

ENG-NET Virtual Engineering Network



Weingarten

Objectives

Based on cooperation and specific know-how the network offers holistic solutions – in particular in machinery, medicine technology and railway engineering. The analytic project handling, oriented at customers requirements, guarantees high-quality results at convincing prices. The professional job management and close cooperation between the partners bring considerable time advantages. Continuous project monitoring is done by a fixed partner.

Members of the network

- ▶ 2 research institutes
- ▶ 2 universities
- ▶ 11 major companies

Contact

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Focus of activities

ENG-NET works closely with the Baden-Wuerttemberg Virtual Factory (VFBW) which is a well coordinated cooperation network of legal and economically independent companies.

The small and medium-size enterprises (SME) are all together proven specialists on their field of activity - with large experience, global know-how and meaningful references.

For the handling of a job target-oriented exactly the specialists are consulted, who are necessary for an optimal performance contribution - in each case the best ones for your function. Core authority is bundled in such a way in the sense of our customers slim and effectively.

We combine ability to cooperate with technical skills:

- ▶ Design, Engineering, Calculation *general and special purpose machines, plants, series products*
- ▶ Electronics and Automation Technology *electronic modules and devices, process automation, software*
- ▶ Manufacturing and Production *chip removing process, non-cutting handling, electro-technology/electronics*

Projects

More time searching for solutions, less time looking for partners

Time-to-market is an increasingly important factor in product development. In addition to know-how, prompt access to engineering capacity is also a key success criteria for the engineering service enterprise. Although highly skilled, SMEs must still call on



partners to help meet the customer's needs. The creation of a prototype transfer gear in less than five months is one example of how the VFBW has helped to expedite solutions to specific product inquiries.

The required technical expertise already existed at two ENG-NET/VFBW partner companies, while development capacity was supplied by the VFBW partners and the product owner. Instead of spending valuable time searching for a partner with a compatible structure and suitable production facilities, development work began immediately with the definition of the modules of the packaged unit.

The project tasks – internal, external and detail design, finite element calculation and prototype manufacture and assembly – were distributed and where possible, conducted in parallel. Company-internal as well as cross-enterprise simultaneous engineering were made possible by using the VFBW intranet as a communications platform.

The result: in a little less than four months after the inquiry, a functional prototype was put on the test rig. Drive shaft vibration test: Three VFBW

partner firms with specialist expertise in three fields – vibration testing, planning and construction of test rigs, and mathematical interpretation of dynamics test data – investigated the vibration behavior of a drive shaft to optimise one of the components.

Innovation highlight

Reducing time-to-market through cooperation

Other projects have also benefited from the competitive advantage of access to the combined resources and expertise of the VFBW. Development of a novel high-performance, 500 meter-per-minute machine for stretching up to 10-meter wide film called for expertise in plastics-industry plant engineering as well as a detailed knowledge of thermodynamics and heat engineering.

Two VFBW partner companies were able to provide a single source of know-how in both areas, and consequently assumed a large, technically significant share of the development work.

In another example of how the rapid assembly of a mixed-competence team can lead to successful product development, VFBW partners pooled their expertise in applications of materials science and tool-making process engineering to develop machine tools for the manufacture of compostable flowerpots made from renewable raw materials.