

HOW WE HELP MAKE IT HAPPEN FOR INDUSTRIAL MANUFACTURES

# INDUSTRIAL INSIGHTS



+ FEATURE

## Rise Of The Robots

Powering industrial recovery with Generation R

Pg 08



+ FEATURE

## A Green Lubricant Lifecycle

From raw materials to usage and recycling

Pg 13

# FORWARD

SRIKANTH VISVANATHAN

GLOBAL MARKETING DIRECTOR | CVO & INDUSTRIAL

## Responding to COVID-19 and the future of industry

**Welcome to the second issue of *Industrial Insights***, our quarterly e-magazine dedicated to everything industrial. Following the format of our first issue – which you told us you liked – we’re giving you the latest news and trends from the industry, along with customer success stories using Castrol industrial products and solutions.

The impact of COVID-19 has transformed industry in the past few months. During these uncertain and unpredictable times, we are here to offer support and stand by you in as many ways as we can. If you have any questions or concerns, please reach out to your local rep, who will be happy to assist.

How we recover together is a theme throughout this second issue. For example, we look at the future of robotics, and how AI and machine learning will transform industrial places of work.

As manufacturers and industrial plants prepare to reopen, environmental awareness and sustainability are once again important topics. Our lubricants lifecycle analysis assesses the environmental impacts associated with all stages of our product’s life, from raw material to manufacturing, usage and recycling and disposal.

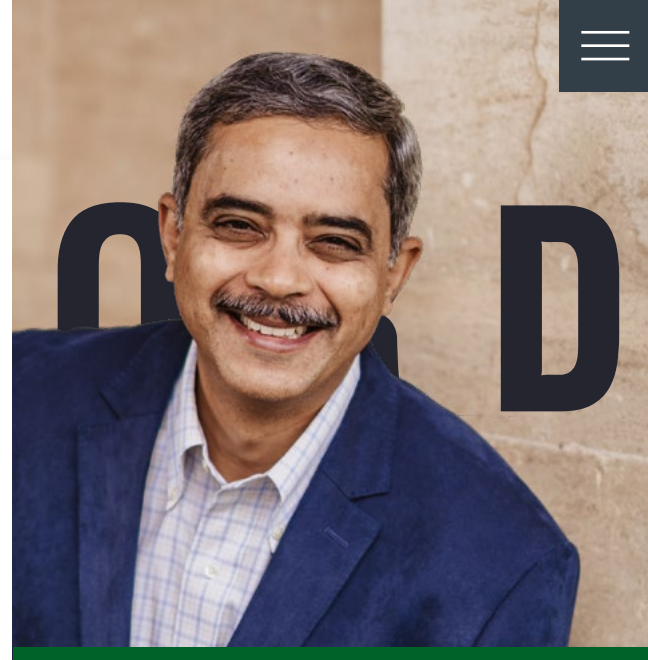
The results are measurable improvements in terms of lower waste generation, less water

consumption, and lower operational costs. All while providing clients with excellent performance – which you can learn more about in our video case studies.

I hope you enjoy this new issue, and please share any [feedback](#) you may have. ■



**EVIDENCE NOW POINTS TO ‘COBOTTING’, WHEREBY ROBOTS AND HUMANS DELIVER THE MOST VALUE THROUGH CO-EXISTENCE”**



# CONTENTS



## 4-5

**News and insights**

**READ NOW →**



### **Your industrial success: we help make it happen**

Castrol has been collaborating with industrial businesses like yours since 1899. Never before have we faced the sort of challenges that every business is encountering right now. We are committed to standing by your side and helping you overcome these obstacles. Whatever problems you are facing, we have the knowledge and experience to help you make smart decisions that can lead to competitive advantage. Please reach out to your local sales rep, and together we can make your business even stronger.

### **6-7 CASE STUDY Castrol Iloform CFX Technology**

A side-effect of COVID-19 has been nature returning to cities and urban areas. Castrol can support this message, with an alternative to chlorinated paraffins with less waste and a lower environmental impact. →

### **8-11 FEATURE Post COVID-19 rebuilding with Generation R**

Industrial recovery can be boosted with cobotting, where man and machine work in complete cooperation. →

### **12 CASE STUDY Castrol and ILS Nordic**

Watch our video about how this partnership helps clients save money and improve tool life – vital financial benefits to reinvigorate industrial businesses. →

### **13-16 FEATURE Lifecycle Analysis**

As consumers focus on quality of life, the perfect product needs to be greener and cleaner as well as highly effective. Here's how we add value. →

### **17 CASE STUDY High performance at Renault**

Our short video shows how we helped a Renault plant in Spain save 1 million liters of water a year. →

