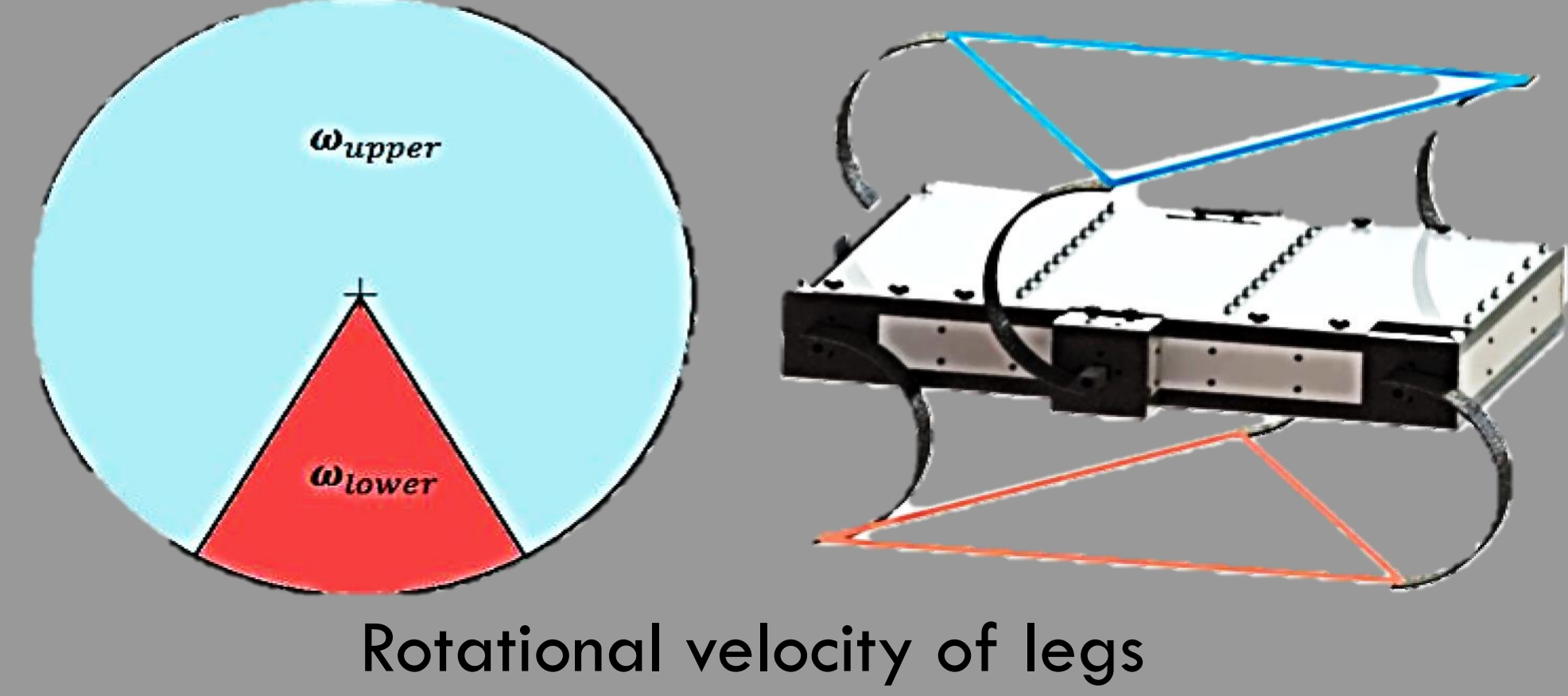
Jason Brown Mechanical Engineering
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PROJECT SCOPE

Our goal is to engineer a tele-operated Mars rover that can scale 10cm tall obstacles and is capable of lifting 150g objects with an intuitive, dependable user interface.

