

## Activity

### A11 LEAN BALLPOINT PEN GAME (sustainability version)

discover all basic LEAN principles





Erasmus+

## INTRODUCTION:



The aim is to put this good quality product ballpoint pen on the market. There is a lot of competition in the ballpoint pens industry.

The customer is the king. The company will always strive to meet the wishes of the customer.

You get 10 minutes of preparation time, in which you start thinking about improvements. You can then eliminate wastage and experiment (how do we tackle it, etc.)

The working day takes 4 minutes.

There are a minimum of 2 and a maximum of 3 production days.



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The various activities are recorded in one-point lessons. Given the nature of the work, it is not possible for an employee to make the entire ballpoint pen.

The customer demand is 28 ballpoint pens each day.

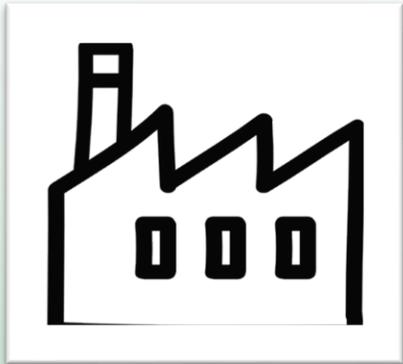
The key performance indicators (KPIs) are evaluated at the end of each day:

- Time production 1st ballpoint pen
- Number of well-supplied ballpoint pens
- Number of incorrect ballpoint pens
- Number of semi-finished products in the process
- Process time per part of the ballpoint

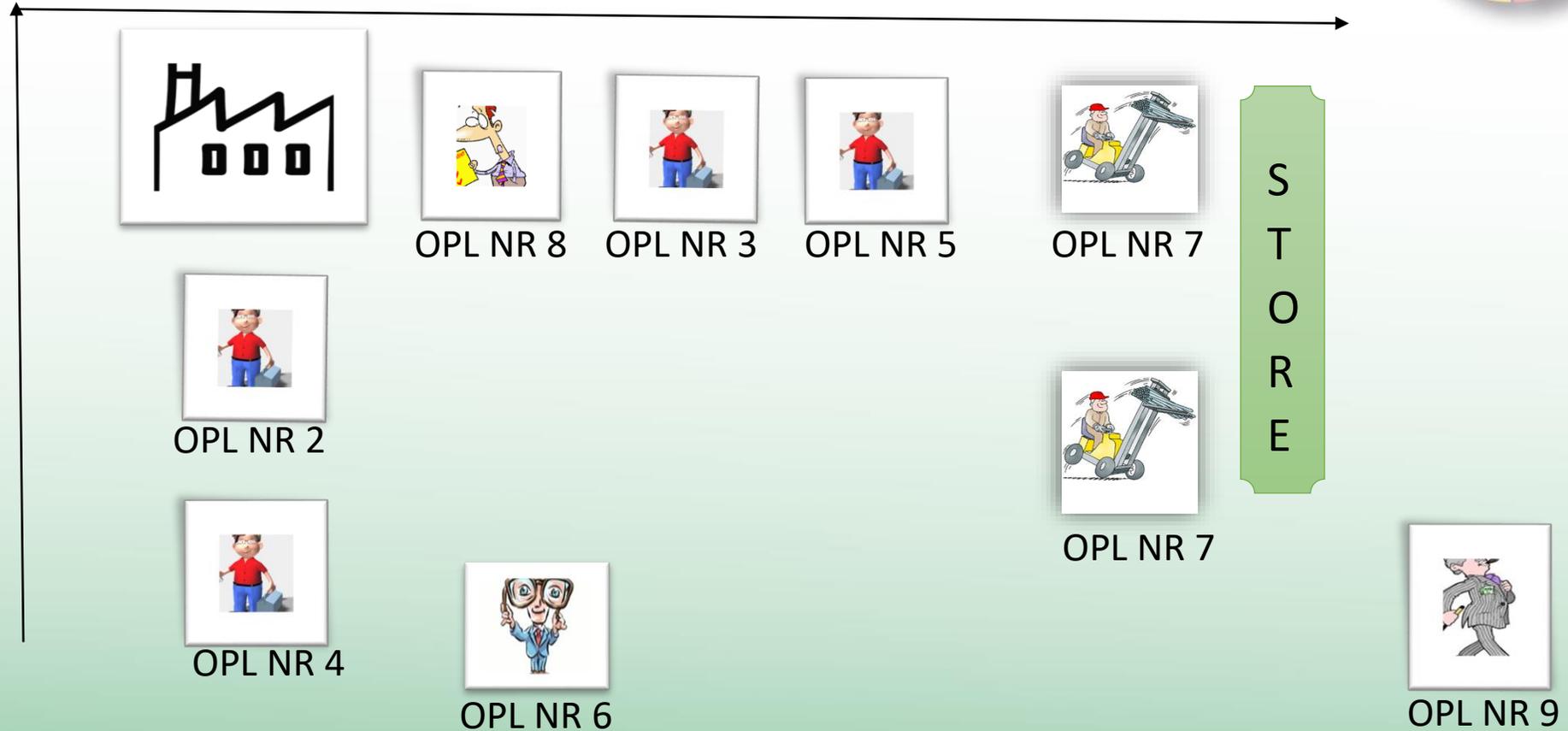
In the preparation time of the second and third rounds, everybody may renovate or reduce the waste (and change the places of the stations).