### **18 EMPLOYEE SPOTLIGHT Patrick Bell →**

# NEWS AND INSIGHTS

## Robots: Riding The Perfect Storm

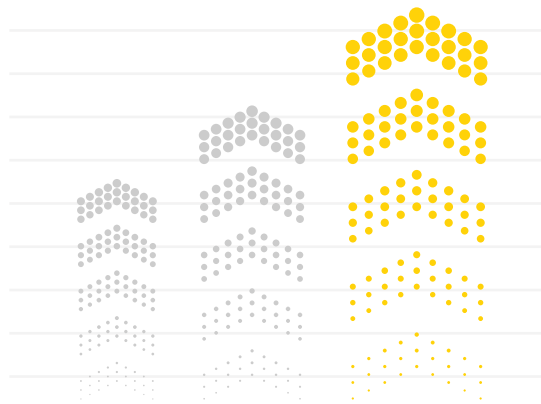
**B**y 2026, Forbes estimates that the industrial robotics market will hit \$59.9 billion. To put that figure into some kind of context, it's more than double the figure recorded in 2015.

There are a number of factors driving this enormous increase, with the most important being the recent stagnation in industrial growth — or, in the UK's case, an active decline.



**LABOUR COSTS CONTINUE TO SOAR AROUND THE WORLD"**

Manufacturers are looking to find additional efficiency on production lines, and the traditional labor force is an area of focus. Labor costs continue to soar around the world and the problem is compounded by a growing skills gap in the manufacturing skills sector. This skills shortage has created an employee's market, which is reflected in rising staff turnover figures, creating a further challenge for employers.



Robots provide the ideal solution on all fronts.

- 1 **They're cheaper than humans: the average industrial robot now costs just [\\$50,000 \(£38,000\)](#) – with no wages on top.**
- 2 **Studies have shown robots to be more productive than humans.**
- 3 **Robots are never sick, take vacations, or late for work! →**



# NEWS AND INSIGHTS



## THE GLOBAL MARKET FOR INDUSTRIAL LUBRICANTS WILL HIT \$68 BILLION BY 2024”

What’s more, robots are getting more powerful all the time. The recent technological explosion means processing power is now cheaper than ever, and the Internet of Things has created a giant ecosystem that allows robots to assist one another. As PwC notes, **“a wealth of options for manufacturers are opening that did not exist even a few years ago.”**

The growth of the robotics sector is, of course, great news for the lubricants sector, creating a vast increase in demand. One recent report suggests the global market for industrial lubricants will hit \$68 billion by 2024, and robotics will play a key role in this

growth. However, it will also place significant demand on the sector.

- 1 **Lubricant manufacturers will be required to support their customers’ high-tech, high-efficiency agenda, and continually optimize the performance of their own products.**
- 2 **There are specific challenges around cyber-security, automation complexity, and a lack of in-house programming expertise.**

Faced with these challenges, it’s vital that lubricant manufacturers take a proactive

approach to robotics and anticipate emerging trends before they happen. It’s a mindset Castrol takes very seriously; in fact we’ve just written our own whitepaper on the subject, and plan to maintain our thought leadership in years to come.

**Find out more information about Castrol Advanced Robotic Solutions.**

[Learn more](#)

Turn to [page 13](#) for a more detailed look at the robotics sector and how lubricants companies can react to emerging trends. ■



## + CASE STUDY

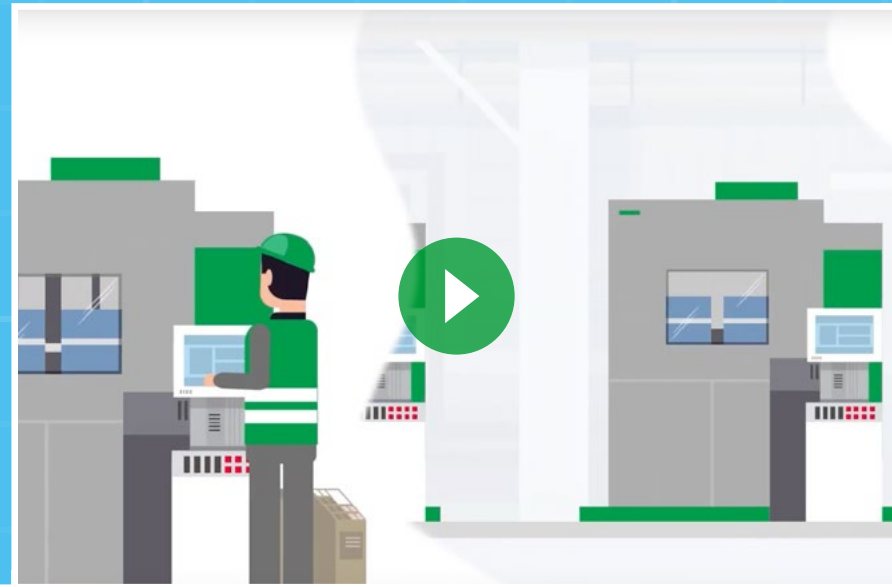
## CASTROL ILOFORM CFX TECHNOLOGY

**Removing chlorinated paraffins without compromising productivity**

Most manufacturing industries are constantly looking for ways to improve their processes in order to stay competitive within their marketplace. And metal forming customers are no different.

