

HOW WE HELP MAKE IT HAPPEN FOR INDUSTRIAL MANUFACTURES

INDUSTRIAL INSIGHTS

+ FEATURE

The sharp end of sustainability

Learnings for future focused leaders from
operational professionals →

08-14

+ FEATURE

Optimising robots

How to harness their
full potential →

15-21

FOREWORD

KAMURAN YAZGANOĞLU

VICE PRESIDENT | GLOBAL INDUSTRIAL, MARINE AND ENERGY



Forging ahead into a new era

For the long-awaited sustainable transition to really take off, energy- and resource-intensive industries will need to make major changes.

Fortunately, many are already well on the way, with huge advances in the operational uptake of robotics and strong commitments to increasing energy efficiency.

The path to a greener and stronger future can be complex and relies on connections and collaboration. In this issue we'll discover how energy-intensive companies are driving

sustainability forward, from both leadership and operational perspectives.

We travel to China for a view of the exciting robotics landscape there, and hear the view of CEOs, industry leaders and OEMs on the key challenges facing automation.

Then it's on to India for a look at how automotive manufacturer Tata Cummins achieved major cost reductions and operational efficiencies, including 90% lower charges and \$3 million of savings. (Spoiler alert: it happened with a hint of Liquid Engineering...)

Our global tour continues with a pitstop in Spain, where Castrol's Industrial Sales Manager for Southern Europe talks to us about his day-to-day work and driving inspirations.

Then it's a countdown to lift-off as we launch the all-new Castrol on Mars podcast, an exciting series exploring the limits of human ingenuity with some of the world's leading scientists,

astronauts and industrial innovators.

I very much hope our stories will inspire you to push ahead and explore every avenue for increased sustainability and success. After all, if we can put machines on Mars, we can surely build a greener industrial landscape here on Earth.

Please enjoy this issue, and feel free to share any [feedback](#) with us.

“Exploring every single avenue and being relentless in your search for efficiency gains is the only way to achieve net zero. **Smart gains; small gains.**”

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It's blast-off time for an exciting new podcast.



Your industrial success: we help make it happen

Castrol has been collaborating with industrial businesses like yours since 1899. Whatever challenges you are facing, we'll help you identify key decisions you can make that could give you the edge. Together we can help make your business even stronger.

NEWS AND INSIGHTS

Michelle Jou joins Castrol as chief executive officer

Castrol welcomes a new CEO. Michelle Jou takes over from outgoing executive Mandhir Singh, who leaves in autumn 2022 following a 32-year career with bp, and over 20 years with Castrol.

His successor Michelle Jou brings extensive strategic commercial expertise, with over 25 years' experience across sales, marketing, supply chain and executive management in the chemical industry.

[Find out more about Michelle here.](#)

New and improved Lubricant Oracle launched

Our new and improved Lubricant Oracle is now live. The complete product information centre features an improved browsing and navigation experience to ensure our customers can access lubricant details more quickly and easily than ever.

You can now search by sector, product category or application for all your fluid needs. Lubricant Oracle provides product and safety data sheets as well as a handy reference guide covering all the need-to-knows of high-performance lubrication.

Plus, customers registering with Lubricant Oracle get online access to OEM approvals, for a quicker flow of essential information.

[Register for Lubricant Oracle here](#)

Wilcox and Flegel: Our new strategic partner in the Pacific Northwest

Castrol is working with a new distributor in the Pacific Northwest region of the US, in a partnership set to deliver growth and success for both parties. Fuel and lubricant specialist Wilcox and Flegel was looking

for a supplier to help round out its portfolio and drive expansion into industrial and metalworking fluids.

At the same time, Castrol was seeking a dedicated distributor that would drive growth and execute opportunities within the Northwest, a territory with unbounded potential.

The timing was perfect and the goals were aligned, resulting in the birth of a new and exciting collaboration. The Castrol team said: "We have a business partner that is as passionate about ensuring our brand and products are represented as we would represent them ourselves."

+ NEWS AND INSIGHTS

“Wilcox and Flegel understands value selling and wants to grow their business with Castrol Industrial products.”

