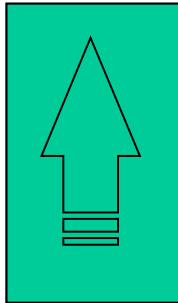
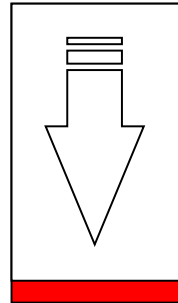


## What is the target of the Red / Green method?

- Red = operations the customer **doesn't want to pay for**
- Green = added value operations the customer **wants to buy**.
- In a Total Quality approach the reference is the customer

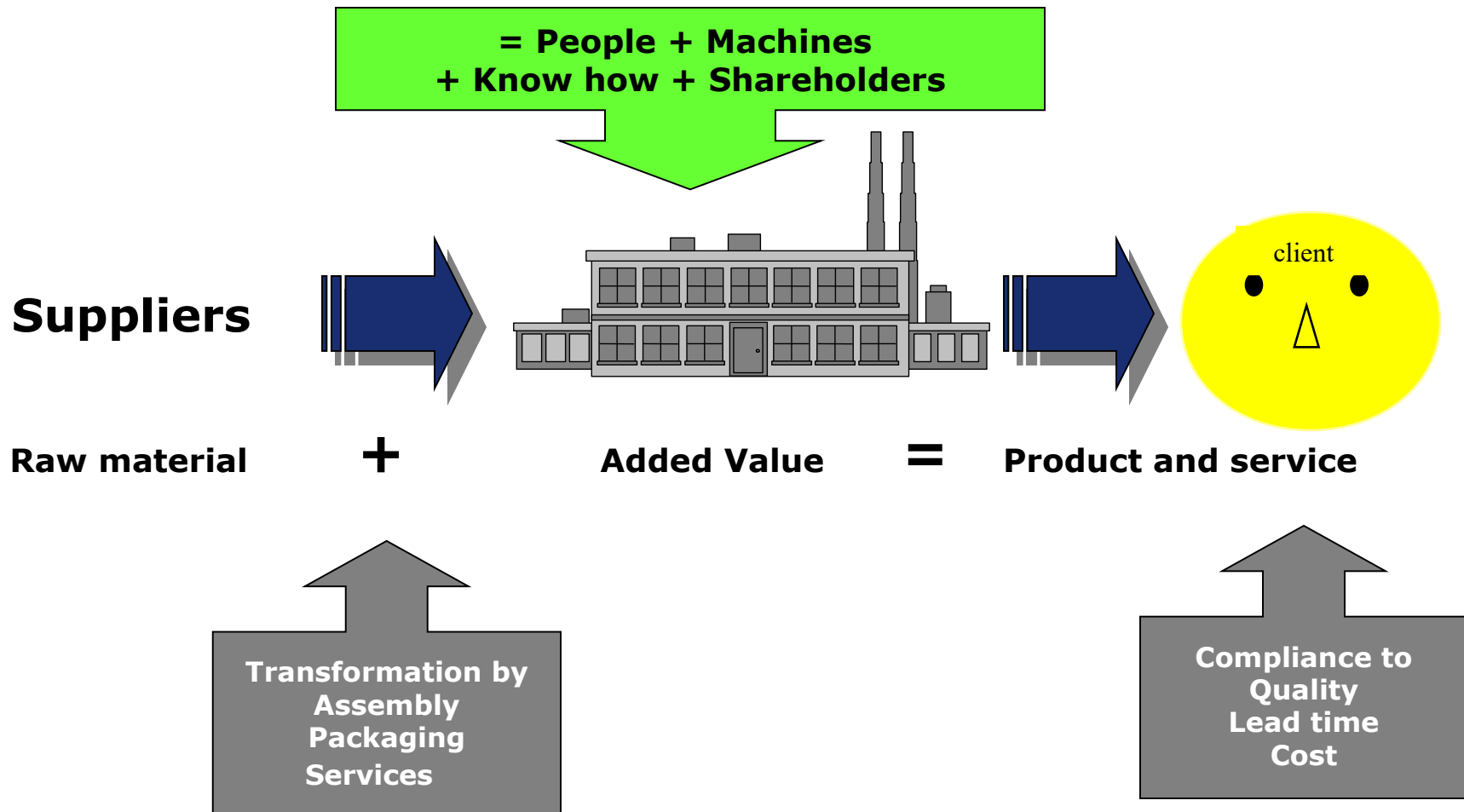


**Increase  
Green**



**Decrease  
Red**