One way to achieve this is by using higher performing lubricants that allow higher press speeds and increased quality through a more precise manufacturing of the part.

The problem is that common forming fluids used by industrial manufacturers during severe metal forming processes typically contain chlorinated paraffins. While chlorinated paraffins are amongst the most efficient additives, they can also result in high waste disposal costs, environmental concerns, and risks of corrosion. →



*Watch our short animated video to learn more about Castrol Iloform CFX.*

## + CASE STUDY

Castrol Iloform CFX is a newly developed series of forming oils that are used in Castrol's products. This additive technology is mostly based on renewable resources, and can help clients to improve their processes and deliver a number of potential benefits.

As deformation includes a very wide field of applications (drawing, stamping, fine blanking, pilgering etc.) these benefits can vary by application quite significantly.

For example, Castrol Iloform CFX can deliver [10-15%\\*](#) faster press speeds, and 50% higher speeds in fineblanking. It can also eliminate corrosion and extend usage, resulting in [20%\\*](#) longer tool life and reduced downtime. Surface roughness can be halved.

Castrol Iloform CFX is also more environmentally responsible than traditional forming fluids – not only does it not contain chlorinated paraffins, [it has a high viscosity index\\*](#) which means that less lubricant needs to be used overall, and it's much easier to clean. This saves time, money, and water during the cleaning process. ■

Learn more about Castrol Iloform CFX series

Learn more

10-15%  
FASTER

\*Based on lab tests and field case studies.



