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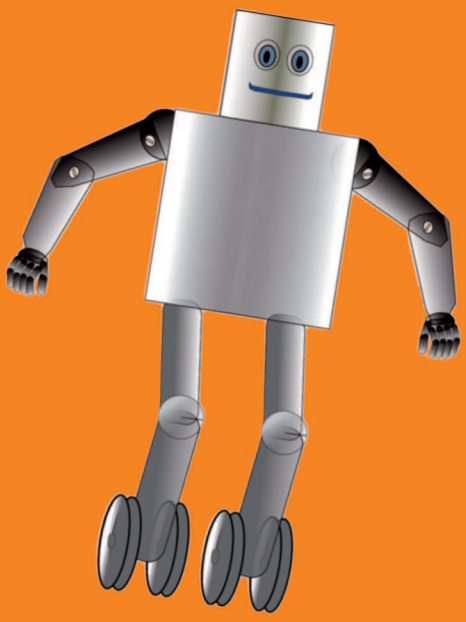


We plan our innovative project

4.1. THE LIST OF MATERIALS

The list of materials is a essential document to carry out any productive process. You are going to use several material, with different sizes and shapes, by which you have to know how to describe them properly, in order to be able to reuse the document as many times as required to rebuild the project. Even, the documentation could let building the Project to other teams no related with its original manufacturing. That's why everything has to be written and described the clearer the better.

In order to avoid any purchase to be forgotten, fill up the following form. If there's no enough space, use a second sheet and write how many tables you have used to complete the full list of materials.

LIST OF MATERIALS

Innovative company: _____

Date: _____ page number ___ from a total of de _____

ITEM #	MATERIAL DESCRIPTION (*)	AMOUNT

(*) For pieces to be manufactured by you, indicate the sizes and the reference to the drawing where it has been designed.

4.2. MATERIALS BUDGET

This process requires to all the team members to be responsible to find the Price of each element from the list of materials.

Where to find the prices of the parts in the list?
You may ask the Price of things in specialized shops or hardware stores. Normally, many pieces are assembly parts such as nails, screws, nuts, springs, collars, etc. A good choice is to take a look into the online shop in the Internet. Make a search in the Internet in order to get the price of each object in several websites in order to compare and take the lowest price.

Fill in the list of materials including the prices. If you do not have enough space for all the parts, make a second sheet to increase the list.

MATERIALS BUDGET

Innovative company: _____

Date: _____ page number ___ of a total of _____

ITEM #	DESCRIPTION OF THE PART	Amount	Unit price	Total Price
	SUM OF TOTAL PRICES	..... €		
	V.A.T. (_____%)	..... €		
	TOTAL BUDGET	..... €		

4.3. HOW MUCH DOES OUR WORK COST?

To know the total cost of a certain product is needed to evaluate how much the materials cost, the labour costs, etc. In addition, you have to consider that the final price of your innovative object has to cover the manufacturing spending, the labour workforce cost in order to pay the wages and finally, you have to take into account the profit to get. Companies use the profit to be shared among the owners or to invest for improving the firm.

In the case of valuating the cost of the workers jobs, one of the items to consider is the valuation of the labour work force. To know this economical cost, some questions have to be accurately answered:

a) How much does the worked hour effectively cost?

b) How many hours have to be invested to develop each task?

4.3.1. Calculating the labour work force

The question is easy to answer, since the cost of the worked hour will be estimated for each worker, in your case, for each member of the team according to your roles. Perhaps you would like to simplify the calculation model to that in which all the team members hour is valuated the same, no matter the kind of job is made. For example, you can fix the amount of 7 euro for each worked hour. This means that each hour you all are working is considered as a cost of 35 euro in the case of being five members.

If you want to simulate what is calculated in the real industry, each of the members has to assume different roles or responsibilities. This means that the cost will vary depending on the type of responsibility. For instance, if the role accepted by one of the member is the designer role or assembly worker, work manager, planning technician, etc, the cost will be respectively 7 €/hour, 5 €/hour or 10 €/hour. You choose the amount of money to pay depending on your organization. Calculate in the following space the labour work force cost and ask your teacher for help.

The calculation of the labour work force

4.4. THE PLANNING WORKSHOP

Planning how to build an object is understood as the first step to forecast what the best way to manufacture is, before the work is started. One of the better solutions is to determine the task to follow as a sort of stages and how long each stage or task is estimated to take.

Make a stop in your way in order to receive some good advices about planning by doing the "Planning workshop". Your teacher will introduce you the topic and will help you to estimate the tasks to make and the time has to be invested.