# Where does the added value come from ?



**Desire to work as a team  
With open dialogue**



**Eyes**



**Agenda**

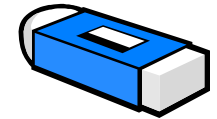


**Note book**



**Tools for the  
Red / Green method**

**Eraser**

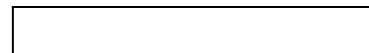


**Pen**



**Watch**

**Ruler**



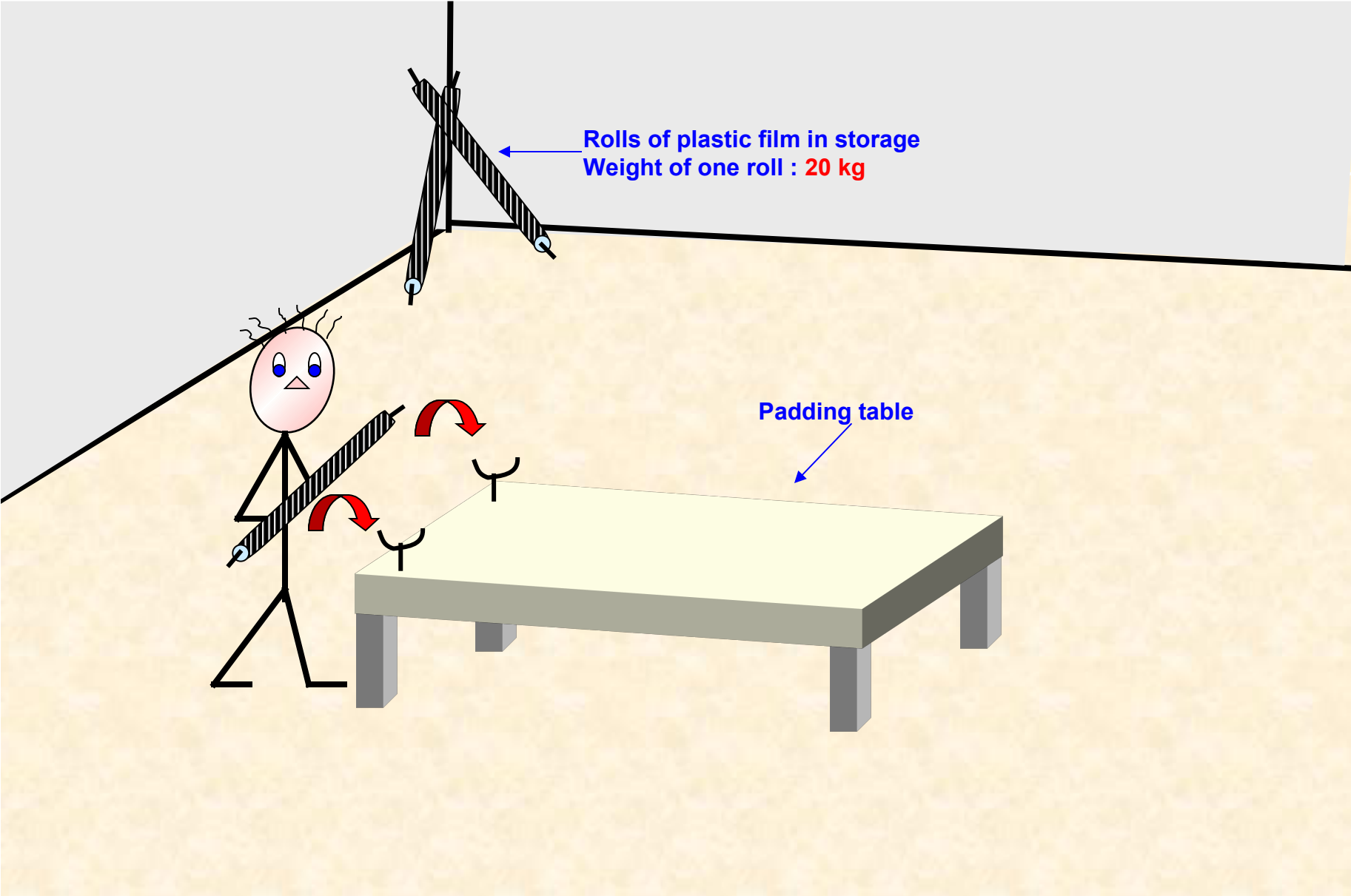
Example of **Red** / **Green**  
method in a real case