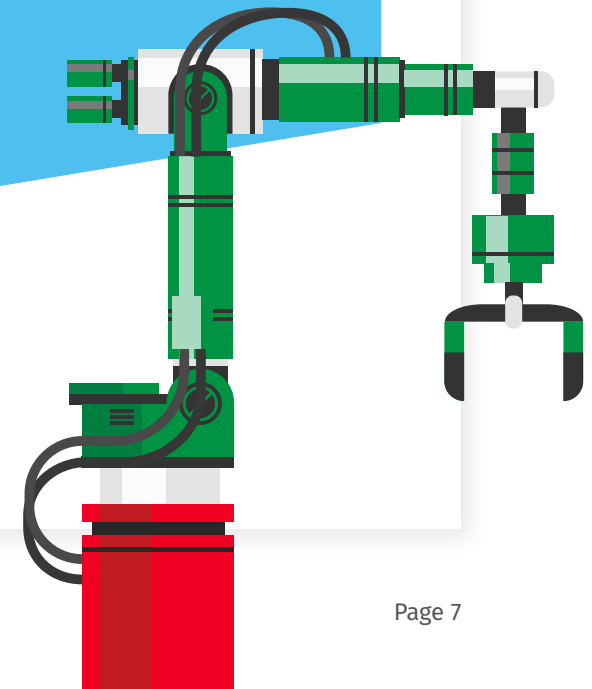
## CASTROL ILOFORM CFX CAN DELIVER

50%

Higher speeds in fineblanking

20%

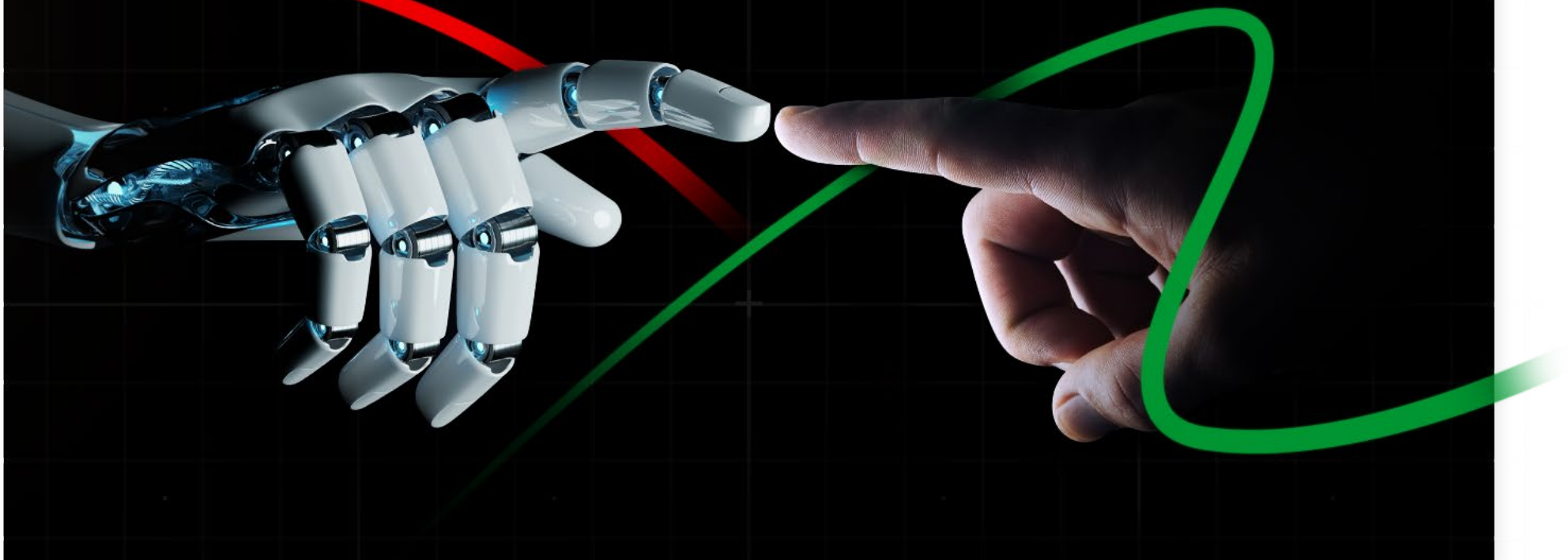
Longer tool life



+ FEATURE

# POST COVID-19 REBUILDING WITH GENERATION R

Discover the value of “cobotting”.





+ FEATURE | WELCOME TO GENERATION R

## Treating robots as partners

The shift to automation for manufacturers has been happening for decades. Robot welding cells are commonplace on industrial production lines; tasks such as:



Cutting



Sealing



Palletizing

are already in mechanized hands. The rise of the robots isn't the future, it's the present.

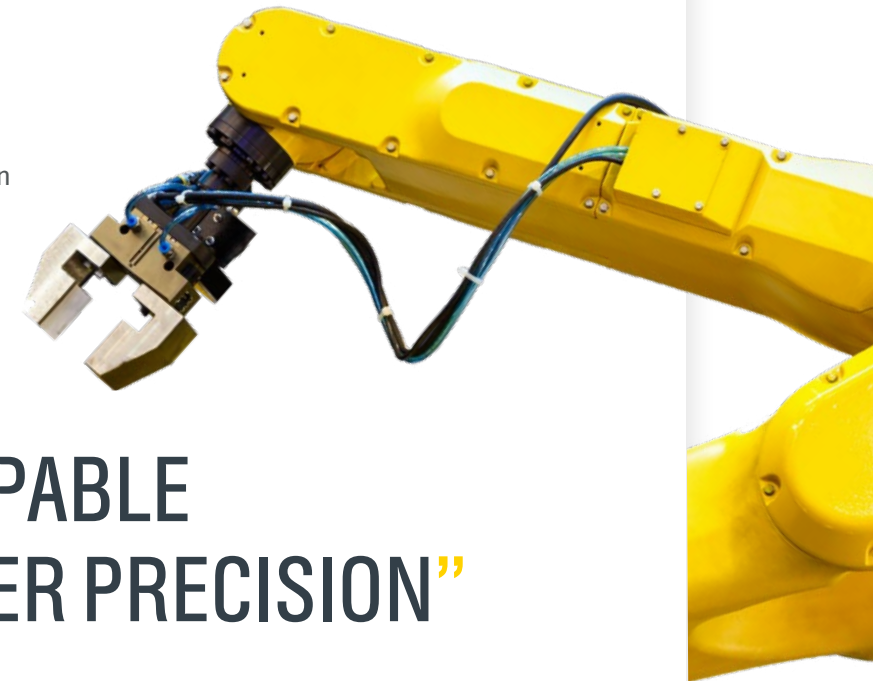
As the world embraces Industry 4.0, we are likely to see a change in the role of robots. Recent advances in end-of-arm tooling mean robots are capable of ever-greater precision, as demonstrated by their growing presence on microchip assembly lines.

Robots are becoming ever smarter, integrating information from multiple sensors to take on increasingly sophisticated roles. Above all we're likely to see an ever-greater number of 'cobots', robots designed to work alongside humans, not instead of them.

The benefits are obvious. Robots don't get sick, they don't need vacations, and they maintain a constant level of performance. Yet, if the business world wants to fully realize the benefits of industrial automation it has a lot of work to do.

Research from Ernst and Young in 2016 showed that up to 60% of initial robotic process automation (RPA) projects fail. A more recent study from Deloitte found that 63% of companies fail to meet their delivery deadlines for such initiatives. →

“  
**ROBOTS ARE CAPABLE  
OF EVER-GREATER PRECISION**”



## + FEATURE | WELCOME TO GENERATION R

Why are so many projects falling short of expectations? A main reason could be that companies aren't preparing themselves properly. These businesses would likely benefit by rebooting their culture and adopting a new mindset that places robots at the centre of the entire operation, rather than simply parachuting them in to perform repetitive tasks.

