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SKF streamlines bearing analysis for Ansys users

With the new SKF Bearing App for Ansys Mechanical, design engineers have instant access to accurate stiffness data on more than 10,000 bearing designations. The app is available in the Ansys Store free of charge.

Gothenburg, Sweden, 25 January 2023: Machine designers increasingly rely on earlier and more predictively accurate simulations to accelerate product development, help eliminate errors and reduce the need for physical prototypes. In many mechanical systems, such as gearboxes or electric drivetrains, bearing performance is a critical driver of overall system performance.

However, simulation of bearings is challenging since their behaviour depends on load characteristics and fine geometric details that are not readily available to designers or simulation teams. With the new SKF Bearing App for the popular Ansys Mechanical Finite Element Analysis (FEA) software, engineers no longer need to rely on approximations or complex, unreliable models in their simulations.

"With this new integration, we are taking the burden of bearing simulation away from the user's system and doing it ourselves" explains Hedzer Tillema, Product Manager Engineering Software at SKF. "Our calculations consider the detailed contacts between the rolling elements and the raceways of the bearing, and full details of the micro-geometry."

"The partnership with SKF is a great example of empowering engineers to gain detailed insight into the performance of their designs early on" says Mark Hindsbo, VP & GM at Ansys. "No one knows bearings better than SKF and that knowledge is now available to every Ansys Mechanical user."

In the Ansys integration, the user first selects their chosen bearing using a user-friendly wizard. The App then communicates with a SKF cloud server to obtain a predictively accurate representation of the stiffness of a real bearing.

The SKF Bearing App for Ansys can simulate any of approximately 10,000 common bearings in the SKF range, and its data is continually updated to ensure that users always have access to the most current, predictively accurate information. The app supports static as well as dynamic analyses where harmonics or vibrations are important considerations.

SKF cloud services are used to deliver predictively accurate, up-to-date information on bearing performance and stiffness to a wide range of engineering design tools. Customers can use these services to calculate key performance parameters such as bearing rating life, friction, grease life and relubrication intervals, static safety, and minimum load. In addition to the new Ansys integration, detailed bearing stiffness models are also available for the KISSsoft and FVA Workbench analysis platforms.

SKF software specialists are continually extending and expanding the capabilities of these software integrations, as well as extending the approach to new platforms, including customers' proprietary in-house product development environments.

For more information on bearings calculation tools, please visit:

<https://www.skf.com/group/support/engineering-tools/integrated-skf-calculation-services>

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SKF's mission is to be the undisputed leader in the bearing business. We do this by offering solutions that reduce friction and CO2 emissions, whilst at the same time increasing machine uptime and performance. Our products and services around the rotating shaft, include bearings, seals, lubrication management, artificial intelligence and wireless condition monitoring. SKF is represented in more than 130 countries and has around 17,000 distributor locations worldwide. Annual sales in 2021 were SEK 81 732 million and the number of employees was 42,602. www.skf.com

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About Ansys

If you've ever seen a rocket launch, flown on an airplane, driven a car, used a computer, touched a mobile device, crossed a bridge or put on wearable technology, chances are you've used a product where Ansys software played a critical role in its creation. Ansys is the global leader in engineering simulation. Through our strategy of Pervasive Engineering Simulation, we help the world's most innovative companies deliver radically better products to their customers. By offering the best and broadest portfolio of engineering simulation software, we help them solve the most complex design challenges and create products limited only by imagination. Founded in 1970, Ansys is headquartered south of Pittsburgh, Pennsylvania, U.S.A. Visit www.ansys.com for more information.

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