**Padding and cutting plastic bags  
in 5 operations**

**BEFORE**

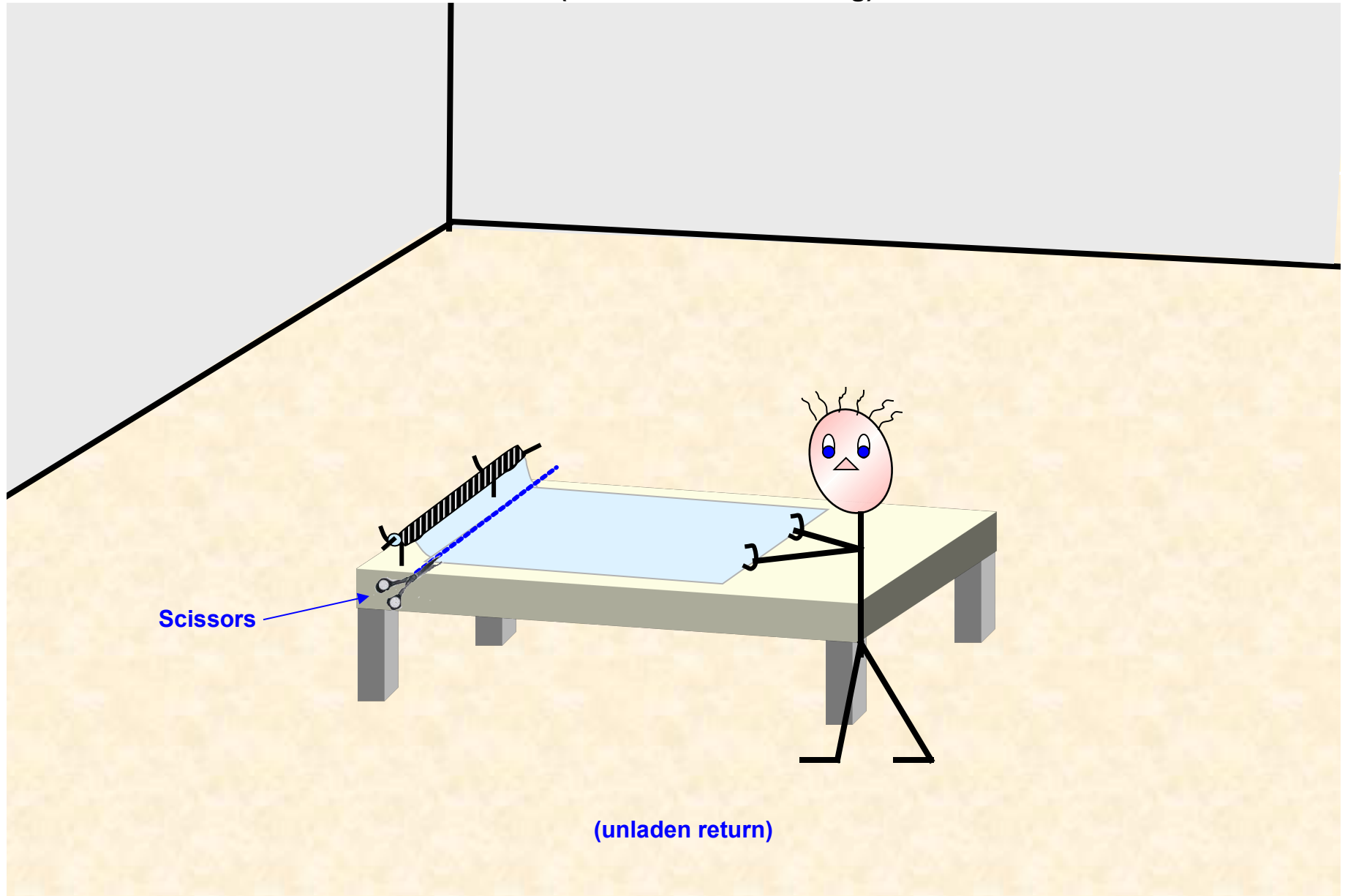
**OPERATION N°1**

**Manually loading the rolls on one side of the table**



**OPERATION N°2**

**Spreading