RWTH study quantifies the advantages of polymer bearings from igus for the first time

# Users save up to €14 million in lubricant costs per year while improving their environmental balance

**17 April 2024** – For the first time, a joint study by scientists from RWTH Aachen University and igus® shows the costs that can be saved in applications if lubrication-free polymer bearings from igus are used instead of conventional metal bearings: up to €14 million per year. Also a first - the study calculates the environmental impact - at the Heineken brewery, among others.

Classic metal bearings require constant relubrication. Plain bearings made of high-performance plastics from igus do not, thanks to integrated solid lubricants. This saves purchasing costs for lubricants. Depending on the application, the savings can be between €7,000 and 14 million per year, according to the study by the RWTH scientists. In addition, between 8,000 and two million working hours are saved annually on the manual relubrication of bearing points.

"The figures impressively demonstrate how a supposedly small changeover can save enormous amounts of money and resources at the end of the day," emphasizes Stefan Loockman-Rittich, Head of the iglidur Plain Bearing Business Unit at igus.

One study participant, the Heineken Brasil brewery, for example, would save 20 tonnes of lubricant per year, equalling €450,478, and €5.4 million in personnel costs by switching to polymer bearings in all conveyor belts at its 160 sites worldwide.

# Heineken Brewery: polymer bearings reduce CO2 emissions amounting to 28,814kg

The RWTH study also calculates the positive environmental impact of bearings made of high-performance plastics from igus for the first time. Heineken Brasil, for example, saves CO2 equivalents totaling 180kg per year by replacing metal bearings with polymer bearings at 600 bearing points.

"If all of Heineken's branches were to switch to polymer bearings, the company could save 28,814kg of CO2 equivalents. And that is a considerable figure for such a small change," says Loockman-Rittich.

For comparison, When a vehicle consumes one liter of petrol, it emits around 2.37 kilograms of CO2. The savings would therefore correspond to over 12,000 liters of petrol.

Loockman-Rittich continued, "More and more manufacturers of machines, systems, and vehicles are feeling the pressure to disclose the carbon footprint of their products. Our customers are therefore delighted to be able to refer to a scientifically proven assessment of the environmental benefits of the self-lubricating effect of our plain bearings."

# About the RWTH study

The WBA Werkzeugbau was commissioned to carry out the independent study. This research company works with the Laboratory for Machine Tools (WZL) and the Fraunhofer Institute for Production Technology (IPT) on the RWTH Aachen Campus as part of one of Europe's largest research laboratories in the field of production technology. The results are based on expert interviews with nine companies from the automation technology, construction machinery, agricultural, food, packaging, and bottling industries.



### Image PM0624-1

*Protecting both budget and environment with lubrication-free polymer bearings: a new, independent RWTH study quantifies the economic and ecological benefits of igus plain bearings in cold print. (Source: igus GmbH)*

|  |  |
| --- | --- |
| PRESS CONTACT: Michael Rielly  1.800.521.2747  mrielly@igus.net  www.igus.com |  |
| ABOUT IGUS: igus GmbH develops and produces motion plastics. These self-lubricating, high-performance polymers improve technology and reduce costs wherever things move. In energy supplies, highly flexible cables, plain and linear bearings, and lead screw technology made of tribo-polymers, igus is the worldwide market leader. The family-run company based in Cologne, Germany, is represented in 31 countries and employs 4,600 people across the globe. In 2022, igus generated a turnover of €1.15 billion. Research in the industry's largest test laboratories constantly yields innovations and more user security. Two hundred thirty-four thousand articles are available from stock, and service life can be calculated online. In recent years, the company has expanded by creating internal startups, for example, ball bearings, robot drives, 3D printing, the RBTX platform for Lean Robotics, and intelligent "smart plastics" for Industry 4.0. Among the most significant environmental investments are the "chainge" program – recycling used e-chains and participating in an enterprise that produces oil from plastic waste. | |