

# Ai in manufacturing

## Using ChatGPT for improving manufacturing processes

ChatGPT is a great tool if you know how to use it. It is good to have a sharp axe in your basement but if you do not know how to chop wood it's better to sell it. The situation with the ChatGPT is the same.

If you have a factory and you want to improve some processes you would be interested in what ChatGPT will offer to you. You open the chat and start asking questions. But imagine that you have a shop-floor in which during the years you know that using Kanban is very good, but suddenly ChatGPT proposed to you to use Drum-Buffer-Rope. This will change the organisation of your work and the risk is in you.

Having an ocean of information is a double-edged sword. You can receive a great suggestion from Ai but you can be thrown in the totally wrong direction. The software can not know what kind of production you have, do you use buffers, what kind of machines you have, how they are organized, what kind of planning method you use, etc.

To use the power of Ai you have to do a fine-tuning process. Improvinn Ai is a process for teaching ChatGPT to the specific details of your factory. After teaching it your managers and engineers can use the whole power of Ai configured especially for your business.

### **Implementing AI in Manufacturing: The Key to Success**

Using AI in manufacturing can bring significant improvements, but to maximize its potential, **fine-tuning** is essential. AI acts as a highly intelligent assistant with access to vast amounts of data. However, to ensure it works effectively for your business, you need to structure and fine-tune it properly.

### **Steps to Fine-Tune AI for Your Manufacturing Company**

#### **1. Customize AI for Your Specific Needs**

To make AI truly effective, you must teach it about your company's unique processes, including:

- **Production details** – What products you manufacture
- **Order types** – Make-to-Stock (MTS), Make-to-Order (MTO), or a mixed model

- **Planning methods** – Kanban, DBR, S-DBR, DDMRP, etc.
- **Buffering strategies** – Area, inventory, time-based, or mixed
- **Machine setup** – Number of machines, layout, and positioning

You need to **document** all these details in a structured way so that AI can process and optimize solutions tailored to your business.

## 2. Teach AI Your Improvement Methodologies

To ensure AI enhances your operations, it should be aligned with the methodologies you use to optimize production. This includes:

- **Lean Manufacturing** – Specify the exact tools you use
- **Theory of Constraints (TOC)** – Define the TOC tools you apply
- **Deming's principles** – Quality and continuous improvement strategies
- **Six Sigma** – Data-driven process improvement
- **TRIZ** – Systematic innovation and problem-solving

For each methodology, a detailed document must be created to guide AI in making the right decisions for your plant.

## The Benefits of a Fine-Tuned AI System

By properly structuring and training AI, you can achieve:

- ✓ **Lower costs**
- ✓ **Reduced lead times**
- ✓ **Increased productivity**
- ✓ **Higher net profit**

## How I Can Help

I offer expert support in implementing AI for your manufacturing operations, including:

- ✓ **Analysis** of your current processes
- ✓ **Creating structured documentation** for AI training
- ✓ **Teaching AI** to adapt to your business needs
- ✓ **Training your team** to effectively work with AI

With **17 years of experience** in optimizing manufacturing plants using Lean, TOC, TRIZ, Six Sigma, and more, I can help you navigate this complex process.

📍 Services available **online and on-site**.

Let's transform your manufacturing operations with AI! 🚀