It's a concept Castrol has termed 'Generation R'. The idea of fully connected factories with complete co-operation between man and machine. We've spent months planning a new approach to Robotics, with a clear set of guiding principles.



### CO-OPERATION BETWEEN MAN AND MACHINE”

This may represent a major challenge for some companies. The idea that robots work with us, not for us, goes against the set narrative, and no doubt there will be a reshaping of jobs and upskilling required in the creation of the new structure.

We feel this new, collaborative approach is vital for our industrial future. Robots are here to stay — and we will benefit from seeing them as partners in our success. That is why we developed the Castrol Advanced Robotic Solutions. ■

[Find out more](#)

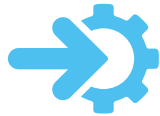
The six core principles of Generation R are as follows:



[Find out more](#)



## The six core principles of Generation R are as follows:



### **Integrated**

We believe companies in Generation R should aspire to make their entire operation secure and integrated, using real-time data to monitor performance instantly. This applies to systems, processes, technology, and people.



### **Agile**

Companies are advised to review their operating models and adopt more of a move-fast, fail-fast mentality, with flexible scheduling and a reduction of downtime.



### **Collaborative**

'Gen-R' companies may benefit from finding ways of complementing robotic advancements with human talent. Staff can then be trained in how to work with robots, focusing on staff safety.



### **Proactive**

Instead of relying on routine maintenance checks, companies may benefit from adopting a predictive strategy, using the power of data.



### **Innovative**

Industry should review how their data sources are aggregated and look to harness the power of artificial intelligence (AI) to prioritise tasks, and use robots for a blend of production and business processes.



### **Competitive**

At each level of the organization, the company could benefit from a 'design-thinking' culture, allowing new products to be developed and taken to market quickly.

## + CASE STUDY

# CASTROL AND ILS NORDIC ARE ON A MISSION TO HELP OUR CUSTOMERS REALISE PRODUCTION EFFICIENCIES



**ILS Nordic, a lubricant marketing firm founded in 2010, is now firmly established as Castrol's strategic partner in Sweden.**

Together, we take a structured, TCO-based approach to helping partners realise production efficiencies.

Watch this short video to learn how we identified areas for clients to improve tool life, and provided demonstrable evidence of savings on both cost and tooling requirements. ■

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**Castrol industrial case studies**

[See more customer testimonials](#)

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+ FEATURE

# LIFECYCLE ANALYSIS

Smart engineering that delivers operational efficiencies and lower environmental impacts.

## Towards the Holy Grail of Real-Time Monitoring

**W**e think Industry 4.0. will fundamentally disrupt the way our industry operates. It will bring a number of challenges and opportunities to the lubricants sector, including:

- 1 **The pressure to be sustainable, which is rapidly gaining traction as more companies recognize its benefit to the bottom line.**
- 2 **The explosion in environmental legislation over recent years.**
- 3 **Major advances in manufacturing technology.**
- 4 **The accompanying adoption of machine learning, the Internet of Things, and other digital technologies.**

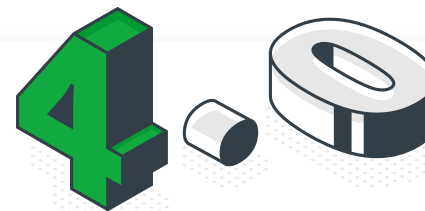


As a lubricant manufacturer, the challenge for us is to help our clients use lubricants in a cost-effective and efficient manner. For example, many clients are actively looking to reduce their water consumption. And less water means less lubricants.

Castrol believes a two-pronged approach is required.

- 1 **We need to continuously improve our premium products and services to meet the evolving environmental agenda and help achieve the Paris goals.**
- 2 **We must harness new technology to achieve sophisticated lifecycle analysis (LCA), working with our clients to extract maximum value from their lubricants.**

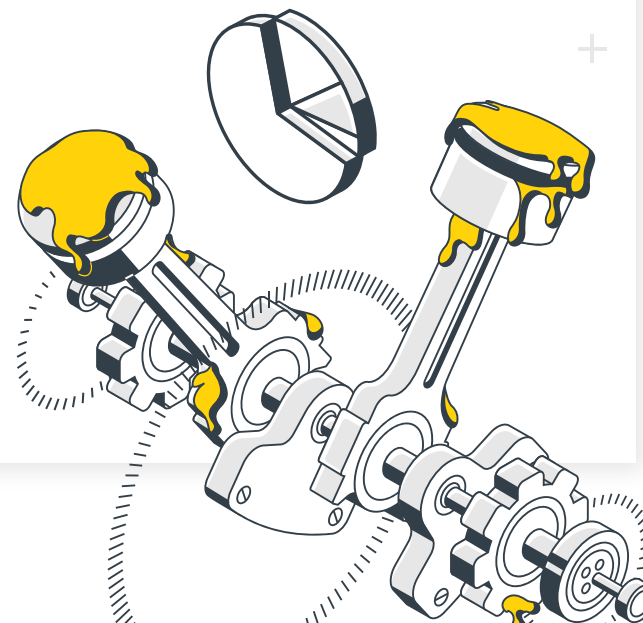
That's why our products continue to be the subject of constant analysis over the next few years. We'll help our clients optimize their entire industrial processes, then



feed these learnings back into our product development. Metalworking fluids, gear oils, and greases will be reengineered to achieve greater levels of efficiency and productivity to reduce the impact on the environment, and we will look to further develop integrated coolant and cleaner solutions, in which water is recycled back to the coolant fluids rather than being squandered. →