“Wilcox and Flegel is delighted to partner with Castrol. We take a lot of pride in representing Castrol as we believe this is a high-end brand, with high-end products that we can offer to our customers with confidence. We see Castrol as an industry leader and a true market differentiator in the PNW. We appreciate their dedicated support for our team’s success.”

Carson Williquette, Director of Sales & Marketing, Wilcox and Flegel Oil Co

Learn more about Wilcox and Flegel [on their website](#)

Winning in wind: Outstanding protection under high loads

The winds of change continue to bring positive news as we celebrate high-profile developments in the wind industry.

Major turbine conversion in North America

One of the largest wind turbine owners in North America has agreed to convert its entire Siemens fleet of 800 turbines to using Castrol’s Tribol GR SW 460-1 grease in their main bearings.

Based on 4 years of extensive field testing, the wind operator has validated many benefits

including bearing life extension, vibration and temperature reduction, and long-term performance of the lubricant in multiple platforms where Tribol® GR SW 460-1 grease is now their preferred product. For example, in a side-by-side

comparing Tribol® performance with a major competitor, the competitor’s grease showed excessive leakage, high oil separation, and elevated wear in the new main bearings but not the Castrol product.



Did you know?



The Timken Company performed independent testing to provide direct comparison of many major greases used in main shaft bearings. Based on the completed tests, all results for Castrol® Tribol® GR SW 460-1 grease were within the Superior test values for low temperature torque, pumpability, corrosion protection, shear stability, and bearing wear behavior. According to Timken “The overall results indicate the grease is better than or equal to other competitor greases used for main shaft bearings.”

Learn more about how Castrol lubricants are powering the wind energy revolution.

+ FEATURE

MEET CASTROL: UPCOMING EVENTS IN 2022

We're back at conferences and exhibitions around the globe, rediscovering the excitement of meeting people face to face, and having great conversations. Look out for our team at these upcoming events.

+ FEATURE | UPCOMING EVENTS IN 2022

Event	Dates	Location	Sector
<u>MMMM</u>	25 – 27 August	Pragati Maidan , New Delhi, India	Metals
<u>IMTS</u>	12 – 17 September	McCormick Place , Chicago IL, USA	Manufacturing
<u>AMB</u>	13 – 17 September	Messe Stuttgart , Stuttgart, Germany	Metalworking
<u>WindEnergy Hamburg</u>	27 – 30 September	Hamburg Messe , Hamburg, Germany	Wind
<u>IZB</u>	11 – 13 Oct	Allerpark , Wolfsburg, Germany	Auto
<u>KSS Forum</u>	3 – 4 November	Fellbach , Germany	Manufacturing
<u>Fabtech</u>	8 – 10 November	Georgia World Congress Center , Atlanta GA, USA	Metalworking
<u>JIMTOF</u>	8 – 13 November	Tokyo Big Sight , Tokyo, Japan	Metalworking (machine tooling)

We look forward to welcoming you to our booth very soon.

To book a meeting with the team at any of these events, [just get in touch](#)

+ FEATURE



THE SHARP END OF SUSTAINABILITY

How are energy-intensive companies handling the sustainability drive, from leadership to operational professionals? Our opinion-based study investigates.



+ FEATURE | THE SHARP END OF SUSTAINABILITY

By now, industry is well attuned to the sustainability imperative. Climate commitments and carbon-zero goals have become the norm. With high-level ambitions set, how is the transition to a sustainable economy playing out at the operational level of day-to-day industry? As part of our journey towards becoming more sustainable, we set out to learn more.

Global movers and makers

We commissioned a global opinion research study focusing on the businesses that create and transport goods:

- + Automotive
- + Industrial
- + Manufacturing
- + Marine

These energy- and resource-intensive industries work hard to keep the world economy supplied with the goods it needs. But meeting high demand and expectations of speed creates major sustainability challenges.



Operational and leadership views

Across the sectors, we interviewed 1,680 operational professionals and 1,180 business leaders. The findings reveal how these groups are approaching the scale of the challenge, the pace of progress and the best route to take.



