

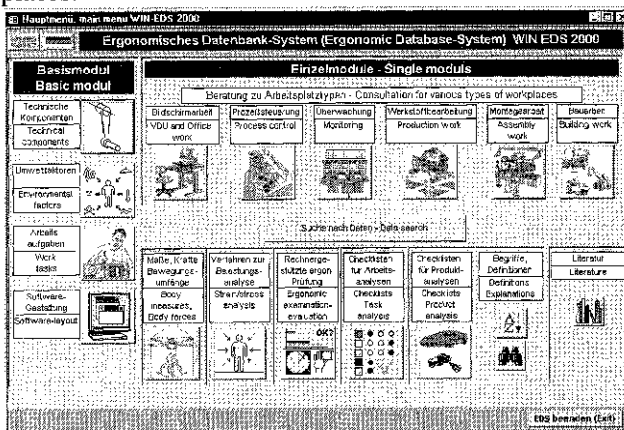
TEST AND EVALUATION OF WORK PLACES AND PRODUCTS WITH WIN EDS 2000 (a first bilingual database system of ergonomics)

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Even though a large amount of ergonomic data and recommendations are available, tools, equipment and products are quite frequently subject to considerable ergonomic deficiencies. The reason for this is that knowledge of ergonomics is not as widespread as the expert would like it. The designer of work places and equipment usually has a rather small background of ergonomics. In many cases it is difficult even for the ergonomist to compress the available knowledge into tables and charts. A computerised assistance system could be of great help

Modules and targets of the Ergonomic Database

The basis of our evaluation system is the Ergonomic Database System (EDS). WIN EDS 2000- the bilingual evaluation system providing dynamic checklists for product and workplace design - contains ergonomic data for technical components, environmental factors, software requirements and human tasks; data about body measures, human forces, size of movements and methods of strain analysis can be found as well as data for ergonomic requirements of special types of work places.



Further this tool provides protocols for analysis and evaluation of work places and technical equipment. A selection of requirements collected within the database (about 4000 positions) can be used as requirements for the test object.

Module "Computer aided ergonomic evaluation"

Whereas all modules discussed so far include ergonomically relevant data, the module "Computer aided ergonomic evaluation" is listing evaluation protocols. For this purpose, a decision has to be made, whether test positions have to be taken from the basic or the consulting module. The evaluation can take place under the aspect of health, performance, reliability, safety and comfort. In the test record the nominal requirements are compared to actual values measured or found. The result can be weighted according to the

importance of the subject for system performance. As a result of ergonomic analysis, a report of the positions meeting and failing the requirements can be printed as a summary or in detail.

not accomplished	Gesundheit health
not accomplished	Arbeitssicherheit safety
not accomplished	Leistung performance
not accomplished	Technische Zuverlässigkeit reliability/dependability
not accomplished	Komfort comfort

Module Checklist for task- and product analysis

Checklists for work places and products in WIN EDS 2000 have a dynamic structure. The user can add new items or delete areas and questions. The graphic representation of checklist results gives the user an orientation about deficiencies of work places and products concerning health, performance, reliability, safety and comfort.

Conclusion

As the description of EDS shows, the system includes a large amount of ergonomic information that plays a decisive role during the development phase of a product (or work place) affecting its acceptance by the users as well. In order to meet this demand on an international level, decisions have to be made on the question, which are the ergonomic core data, which are the differences to the published national and international standards (frequently only covering minimum requirements) and to which extent core data can be taken from the international literature.

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