

## Portable Hands-Free Process Assistant for Gas Turbine Maintenance

**Authors :** Elisabeth Brandenburg, Robert Woll, Rainer Stark

**Abstract :** This paper presents how smart glasses and voice commands can be used for improving the maintenance process of industrial gas turbines. It presents the process of inspecting a gas turbine's combustion chamber and how it is currently performed using a set of paper-based documents. In order to improve this process, a portable hands-free process assistance system has been conceived. In the following, it will be presented how the approach of user-centered design and the method of paper prototyping have been successfully applied in order to design a user interface and a corresponding workflow model that describes the possible interaction patterns between the user and the interface. The presented evaluation of these results suggests that the assistance system could help the user by rendering multiple manual activities obsolete, thus allowing him to work hands-free and to save time for generating protocols.

**Keywords :** paper prototyping, smart glasses, turbine maintenance, user centered design

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