

Controllable complexity

Technical Software Engineering



Managing complex data

Our software developers, engineers and scientists – all specialists in scientific and technical applications – are part of a dedicated team effort. Highly trained, they provide effective support to planners and decision makers in all aspects of company data management. Converting complex relationships into software is the route to intuitive working, ready understanding, effective dissemination and training. The DMT Technical Engineering Software department is certified to DIN ISO 9001.



Source-text for a software program

Special software and databases

Each project is split up into three processing levels: visualisation/configuration, program logics and network connection/data bases. The software is generated by an interdisciplinary team of three or more engineers. Interfaces between engineering requirements, data handling and user friendliness are all fully covered. This three-cornered approach allows engineers to incorporate standardised programs directly into their working routine and to get the best out of the connected hardware.

Services

- Software development
- Databases
- Re-engineering of legacy software
- Software extensions
- Software consulting (incl. customer requirement specifications, tenders and implementation assistance)
- Quality assurance

Designed 3D
model of a Voith
paper machine



Operational analysis and process simulation

This package of services allows us to build-up a modelled picture of existing or planned industrial operations. By collecting, analysing, validating and processing the relevant data we are able to detect any vulnerable areas, plan out the operational processes and identify the resources required. The entire scope of the operation can therefore be analysed and mapped-out in schematic form.

After the basic analysis work has been completed clients can, if required, ask for a process simulation: this primarily involves carrying out a reconstruction of the industrial production process with online visualisation. Computer generated physical models mean foresight and plannability, especially when it comes to the implementation phase – for example when building new facilities or undertaking extension projects. The simulation process compiles all the relevant functional criteria associated with the business in its current status in order to assess various planning scenarios and provides a reliable basis for improving the efficiency not only of existing facilities but also of plant still at the planning or construction stage.

Services

- Online visualisation
- Simulation studies
- Customising of simulation programs
- Feasibility studies
- Consulting

Virtual Reality (VR) und Multimedia

Modern VR technology has the capacity to employ intuitive and simple means for helping us understand complex technical relationships. Virtual Reality reconstructs the real world in such a way that we can imagine we are moving about in a natural environment. ‘Learning by doing’ is the motto – and there is no risk of personal injury or equipment damage. Nowadays no product development, marketing or training routine would be complete without the involvement of Virtual Reality.

The package is split up into three applications: In the passive stage the user can see, hear and feel (via sensors) what is happening in his working environment. This artificial world moves around him as a three-dimensional event, but he cannot influence it, for the actions are controlled by the system itself. In the active stage the user can freely explore the VR world in its three-dimensional form. With the interactive stage the VR world can be controlled on another level altogether: machines can be moved and operated realistically and ‘real’ workplace situations can be constructed at will – whether it be assembly and repair operations or even ‘worst case’ scenarios.

- VR Movie
- VR Active
- VR Interactive

On-site
consultations



For training and education, for example, VR provides an instrument for computer-assisted learning. Our technical VR applications are much more cost-effective than conventional methods as they dispense with the need for physically simulated learning environments and machinery. In the area of service and support VR is a cost-effective way to improve operations such as equipment commissioning, repair and maintenance. The reconstructed world of virtual reality allows complex three-dimensional structures to be depicted, movements generated, kinematics and other functions reproduced and operating processes and cycles explained – and all at relatively little expense.

In the field of marketing and sales our VR applications are used to help develop technical innovations in line with market requirements. 3D-supported programs developed by DMT are now employed for the introduction of new products whose quality, functionality and design closely matches the needs of the customer. Our programs for virtual allow for thoroughly testing of specific features of a certain product or range of products can be thoroughly tested at the development stage.

Services

- VR consulting
- 3D modelling
- Visualisation (movies, illustrations)
- VR applications
- Multimedia
- E-learning applications

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