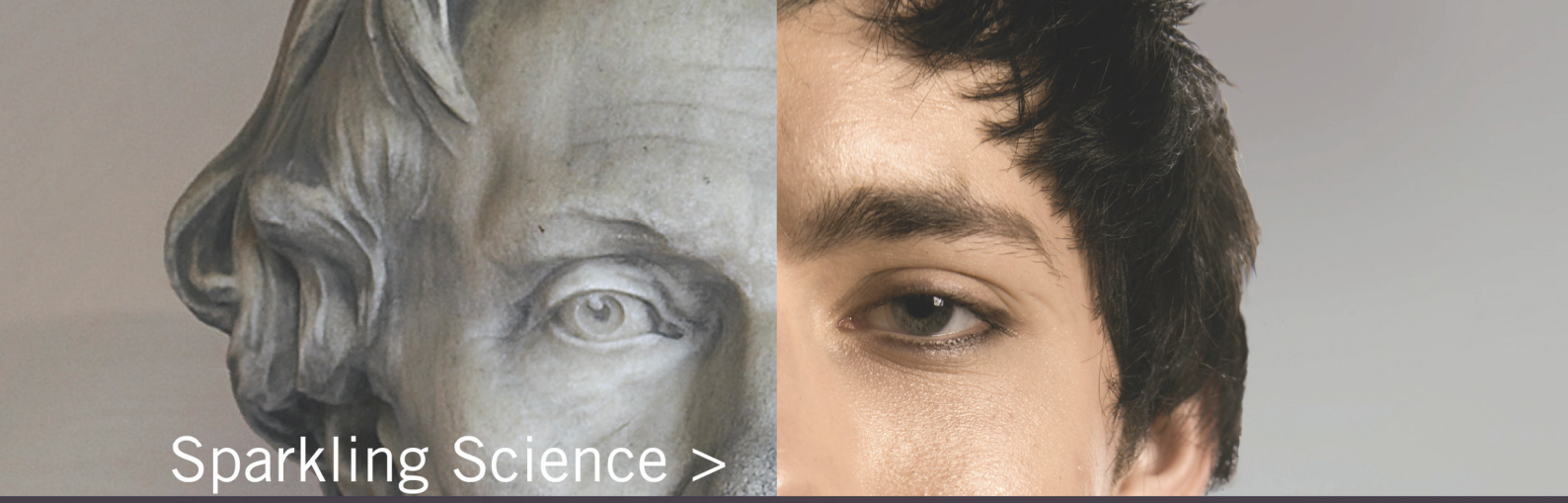

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PROJECT OUTLOOK 30th November 2008

Virtual Product Development

LEADING INSTITUTION
Vienna University of Technology
Institute for Engineering-Design
and Logistics Engineering
Coordinator: Univ.-Prof. Dr.-Ing. Detlef Gerhard
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SCHOOLS INVOLVED
HTL Vienna X, HTBLA Jenbach, HTBLA Steyr
HTBLA2, Linz

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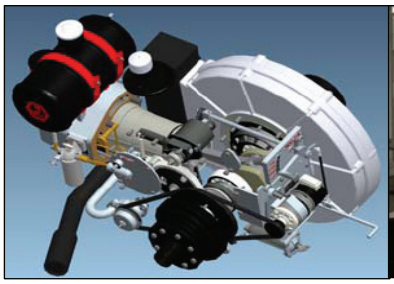
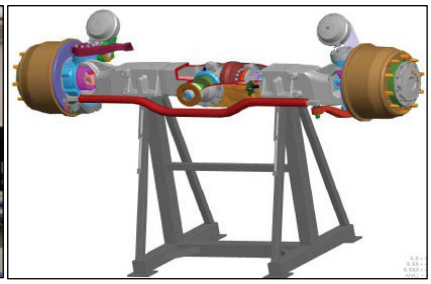
Virtual Product Development

Support of a practice-oriented Education in Engineering Design at Schools and Universities using a PDM-System

In the last years 3D-design was established as a standard in product development. Thus also setting of tasks for technical designers changed. 3D-parts are built up in the computer to a comprehensive virtual product. Contrary to the earlier 2D-design, now the tasks of modeling of the individual parts and subassemblies are distributed among members of a team. This method is common practice in the industry and it is also demanded from graduates of schools and universities. In common training methodology, handling the CAD system is taught, however the basis for a team-oriented co-operation in instruction projects is missing. The need for action for the integration of product data management (PDM) into instruction, results in particular from the fact that the volume of data with increasing number of participants of a project is no longer to handle properly in the file system. Besides, data loss by lost removable data carriers (USB sticks), overwriting of newer versions by older or those of a colleague or the absence of the access to data from at home, is very likely. Moreover, access rights for group works cannot be defined sufficiently on file system level. The objective of the project is the development and implementation of an education platform and a project environment on basis of a central PDM system, on which all involved partners project have access and which guarantees that all necessary data spread over different locations and several partner schools is available consistently with different access rights.