the plastic film cutting it with scissors to the length of the mattress  
(after unladen returning)**

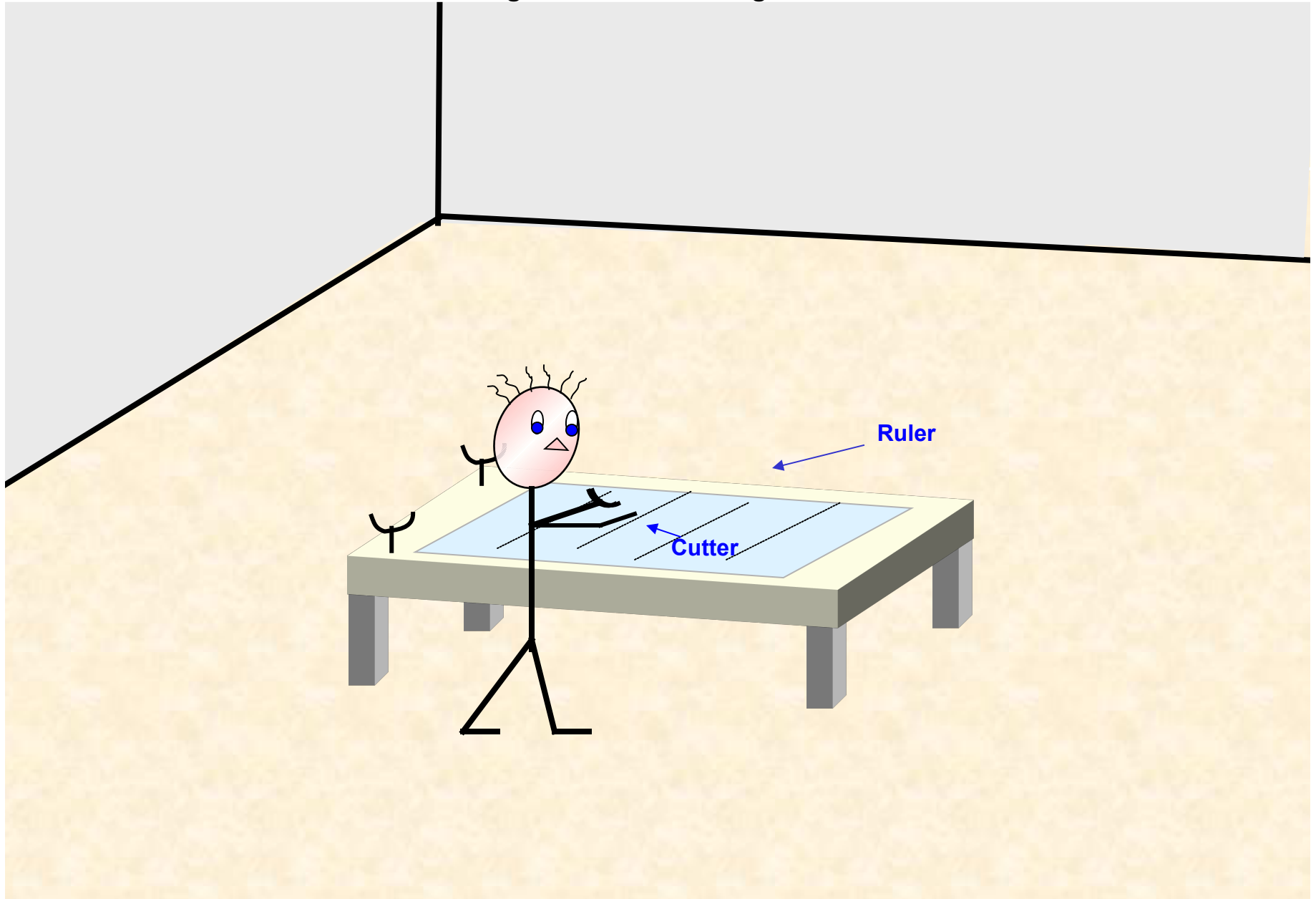


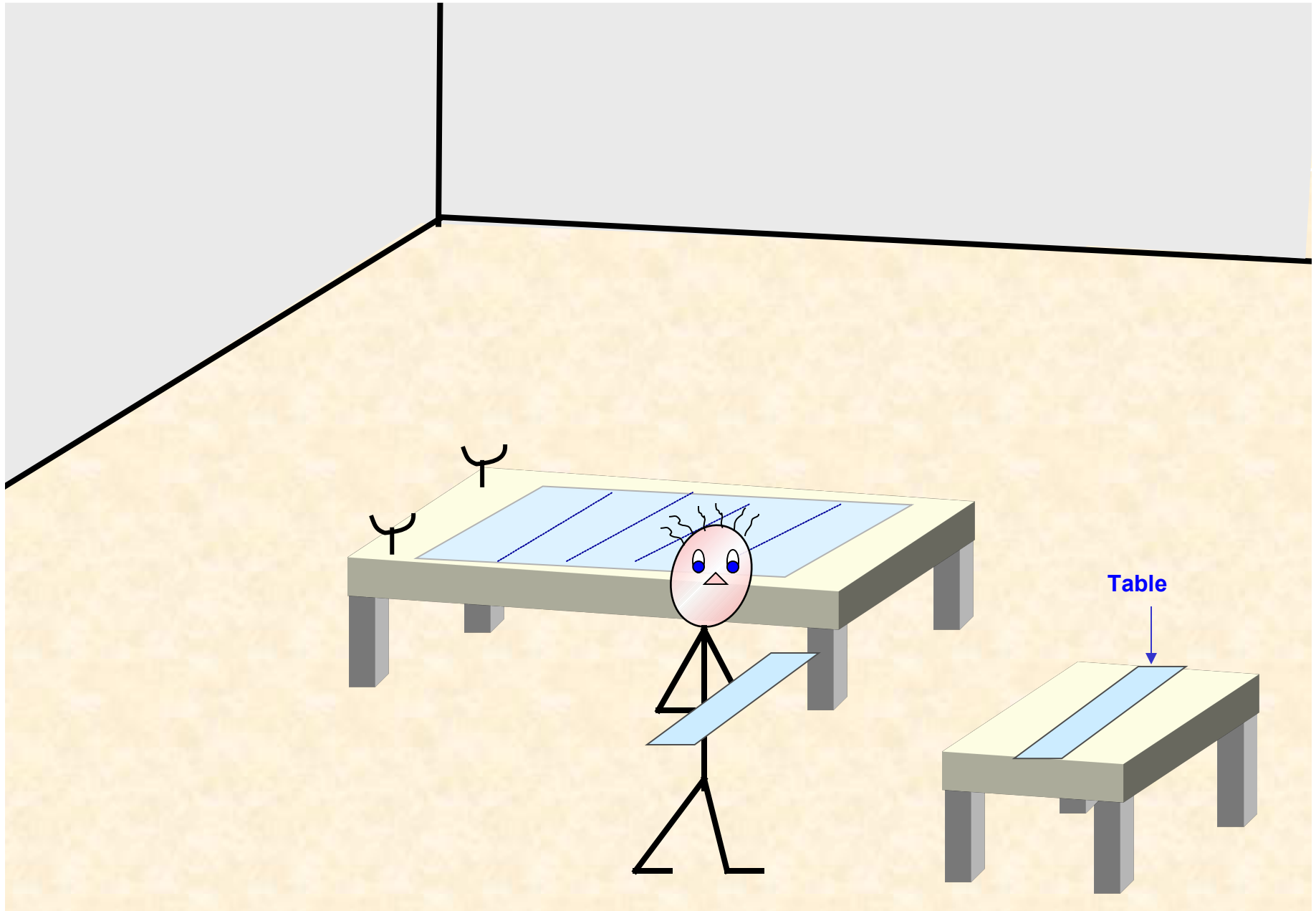
Scissors

(unladen return)

