Worksheet answers: Industrial applications

# Lotus

Watch the video (<https://vimeo.com/1118703281/4c68582141>) about Lotus and make notes on the questions below. Think about the different approaches to stock management in different industries.

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| Question to consider | Notes |
| 1. What specific inventory management systems does Lotus use across its global manufacturing network? | LES (Logistics Execution System) which uses a unique barcode identification for each part; this can then be used to track the parts throughout the process.  Cycle count team which carries out counts three to four times per year. This is based upon the data collated during the annual stocktake process.  Supplier Relationship Management (SRM) – official system which is used to order parts from external suppliers, which are delivered via freight carrier DHL. This ensures the relevant stock and parts are in place for the production to continue.  Design Change Control (DCC) is used to determine if older model parts are still required for the new model of vehicle (or if they are obsolete); this allows for accurate stock and management of storage based on dynamic storage methods. |
| 1. What are the implications of having too much stock? | Financial:   * if overstocked, money is tied up in stock which is not being used to create finished products that can be sold. * some stock may reach its expiry date before use and it can be expensive and unsustainable to dispose of it.   Storage: too much of one stock item might mean there is not enough space for another item. |
| 1. Why is it important to ensure the timely and accurate flow of information regarding inventory levels across the supply chain? | An accurate flow of information is essential to prevent the production line from stopping because of stock not being available. This has a significant financial impact on Lotus if not addressed (i.e. employees left with a shortage of work and fewer cars produced for sale).  Parts can be retrofitted but this is inefficient and adds more expense. |
| 1. How is stock monitored during the production process for the various vehicles? | An inventory team that physically counts stock.  MES, a production planning system, ensures Lotus know exactly what is going down the production line and when.  Backflushing – once a car is passed to sales, systems know exactly which parts have been used and can reorder them. |
| 1. Do certain areas use a higher volume of stock than others? | Within the production, there are processes which use more stock than others but tracking the exact amount used is more difficult. For example, oils and paints can be tracked by the barrel but, once in use on the production line, an estimation of volume used needs to be made.  Parts of the production process require consumables such as adhesives; these are items required for the car production but are not classed as being a stock part. These are hard to track so need to be counted and reordered manually (and checked as these can also have expiration dates). |

# Amazon

Watch the video about Amazon (<https://vimeo.com/1096306615/17594c097c>) and make notes on the questions below. Think about the different approaches to stock management in different industries.

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| Question to consider | Notes |
| 1. How is stock monitored and tracked? | Through a combination of AI-powered forecasting (to understand trends in sales) monitored via the use of RFID and barcode systems. These track the movement of stock throughout the process (particularly important for high-value items). |
| 1. How does Amazon forecast customer demand for its products and those sold by third parties? | To forecast demand, Amazon uses:   * artificial intelligence (AI)-powered forecasting, to analyse what has been selling and which products have remained static * dynamic forecasting at peak periods to determine popular products, such as Christmas items during the festive period * Fulfilled by Amazon (FBA) to work with suppliers and third-party sellers to analyse market trends to determine areas of high-demand stock.   Vendors are also supplied with real-time analytics through Veeqo, to ensure they are managing their inventory levels in an optimal way. |
| 1. What is the impact on the business if the stock levels are not monitored and recorded accurately? | If the business does not monitor the stock levels that are within the business or within the supply chain then this can lead to products being out of stock, a poor customer experience as they cannot get the product they want, reduced sales, operational disruptions and staff inefficiencies, and an impact on the brand if delivery standards are not maintained. If the business does not track the high-value stock items then this can lead to financial implications for the business overall. |