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# Efficiency evaluation of robust voice control for HMI systems in the industrial production

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Cars, mobile phones and smart home devices already provide an automated speech recognition (ASR) by default to keep the drivers focus on the street, to reduce complex interactions on small touch screens or to control an automation system from different rooms. However not all the benefits of these ASR consumer applications have the same impact in an industrial scenario. Different conditions and aims of HMI systems in these two fields lead to different potentials and challenges. Robust voice control, as the most natural way of communication, opens the opportunity to shorten complex command sequences and menu structures to directly execute a final command. The quantitatively influence of these effects on the production process time is not known yet. Therefore, this contribution explores which HMI scenarios benefit most from replacing or complementing existing touch screen-based interaction with robust voice control. In this contribution different typical CNC commands from CNC milling machines and industrial robots are categorized by the complexity over the menu levels and number of interactions. Afterwards the interaction time for touch screen commands and voice control commands is compared to identify the break-even-point where the robust voice control is faster than a conventional touch screen control.