**OPERATION N°3**  
**OPERATION N°4**

**Marking the bag's width to cut out with a ruler**  
**Cutting the mattress using the cutter**







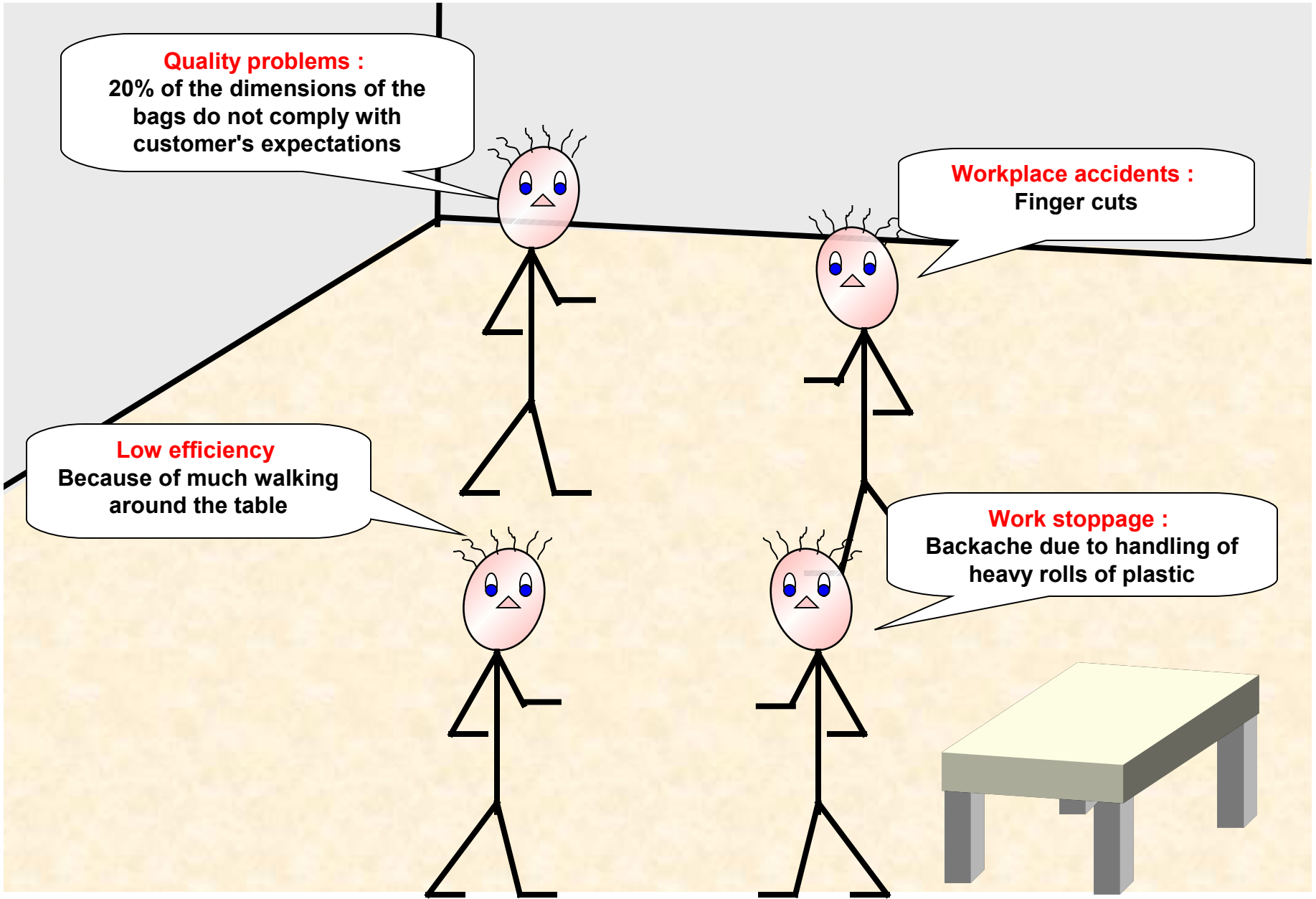
# PROBLEMS mentioned by the workers

**Quality problems :**  
20% of the dimensions of the bags do not comply with customer's expectations

**Workplace accidents :**  
Finger cuts

**Low efficiency**  
Because of much walking around the table

**Work stoppage :**  
Backache due to handling of heavy rolls of plastic



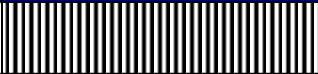
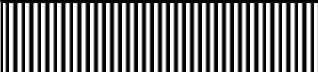

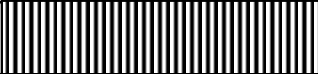




## Observations and Red / Green analysis of operations

| TIME         | ACTIONS   | DURATION<br>in MM | COLOR |
|--------------|---|-------------------|-------|
| 8h30         | Getting the roll                                      | 3                 |       |
| 8h33         | Manually loading the roll onto the table              | 3                 |       |
| 8h36         | Spreading the plastic film onto the table             | Total 15          |       |
| 8h37 1/2     | Returning unladen to the roll                         | Total 5           |       |
| 8H38         | Cutting with scissors                                 | A few<br>seconds  |       |
|              | Same spreading, unladen returning, cutting : 10 times |                   |       |
| 8h56         | Measuring the widths to cut with a ruler              | 10                |       |
| 9h06         | Cutting the lengths with a cutter                     | 9                 |       |
| 9h15         | Unloading bags and placing them on the table          | 15                |       |
| 9h30         | End   |                   |       |
| <b>TOTAL</b> |   | <b>60</b>         |       |

### Information about quality problems

*An average of 20% of the dimensions of the bags do not comply with the customer's expectations.*

