Forward

in advanced automation

Discover how Castrol Robotic Solutions can maximise uptime and drive efficiencies across your manufacturing processes.

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Castrol
Robotic Solutions

Effective automation relies on excellent lubrication

Manufacturing companies in every field have realised that, when it comes to price and quality, the best way to be competitive is to automate their factories with industrial robots.

That said, many are concerned about the risk of unplanned downtime when using these robots. When you consider that a single minute of interruption can cost an automotive manufacturer roughly US$22,000,* downtime is one of the most significant challenges manufacturers face.

Castrol's heritage of high-tech lubricants, reduced leakage, faster starting times and decreased power usage has benefited major industries across the globe. This is why our products were also chosen by NASA for robotics equipment on Mars. NASA chose our lubricants and greases for its US$820 million mission using the InSight lander and Curiosity rover.

*Based on industry research conducted by Nielsen Research.

Typical six-axis industrial robot

Expansion in robots has accelerated significantly over the last few years, but in industrial operations, most are articulated robots featuring six axes (or six degrees of freedom). Six-axis robots as shown below have a high degree of flexibility and the ability to perform a wide number of tasks.

Axis 1
The base axis, which takes all the weight of the robot and allows it to rotate. This is also known as the S or J1 axis by some robot manufacturers.

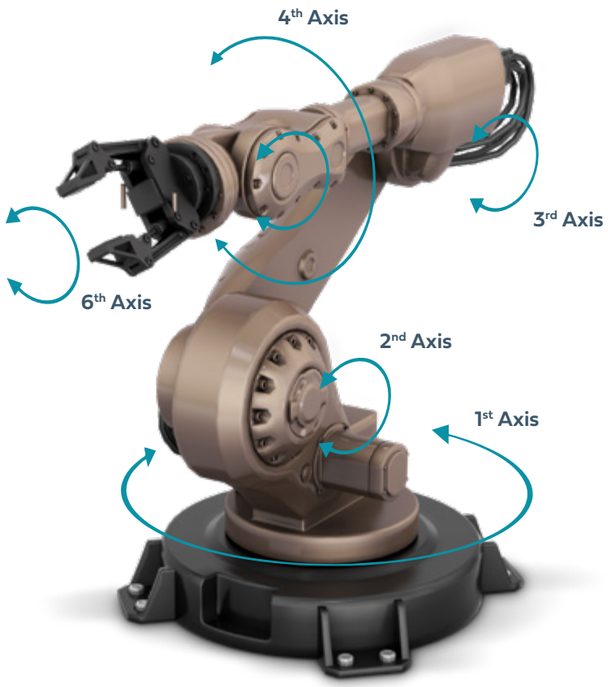
Axis 2
This axis allows the lower arm of the robot to extend forwards and backwards. This is also known as the L or J2 axis.

Axis 3
This allows the upper arm to raise and lower, with a wide degree of movement to expand work access. It is also known as the U or J3 axis.

Axis 4
This is the axis allowing rotation between vertical and horizontal orientations. It is also known as the R or J4 axis.

Axis 5
This allows for pitch and yaw motion (up and down and left to right), and is also known as the B or J5 axis.

Axis 6
This is the wrist of the robot arm, allowing flexible movement for positioning or to manipulate parts. It is also known as the T or J6 axis.



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Robots require lubrication on any joint that moves, i.e. near actuated joints, bearings, sliders, chains, and in gearboxes.

Castrol's Robotic Solutions are formulated for this new age of automated manufacturing. Our products are developed to decrease the downtime of industrial robots, and positively impact the quality, costs and efficiency of your manufacturing process.

A full suite of solutions for your robotic lubricant maintenance, that have been developed over many years of research to help you achieve your robotic lubrication goals.

Castrol's robotic product range

The following Castrol products have been tried and tested in various robot types and applications.

Product	Group	Type	Lubrication point	Brief description
Optigear Synthetic ALR 150	Gear Oil	Synthetic Gear Oil	All axes	For Kuka robots, available through Kuka only.
Optigear ALR X1	Gear Oil	Synthetic Gear Oil	All axes	Designed for oil-lubricated robots. A low-leakage long-life gear oil with elastomer compatibility.
Optigear Synthetic RO 150	Gear Oil	Synthetic Gear Oil	All axes	High load-carrying and endurance performance for oil-lubricated robots.
Optigear ALR 320	Gear Oil	Mineral Gear Oil	All axes	For Kuka robots, available through Kuka only.
Optigear EP 320	Gear Oil	Mineral Gear Oil	Axis 1	A low-friction oil for high load carrying. Mainly used in axis 1.
Optigear BM 100	Gear Oil	Mineral Gear Oil	Axes 4,5,6	Low friction gear oil for selected Axis.
Optileb GT 1800/220	Gear Oil	Food Grade Oil	All axes	For oil-lubricated robots in food applications.
Tribol GR ALR 100-00 PD	Grease	Synthetic Grease	All axes	Designed for grease-lubricated robots, with high stability, low oil separation, and low friction and torque values.
Tribol GR 100-00, -0, -1, -2 PD	Grease	Mineral Grease	All axes	A low-friction grease offering high wear protection.
Optileb GR 823-2	Grease	Food-Grade Grease	Cables	For grease-lubricated robots in food applications.
Optitemp RB 2	Grease	Synthetic Grease	Cables	Designed for robot cable lubrication, with high wear protection and good adhesion.
Tribol GR ALR 100-00, -1 PD	Grease	Synthetic Grease	All axes	Designed for grease lubricated robots, with high stability, low oil separation, low friction and torque values.