**BALLPOINT  
PEN FABRIC**



# FLOOR PLAN PEN FABRIC





## ONE POINT LESSONS

## NUMBER 1

OPL METHOD : CUSTOMER



### Description:

As a customer, you would like to include this product in your assortment.

You do not like to disappoint your customers, therefore quality and on-time delivery are important to you.

You expect at least 28 ballpoint pens a day.



## ONE POINT LESSONS

## NUMBER 2

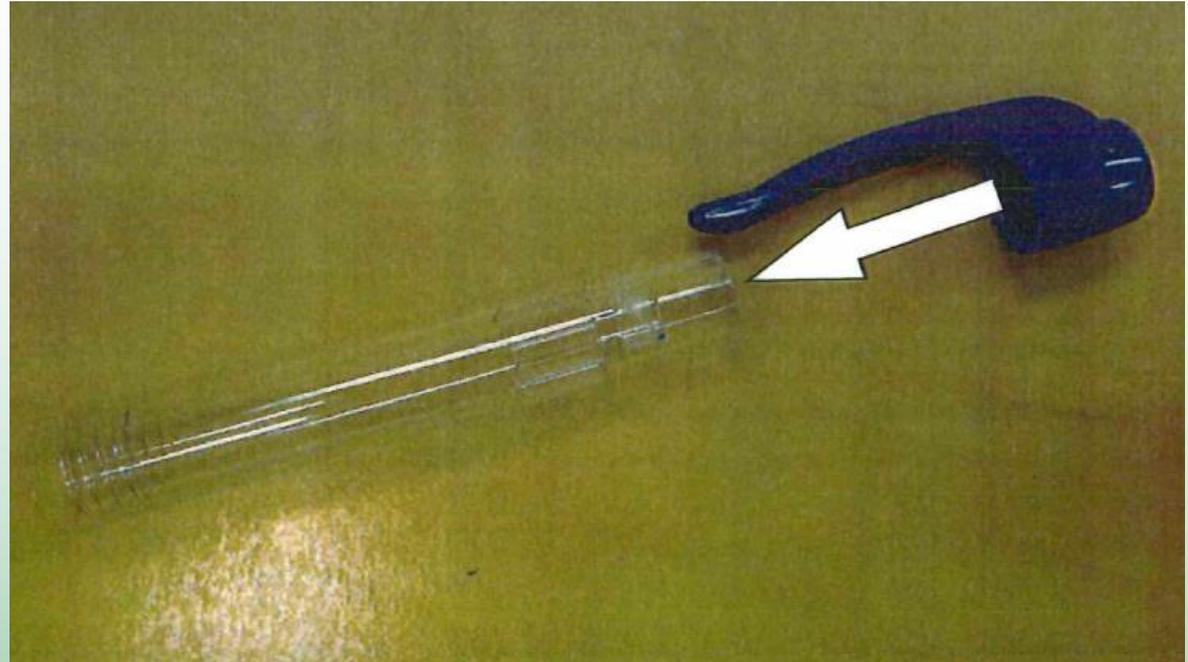
OPL METHOD : APPLY THE BREAST POCKET CLIP TO THE BALLPOINT PEN



### DESCRIPTION:

You are specialized in applying the clip to the ballpoint pen.