1,690

Operational professionals

1,180

Business leaders

+ FEATURE

SPOTLIGHT ON MANUFACTURING

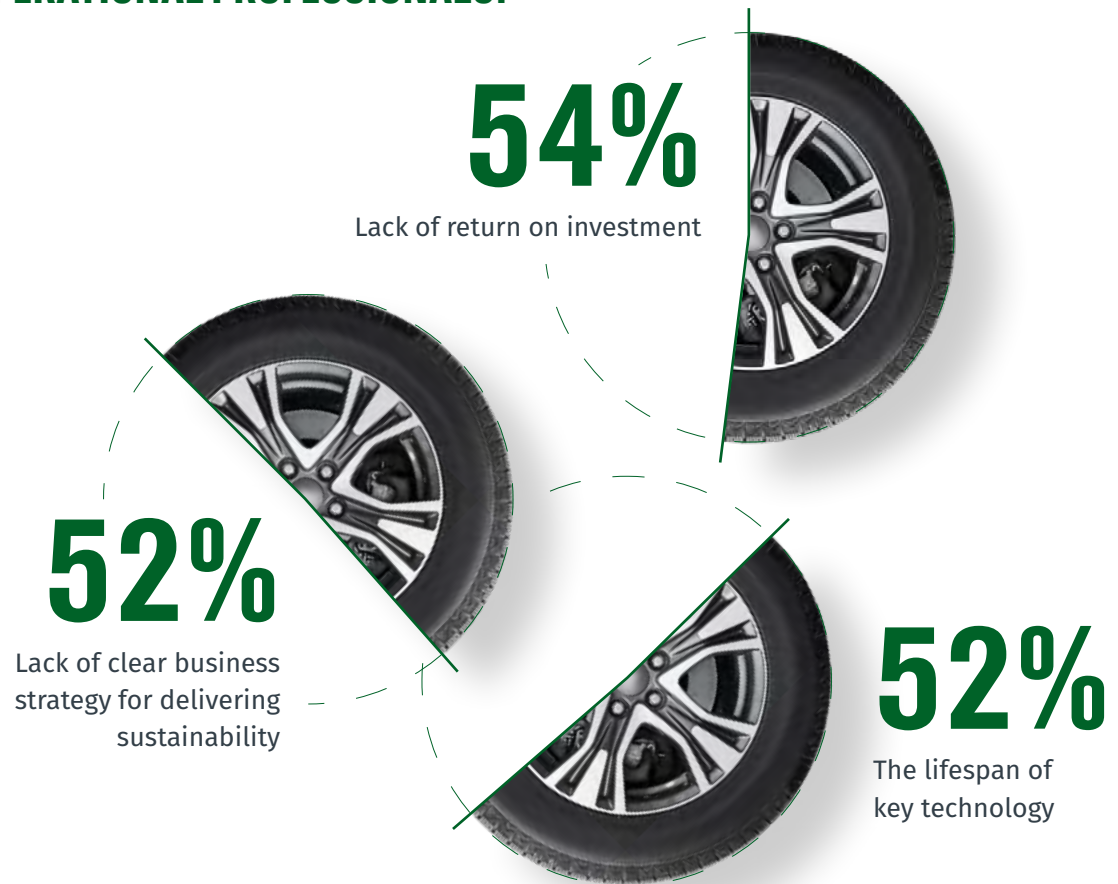
Insights from 400 operational professionals and 275 business leaders, working in the manufacture of chemicals, food and beverage, pharmaceuticals, paper and plastics.

Reduce, reuse and recycle

Businesses in the manufacturing sector were focused on reducing waste in order to make them more sustainable. Reducing waste to landfill is the top organisational priority according to both operational professionals and business leaders. This is followed by ensuring products used are recycled (operational professionals) and ensuring products made are recyclable or biodegradable (business leaders).

What are the top three barriers in preventing focus on sustainability in the manufacturing sector?

ACCORDING TO OPERATIONAL PROFESSIONALS:



+ FEATURE | THE SHARP END OF SUSTAINABILITY

ACCORDING TO
BUSINESS LEADERS:

40%

Lack of capital to fund our
sustainability strategy

39%

Focus on short-term performance
due to COVID-19 pandemic

39%

Lack of support for sustainability
from my business's wider
business leadership team

What are your sustainability goals?

