



The ISSA Section Machine and System Safety,
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<https://www.safe-machines-at-work.org/human-factors>

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Work System Design in Machine and System Safety with a Focus on Human-System Interaction.

Abstract: Future work processes in digital transformation include dynamics in task design, digitised interfaces, and work system components interwoven in process chains and networks. This causes challenges for design according to human factors and ergonomics (HFE) and occupational safety and health (OSH) since it goes beyond anthropometry and biomechanics and calls for work system design and compatibility with human information processing. The Human Factors group of the International Prevention Section of the ISSA on Machine and System Safety is compiling HFE design requirements and solutions from international literature and standards at an internet platform to foster machinery and system safety. The platform structure for the Human Factors group is geared to the concept of work system design and already introduces work behavioural issues, workplace issues, and work equipment issues. A given sample requirement for interaction interface design illustrates how good practice referring to HFE contributes to machinery and system safety. Compilation of HFE design requirements in the context of digital transformation is a cumbersome endeavour. While some HFE design requirements are available, others lack specifications for application at the shop floor level. Systematic research along work system design could result in differential design requirements regarding human-system interaction under conditions for work equipment, workplace and work environment imposed by the work task.