TECHNOLOGICAL CHANGE AND SOCIETY INTERDISCIPLINARY RESEARCH CLUSTER
Visit to the Amazon Fulfilment Centre in Passo Corese (Rieti)

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Summary of the visit:

Every Amazon fulfilment centre (FC) is named after the closest international airport therefore the Fulfilment Centre is in Passo Corese is named FCO1 (Rome Fiumicino Airport).

Altogether there are 10 FCs operating in Italy based on the same processes. The FC in Passo Corese was opened in 2017 as the first robotic FC. Its territory covers 11 football fields, and it is divided into two parts: the "inbound" territory, where items are received and categorized, and the "outbound", where the items are packed and prepared to be sent to the customers.

The first process consists of unloading arriving packages assembled by the vendors. The items are received in a random order and are not sorted according to type. They are arranged into black boxes with a barcode that must be scanned in order to keep track of the items. By scanning the items, it is verified that they are not damaged. To respect the safety of the workers, items heavier than 10/12 kilograms cannot be put into the black boxes (they are processed elsewhere). Different type and sized products can be in the same box.

Black totes with items proceed to a robotic area where the barcodes are once again scanned. The items are stowed to a shelf by the workers according to their size. If the worker is not sure about the size of the item, the scanner helps them out. The cameras recognise where the items are put in the shelves and stores the information for later use. This way the items are arranged according to their size, not type, which optimizes space and working time.

After the times are arranged on the shelves, the robots move them. This area is operated by QR codes: the robots scan the QR codes on the floor and adjust their routes accordingly. The route/map they take are designed by humans. They recharge in 5 minutes and can operate for an hour. Accidents can happen rarely, when an item falls from the shelves, the robots stop automatically in order to clear the route.

The "picking" process covers items that are already bought by customers. Workers pick the required items from the shelves and move them to the black boxes. A box can contain several orders from different customers as the items are later sorted in the outbound area. (Remember that the inbound area denotes the inventory while the outbound contains items which are already purchased).

Finally, the items arrive at the "packaging area" where they are packed manually by the workers. The scanner recognizes the size of the items and suggest which envelope/box to use as well as measures out the tape. Paper is put inside the packages to prevent the items from being damaged. In order to protect customers' privacy, the address labels are printed once the items are wrapped.

The FCO1 is open 24/7. There are about 2000 Amazon employees, at FCO1 75% of the employees are older than 40[1]. There is a shift dedicated specifically for parents, lasting between 9-17. Employees know their schedule at least 8 weeks in advance.

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[1] More information on demographics can be found here.