Let us know... industrialinsights@castrol.com

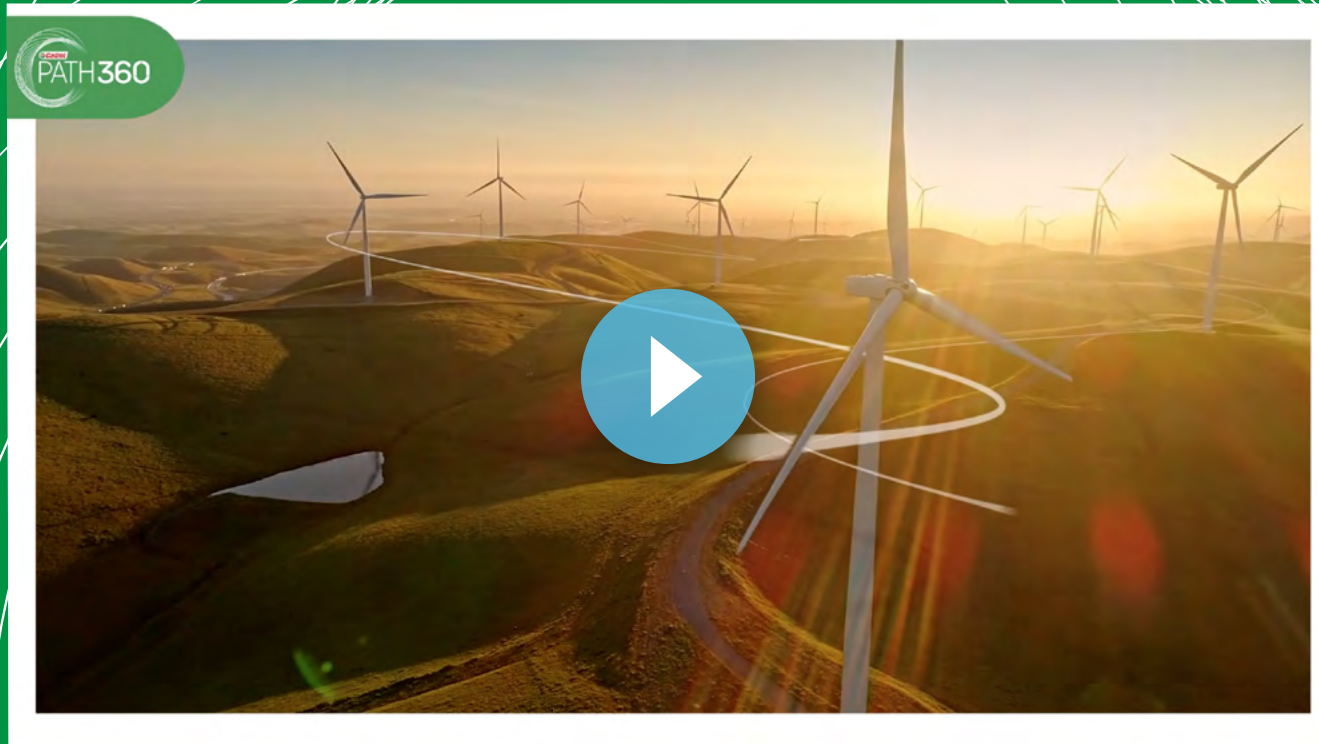


Did you know?

Almost a quarter of the
world's energy is lost to
friction, corrosion and wear.
At Castrol we're stepping up
our 120-year fight against it.
Introducing Castrol Path 360.



+ FEATURE | THE SHARP END OF SUSTAINABILITY



Download the full report for global results broken down by sector, country and role. Plus, analysis, insights and key learnings.

[Download now](#)

+ FEATURE

MEETING THE ROBOTICS

CHALLENGE

The road to fully optimised robotics has a few hurdles on the horizon. We explored the barriers faced by the industry and the way forward.

+ FEATURE | MEETING THE ROBOTICS CHALLENGE

Robotics is widely (and rightly) hailed as key to the future of industrial operations. But that doesn't mean there aren't important obstacles to overcome along the way.

At Castrol, we've been investigating the needs and challenges experienced by manufacturers as they scale up and optimise their robotics capabilities.

Our [Robots on the Rise](#) report examines the opportunities and barriers to successful automation. We also obtained first-hand insights at the Castrol China Robotics thought leadership summit in Shanghai, attended by more than 100 including some 40 robotics CEOs.

