

# Production scheduling and job sequencing

This workflow automatically optimizes production schedules and job sequences when new orders arrive, balancing machine capacity, material availability, and delivery deadlines to maximize shop efficiency.

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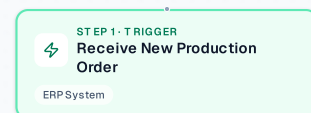


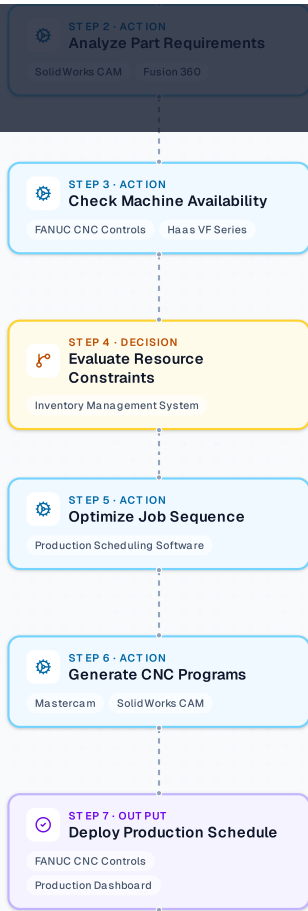
## WORKFLOW TRIGGER

New production order received in ERP system

## Visual Flow

Each node represents an automated step. Connections show how data and decisions move through the workflow.





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## Step-by-Step Breakdown

Detailed explanation of each automated stage in the workflow.

1

⚡ TRIGGER

### Receive New Production Order

A new manufacturing order is submitted containing part specifications, quantity, material requirements, and delivery deadline. The system captures all order details and initiates the scheduling process.

2

 ACTION

### Analyze Part Requirements

The system examines CAD files and determines required machining operations, tooling needs, and estimated cycle times. Part complexity and feature requirements are assessed for proper machine allocation.

SolidWorks CAM

Fusion 360

3

 ACTION

### Check Machine Availability

Current production schedules are reviewed across all CNC machines to identify available time slots. Machine capabilities are matched against part requirements to determine suitable equipment.

FANUC CNC Controls

Haas VF Series

4

 DECISION

### Evaluate Resource Constraints

The system checks if required materials, tooling, and operators are available for the proposed schedule. If resources are insufficient, alternative scheduling options are explored.

Inventory Management System

5

 ACTION

### Optimize Job Sequence

Using scheduling algorithms, the system sequences jobs to minimize setup times, reduce tool changes, and maximize machine utilization. Priority is given to orders with tight deadlines.

Production Scheduling Software

6

 ACTION

## Generate CNC Programs

Optimized toolpaths and machining programs are automatically created for each scheduled job. Programs are verified for collisions and efficiency before deployment to machines.

Mastercam

SolidWorks CAM

7

 OUTPUT

## Deploy Production Schedule

The finalized schedule is distributed to machines and operators with detailed work instructions, material lists, and estimated completion times. Real-time tracking begins for all scheduled jobs.

FANUC CNC Controls

Production Dashboard



## Outputs

- Optimized production schedule

## AI Business OS

- CNC program files
- Material requirement lists
- Machine utilization reports



### Key Metrics

- Machine utilization percentage
- On-time delivery rate
- Setup time reduction



### Tools & Integrations

- ERP System
- SolidWorks CAM
- Fusion 360
- FANUC CNC Controls
- Haas VF Series
- Inventory Management System
- Production Scheduling Software
- Mastercam
- Production Dashboard

## AI Business OS

## AI Business OS

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