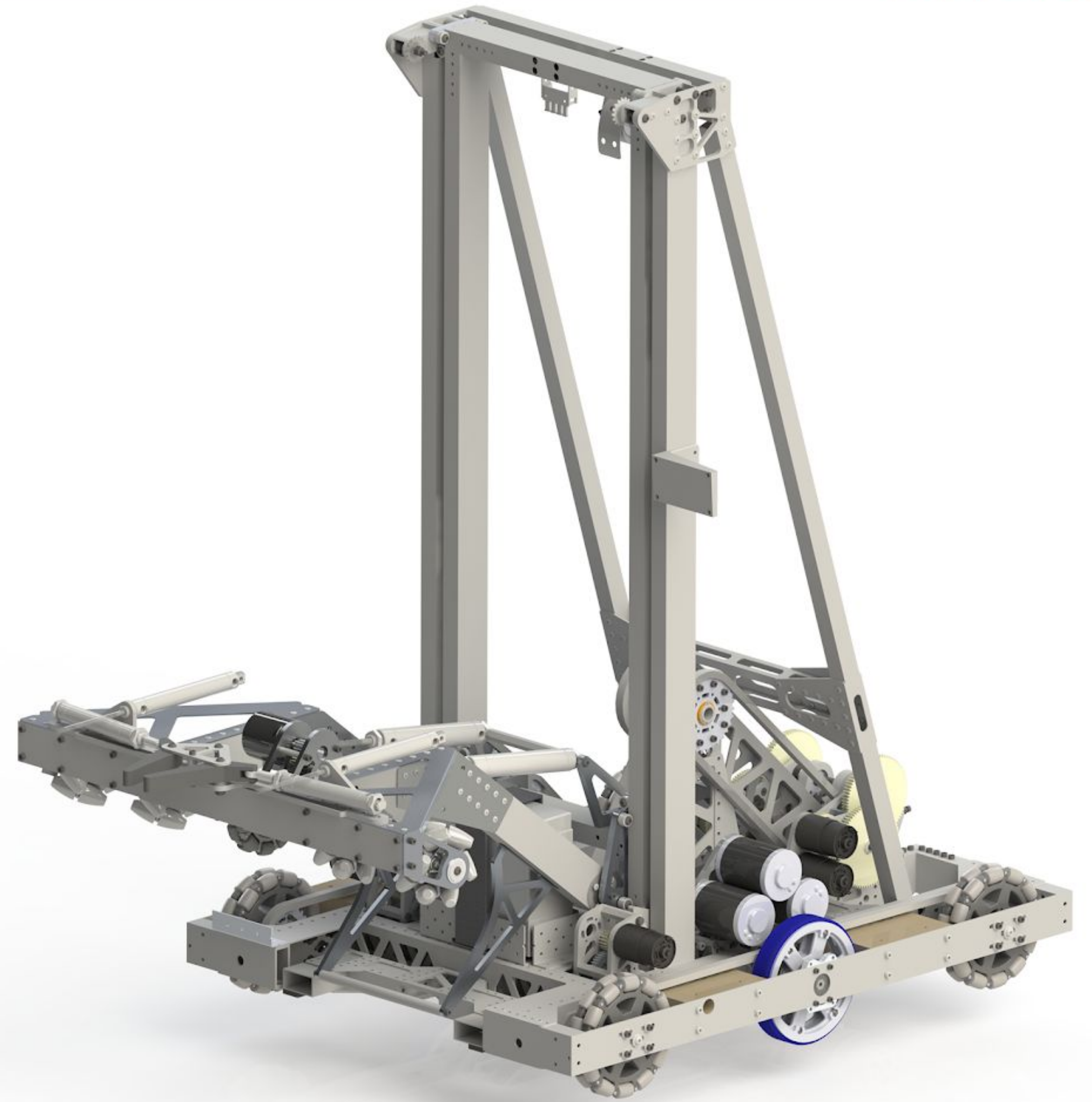


TEAM 1114 PRESENTS:



SIMBOT

SNOWSTORM



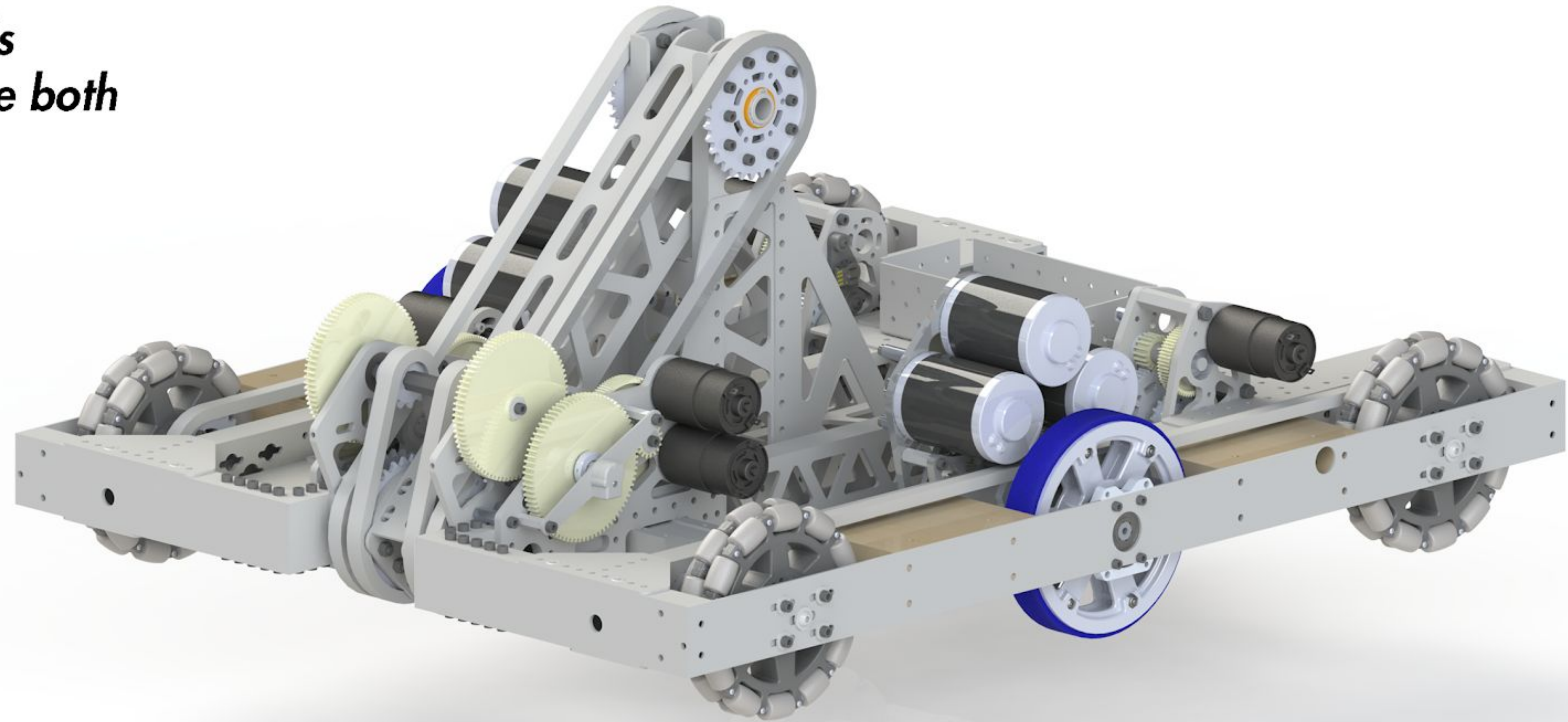
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SUB-SYSTEM BREAK DOWN:



DRIVE

- ***6-wheel Tank Drive***
 - ***Front and rear 6" VEXpro Omni-Directional wheels and middle 6" VEXpro Traction Wheel to maximize both maneuverability and pushing power***
- ***Theoretical free speed of 14.5 feet per second***
- ***4 REV Robotics NEO Brushless Motors powering a WestCoast Products Single Speed Flipped Gearbox with a 10.25:1 overall gear ratio***
- ***Utilizes steel gears to prevent gearbox failures with the more powerful NEO Brushless Motors***