## Observations and Red / Green analysis of operations

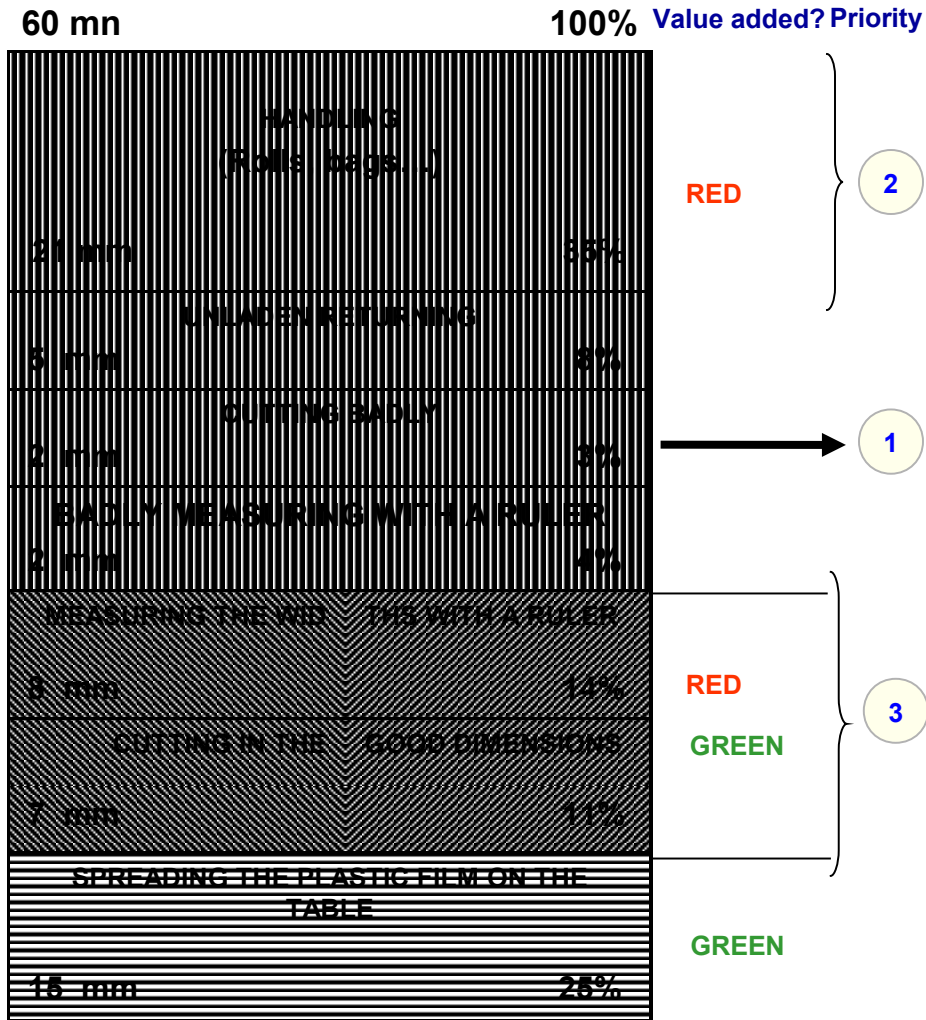
| TIME         | ACTIONS   | DURATION IN MM | COLOR   |
|--------------|---|----------------|---|
| 8h30         | Getting the roll                                      | 3              |  |
| 8h33         | Manually loading the roll onto the table              | 3              |  |
| 8h36         | Spreading the plastic film onto the table             | Total 15       |  |
| 8h37 1/2     | Returning unladen to the roll                         | Total 5        |  |
| 8H38         | Cutting with scissors                                 | 0              |  |
|              | Same spreading, unladen returning, cutting : 10 times |                |   |
| 8h56         | Measuring the widths to cut with a ruler              | 10             |  |
| 9h06         | Cutting the lengths with a cutter                     | 9              |  |
| 9h15         | Unloading bags and placing them on the table          | 15             |  |
| 9h30         | End   |                |   |
| <b>TOTAL</b> |   | <b>60</b>      |   |

### Information about quality problems

*An average of 20% of the dimensions of the bags do not comply with the customer's expectations.*

# Red / Green observations and actions plan

Presentation in a « chimney » form : 100% = 60 mn



| WHO?   | DOES WHAT?  | WHEN?  |
|--------|---|--------|
| PAUL   | <b>Security problem</b><br>Eliminating heavy handling                             | Week 6 |
| PIERRE | <b>Security problem</b><br>Finding a safe cutting device that doesn't cut fingers | Week 5 |
| JACK   | <b>Quality problem</b><br>Putting the sizing of the bags under control            | Week 9 |

