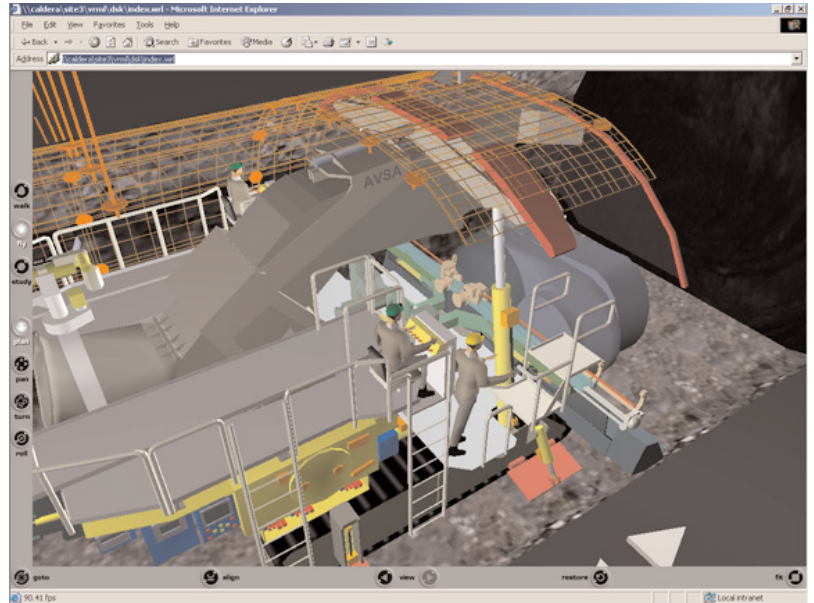


Virtual reality in the mining industry

Overview

Deutsche Steinkohle AG (DSK), a German mining company, is actively engaged in introducing the latest 3D technologies into the company's working processes most notably in the dynamic visualization of mine configuration where 3D visualization allows for an improved decision making process. The simulation of equipment functionality in a virtual environment also helps to estimate at an early stage any potential logistical problems. 3D technology is also used in the introduction of new equipment in both business presentations and personnel training.



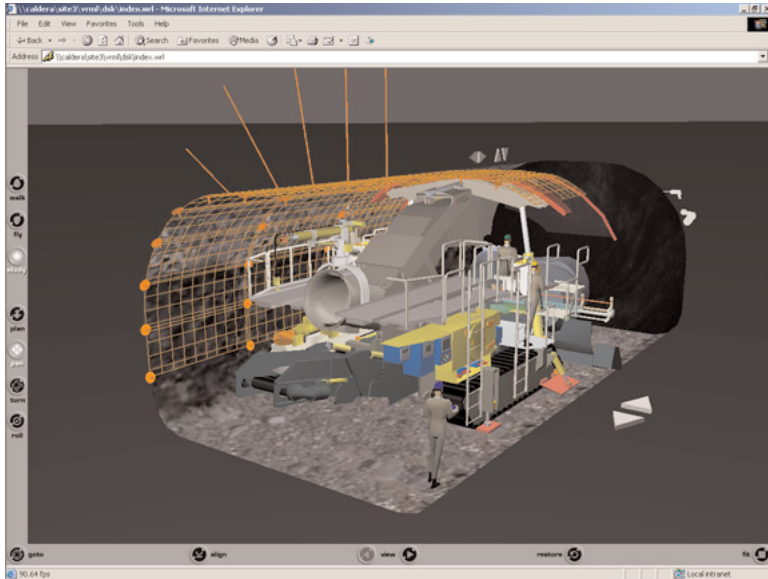
Challenge

DSK in cooperation with Voest-Alpine-Bergtechnik has developed a new road-header system, AVSA (Alternative Version Simultaneous Activities), which simultaneously performs activities such as cutting, bolting, loading and roof support. DSK required an effective way to introduce the new functionality to its partners and to train the company's personnel.

Solution

DSK decided to produce an interactive 3D representation of AVSA which would allow the user to try out most of its functions in a virtual environment. An animated VRML model was created by Schneider & Partners from CAD-based data. Each functionality of the interactive road-header can be started by using corresponding control buttons within a 3D environment. The user can also navigate in all directions and choose various camera positions including viewpoints not available in the real environment.

Other DSK educational projects include the development of collaborative training environments and interactive manuals for the company's equipment. The 3D models for these projects are created with CAD or 3D Studio Max tools, then converted into VRML format, and integrated into external applications by using ParallelGraphics Cortona SDK.



Hands-on training in the mining industry is very expensive so the use of virtual environments in the first phases of the training process allows the company to avoid operational mistakes and also increase hands-on training safety. Deutsche Steinkohle recognizes Virtual Reality as one of the most important educational tools of the future.

Links

View the presentation of AVSA: <http://www.parallelgraphics.com/vrml/dsk/index.wrl>

ParallelGraphics Cortona SDK: <http://www.parallelgraphics.com/products/sdk>

Deutsche Steinkohle AG:
<http://www.deutsche-steinkohle.de/>

Schneider & Partners:
<http://www.schnup.de/>

Voest-Alpine-Bergtechnik:
<http://www.vab.sandvik.com/>

About ParallelGraphics

ParallelGraphics is a world leader in the provision of Web3D graphics solutions with a proven track record of innovation and development over the last decade. The company's technologies and tools have been used widely in providing online training solutions, remote user support, virtual manuals for technical maintenance, and interactive applications for design and modeling. The Company's list of clients includes Boeing, NASA, Ford, and European Space Agency among others.

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