The Castrol Robotic Solutions range is constantly evolving.
Please contact your Castrol representative for more details.

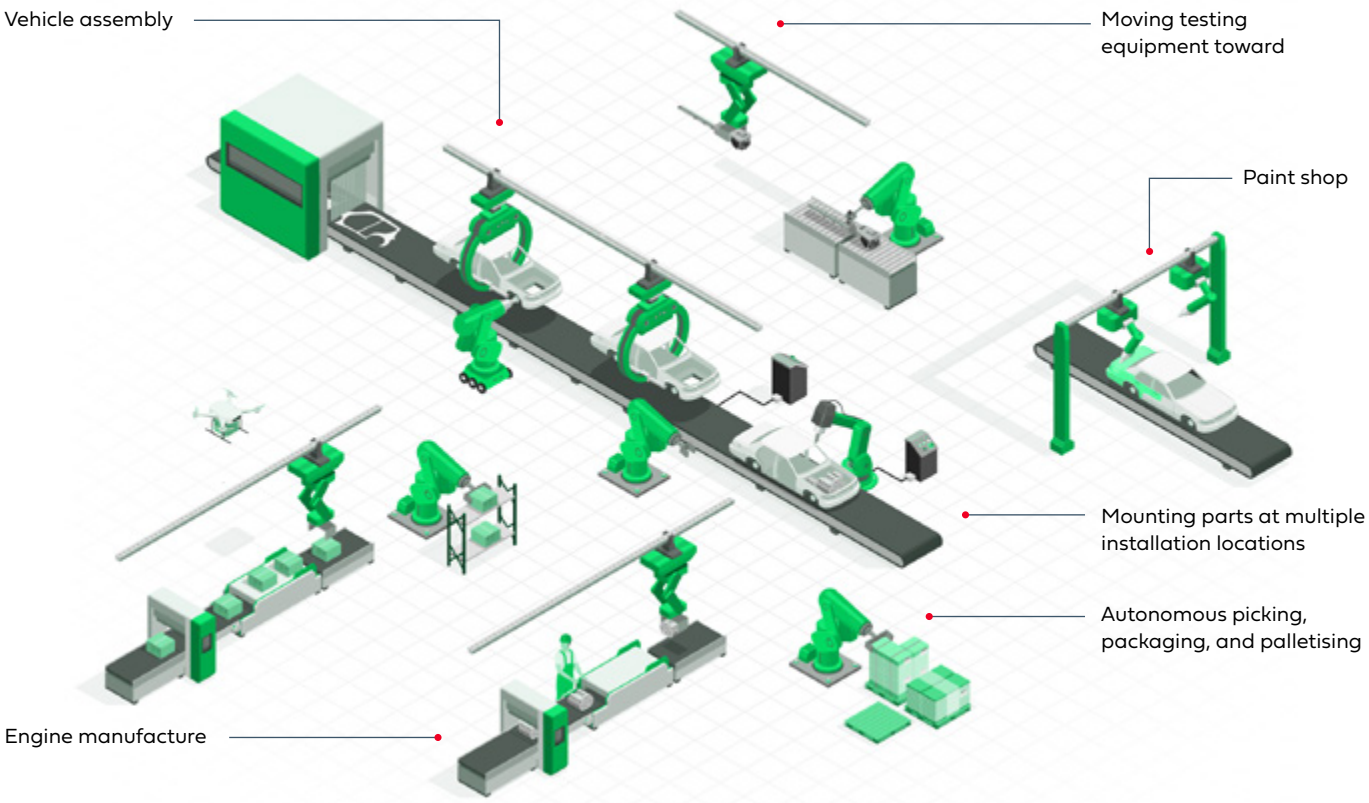
Castrol Robotic Solutions

Our products in action

Castrol solutions play a vital role across the manufacturing process, helping you maximise uptime and positively impact costs, quality and efficiencies.

Our advanced products fight friction corrosion and wear as the application demands it across the manufacturing value chain. From cutting and cleaning fluids to greases and oils, and condition based monitoring equipment.

Explore our full product range at thelubricantoracle.castrol.com



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