# Microtech Polymers MES Project

## Overview

The aim of the project is to develop MES Software for Microtech Polymers (MTP). The projects have the following concepts:

1. **OEE Calculation**
2. **Downtime Tracking**
3. **Production Insights**

This multidisciplinary project has been divided into the following sub projects:

1. **Data acquisition edge** box with Digital and Analog I/O’s.
2. Additional **Touchscreen Device for User Data input**.
3. **Web MES Application**. (Frontend and Backend)

### Data Acquisition Edge:

1. Select Microcontroller.
2. Prepare a board for reducing 24 V input to 5 V.
3. Program the microcontroller for data acquisition.
4. Establish communication with MQTT broker.
5. Accept commands from MES dashboard and touchscreen.

### Touchscreen Device:

1. Create a web interface for accepting user data.
2. **Start/Stop** production order.
3. Report good bad parts and downtime.

### Web Application:

1. EDGE admin interface.
2. Send information to the **EDGEs for production order**.
3. Overview of **Equipment** **Status**.
4. Production Order Status.