Follow the (visual) instruction.



## ONE POINT LESSONS

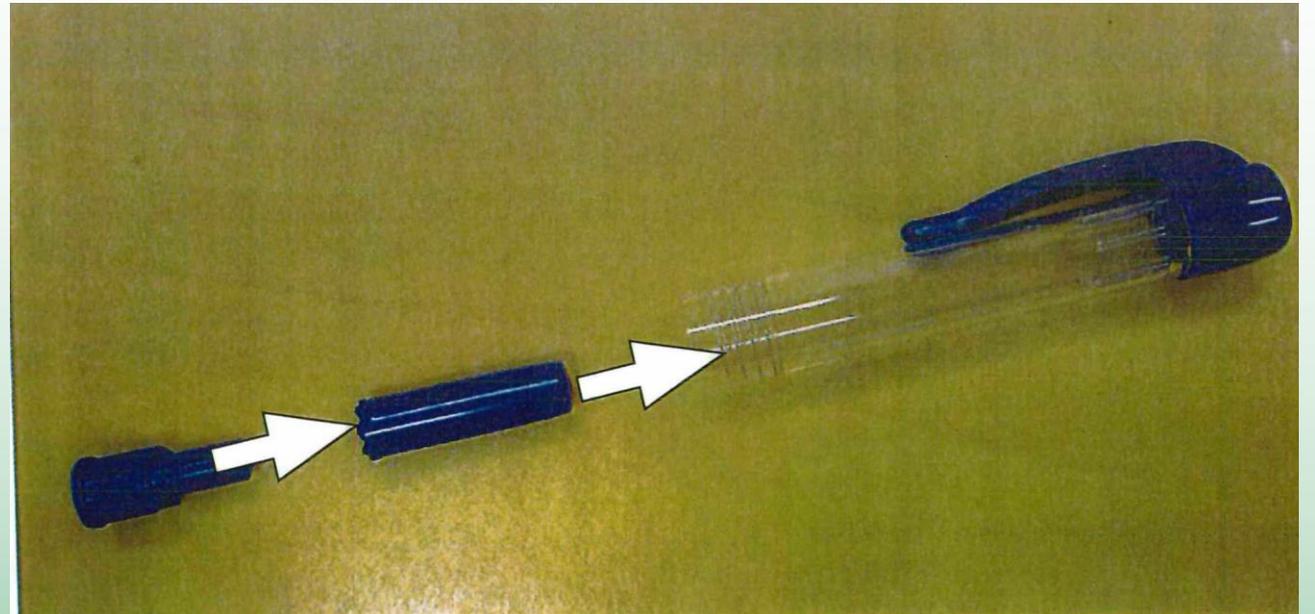
## NUMBER 3

### OPL METHOD : FITTING THE PUSH-BUTTON MECHANISM OF THE BALLPOINT PEN



**DESCRIPTION:**  
You are specialized in applying the push-button mechanism of the ballpoint pen.

Follow the (visual) instruction.