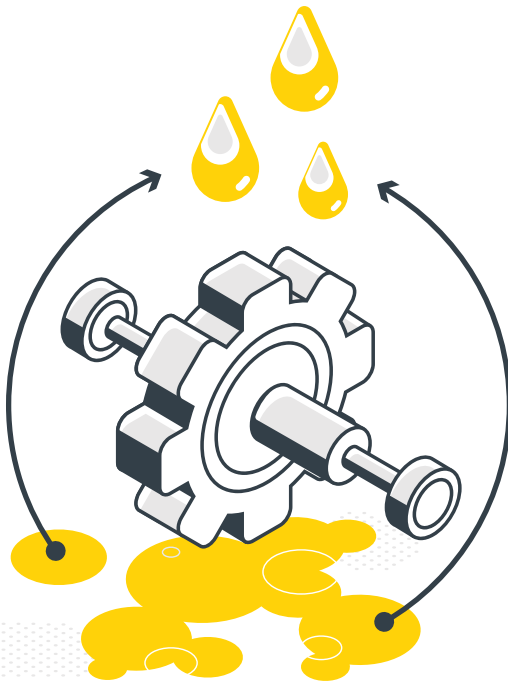
Learn more about Castrol Techniclean XBC

[Learn more](#)





WE NEED TO CONTINUOUSLY IMPROVE OUR PREMIUM PRODUCT TO MEET THE EVER-EVOLVING ENVIRONMENTAL AGENDA.”

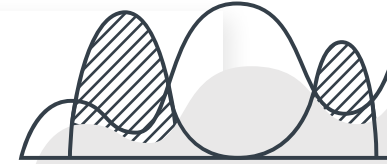
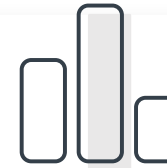


## Real time condition monitoring

We also need to ensure that our lubricants are maintained in their optimal operating condition for as long as possible. As lubricant suppliers, we’ve long been entrusted with analyzing the ongoing performance of our products, but this needs to become a more automated process.

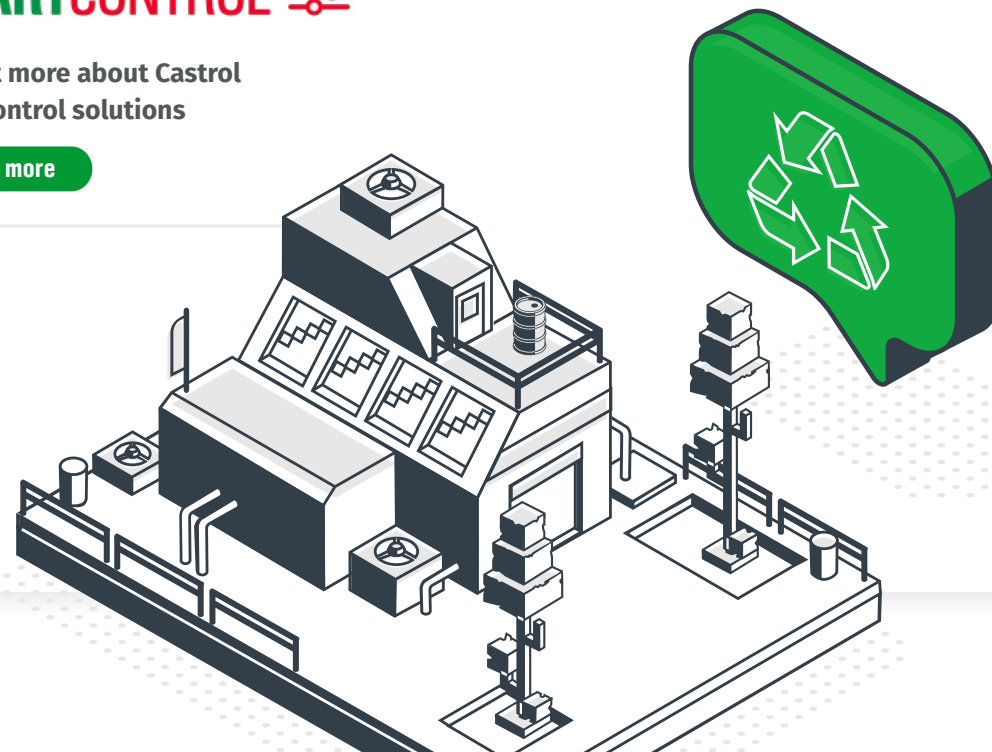


Find out more about Castrol SmartControl solutions

[Learn more](#)


The ultimate goal is real-time condition monitoring. Instead of the lubricant supplier conducting a daily check on key parameters, we envisage a future in which most of these parameters are measured constantly, without human intervention.