4.5. PLANNING THE MANUFACTURE STAGES

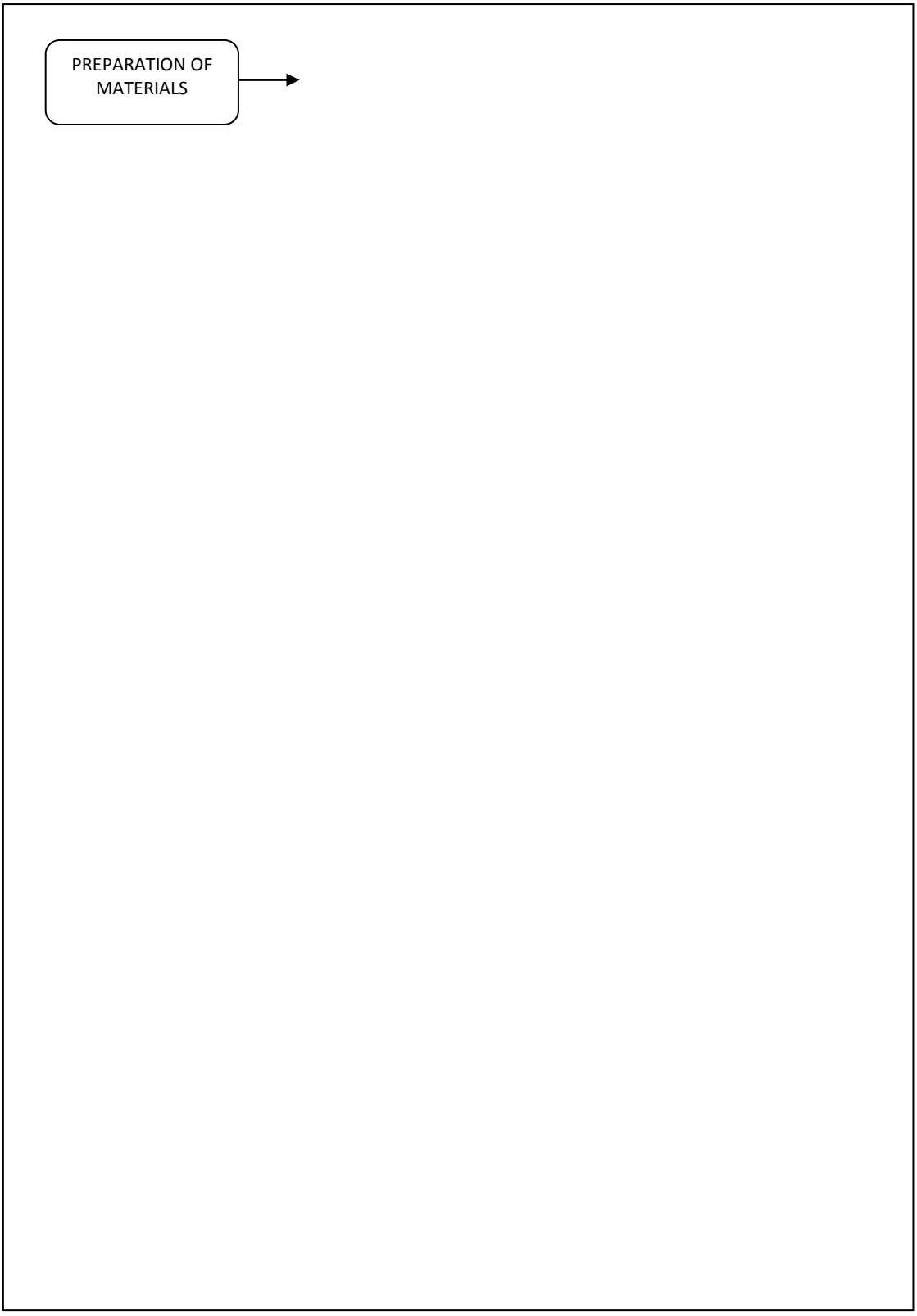
Once you've made the Planning Workshop, make a list of the tasks you think your manufacturing process will be made up in order to complete the building of your innovative object.

Lists of tasks

Number of the stage	Description
1.0	**PREPARATION OF MATERIALS**

4.6. WE DRAW THE PROCESS DIAGRAM

In this step you have to make the design of the process diagram or flow diagram using the proper symbols and shapes you have learnt in the Planning Workshop.



4.7. PLANNING WITH THE GANTT DIAGRAM

Create the Gantt diagram on this template, shading the required squares according with the duration of each task.

Number of the stage	Time line → One square = ______ hours																						
1.0																							

4.8. WE CALCULATE THE LABOUR COST

Once you know the stages the manufacturing process consists of, who is the responsible of each stage and what is the cost of each task, you can calculate the labour work force total cost

Number of the stage	Duration (hours)	Type of worker role	Cost per hour	Total cost
			TOTAL SUM OF LABOUR COST……	

NOW, ADD ALL THE CONCEPTS AND CHECK THE FINAL COST

4.9. MANUFACTURING: THE INCIDENCE DIARY

You've just considered how you are going to carry out your innovation manufacture. Now, let's implement it. It's possible some events that you haven't taken into consideration, appear as unpredicted problems or lack of materials in a certain moment. All these events are considered as incidences and they have to be written. Use the following table to annotate and explain each of the incidences in order to determine the proper corrections:

Incidencia nº	Fecha	Etapa corregida	Descripción

4.10. MONITORING THE MANUFACTURE

As soon as the manufacture is carried out according to the planning, monitoring its evolution is really suitable. You can do it by means of different pictures or photographs taken in different moments. Paste some pictures in the following squares in order to monitor how the manufacture is evolving.

Picture about the preparation of materials

Picture 1 of the manufacturing process

Picture 2 of the manufacturing process

Picture 3 of the manufacturing process

Picture 4 of the manufacturing process

Picture of the object when manufacturing process is finished

4.11. WE MAKE OUR INNOVATIVE OBJECT INSTRUCTIONS MANUAL

You've just finished the building of your innovative object and now you're checking how it works. Now you can develop a document to explain its functionality and composition: the instructions manual. It's even possible your object to need a certain or specific arrangement of components to be used. The best way to write an instructions manual is to compose simple and direct sentences by which you need to use a synthetic and direct language to allow people to understand it clearly.

Use the following space to write the instructions manual. If you prefer, you could also write the document by a text processor, save the file and upload it to the digital platform.

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