Example of **Red** / **Green**  
method in a real case

**Padding and cutting of plastic bags  
with 5 operations**

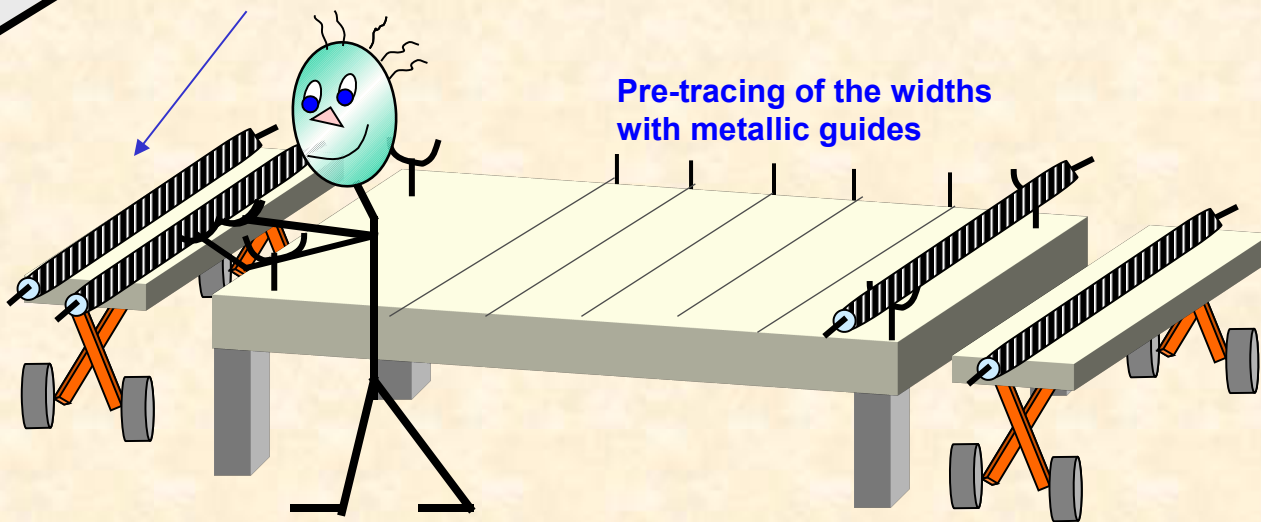
**AFTER**

# OPERATION N°1

## Loading a roll on both extremities of the padding table with a lifting table with castors

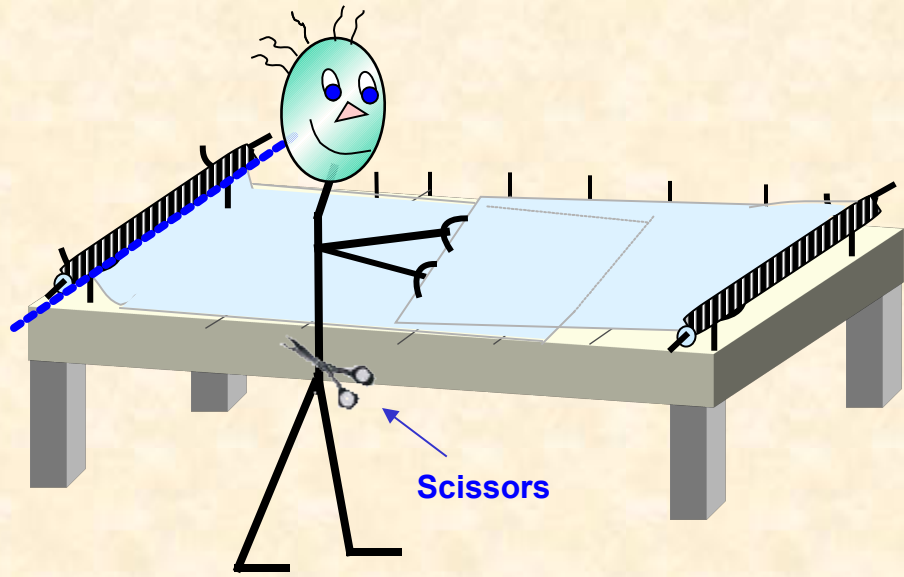
Pre-storage of the rolls on lifting tables with castors on both extremities of the table

Pre-tracing of the widths with metallic guides



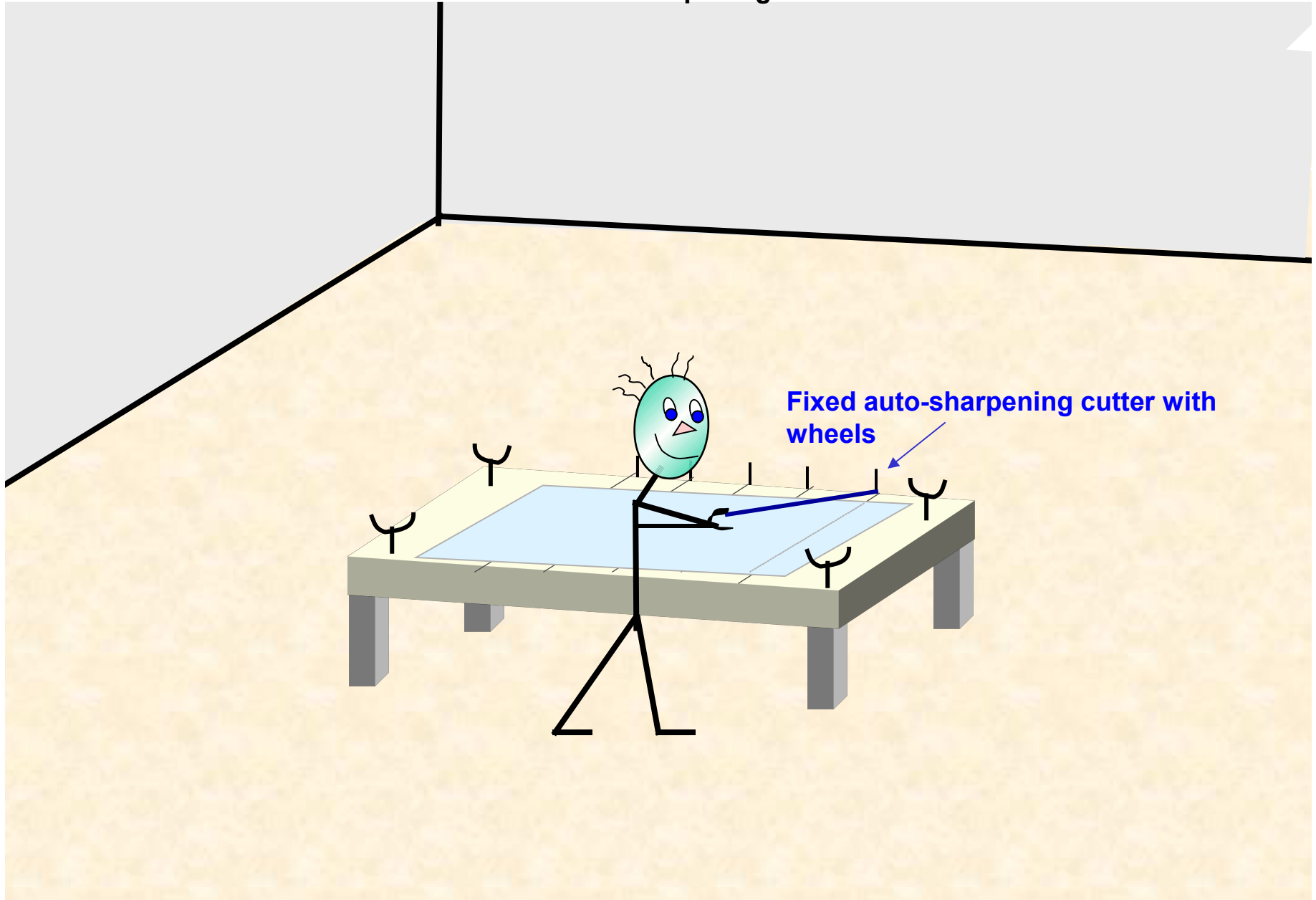
**OPERATION N°2**

**Spreading the plastic films of both rolls, in one direction and then the other and cutting them with scissors to the length of the mattress**