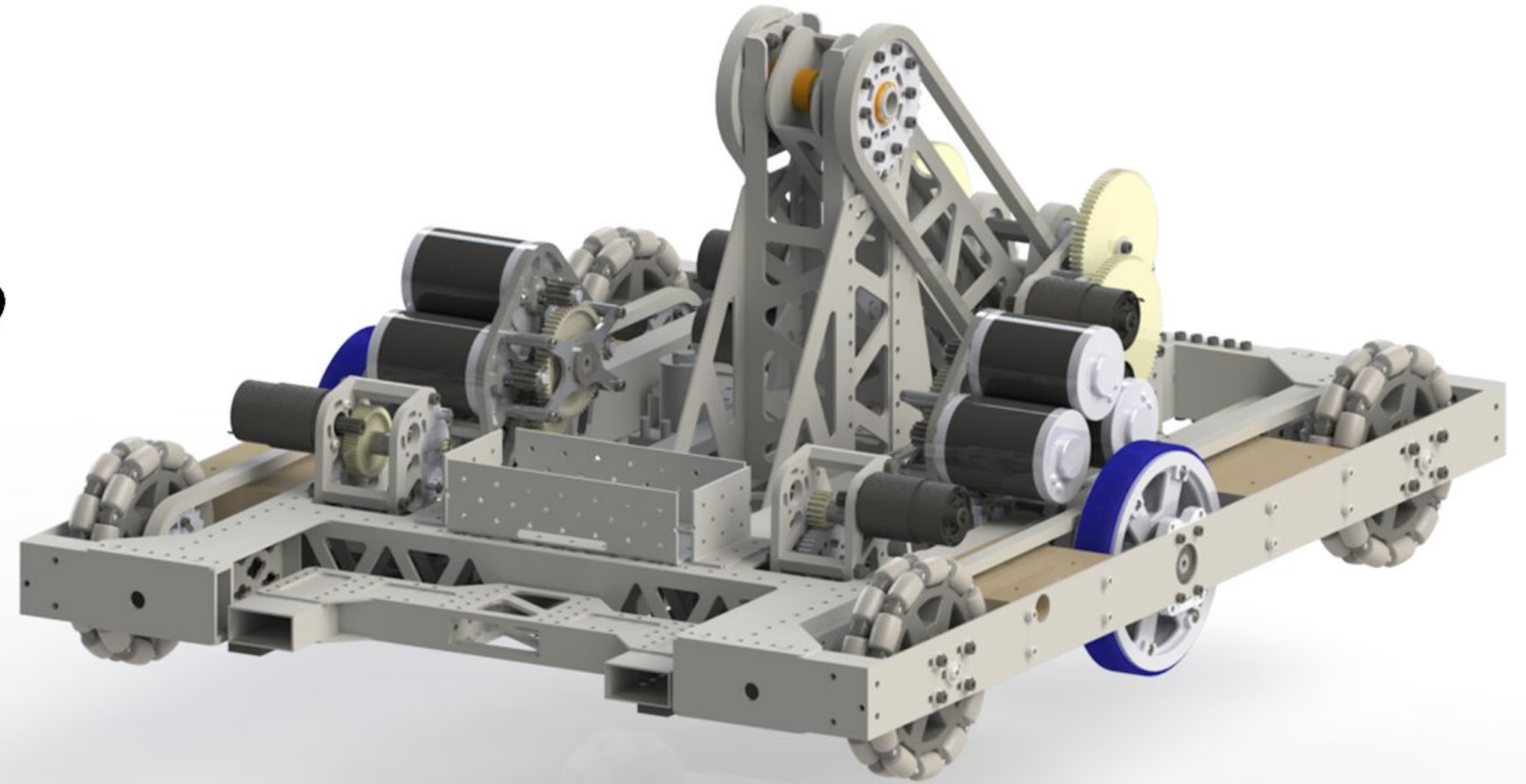


SUB-SYSTEM BREAK DOWN:



LEVEL 3 HAB CLIMBER

- Powered by four VEXpro 775 motors***
- Chain Bar climber integrated with the drive to make a compact and fast climb***
- Overall gear ratio of 439:1***
- Climb in 2.5 seconds***



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SUB-SYSTEM BREAK DOWN:



ELEVATOR

- ***Cascading two stage elevator reaches all levels of Cargo Ship and Rocket***
- ***Powered by two VEXpro 775pro motors driving a 16 tooth sprocket on a 15:1 reduction, aided by a 24.8lb constant force spring***
- ***One gearbox on each side of the elevator, connected by a "Quatchi Bar" to apply power to each side of the elevator evenly***

