

Machine simulator study on the effects of a semi-automatic forwarder crane on operator workload and performance.

With financial support from the Södra and Norrskog research foundations

Martin Englund, Skogforsk Helena Andersson, Skogforsk Anders Mörk, Skogforsk Hans Richter, Gävle University Dmitry Domkin, Gävle University Mikael Forsman, Karolinska institute



Machine simulator study on the effects of a semiautomatic forwarder crane on operator workload and performance.

- Introduction to the simulator and semi-automation
- Methods
- Results





Semi-automatic forwarder crane







Methodology









Methodology

- 11 operators
- Half day of training
- Data collected on 240 crane cycles for each operator on each condition.

• Performance

- Muscle activity (EMG) on forearms and trapezius.
- Mental load (NIRS)
- Subjective rating





Results





Results



Results









Final thoughts

Thank you!