

SCHOOL OF

**INDUSTRIAL AND INFORMATION ENGINEERING**

**Management Engineering  
Master of Science**

Milano Bovisa Campus

Industry 4.0 Track

**Production for Made in Italy Laboratory**

**Industrial Case Marelli-2021**



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# Industrial Case Marelli-2021

## Information on the production system

The screen printing area consists of 7 lines (SP1, SP2, …, SP7).

A picture containing graphical user interface

Description automatically generated

**SP 1**

**SP 2**

**SP 3**

**SP 4**

**SP 5**

**SP 6**

**SP 7**

## Information on the production system

Cycle time

Products processable

OEE

Setup time

Parts are assigned to one of the lines and processed in lots.

The lines in the system are characterized by the following data:

1. Number of stations (if relevant): it provides the number of steps needed to process a sheet, each step is operated in a station
2. Class of processable products.
3. Setup time: time needed to setup the machine independently from the product to be processed.
4. Cycle time (?): it is the time span from the instant a sheet enters in a station until the next one can enter.
5. Management policies: information related to the way each line is managed, e.g., maintenance, dependence of the cycle times from internal organization, etc.

## Information on the products/processes

Products to be processed are characterized by the following information

1. Dimension of the lot
2. Assignable lines: lines capable of processing the lot
3. Number of ink layers: it entails the number of passes the parts will flow through the line for the different layers to be printed.
4. Figures per sheet: it is used to estimate the number of sheets that must be processed to obtain the desired number of parts.
5. Processing times: time needed to process the sheets per line, per station.
6. Scheduling rules: reference to internal organization used for the sequencing, e.g., priorities, etc
7. …