SOFTWARE FOR GEAR MANUFACTURING TOUR

Software has been utilized by this industry for years. But as designs get more complex, software to assist with calculation, design, testing and manufacturing – specific for gears is becoming essential. Make sure to check out all the software solutions that can be used to help you optimize your projects – from electric vehicle to complex robotic solutions and more.

STARTING POINT

AGMA Booth 3132 https://www.agma.org/

The American Gear Manufacturers Association (AGMA) is an association of more than 450 companies, consultants, and academicians with direct interest in the design, manufacture, and application of gears and flexible couplings. AGMA is also the owner of Motion + Power Technology Expo. Founded in 1916, AGMA conducts programs for and provides services to the gear industry and its customers. AGMA is accredited by the American National Standards Institute to write all U.S. standards on gearing.

The AGMA Foundation is the charitable arm of AGMA and provides gear industry scholarships, workforce & education support, and emerging technology programming. Consider a donation at www.agmafoundation.org.

STOP 1

Mesys AG   Booth 3128

Zürich, Switzerland | https://www.mesys.ag

MESYS provides software for shaft, gear and bearing analysis.

MESYS provides software for shaft, gear and bearing analysis. The shaft system calculation includes connections by cylindrical, planetary, bevel or worm gears with interfaces to gear calculation programs. Nonlinear bearing stiffness is considered, bearing load distribution is calculated including bearing life according to ISO/TS 16281.
In addition engineering services and custom software development are provided.

Software products are:

Rolling bearing analysis software considering load distribution and calculation life according to ISO/TS 16281. 22 bearing types, centrifugal forces, hybrid bearings are supported. Track roller calculation with elastic outer ring available as option.

Shaft system calculation allowing connections by helical gears, bevel gears and worm gears. Detailed bearing calculation is included and nonlinear bearing stiffness is considered. 3D-elastic parts based on FEA meshes allow consideration of housing or planet carrier deformation as well as deformations of gear-bodies or bearing rings.

FEA based software for axial-radial-roller bearings which takes into account deformations of the rings.

Ball screw calculation considering load distribution.

STOP 2

GWJ Technology GmbH   Booth 3127

Braunschweig, Germany | http://www.gwj.de

GWJ offers leading gear manufacturing + engineering software

Focusing on mechanical engineering, GWJ Technology stands for high quality products and innovative software development. Our portfolio includes the development of standard calculation software for machine elements, such as shafts, rolling bearings, cylindrical gears, bevel gears, etc. To increase the efficiency in the design process we provide CAD plugins for various 3-D CAD systems. Our software solutions are designed with a sleek user interface, making it easier than ever to design or re-calculate machine elements or complete gear boxes.

Additionally, we have geared our company to offer a special software application for the determination of real 3-D tooth form geometries of complex gears. The tooth form is the basis for a 3-D model to *manufacture gears in conjunction with multi-axis machining center*s. The software opens completely new possibilities for engineering and manufacturing.

STOP 3

SMT   Booth 3224

Novi, MI | http://www.smartmt.com

SMT is the global leader in the provision of both engineering consultancy services & next generation CAE software for the complete design, analysis & optimization of transmissions & drivetrains. SMT MASTA software can be used to accurately & rapidly design, predict performance characteristics, identify potential failure modes & undertake full-system simulations (including time-domain multi-body dynamics) for any gearbox layout.

STOP 4

Dontyne Systems Limited   Booth 3019

Washington, Tyne and Wear, United Kingdom | http://www.dontynesystems.com

Dontyne Systems offers software and services aimed at the optimum design and manufacture of gear components. Our Gear Production Suite software has been developed as a collection of individual tools proven to deliver improved efficiency, cost savings, and quality control. We can also offer teaching courses and consultancy services. Dontyne has over 150 customers worldwide and various partners for applications ranging from automotive, marine, wind turbines, mining, and motor sport. The modular construction of the software has been designed for maximum flexibility. Our customers find the software useful both as a stand-alone system and as a powerful addition to existing gear design systems. Bespoke integration of in-house IP to run alongside the recognized design and analysis is possible. Development of customer specific functionality embedded in machine tools and measuring equipment has provided a cost-effective solution to efficient product development and integration with our design software.