The robotics revolution

Between 2015 and 2020, global operational robot stocks soared by 85%, with automotive and electronics OEMs driving the industrial demand. Not coincidentally, the cost of robots has fallen by more than half over the past 30 years, increasing accessibility. We are now into the era of robotics-as-standard.

BY 2025 THERE COULD BE MORE
THAN 4 MILLION INDUSTRIAL
ROBOTS IN OPERATION

(Castrol research)

+ FEATURE | MEETING THE ROBOTICS CHALLENGE

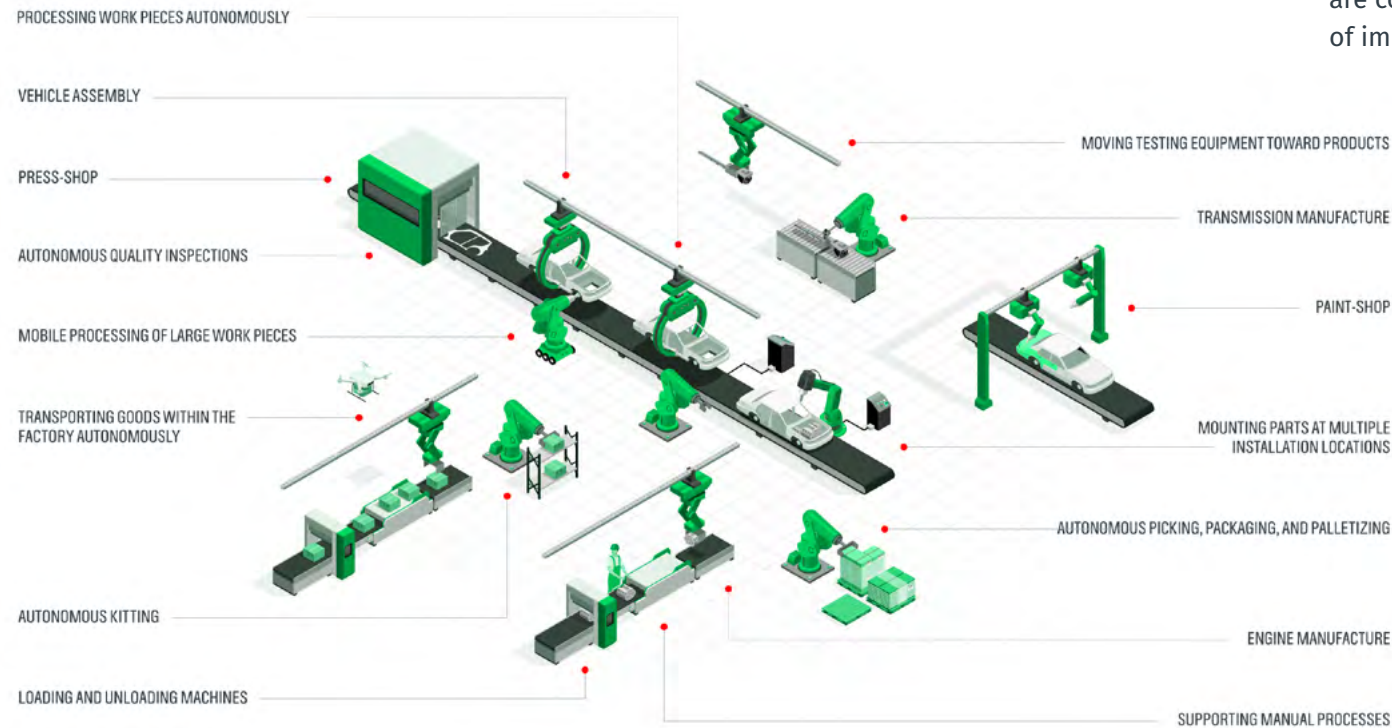
Key opportunities from robotics

Industrial robots are taking on the most dangerous, oppressive and repetitive chores, driving four key benefits across the sectors:

- + Boost in productivity and economic growth
- + Cleaner working environment with lower risk of contamination

- + Increased levels of precision
- + Improved worker safety

But in the quest to fully realise these benefits, manufacturers are coming up against a number of important barriers.