## ONE POINT LESSONS

## NUMBER 4

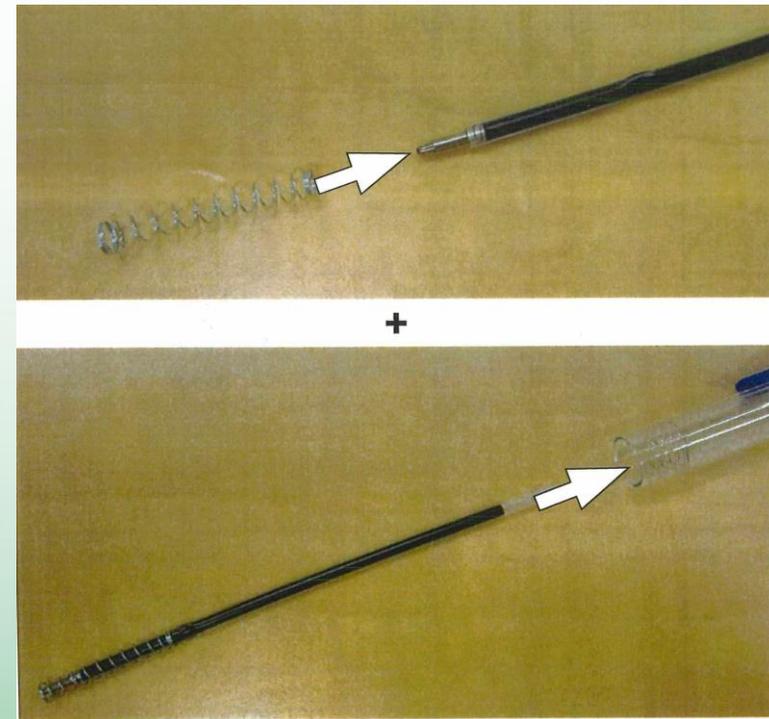
### OPL METHOD : ATTACHING THE INK CARTRIDGE INCLUDING THE SPRING



#### DESCRIPTION:

You are specialized in applying the ink cartridge and spring of the ballpoint pen.

Follow the (visual)instructions.





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## ONE POINT LESSONS

NUMBER 5

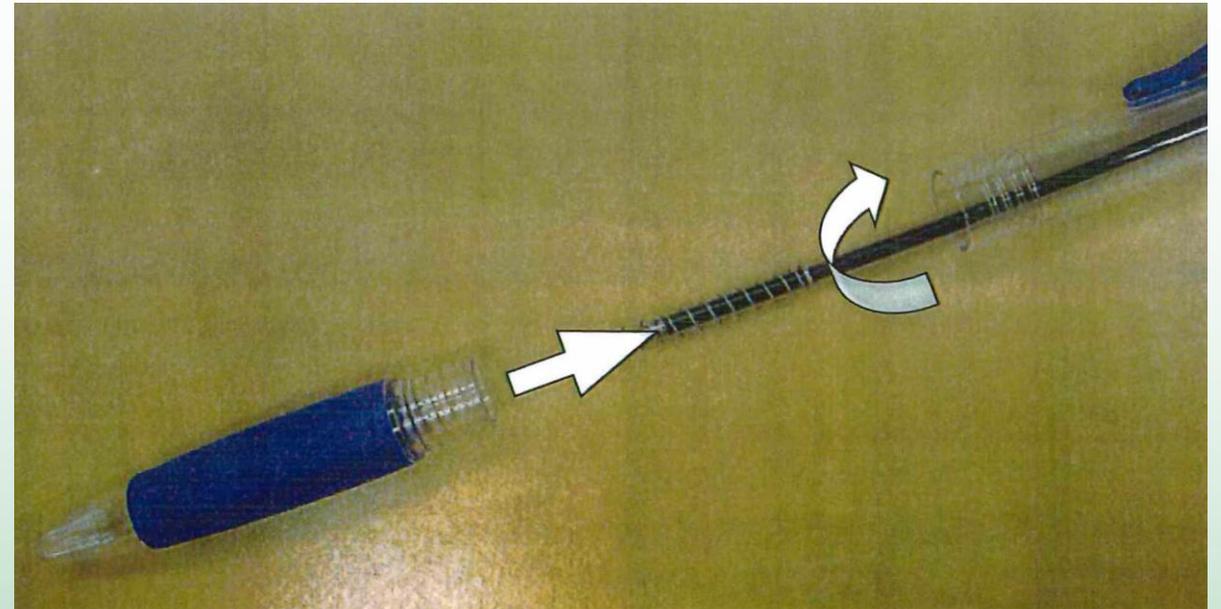
OPL METHOD : FITTING THE SCREW CAP



### DESCRIPTION:

You are specialized in installing the screw cap of the ballpoint pen.

