

# Large-scale production in complex equipment manufacturing

scoping document presentation

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# Scope of the Project

## Background

or reasons for doing this project

- **importance of scheduling** - for manufacture industry and companies
- **gap between theory and practice** -
- **complexity increased** - with different constrains and larger scale

# Scope of the Project

## Aim

Develop an algorithm to efficiently solve large-scale production scheduling problems with many machines and parts which need to consider the priority of the parts.

## Objectives

- Conduct a literature review on production scheduling methods, particularly for large problems

Identify limitations of existing solution approaches for large instances

- Develop a mathematical model to represent the scheduling problem
- Find an algorithm to find near-optimal solutions
- Implement the algorithm and test on benchmark instances
- Analyze the algorithm's performance and scalability

# Literature Review

## Problems facing

- complexity increased & gap between theory and practice (Same as mentioned in the background)
- lack of research focus on large-scale scheduling problems
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