Castrol products in action

[Contact us](#) to learn more about how castrol ALR can help maximise the uptime of your industrial robots.

+ FEATURE | MEETING THE ROBOTICS CHALLENGE

OBSTACLES

ON THE ROAD

Automotive and electronics OEMs need to ensure that the growing robot stock is operating as effectively and efficiently as possible. Optimising the lubricant that keeps them moving smoothly is high on the list of priorities

+ FEATURE | MEETING THE ROBOTICS CHALLENGE

CHALLENGE 1:

Reliability



The number one concern is leakage resistance, identified by 42% of the experts as a key consideration.

“Robots of different brands do not vary in function, but they do in reliability, such as failure rate, life span, and working cycle.”

(Electronics OEM)

CHALLENGE 2:

Efficiency



Lubricants must increase production efficiency, production yield and maintenance efficiency. What’s more, they must increasingly meet environmental goals.

“92% of manufacturing professionals believe sustainability requirements will be important in choosing a lubricant, with energy-saving the top priority.”

(Castrol Sustainability Survey 2020)

CHALLENGE 3:

Convenience



OEMs need lubricants that are optimised to make the maintenance process easier; they should be simple to use and long-lasting.

“Robotics lubricant should bring more value of convenience in the future.”

(Robot OEM)

[Read the full findings here](#)

+ FEATURE | MEETING THE ROBOTICS CHALLENGE

THE VIEW FROM CHINA

The Castrol Robotics CEO thought leadership summit in Shanghai gathered together some 40 robotics CEOs along with officials, executives and senior leaders, revealing key insights.

+ FEATURE | MEETING THE ROBOTICS CHALLENGE

- + **Decarbonisation is a common goal:** There was overwhelming interest in how robotics can reduce emissions and move the whole life cycle towards net zero.
- + **Innovation and quality are key:** Robotics CEOs in China are looking to Castrol for innovation, knowledge and solutions they can be confident in.

- + **The market is ready for a standard:** With the rapid growth of the robotics industry, Chinese manufacturers are looking for a benchmark in lubricants.

“Robots will enable development of Industry X.0, and we have been identifying outstanding partners with whom to drive smart transformation and sustainable development.

I have no doubt we will benefit greatly from long-term partnership with Castrol and together will set an industry standard for collaboration.”

Qian Hui, General Manager, FANUC

The way ahead

Ultimately, the most important solution to these challenges is developing the right products to support and enable industrial

customers in the transition to automation, with an ongoing commitment to three essential components:

- + **Product development and innovation**
- + **Education in robotics aftercare**
- + **Digitisation of robot maintenance**

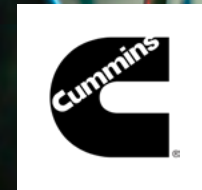
Find out [how our advanced lubricants are smoothing the way to fully optimised robotics.](#)



+ CASE STUDY

HOW WE HELPED TATA CUMMINS AVOID \$3M IN COSTS

India-based Tata Cummins manufactures automotive parts and mid-range engines for commercial vehicles. Expanding operations in Jamshedpur led to a need for a lubricant partner with deep technical expertise to deliver continuous improvement and stay ahead of stricter environmental standards.



+ CASE STUDY | TATA CUMMINS



We applied the complete CMS programme to drive positive change for Tata Cummins

1. CONNECT

Operational Excellence

The Castrol team harnessed innovative smart technologies and reviewed areas from procurement management to waste minimisation, in pursuit of continuous improvement opportunities for Tata Cummins.

Findings were shared, reviewed and implemented on an ongoing basis, driving up performance and efficiency all the time.

2. MAINTAIN

Technology Leadership

With the advantage of industry-leading technology, we were able to continually drive marginal gains for Tata Cummins. Not only that, but the risk level across sites was reduced, operational efficiencies were enhanced and lubrication management

was simplified. Implementing Castrol Techniclean 80 XBC eliminated boron from the metalworking process chain, helping the company to realise a key environmental objective.