Follow the (visual) instructions.



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## ONE POINT LESSONS

## NUMBER 6

### OPL METHOD : QUALITY CONTROL OF THE BALLPOINT PEN

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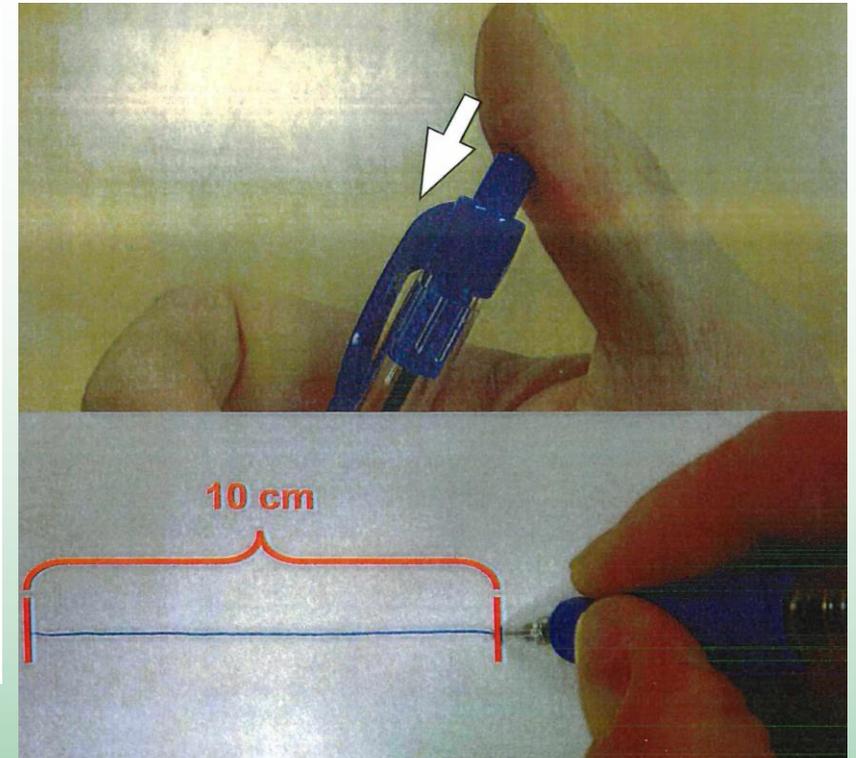


#### DESCRIPTION:

The ballpoint pen must meet two quality requirements.

1. he must write at least 10 cm
2. the push button mechanism must function properly in 1x.

You register the number of correct and rejected ballpoint pens.





