Institut für Mechatronik

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**Titel des Beitrags:** Improvement of Maintenance through Speech Interaction in Cyber-Physical Production Systems

**Abstract:**
A much discussed topic in the recent years is the interconnectedness of industrial plants in the field of Cyber-Physical Production Systems (CPPS). In the future, the data and aggregated information from various production plants will be available globally at any time. Particularly in maintenance, this could be a helpful information expansion for the maintenance staff, since maintenance information are not only available from one plant but also from several, similar plants. However, this information has to be presented to the worker in a suitable way, because especially in maintenance tasks, the worker often needs both hands, and his/her complete visual attention to the task. This paper presents an approach for a speech interaction system that exchanges data and information over a cloud-based system with a manufacturing plant. The worker exclusively interacts with the plant over wireless headphones and a microphone. The communication between the plant, the cloud, and the speech interaction system is described as well as use cases for maintenance and training. The approach was applied in a case study using a demonstrator plant with various use cases.

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