

Preface

As a management consultant working on production improvement projects in the steel industry, I worked diligently to reduce energy costs. This experience gave me the opportunity to gain insight into the industry and experience the increasing significance of energy costs. These projects have broadened my understanding of the issues at play. Indeed, in addition to using technological changes to significantly reduce energy costs, improved production planning can play a major role in saving energy due to a better integration of processes. However, the current common practices and applied systems do not support better integration. This gave me the motivation to focus my research project on the topic of improved production planning with the core objective to develop a mathematical model that would lead to a better integration of two major production facilities in steel production and test it with realistic data to prove its practical applicability.

This work would not have been possible without the continuous support of my doctoral supervisor, Prof. Hans-Otto Günther, head of the institute for production management at the Technical University of Berlin. His feedback and supportive dialogue broadened my ideas and helped me to overcome all roadblocks. I also would like to thank Dr. Pedro Amorim for his valuable advice related to and support for programming the optimization model. Thankfully, I was able to work directly with a large European steel producer, which chooses to remain anonymous; this collaboration gave me first-hand practical insight into the challenges of production planning, especially the integration of production planning. I would like to thank the many employees of that company that supported my work with long consultations and production tours.

Moreover, I would especially like to express my gratitude to my family, i.e., my parents Renate and Roland for their continuous support and motivation and to my husband Tako for accompanying me on this journey and being an excellent sparring partner whenever I needed help. Last but not least, I would like to thank my daughter Clara for the necessary distraction and joy that she provided during the last 1.5 years.

Imke Mattik



<http://www.springer.com/978-3-658-03774-1>

Integrated Scheduling of Continuous Casters and Hot
Strip Mills

A Block Planning Application for the Steel Industry

Mattik, I.

2014, XVII, 120 p. 39 illus., Softcover

ISBN: 978-3-658-03774-1