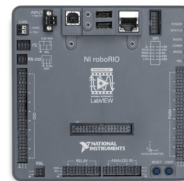
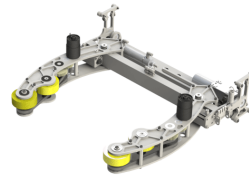
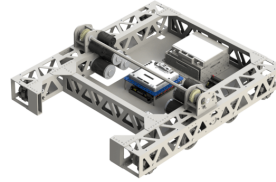
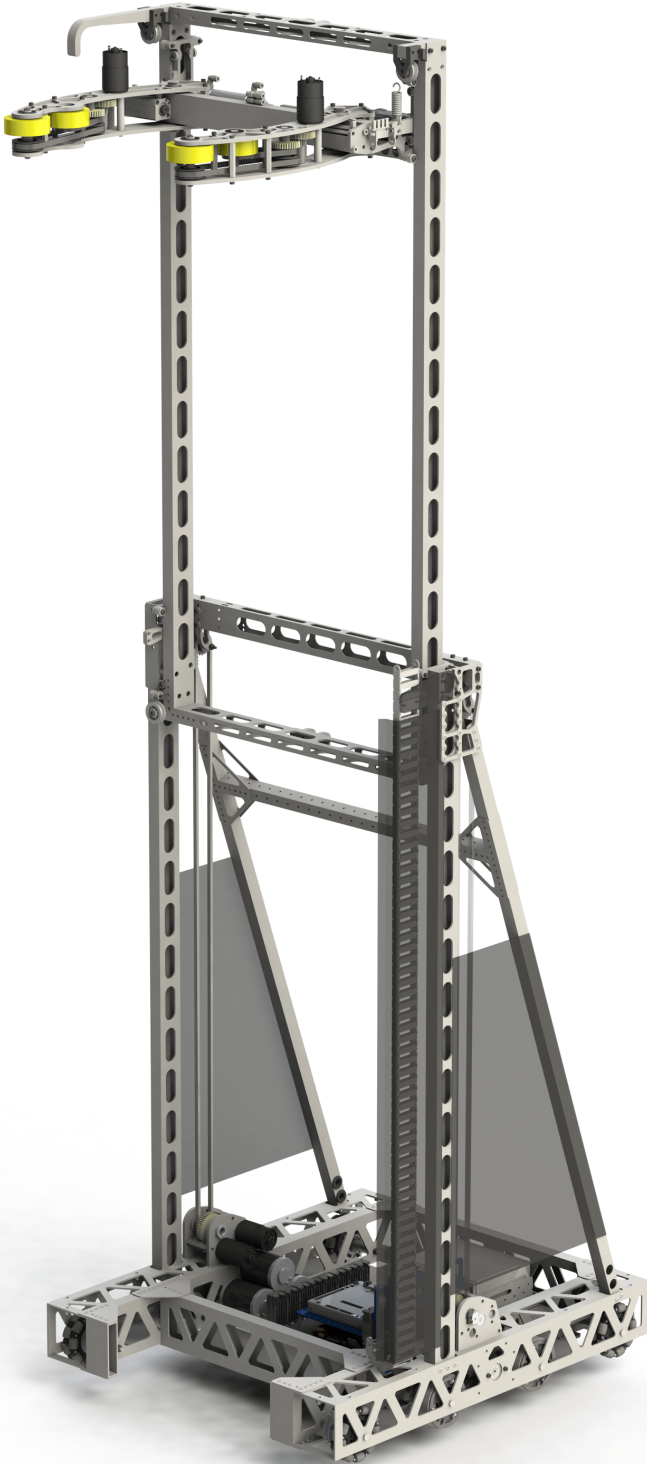
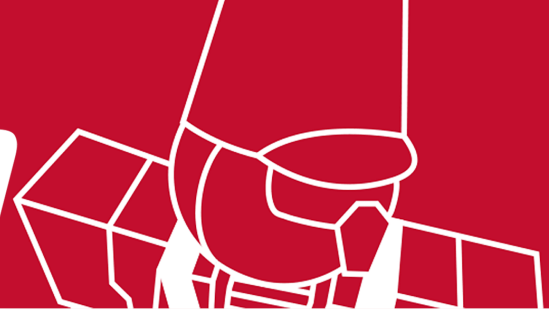


# TEAM 1114 PRESENTS: SIMBOT SMOKESCREEN



## Drive

- 8-wheel Drive, four 4" omni-directional wheels, four 4" traction wheels
- Single speed custom gearboxes powered by six mini CIMs designed for 13.9 ft/s theoretical free speed
- Gears, chain and wheels all contained inside 4"x4" tube rails

## Elevator

- Cascading two stage elevator powered by four VEXpro 775pro motors
- Hanger integrated into first stage of elevator
- Two hook climber from front or side of hanging bar
- Custom gearbox designed to raise intake at 6.9 ft/s, climbs at 3.5 ft/s (theoretical free speed)

## Intake

- Pneumatically actuated roller pinch claw
- Uses four 3" urethane wheels to intake cubes
- Custom roller gearboxes designed to intake cubes at 18.1 ft/s (theoretical free speed)
- Intake wrist joint powered by a VEXpro 775pro motor through a VEXpro VersaPlanetary gearbox. Rotates 180 degrees in 0.4 sec (theoretical free speed)

## Controls

- Intake anti-jam algorithm corrects cube orientation for better placement on the Scale
- Intake wrist rotation works in sync with elevator height to score cubes at over 14 preset scoring positions
- Drive acceleration and deceleration ramping for stability with raised elevator
- Bump sensors and IR beam sensors make cube intake automatic
- Mag encoders on the drive, elevator and intake wrist allow for precise control
- Trigonometric gravity offset on intake wrist