A Win-Win Situation for all involved project partners
“The project is for us an excellent chance to establish a research education co-operation with benefits for all involved partners “reports project manager Prof. Gerhard. „Through the project, a basis for the CAD data management and the efficient support is given to the HTLs. For our institute synergies arise regarding our main research focus co-operative information management and for the establishment of a PDM competence centre in Austria."
The co-operation of research and educational institutions offers for researchers the possibility of getting a view of the problem-related aspects from pupils and together with them think about appropriate action options in the sense of a methodology of engineering design. The results of these reflections give a feedback into the research process whereby the scientists extend their knowledge about process and methodology.





Project Outlook, 30th Nov 2008, Univ.-Prof. Dr.-Ing. Detlef Gerhard, detlef.gerhard@tuwien.ac.at

Platform "BLUME" (“Flower”)

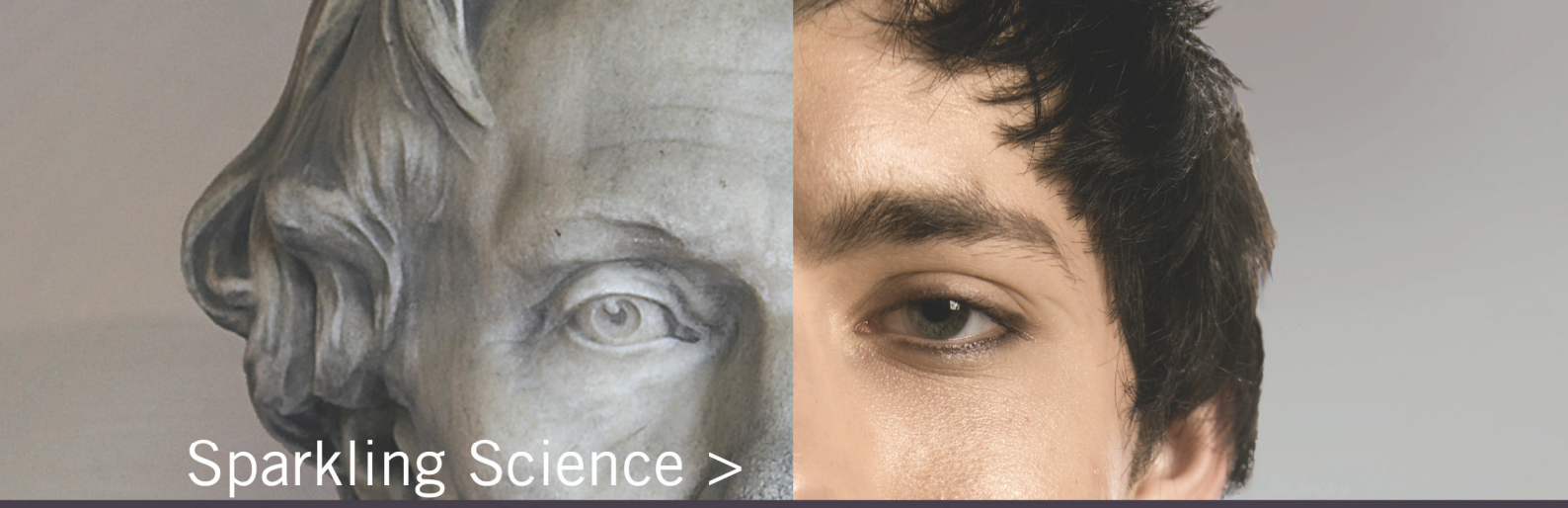
Basic PDM Education- and Project Environment for Co-operative Mechatronic Product Development

Quantitative and qualitative improvement of the engineering design education
Besides providing a special IT-tool that qualitatively helps to improve educational goals in accordance with curriculum for HTLs (e.g. team work, technical documentation) the operational tasks of the design education under administrative and organizational criteria are efficiently supported. Moreover, knowledge of the technology of data base-based technical information systems flows as background information into educational topics of engineering design courses.

Realization of school spanning and co-operative projects with the industry
Many of the HTLs employ project oriented instructional work particularly intensive. Various interesting projects and diploma theses show the acceptance of pupils and the success with the partners from industry and research. The strengthening of this instruction form by the proposed PDM platform is a substantial benefit of the project from viewpoint of the involved teachers. Dipl.-Ing. Franz Cibej, teacher at the Secondary Technical and Vocational College Linz (LiTec), department of mechanical engineering, remarks: "The unattainable goal of accomplishing school spanning engineering design projects in Austria can be realized with the help of this tool.

Orientation of the construction training at the demands of the industry
Cibej continues to report: „The career profile of a mechanical engineering technical designer is subject to a constant renewal process which includes in particular information technology. This implies for the practical training that data management and data administration must be integrated into the courses. Our concept is appropriate for a direct employment of our graduates in a technical enterprise. A chance improvement for the individual mastering the new technologies is thus expected.“

The objective is a permanent establishment of the “BLUME” platform beyond the project
The entire project is aligned to operate as solution for the qualitative improvement of the engineering education beyond the development of the education and project environment on a long-term basis as a platform for co-operative mechatronic product development at schools and universities. All HTLs of the working group 3D-CAD have stated interest to use the platform after implementation of the solution.



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