Sensors can monitor metrics such as pH and conductivity and send the data back, either to a human department or a self-adapting/ autonomous system, which in turn restores the metrics to their recommended level. →



Castrol is already helping Renault, one of the world's leading automotive manufacturers, achieve real-time monitoring. At its huge plant in Spain, the company has adopted leading-edge technology to monitor the condition of its lubricants, and installed an autonomous system which takes the necessary action in compliance with the company's commercial and environmental vision.

#### Compelling results



**Renault is now saving around €190,000 through lower coolant usage, longer tool life, and lower rejection rates.**

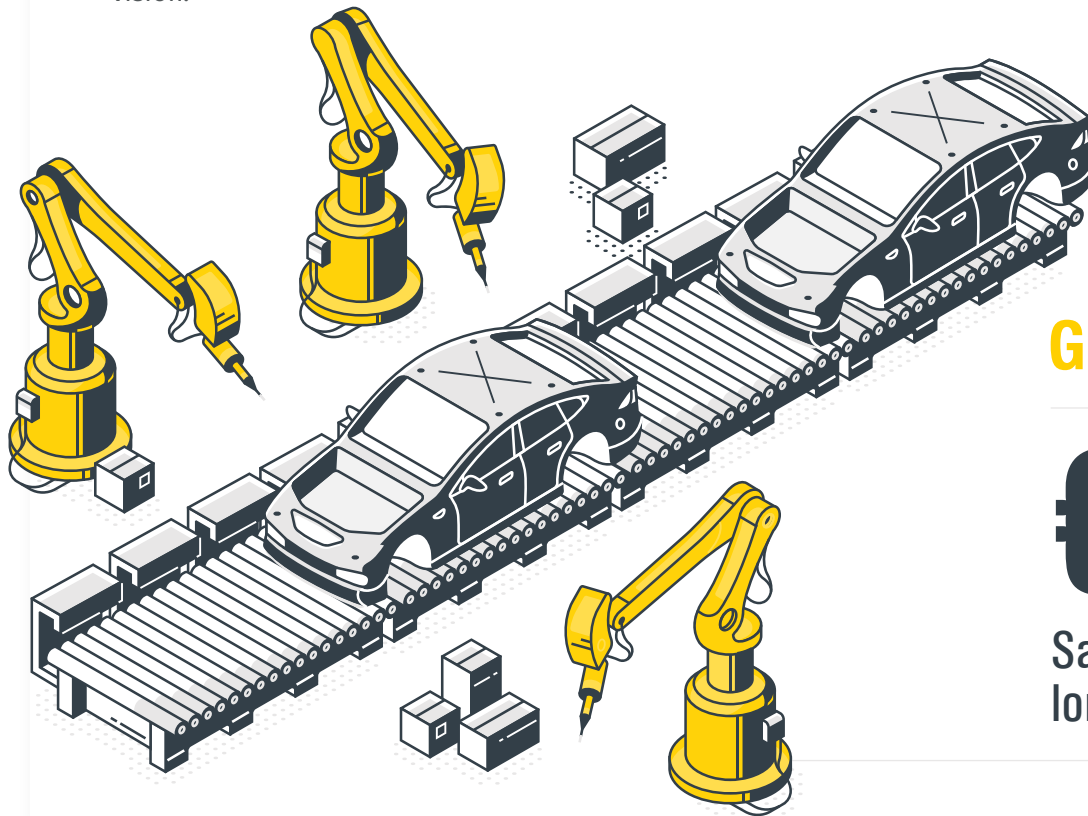


**The compatible coolant used in its cleaning system, meanwhile, has saved 1 million liters of water.**

We feel the Renault project represents a vision of the future. We're working with them to identify efficiencies throughout their entire production process.

Instead of simply selecting the best lubricant for the job, we've become a holistic optimization partner, maximizing the benefits of digital technology.

The future is sure to present fresh challenges, but these will be assessed and handled on a real-time basis — just as they are at the Renault plant. ■



## GROUPE RENAULT

# €190,000

Saved through lower coolant usage, longer tool life, and lower rejection rates.