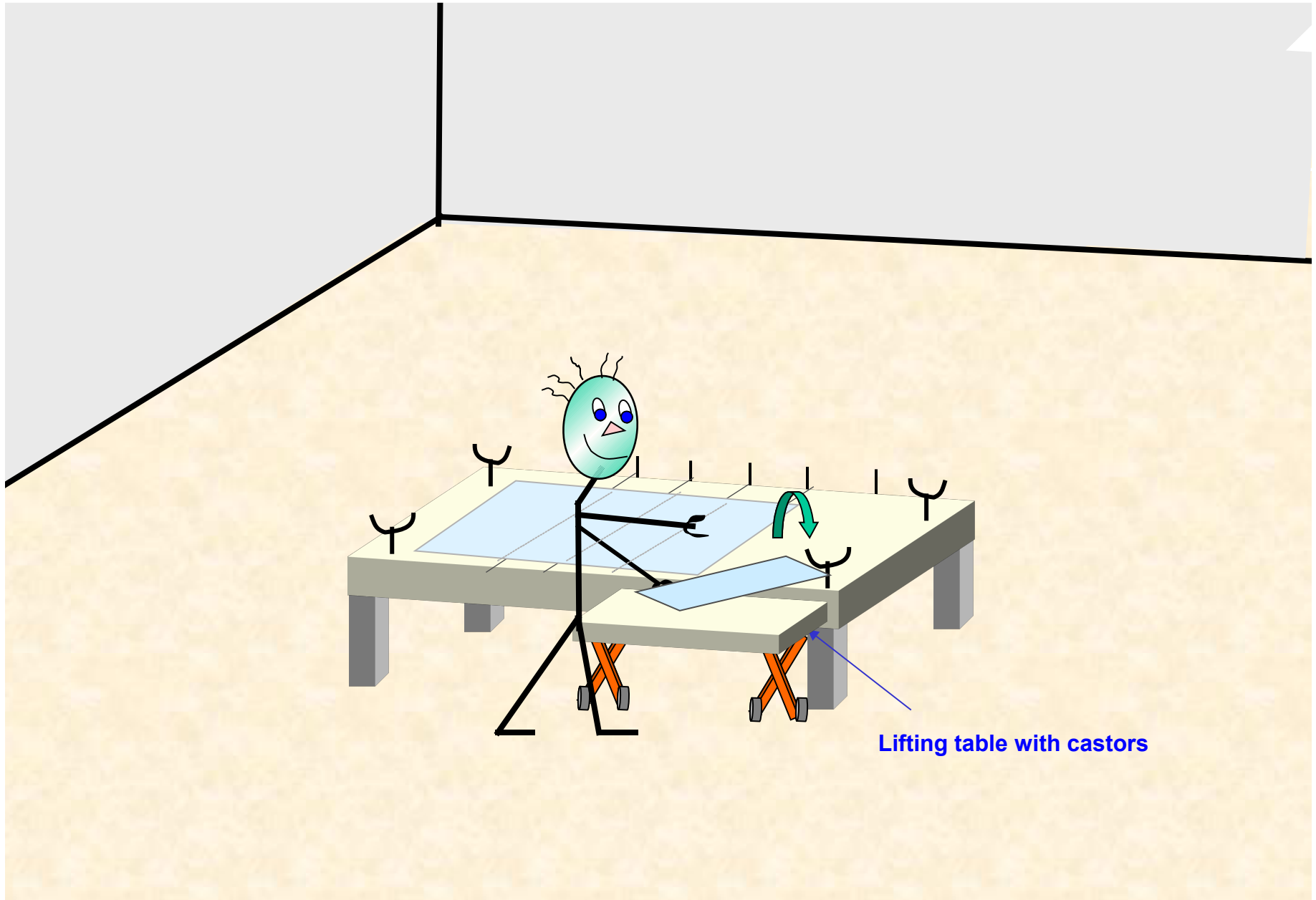


**OPERATION N°3**

**Directly cutting the widths of the bags by following the pre-established tracings with a fixed auto-sharpening cutter with wheels**







# Overview of improvements

**Principle :** To calculate the return of investments we suppose that the number of bags being produced is the same before and after the improvements.

| PRIORITY     | WHO?   | WHO DOES WHAT?  | COST         | RETURN OF INVESTMENT   |
|--------------|--------|---|--------------|--|
| 1            | PIERRE | <p><b>Security problem:</b><br/>Finding a safe cutting device</p> <p>Fixed cutting device with wheels and a branch to avoid contact of fingers with the cutting part</p>  | 75 €         | <p><b>Deletion of accidents by cuts</b><br/>(approximately 4 weeks of work stoppage per year = 1500 €)</p>   |
| 2            | PAUL   | <p><b>Security problem :</b><br/>Eliminating heavy handling</p> <p>Setting up lifting tables with castors.</p> <p>Simultaneously, thanks to the setting up of two lifting tables with castors on both sides of the padding table, deleting unladen returning.</p> | 900 €        | <p><b>Decrease of work stoppage due to backaches</b><br/>(approximately 2 weeks per year = 750 €)</p> <p><b>Productivity increase : + 18%</b></p> <p><b>Productivity increase : + 8%</b></p> |
| 3            | JACK   | <p><b>Quality problem:</b><br/>Putting the sizing of the bags under control</p> <p>Setting up a pre-tracing of widths with metallic guides to delete the operation of measuring with a ruler.</p>   | 300 €        | <p><b>Reduction by 20% of defects and waste of raw material = Productivity increase : 3%</b></p> <p><b>Productivity increase : 14+4=18%</b></p>  |
| <b>TOTAL</b> |        |   | <b>1275€</b> | <p><b>Total Productivity increase : 47%</b><br/><b>Retrieval of work stoppages : approximately 2300 €</b></p>  |

*The marking of the dimensions of the bags with metallic guidelines is a poka yoke.  
After a few weeks of experimentation with the new organization, the worker will offer a new way of proceeding.*

# IMPROVEMENTS

