



Enterprise  
Ireland



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NextGenerationEU

**EDIH** | European  
Digital Innovation  
Hubs Network



# Concepts

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## Constraint Based Production Scheduling



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# Key Points



- We introduce the core concepts used in scheduling
- Different layers of description
  - Why we are scheduling (orders, products, processes)
  - What we are doing (jobs, tasks)
- Temporal Relations
- Process description
- Problem classification
- Visualization

# Outline



Core Concepts

Orders, Products, Processes  
Jobs and Tasks

Temporal Relations

Processes, Bill of Materials

Problem Classification

Key Visualization Methods

Summary

# Outline



Core Concepts

Temporal Relations

Release and Due Date

Processes, Bill of Materials

Problem Classification

Key Visualization Methods

Summary

# Outline



Core Concepts

Temporal Relations

Processes, Bill of Materials

Problem Classification

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Core Concepts

Temporal Relations

Processes, Bill of Materials

## Problem Classification

Job-Shop

Flow-Shop

Open-Shop

RCPSP

$\alpha, \beta, \gamma$  Notation

Key Visualization Methods

Summary

ENTIRE EDIH

Production Scheduling

Slide 8

# Outline



Core Concepts

Temporal Relations

Processes, Bill of Materials

Problem Classification

Key Visualization Methods

Summary

# Outline



Core Concepts

Temporal Relations

Processes, Bill of Materials

Problem Classification

Key Visualization Methods

Summary

# Summary



- We introduced the key concepts for scheduling problems
- Orders, products, processes
- Jobs and tasks
- Existing problem classifications
  - Academic
  - Limited practical usefulness
- Key visualization methods