

## Building mobile phones according to customer orders.

### **Part 1- Manually assembled**

You are running a factory that produces mobile phones. You will receive orders from three customers. You need to do the following actions, to produce the phones that the customer has ordered.

1. Make a BOM (Bill of material) and order the parts. A combined list of parts needed for all three orders must be delivered to your internal sub-division (Hjørtur and Endre).
2. Before the assembly can begin, the front covers need to be machined from raw material.
  - a. Send the raw material to the CNC manufacturer, the machining process is approximately 5 min/pcs.
    - i. The CNC machine/manufacturer is placed in the mechanical lab (Hjørtur and Endre).
3. Assemble the phones according to orders.
4. Deliver completed orders for distribution to customers.
  - a. Deliver the orders to Hjørtur and Endre, and they will confirm that the delivery is according to the purchased orders.

### **Part 2- Automated in CP-Factory**

You are running a factory that produces mobile phones. You will receive orders from three customers. You need to do the following actions, to produce the phones that the customer has ordered.

1. The customer orders are received directly from the web-shop/internet (Hjørtur and Endre will place and execute the orders).
2. The MES system generates work orders and starts the manufacturing process.
3. Deliver the completed orders for distribution to customers.
  - a. Deliver the orders to Hjørtur and Endre, they will then confirm that the delivery is according to the purchased orders.

### **Part 3- Production flow and analyses**

Each group analyses flow in the production line, during production of a specific product, in four different batch sizes. Observe as much as possible and take notes. Pay close attention to details such as time, internal operations etc.

1. Run- Batch of 1pc.
2. Run- Batch of 3pc.
3. Run- Batch of 6pc.
4. Run- Batch of 9pc.

Find bottleneck, and potential improvement.

#### **Part 4 – Presentation (Friday)**

Present the group's observations and conclusions, regarding the manual vs automated productions.

Presentation should contain:

1. Challenges and benefits of manual production.
2. Challenges and benefits of automated production.
3. In order for our “phone production” business to succeed economically, which method would you recommend? Explain why.