

MACHINE@HAND

Machine@Hand features editor functions that enable both programmers and experts to create contents for AR training and AR assembly support as well as VR training on the PC or directly in virtual reality.

Your benefits

- Support during the assembly and maintenance of a machine through augmented reality
- Deepening of the processes and instructions through virtual reality
- Remote expert consultation in augmented and virtual reality via temporary annotations
- Easy generation and customization of AR maintenance and assembly instructions as well as VR training contents on the basis of a 3D model

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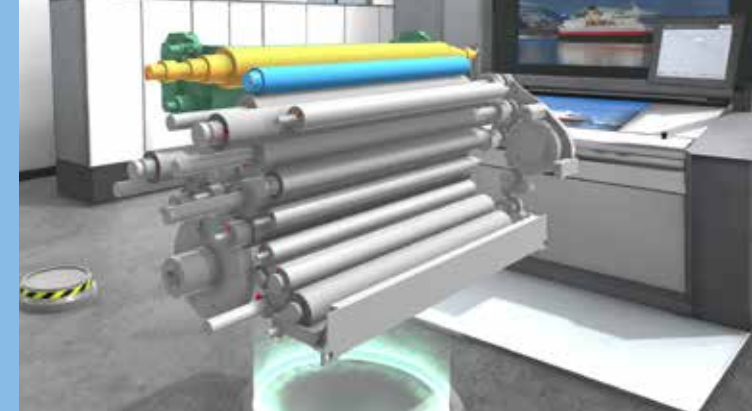
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As Industry 4.0 moves forward, assembly and maintenance operations in the field of engineering are growing in complexity. Technical staff has to show high degrees of concentration and flexibility. Machine@Hand supports users in understanding and performing complex tasks.

Maintenance support through augmented reality

With the help of visual instructions, augmented reality (AR) guides technical staff through maintenance or repair work. Informations – such as texts, images, and videos – are superimposed on a literal camera image, showing objects in their correct positions. Assembly and maintenance instructions become reality-oriented and easy to understand.

Hands-on and workplace-oriented teaching

For education and training purposes, hands-on teaching facilitates comprehension of the complex functionality of action or maintenance flows. Using AR, trainees can look inside machines and see how each movement is performed correctly at each position.

With Machine@Hand, workplace-oriented learning is possible regardless of whether the respective machines are available at the training location. Through virtual reality (VR),



trainees can work with a virtual image of a machine. Thanks to the high degree of immersion (i.e. the realistic feel of the virtual world), the experience gained on the training object is almost as authentic as when operating the actual machine.

Dynamic instructions

In addition to looking at their instructions with the help of virtual reality, technical staff can furthermore add comments to them. Augmented and virtual reality thus enable dynamic instructions that can be updated through personal notes, videos or markings. Similar to notes, these virtual comments are attached to the actual machine. In this way, every employee and trainee can access all the relevant information or share ideas and activities.

The instructions are either created manually by the staff or can be generated automatically through the existing assembly and maintenance information of the assistance system. The process of creating and configuring the respective virtual environment is intuitive. Drawing on modular 3D models, the staff can easily determine the superimposed information through fade-in/out functions, colored markings, by animating objects as well as by incorporating texts, images and videos.