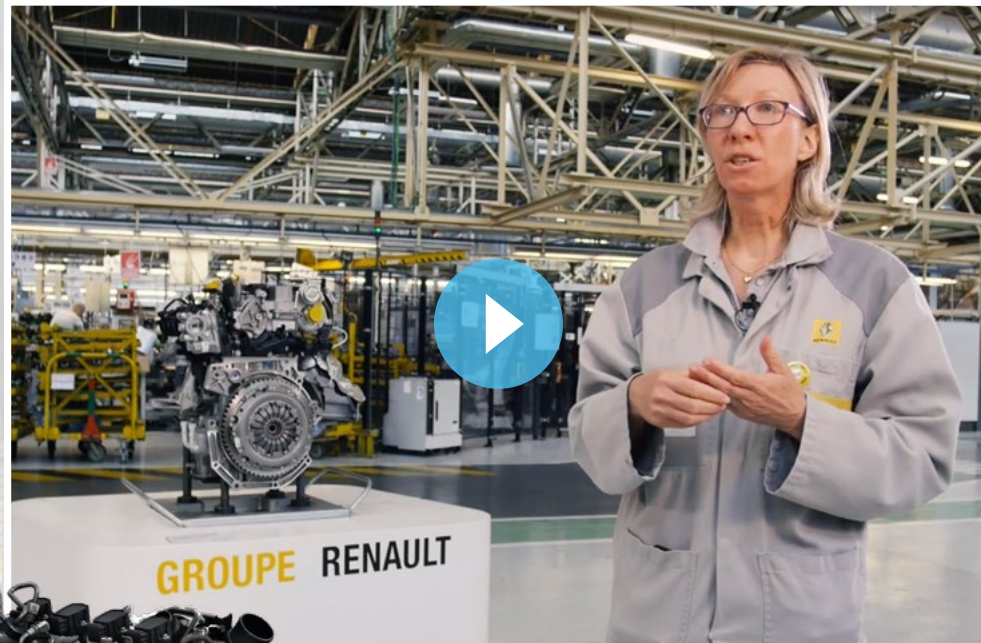
## + CASE STUDY

# CASTROL DRIVES QUALITY AND HIGH PERFORMANCE AT RENAULT

**Castrol and Renault share the same high standards when it comes to safety, quality, and performance.**

Watch this short video to learn about Castrol's impact at the Motores factory in Spain, who produce 1.5 million engines a year – 40% of Renault's global output.

Discover how Castrol has helped the plant save 1 million litres of water each year. And learn how the relationship between Renault and Castrol is a true partnership where we proactively suggest new proposals and innovations. ■



# 1.5 MILLION ENGINES PRODUCED A YEAR

## + EMPLOYEE SPOTLIGHT



# PATRICK BELL

DIRECT SALES MANAGER  
INDUSTRIAL – GERMANY, AUSTRIA &  
SWITZERLAND

We recently spoke with Patrick Bell, who is responsible for 12 key account managers as direct sales manager in Germany, Austria and Switzerland. Watch the short video to learn how lubricants run in Patrick's family, and how despite 15 years at Castrol every day still brings something new!



“OUR MOTTO IS ‘ONE TEAM’.”

+ CASTROL WHMIH

## Partnering with businesses like yours since 1899: we help make it happen

Castrol helps industrial businesses win by partnering to tackle today's tough challenges. And we've been doing this since 1899, to drive increased efficiency, productivity and reliability within industrial manufacturing while remaining compliant and sustainable in our practices as well as yours.

We're here to help make it happen with:



**A premium industrial oil offering that's liquid engineered to help optimize performance**



**Advanced analytics that enable data-driven maintenance**



**Services that help drive down total cost of ownership (TCO)**



**A firm commitment to helping reduce the environmental impact of your operations (and ours)**



But we don't do this alone. It's about delivering success for our customers. That's why, in every issue, we'll be showcasing customer success because together, we make it happen.

*In this issue we've explored how we help Renault save 1 million liters of water a year ([page 17](#)) and how Castrol Iloform CFX can deliver higher blanking speeds while also eliminating corrosion and extending tool life ([page 6](#)). ■*



**WE HELP  
MAKE IT HAPPEN**





# FROM MAN'S FIRST POWERED FLIGHTS TO LANDING ON MARS CASTROL IS WITH YOU ALL THE WAY WE HELPED MAKE IT HAPPEN.

With over 100 years of exploration and innovation in lubricant technology, Castrol's Liquid Engineering is proud to help NASA conquer new frontiers. We traveled with Alcock and Brown on the first ever transatlantic flight, and we're moving on the surface of Mars in NASA's Curiosity and Opportunity rovers. Like NASA, our dedication to innovation never sleeps. Our lubricants help overcome the challenges of deep space missions, and we are developing technology to meet new challenges.

**Discover how we helped make it happen.**  
**Visit [castrol.com/industrial](https://www.castrol.com/industrial)**

**Find out more**

**#makeithappen**

## Legal

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IT'S MORE THAN JUST OIL. IT'S LIQUID ENGINEERING.