“By using a complete range of lubricant solutions – from predictive maintenance to the latest XBB technology in coolants and cutting fluids, **Castrol has continuously delivered value to Tata Cummins over the past 25 years.**”

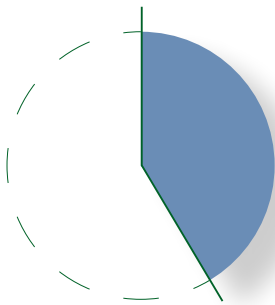
Tata Cummins

+ CASE STUDY | TATA CUMMINS

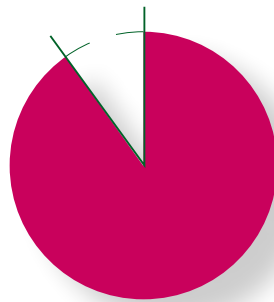
3. SUCCEED

Optimising Asset Life and Performance Sustainability

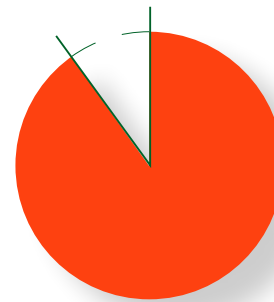
The partnership has seen Castrol and Tata Cummins achieve significant positive results, including:



40% increase in honing tool lifetime



240 KL reduction in coolant consumption per annum (90% cost savings)



90%+ drop in waste disposal charges for the according application



\$3,000,000 of savings over the last 25 years of the strategic partnership

“Castrol’s razor-sharp eye on total cost of ownership (TCO), marginal gains and market trends has given Tata Cummins the performance and operational assurance to **help us meet our commercial goals.**”

Tata Cummins

[Download the full case study](#) for a more detailed look at the solutions, approaches and results.

+ EMPLOYEE SPOTLIGHT

EMPLOYEE SPOTLIGHT



“WHAT MAKES ME MOST HAPPY IS TO WORK WITH THE CUSTOMER AS ONE TEAM AND SOLVE THE PROBLEM TOGETHER.”



SEVERINO
MOZO HERRERO

INDUSTRIAL SALES MANAGER,
SOUTHERN EUROPE

We sat down with Severino to get the inside view of his role heading up sales across the Southern Europe region. He tells us how his engineering background drives him to find ways to deliver better customer value. We also hear about working in a fast-moving, dynamic environment, what most inspires him every day, and the miracle product idea that he's been thinking about.

+ FEATURE

CASTROL PODCAST

LIFT OFF

Expanding our universe of knowledge...

+ FEATURE | CASTROL PODCAST LIFTS OFF

Castrol On Air has landed. We're not talking about the latest space mission, but another new and exciting frontier. Our podcast channel has launched its first series, [#CastrolOnMars](#). The show is dedicated to exploring the furthest reaches of scientific innovation, industrial expertise and human endeavour.

Extreme performance

The inspiration was born of the Perseverance mission (2020) and many of the pioneering Apollo missions spanning 60 years where NASA had chosen our innovative lubricants. Taking high performance as the starting point, the podcast spotlights people and their machines who perform under some of the most extreme conditions on land, sea, air, and of course, in space.



A story of Perseverance

As we speak, NASA's Perseverance Rover is trawling the Red Planet for signs of ancient life and collecting samples to be sent back to Earth for analysis. The first episode reveals the workings of the remarkable spacecraft, operating 250 million miles away in temperatures as low as -153°C , with the help of Castrol's liquid engineering.

Guests: Sarah Cruddas (space journalist and broadcaster), Matt Bothwell (public astronomer, University of Cambridge), Professor Dirk Schulze-Makuch (Centre for Astronomy and Astrophysics, Technical University Berlin), Jennifer Campbell (national account manager, Castrol)

[Listen now](#)

EP 1
"WITNESSING A
MARTIAN SUNSET"

17:17

+ FEATURE | CASTROL PODCAST LIFTS OFF



EP 2 | "I'VE NEVER RETURNED HOME" | 18:21

The astronaut's point of view

In this episode, get fascinating first-hand accounts from people who have blasted off into space. We hear what it feels like to sit in a cockpit as you feel the engines gearing up for lift-off, how the human-robot collaboration works, and what travelling to space and back does to the way you see the world and our place in it.

Guests: Sandra Magnus (engineer and former NASA astronaut), Robert Thirsk (engineer and former Canadian Space Agency astronaut), Jennifer Campbell (national account manager, Castrol)

[Listen now](#)

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music

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