STOP 5

Hexagon | Romax Technology   Booth 2817

Irvine, CA | http://www.romaxtech.com

Hexagon is a global leader in sensor, software, and autonomous solutions. We are putting data to work to boost efficiency, productivity, and quality across industrial, manufacturing, infrastructure, safety, and mobility applications.

Our technologies are shaping urban and production ecosystems to become increasingly connected and autonomous – ensuring a scalable, sustainable future.

Romax, part of Hexagon's Manufacturing Intelligence division, provides world-leading solutions for the design, analysis, testing and manufacture of gearboxes, drivetrains and bearings.

Hexagon's Manufacturing Intelligence division provides solutions that utilize data from design and engineering production and metrology to make manufacturing smarter.

STOP 6

FVA GmbH   Booth 2518

Frankfurt, Germany | https://www.fva-service.de/en

FVA-Workbench: Efficient, reliable, and user-friendly transmission design software makes it easy to apply the latest drive technology research

As a joint venture of FVA e.V. (the world's largest Research Association for Drive Technology) and VDMA (the Machinery and Equipment Manufacturers Association), we work hand-in-hand with top-level German research institutions and leading companies from the drive technology industry toward the practical application of knowledge gained from FVA research projects.

The FVA-Workbench is a manufacturer-neutral software solution for modeling, parameterization, and calculation of transmission systems. It bundles 50 years of research and development from the FVA expert network into a single platform, making this accumulated knowledge directly available for practical application.

Our groundbreaking products and services enable innovative development processes for the advancement of the entire industry. We provide tools and calculations for developing high-quality gearbox designs. Our experts provide outstanding service to support you with design recalculation and optimization.

STOP 7

Schaeffler Digital Solutions GmbH   Booth 2324

Chemnitz, Saxony, Germany | https://www.schaeffler-digital-solutions.de/de/

Schaeffler Digital Solutions GmbH develops and integrates the web-based autinity software, which is able to acquire and process entire data sets from the most varied machines thanks to its high degree of compatibility with existing systems, sensors and controllers. As a result, our customers can avoid unplanned downtimes, enhance the productivity of their equipment and safeguard the quality of their products.

With systems for process analysis, machine data acquisition, energy management, digitally supported shopfloor management and many other innovative software solutions, we are contributing our share to the factory of the future – in full alignment with our guiding principle "Productivity for Tomorrow". Schaeffler Digital Solutions GmbH as a subsidiary of the Schaeffler Group is part of the Production, Supply Chain Management and Purchasing divisions within the Group; currently, approximately 70 employees are engaged at Schaeffler Digital Solutions GmbH Chemnitz.

STOP 8

KISSsoft (in Gleason Booth)   Booth 2308

Bubikon, Switzerland Https://www.kisssoft.com/en

KISSsoft is the leading modular calculation program for the design, optimization and verification of driveline and transmission elements according to international standards and other recognized methods including FEM. The individually customized software packages for a wide variety of applications guarantee tailor-made solutions, including

functions for gear sizing, linking gear measurement to contact analysis, building complex systems and detailed bearing analysis to name a few.

KISSdesign, the brand-new successor to widely acclaimed KISSsys system add-on, enables users to design entire transmissions, analyzing gears, shafts and bearings simultaneously in a very fast and intuitive manner. Any kinematics can be calculated, including CVT paths, power splits and higher order planetary systems. With its flexible approach users can adapt KISSsoft to their own calculation processes and designs, e.g. using the integrated scripting language.

In collaboration with Recurdyn, users can simulate the NVH behavior of transmissions, calculate effective radiation power (ERP), sound pressure levels (SPL) and inspecting the related Campbell diagrams.