LOCOMOTION

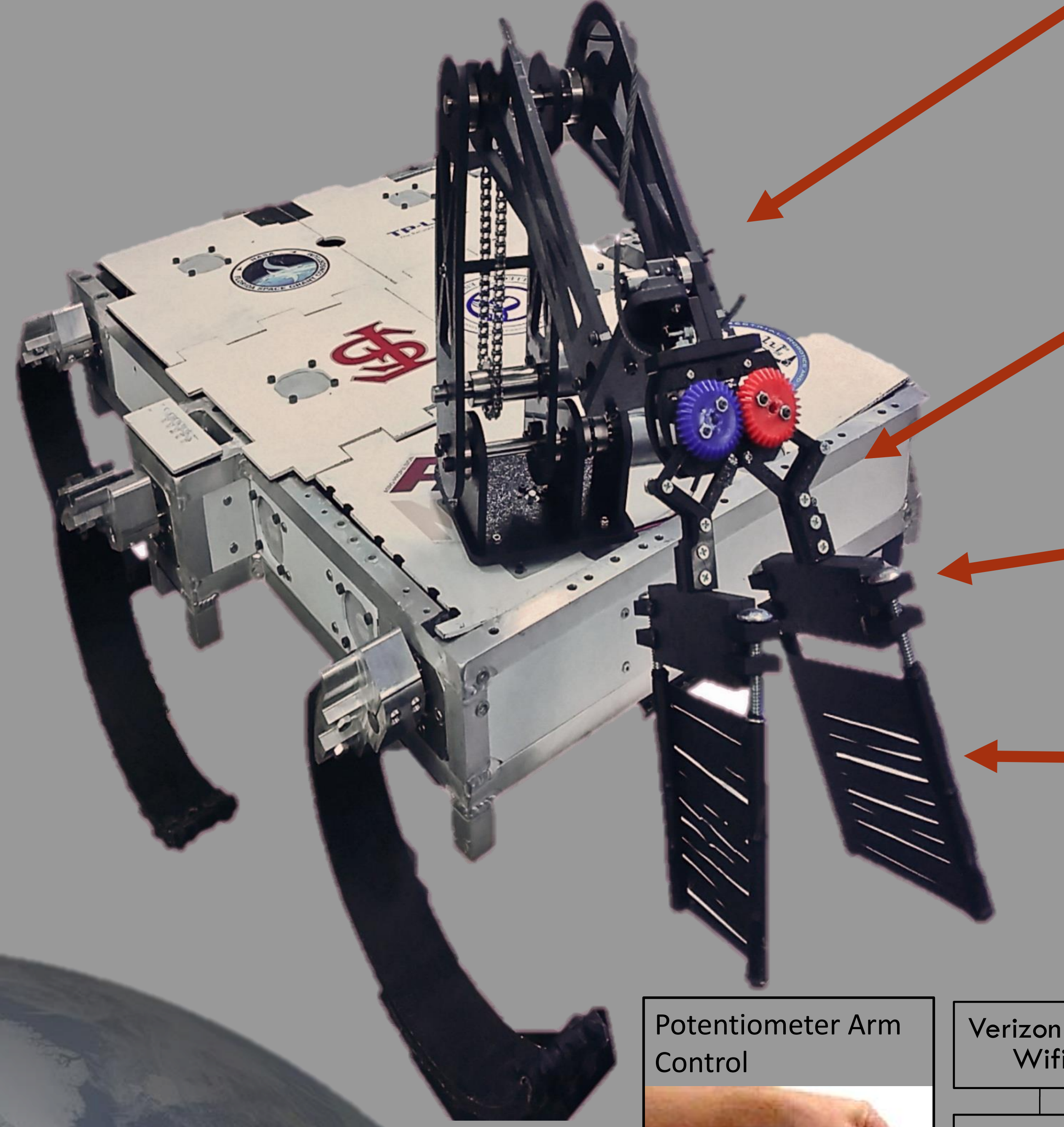
Buehler Clock Locomotion



Stair Climbing



Turn While Walking



EXTRACTION MODULE

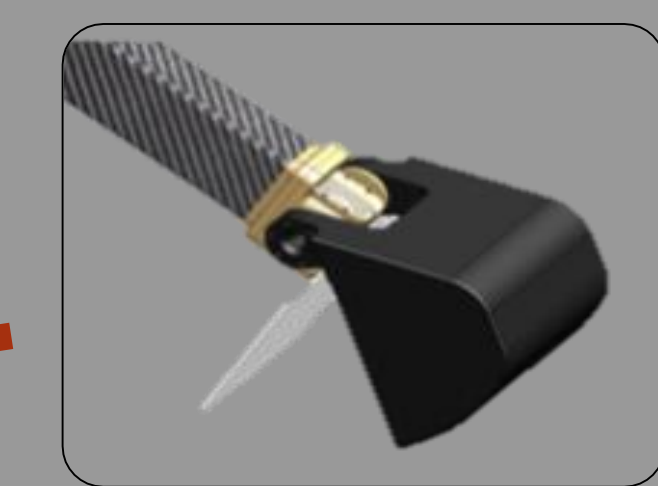
Manipulator Robotic Arm

Weight	-	2.0 kg
Reach	-	400 mm
Maximum Load	-	200 g
Degree of Freedom	-	4

End Effector



- Two prong pincher for precision



- Large contact area to eliminate complex control algorithm



- Elastic Silicone webbing for maximum traction

COMMUNICATION

