

# **Assessment of VR Technology and its Applications to Engineering Problems**

**ABSTRACT:** Virtual reality applications are making valuable contributions to the field of product realization. This paper presents an assessment of the hardware and software capabilities of VR technology needed to support a meaningful integration of VR applications in the product life cycle analysis. Several examples of VR applications for the various stages of the product life cycle engineering are presented as case studies. These case studies describe research results, fielded systems, technical issues, and implementation issues in the areas of virtual design, virtual manufacturing, virtual assembly, engineering analysis, visualization of analysis results, and collaborative virtual environments. Current issues and problems related to the creation, use, and implementation of virtual environments for engineering design, analysis, and manufacturing are also discussed.