## ONE POINT LESSONS

## NUMBER 7

### OPL METHOD : TRANSPORTATION



#### DESCRIPTION:

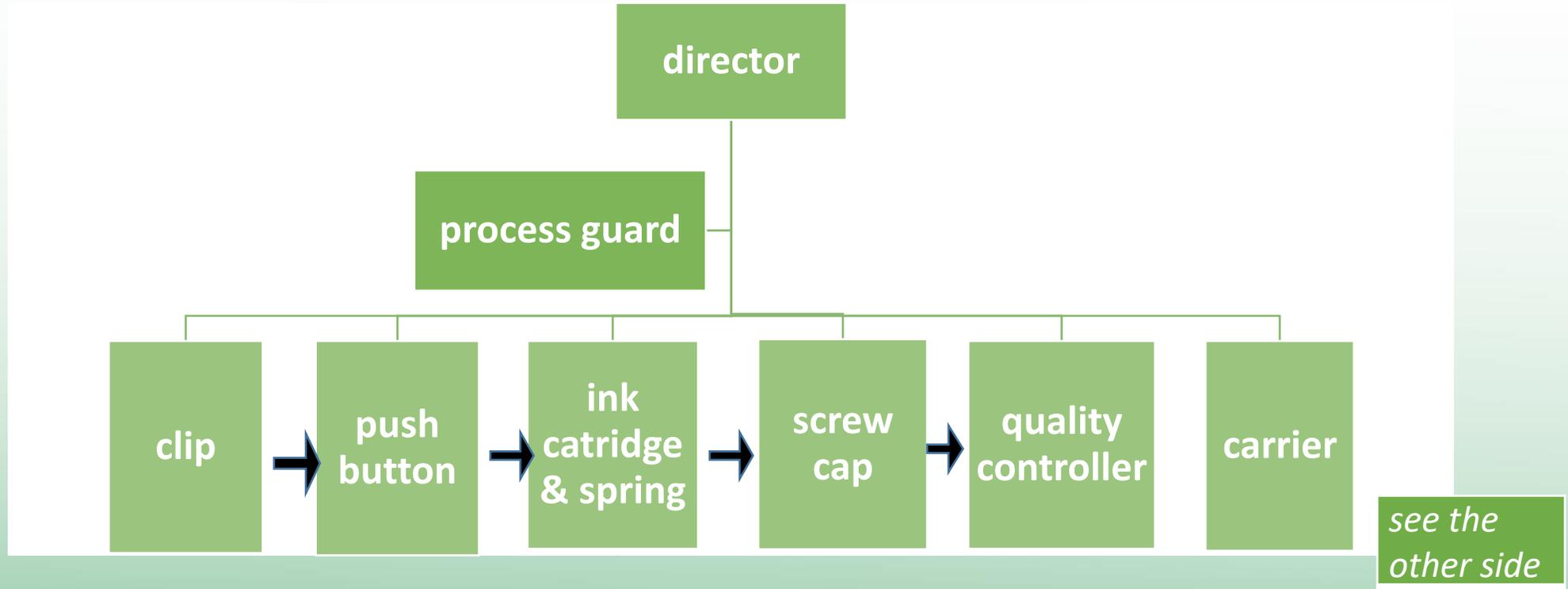
You are a very fast and skilled forklift driver. You are specialized in transporting ballpoint pens quickly and safely. The transport consists of:

- Raw materials from the store to the production workers
- Semi-finished products between process steps
- Ballpoint pens to the customer

Finally, you transport the rejected ballpoint pens from the quality inspector to the first step –the breast pocket clip -.

Pay attention!! You use the customized transport pallets for transporting 4 ballpoint pens at a time intern (to the production workers) and extern (to the customer).

ONE POINT LESSONS NUMBER 8  
OPL METHOD : PROCESS MONITORING BY TAKING MEASUREMENTS





### DESCRIPTION:

As a process guard, you are responsible for correct information provision to the managing board. You are also controlling the process if the director is not present.

The director would like to have insight into several performance indicators at the end of the working day:

- 1) Number of good and rejected products.
- 2) Total duration (= lead time) of the first good product.
- 3) Number of wasted parts (all parts at the tables are considered waste)

Record this information on an A4 and hand it to the director at the end of the working day.

## ONE POINT LESSONS

NUMBER 9

OPL METHOD : DIRECTOR/GAME LEADER



As a director, you are promoting this new product; THE ballpoint pen. You are visiting potential customers and you maintain good contact with current customers. You invest in them and visit them regularly. The process guard then takes over your duties. You request feedback at the end of the working day.

You encourage continuous improvement among all employees.

They are getting space to implement improvements (=preparation time).

*see the other side*



## ONE POINT LESSONS

## NUMBER 9

OPL METHOD : DIRECTOR/GAME LEADER

After every working day, the game leader will discuss the results.

The key performance indicators (KPIs) :

- Time production 1st good ballpoint pen
- Number of well-supplied ballpoint pens
- Number of incorrect ballpoint pens
- Number of semi-finished products in the process
- Process time per part of the ballpoint
- Customer satisfaction (in number)
- Staff satisfaction (in number)





**INSTRUCTIONS**

**NUMBER 10**

**OPL METHOD : OBSERVERS**

**During the working day, the Observers should pay attention to all that is happening in the plant, for example:**

- **Look if the work is balanced between the Operators**
- **Look for wastes, using the 8 wastes sheet (see Activity 12 supporting document)**
- **Look for bottle necks**
- **Look for general improvements to the production**

