



Research School for Operations
Management and Logistics

Optimal multi-stage job scheduling in the animal food production industry

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Scheduling plays an important role in many manufacturing industries. It aims to allocate scarce resources to products over given time periods in such a way that one or more objectives are optimized. As customer-specific products become more prevalent in many industries, a trend known as mass-customization, one does not escape from many product changes nowadays. In practice, changing over from one product to another often leads to waste of valuable resources, e.g., due to a switch in machine settings. Therefore, efficient scheduling plays an important role in reducing production-loss while ensuring that due dates are met. In this project, we aim to develop and evaluate job scheduling methods in complex multi-stage animal food production systems. Complicating factors include non-triangular sequence-dependent setup times and shifting production bottlenecks, both of which are important aspects appearing in varying manufacturing industries. This project is part of a collaboration between CWI and Engie.