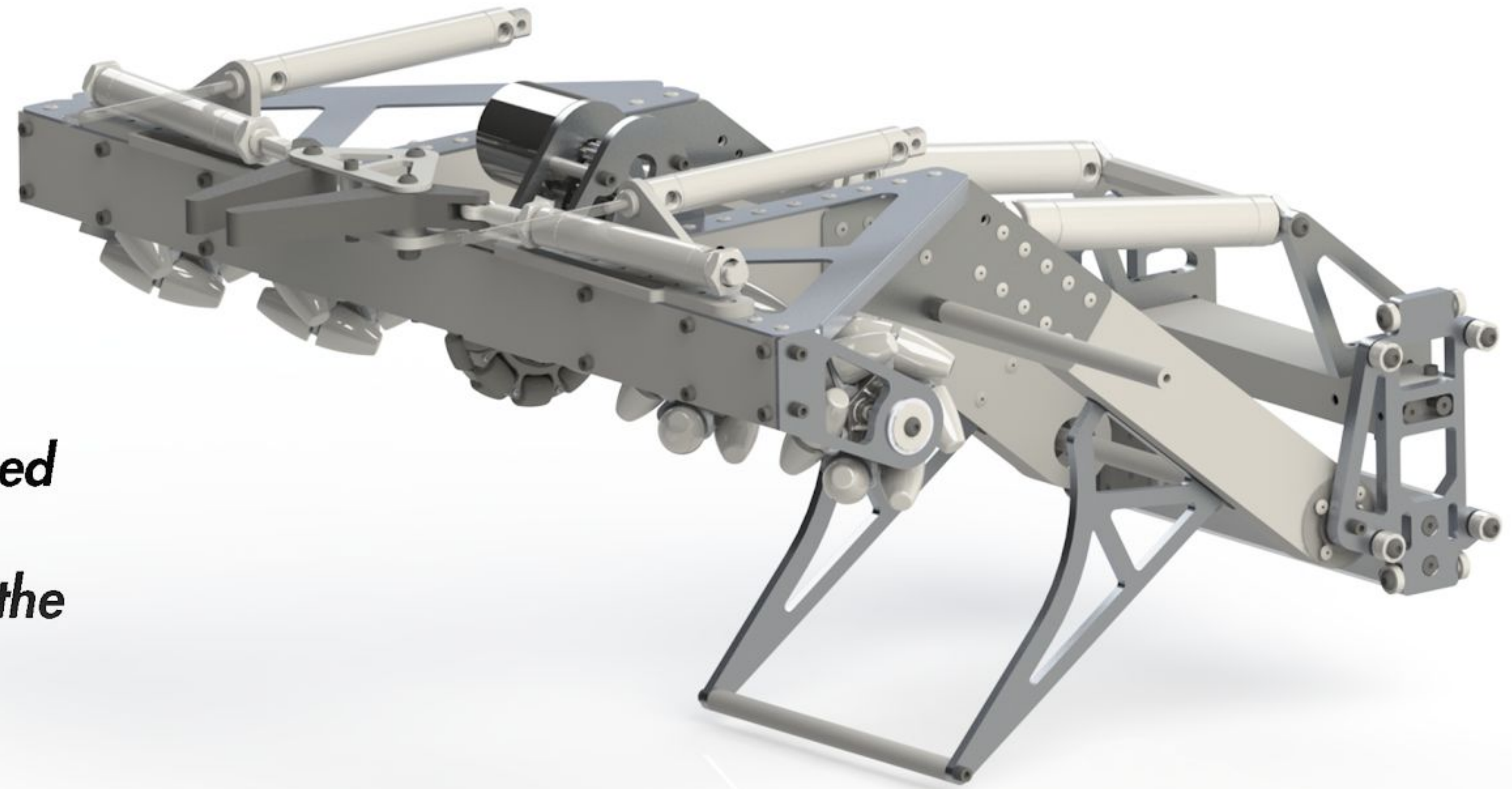


SUB-SYSTEM BREAK DOWN:



CARGO INTAKE

- ***4 outer VEXpro Mecanum wheels and centre Omni-Directional wheel, act as rollers, spread out across the full length of the robot***
 - ***Angled rollers on the Mecanum wheels naturally bring the Cargo towards the centre of the intake, allowing for consistent positioning of the Cargo in the intake no matter what angle it's approached from***
- ***Geared to spin at 28 feet per second ensuring Cargo can be acquired even with the robot driving at full speed***
 - ***Testing proved that running the intake at 50% power provided the most consistent acquisition***



SUB-SYSTEM BREAK DOWN:



HATCH PANEL INTAKE

- ***Designed to minimize acquisition and release time while consistently and securely positioning the panel in the robot***
- ***Uses 4" custom manufactured delrin fingers to firmly grip and acquire the panel, while automatically centring the panel in the process***
- ***Ejection cylinders securely apply the panel to the scoring areas, and allow for scoring from various angles***

