

Technology Advances

Tyson Essay Contest



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A lot of changes in the consumer packaging and food processing industry are attributed to the recent advances in technologies. Technology is an ever-changing topic that continues to grow and expand beyond imagination. Technology is one aspect that is on the leading edge of business and continues to demand better and more efficient ways for processes and production.

One major advancement has been through robotics. Many people are hesitant toward robots in fear of them taking the place of workers and causing the loss of jobs. This is simply not the case. The use and implementation of robots has created more jobs through programming, maintenance personnel, analysts, and the basic expansion of current production lines to accommodate the new robots and technology. For the most part, robots are used to do task that are dirty, dangerous, and require repetitive motions that involve twisting or stooping that cause pain or lead to possible injury for the employee. The use of robots results in fewer injuries, amputations, and deaths. This is a win-win for everyone. The companies maintain lower product pricing, reduce insurance premiums for their employees, and most of all, employees return safely home to their families.

Through technology, there is a revolution of robots known as Cobots, collaborative robots. These are robots that work side by side human workers without the use of safety fencing or additional safety guarding. This is quickly becoming an efficient way to complete tasks and speed up production time.

Another way technology is changing the food industry is by developing packages that help extend the shelf life of products. This allows food to travel further to remote areas in the world that could not be reached before. Green bags are an example of this type of technology. They are made of a polymer that allow ethylene to escape out of the bag while keeping other gases in. If the ethylene remains in the bag, it will cause the fruit to ripen faster. This is especially notable in bananas. This allows certain produce to be shipped further and last longer on grocery shelves. (SCI Journer, 2011)

Other packaging advances allow for new packaging material that is not as harmful to the environment that is biodegradable and reduces the release of greenhouse gases. Other materials are recycled rather than filling landfills. New packaging containers, such as saddle bags, are allowing for less waste and much lighter weight. This adds up in freight charges and saves over time as well as produces and collects significantly less waste. The packages are much smaller. They have capabilities of heat shrinking down to almost the size of the product itself. This takes up a lot less space in a box, on a truck, and on the store shelf. This provides for a cost savings to all. The new packages cost less, saves shipping cost, and saves shelving for the retailer.

Food processing also extends shelf life of certain products like milk through ultra-pasteurization, allowing unopened milk containers to be stored without refrigeration. This is made possible by increasing the milk’s temperature during the packaging process, killing the bacteria present so refrigeration is not necessary until the container is opened by breaking the seal. New packaging is currently being utilized because of aseptic processing where the product is heated separate from the container and then with the container being sanitized, the product is filled into the container in a sterile environment. This makes it possible to use thin plastic packages for filling that would not be able to handle the heat treatment needed to kill the bacteria. (FDA.gov, 2004)

Intelligent packaging is a new and exciting breakthrough using the latest advances and technology to fuel data. An example of intelligent packaging is labels that can be scanned to display ingredients, nutritional information, and preparation directions on smart phones or tablets. Intelligent packaging is taking it a step further to tell how to properly dispose of the package and if it can be recycled or reused as well as added food safety (Sand, 2018).

Active packaging yet is another advancement that is being explored currently. It interacts with the food. This allows for the mass production of a product and then the polymers and paper packaging would transfer the flavor, nutrients, and bioactive agents to the products. This provides an avenue for a larger variety of products and helps extend shelf life (Sand, 2018).

In conclusion, robots and advances in technology are not replacing or taking the place of human jobs, rather they are aiding in the safety and efficiency of producing and manufacturing products and services. From providing safety benefits to reducing costs for injury related incidents, robots and technologies are on the rise. Advances in technology combined with modern science are opening the doors to a better future for employees, employers, and consumers by providing better products at better prices. Grasping technology and moving forward with the knowledge at hand will lead the next generation of leaders into a better tomorrow.

# Bibliography

*FDA.gov.* (2004, September). Retrieved from Guidance for Industry: https://www.fda.gov/downloads/Drugs/Guidances/ucm070342.pdf

Sand, C. K. (2018, February). *The Future of Food Packaging Is Personal.* Retrieved from IFT.ORG: http://www.ift.org/food-technology/past-issues/2018/february/columns/packaging-personalized-food-packaging.aspx

*SCI Journer.* (2011, March 20). Retrieved from Do Green Bags Really Work?: http://www.scijourner.org/2011/03/20/do-green-bags-really-work/