JOAKIM LARSSON born 1989 in Örebro, Sweden, has dedicated his professional life to research and development to improve the wire drawing process. He obtained a Bachelor's degree in Mechanical Engineering in 2011 and has since then worked with wire drawing R&D both in the industry and in the academia. In 2021, Joakim obtained a Master's degree in Mechanical Engineering and was admitted to doctoral studies in the same subject later that year. This journey has led to the doctoral thesis that you are now reading the back cover of. The title of the thesis is inspired by a question often given to interested students by the author.

HAVE YOU HEARD ABOUT WIRE? Wire is a fundamental component found in almost every complex product, ranging from a simple pen to a spacecraft. Wire is used to manufacture nails, screws, springs, rivets, cables, welding electrodes, and numerous other items that surround us daily.

In an era characterized by increased environmental concerns and the pressing need for the industry to become more sustainable, process monitoring has emerged as a key instrument for strengthening the sustainability improvements of diverse industries and operations. Many industries have transitioned into the realm of Industry 4.0, entering an era of digital transformation and data-driven decision-making. However, the production of steel wire has fallen behind. The wire drawing process has been performed in a similar manner for the last century and the production machines generally lack advanced monitoring systems. To catch up, there is a great need to digitize the wire drawing process and that is the focus of this thesis, Monitoring of the wire drawing process.

In this thesis several different methods to monitor the wire drawing process are developed and evaluated, resulting in a process monitoring system for the wire drawing process.

ISSN 1650-8580
ISBN 978-91-7529-545-9

JOAKIM LARSSON Have you heard about wire?

JOAKIM LARSSON Have you heard about wire?

ÖREBRO UNIVERSITY

Doctoral Dissertation

Have you heard about wire?
Monitoring of the wire drawing process

JOAKIM LARSSON
Mechanical Engineering

2024

Örebro Studies in Technology 103 | ÖREBRO 2024