

Muc-Off



MUC-OFF COLLABORATES WITH TOP UK LABORATORIES ON GOVERNMENT-FUNDED RESEARCH PROJECT INTO BICYCLE LUBRICATION

POOLE 15.06.2020, FOR IMMEDIATE RELEASE — Muc-Off today announce their recent UK research project into bicycle lubrication funded through the 'Analysis for Innovators' (A4I) programme, co-funded by the UK's innovation agency — Innovate UK.

The research was carried out by Muc-Off's in-house R&D team in partnership with two of the UK's leading laboratories: National Physical Laboratory (NPL) and the National Measurement Laboratory (NML) at LGC. The project was funded by Innovate UK which is a public body who drive productivity and economic growth by supporting British businesses to develop and realise the potential of new ideas. The research's primary objective was to create a fast, highly reproducible novel measurement and analysis process to determine and score lubricant performance and durability. It also aimed to assess the environmental impact of lubrication formulations.

"Muc-Off strives to take the 'myth and anecdote' out of bicycle chain lubrication by the application of good science and results-based data. This research project gave us a better, more transparent understanding of performance, faster product development with fewer iterations which will ultimately lead to more targeted performance gains for the end consumer." - Alex Trimnell, CEO at Muc-Off

The business already owns a Chain Lube Optimisation Dynamometer that provides quantifiable data based on real-world testing and can be used with add-on environmental chamber units and can be placed inside the businesses' in-house temperature chamber. This dynamometer was used for the development for Bradley Wiggin's Hour Record NTOC chain as well the best-selling Hydrodynamic Lube which has multiple Grand Tour wins and Olympic medals to its name.

This equipment gives Muc-Off the upper hand over the majority of competitors who do not have in-house capabilities to measure performance and use this to refine and improve lubrication formulations.

"The development of bicycle chain lubricant is a time consuming and iterative process with much of the chemical and additive technology being handed down from other industries and based on the expertise of the individual blending more than fact-based science. This is something that we as a business aim to change." – Dr Martin Mathias, Research & Development Manager at Muc-Off

The NML were able to delve deeper into finding out specifically what combination and quantities of chemical components made for the quickest and most durable lubrications using bespoke tests developed using mass spectrometry combined with gas chromatography and direct analysis (ASAP).

The tribology laboratory at NPL used high precision equipment to measure the effects of multiple lubrication formulations on the friction between drive train components, specifically the interface between the pin and side plates. The team working on this project used first principle mathematics to establish a formula which can be used going forward to calculate accurate loads, speeds and contact pressures specifically for the cycling application.

"This research project with Muc-Off allowed NPL to develop the blueprint Muc-Off needed to set a new level of testing for future analysis and development of lubrication for bicycles." – Dr Timothy Kamps MEng CEng MIMechE, Higher Research Scientist, Advanced Materials Characterisation, National Physical Laboratory (NPL)

Results and findings from this research project and recent Muc-Off in-house testing will be published later this year.

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About Muc-Off:

Back in 1991 Rex and Marilyn Trimmell got things started with X-Lite UK. After designing and manufacturing the world's first twin crown bicycle fork, Rex created a perfectly pink spray to clean his kit. To make a long story short, Rex's cleaner was the best thing since sliced bread, and it wasn't long before word got out and Muc-Off was born.

Fast-forward to now and Muc-Off is now the go-to brand for top riders. And, in case you haven't noticed, we do a bit more than our iconic original pink cleaner these days.

About Innovate UK:

Innovate UK drives productivity and economic growth by supporting businesses to develop and realise the potential of new ideas. We connect businesses to the partners, customers and investors that can help them turn ideas into commercially successful products and services and business growth.

We fund business and research collaborations to accelerate innovation and drive business investment into R&D. Our support is available to businesses across all economic sectors, value chains and UK regions. Innovate UK is part of UK Research and Innovation. For more information visit www.innovateuk.ukri.org

About National Measurement Laboratory (NML):

The National Measurement Laboratory (NML), hosted at LGC, delivers underpinning chemical and bio-measurement science for the UK and forms part of the UK National Measurement System (NMS). The NML is the Designated Institute for chemical and bio-measurement and supports the work of the Government Chemist, a unique statutory function that provides expert opinion and advice to Government.

Our research areas span the sectors of advanced therapeutics, diagnostics and safety & security and are delivered through the four core streams of measurement research, calibration facilities, reference materials, and training and consultancy. Our measurement capabilities comprise state-of-the-art mass spectrometry, PCR and cell characterisation of products and processes, with many of our testing and calibration services accredited to ISO/IEC 17025. We play a leading role internationally to develop best practice and standardise measurements across the world, in turn providing further confidence in the UK's science and technology capabilities.

Through improved chemical and bio-measurements we support manufacture and trade, protect consumers, further skills development and enhance quality of life.

About National Physical Laboratory (NPL):

NPL is the UK's National Metrology Institute, providing the measurement capability that underpins the UK's prosperity and quality of life.

From new antibiotics to tackle resistance and more effective cancer treatments, to secure quantum communications and superfast 5G, technological advances must be built on a foundation of reliable measurement to succeed. Building on over a century's worth of expertise, our science, engineering and technology provides this foundation. We save lives, protect the environment and enable citizens to feel safe and secure, as well as support international trade and commercial innovation. As a national laboratory, their advice is always impartial and independent, meaning consumers, investors, policymakers and entrepreneurs can always rely on the work we do.

Based in Teddington, south-west London, NPL employs over 600 scientists. NPL also has regional bases across the UK, including at the University of Surrey, the University of Strathclyde, the University of Cambridge and the University of Huddersfield's 3M Buckley Innovation Centre.