

## Unmanned Systems



As technology blurs the line of how humans and machines interact, we see an opportunity to put new capabilities into the hands of the warfighter. Unmanned systems enable the warfighter to stay a safe distance from harm's way while performing the Dull, Dirty, Dangerous and Denied-access missions the environment demands.

### Heritage

- Kollmorgen has been at the forefront of innovation in robotics and unmanned systems since the early 1990's.
- Kollmorgen has a 100 year history with 70+ Years of designing, manufacturing and delivering motion component products into Aerospace & Defense applications.

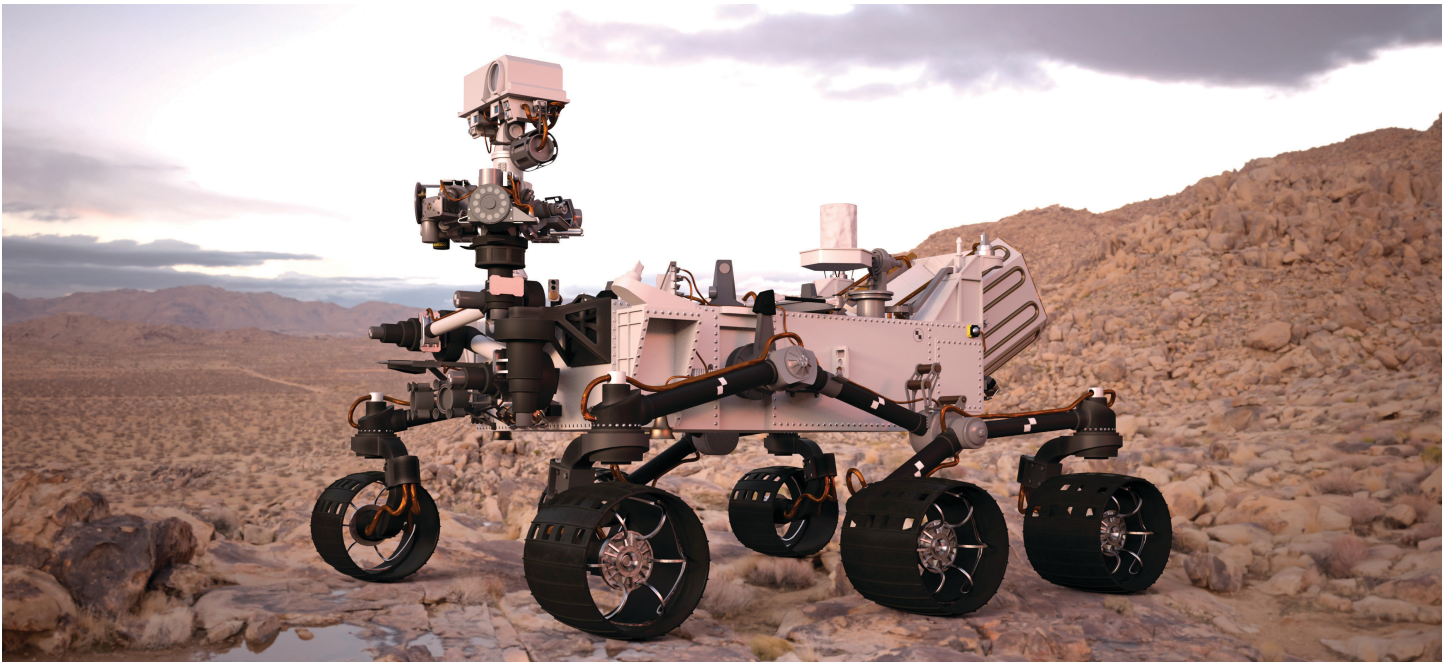
### Domain Expertise

- Landing gear actuation, Propulsion, Power generation
- Camera stabilization, Optic/Targeting Azimuth & Elevation, Cooling pumps
- Smooth, accurate motion for high shock and vibration environments
- Durable, reliable designs for extreme conditions from extreme ocean depths to outer space

### Deploy Your System on Time and on Target

- Weapons stations and gun turrets
- Missile guidance and precision-guided munitions
- Radar pedestals and tracking stations
- Unmanned ground, aerial and undersea vehicles
- Ground vehicles and sea systems
- Aircraft and spacecraft systems
- Camera gimbals
- IR countermeasure platforms
- Laser weapon platforms





### Solutions

- Standard catalog and customized motor solutions employed
- High torque & power to weight ratio, large thru-bore designs
- Frameless components, sub-assemblies, actuators
- From 1" to 1 meter diameter, standard, non-ITAR product range allows for FMS opportunities
- Motor solutions optimized for weight, performance and durability

### Risk Mitigation

- Kollmorgen has more than 70 years of experience and has been supplying mission-critical motion solutions for aerospace and defense applications since the early 1950s
- Back by Altra, we're a large multinational corporation with manufacturing on three continents and global distribution
- With a wide range of standard options and customization capabilities, we collaborate with you to deploy rugged, battle-worthy motion solutions engineered and built to meet your singular requirements
- We have proven capabilities to support your needs from initial concept through full-scale production

Learn more at [www.kollmorgen.com/aerospace-and-defense](http://www.kollmorgen.com/aerospace-and-defense)

### Kollmorgen Motion for Aerospace & Defense

- Direct drive servo motors – housed, frameless and cartridge
- Brush and brushless torque motors
- Standard and customized servo motors
- Stepper motors
- Servo and stepper drives
- Linear actuators
- Gearboxes
- Controls

### Let's Get Your Program Moving

Contact your Kollmorgen representative to discuss your application and how we can help you bring it to action with less cost, time and risk. Ask about how Kollmorgen can provide your team with an overview of our expertise and technology training that will foster success for your program. Because the operators at the controls deserve nothing less.