Software for Gearbox Development

A New Approach to the Preparation and Interpretation of Calculation Results

The FVA-Workbench is a manufacturer-neutral tool for the simulation and calculation of transmission systems. As product development cycles become shorter, powerful modeling approaches and calculation algorithms become increasingly important. The software's predominantly analytical approaches deliver fast and reliable solutions to all important issues related to drive technology. The intuitive modeling techniques in the FVA-Workbench guarantee consistent, valid, and manufacturable gears every time.

The calculations are developed, analyzed, and validated in research projects by Forschungsvereinigung Antriebstechnik e.V. (FVA, the Research Association for Drive Technology). Through member contributions and public funding, the FVA is able to organize 14,9 million euros annually in research projects at leading German universities, chairs, and research institutions.

Interpretation of calculation results: an everyday problem for engineers

In the development of gearboxes, engineers are still faced with the problem of preparing calculation results to clearly present complex technical matters to customers, colleagues, or supervisors. These results are typically generated with outdated simulation software, and this laborious process often consumes significant resources for highly-paid specialists.

Simply obtaining useful graphics frequently requires painstakingly transferring results to a spreadsheet program and converting, manipulating, or otherwise processing (image) data. In multiple time-consuming steps, these graphics must then be combined with explanatory text, images, and tables to make them as presentable as possible. Manually updating presentation slides with new results also requires considerable effort. Ultimately, the amount of time and effort required for preparing results can exceed the time spent on actual product development many times over. This is inefficient and avoidable.

The solution: FVA-Workbench reporting

Create "state-of-the-art" reports using drag & drop

The user-friendly reporting feature in the FVA-Workbench creates impressive visualizations of complex relationships, making evaluation of results quick and easy. Reports are made up of structured sections, each of which describes an individual machine element. In the FVA-Workbench, the results of all gear system calculations can be clearly represented and saved as tables, interactive graphics, and notes. The user has granular control over the data to be presented. This makes it possible to generate different reports for different audiences with minimal effort. Templates can be used to standardize, automate, and safeguard the process of documenting results across departments.

Export fully functional reports in HTML format

With the export function, these reports can be viewed in any standard browser, maintaining their full functionality. This makes FVA-Workbench reporting cloud-ready and supports global interdisciplinary collaboration.

The standardized HTML format supports rotating and zooming 3d graphics as well as viewing values using the mouse. This gives engineers the same user experience as customers or colleagues, making it possible to discuss the effects of design modifications in detail as early as the virtual product development phase.

The reporting feature of the FVA-Workbench is equally suited to comprehensive, clear and concise documentation of all calculation results as well as providing quick overviews for communication with colleagues or professional presentation of results to customers.

With FVA-Workbench reporting, digital product development in the age of Industry 4.0 has finally reached gearbox development.

See it for yourself:

Visit www.fva-service.de/fva-workbench for examples of interactive reports.

Example report: virtual FVA gearbox

Example report: wind turbine gearbox

About FVA GmbH:

FVA GmbH is a joint venture of FVA (Forschungsvereinigung Antriebstechnik e.V., the Research Association for Drive Technology) and VDMA Services GmbH within VDMA (Verband Deutscher Maschinen- und Anlagenbau e.V., the Mechanical Engineering Industry Association). Founded in 2010, FVA GmbH works hand-in-hand with top-level German research institutions and leading companies from the drive technology industry toward the active application of knowledge gained from FVA research projects in industrial practice. The company's core competencies are the development of calculation and simulation software for drive technology, preparation and transformation of established legacy code structures into modern software architectures, professional service and support, and technical seminars and conferences.

www.fva-service.de #FVAWorkbench #FVADriveTechnology