The Conveyor

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HIGH PERFORMANCE LOADING SYSTEMS
DRAKE®

NUNNSENSE

Robots Don't Sneeze!

ACHOO!

As many of you know, Drake has been developing robotic inspection systems for our standard line of automatic loading systems for the last few years.

What you may not know is that one of the primary concerns we are addressing is the need to remove human contact from ready to eat (RTE) food products.

The typical driver for investment in all types of automation is both increased production and cost reduction. Typically labor. The food industry in particular needs to weigh the true value of the reduction of human contact with raw and RTE foods.

Robots don't cough, sneeze, come down with the flu, or more importantly, naturally produce listeria monocytogenes! (~10% of human gastrointestinal tracts are colonized by L. monocytogenes) We have done the research, and robots don't have gastrointestinal tracts.

We all know that reducing humans in food plants reduces the propagation of bacteria, and nowhere is this more important than in RTE production areas of a food plant.

Unfortunately, due to the need to wash, steam and chemically treat these areas of a food plant, equipment is subjected to some of the harshest conditions that a food plant can throw out.

ETI Robotic Inspection

This technology requires lights, cameras and fast moving servo motors, all needing to be closed up in hermetically sealed boxes. This technology is just coming around to these standards as the food industry in general has not been demanding robotic automation nearly as much as many other industries.

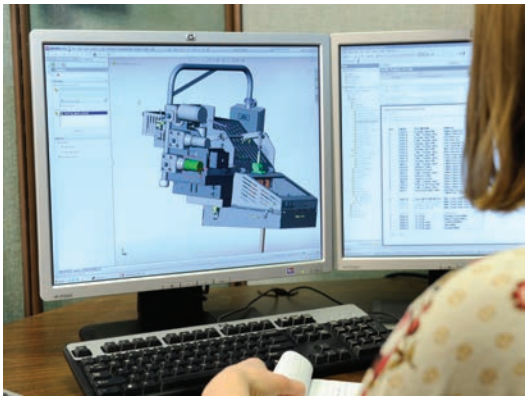
The good news is that many manufacturers of this type of technology such as Drake, are hard at work to make this automation "food plant ready."

I encourage you to investigate the use of robotics in all areas of your operations that can benefit from this technology. The more demand the automation industry receives from the food industry for these products, the faster the development cycle. The faster the development cycle, the sooner you can reduce the potential for human contact with your RTE products.

Stephen C. Nunn

Three Dimensional Project Modeling

Every new loader built by Drake is designed by Drake engineers using SolidWorks® 3D solid modeling software. In addition, every Drake loader is assigned a unique serial number and corresponding bill of material is created. Serialized maintenance, operator and sanitation manuals are all written. The bill of material, 3D model and manuals for the loader are then kept and maintained by Drake for the life of the loader. For example, if a modification to the machine is required in the future to load a new package configuration, Drake engineers can easily retrieve the model for reference. This allows them to efficiently and accurately make document changes. If new technology becomes available for a more reliable or sanitary component, Drake engineering and customer service can work together to determine which customers have loaders that could potentially be upgraded. Even when two identical loaders are built together, a unique model and bill of material is created just in case one gets modified in the future.



Drake began using 3D modeling software in the late 1990's. Prior to that, 2D computer aided design software was used. When older loaders undergo a significant modification, Drake engineers will use the original 2D drawings to create new 3D models. This allows them to incorporate current parts and assemblies in order to provide support for the life of the equipment.

George Reed

After many years in the industrial equipment business, Mr. Fred R. Drake had an innovative idea to efficiently increase loading production. The company began as a "Mom and Pop" organization, but the tenacious spirit of Fred and his family led to their success as a worldwide manufacturing leader of loading systems.

In 1984, they introduced a new loading system. The machine offered superior technical features, loading 25% faster using less floor space, "first-in first-out " handling, and was ruggedly built to last. Founded on this new idea, the shop was set up to foster invention with a commitment to customer service. The flow of new ideas continues today from engineering to manufacturing through field service and back again.

The company has grown exponentially since those early days, but one of the family members is still a part of the staff.

Congratulations Gregg Martin, Controls Engineer, on 25 years with Drake!

COMMITTED TO

Quality & Continuous Improvement

Drake began 2011 with a renewed commitment toward quality and the reduction of manufacturing costs by creating a new position, Director of Lean / Quality Control. I was fortunate enough to be chosen for this position and began the formidable task of redefining how Drake effectively builds quality into our equipment.

Most manufacturers know that the cost of raw materials skyrocketed when the world economy started booming. Those of us limited to a select few raw materials, such as stainless steel, became acutely aware of how nickel can drive the cost of our products higher. As a result, Drake established goals to remain competitive in the global market.

A new program was initiated this year to focus on quality, continuous improvement, and manufacture by design teams. The goal is to enhance the quality and value to our customers' investment through intelligent designs that minimize material and labor waste. All customer and employee suggestions are considered during the design phase as well. Drake has also invested in new manufacturing equipment that has the potential to increase manufacturing cost effectiveness when we design products to run efficiently on these machines. The acquisition of a laser and a precision CNC press break opened many new design alternatives that can reduce the number of parts, lessen or eliminate welding setups, enhance sanitation with streamlined assemblies, and improve quality by designing the manufacturing process for making the parts early in the production cycle.

One of the best books I've found on the subject of quality control is *Juran's Quality Handbook*. This was the starting point for my journey with continuous improvement teams. Juran goes to great lengths in this book to explain his "Quality by Design" process. This process has six steps that clearly define the design process from sales to the final delivery of the product.

1) **Establish the Project and Design Goals** – Without differentiating exactly what we are designing, everything collapses into vagueness.
2) **Identify the Customers** – Ultimately, the customers define quality. A customer can be an internal department as well as the eventual end user of the product. Each of these customers has unique needs.
3) **Discover the Customers' Needs** – Functionality, safety, sanitary design, as well as OSHA and CE requirements are all needs of the customer. In this phase, the customer needs all have to be prioritized because if some are not met the process may not go forward.
4) **Develop the Product or Service Features** – A feature is the thing that the customer employs to meet their needs. As the list of features grows, we realize that we cannot have all the features at the same priority level.
5) **Develop the Process Features** – The process is the thing that creates the features. In other words, the process must be capable of creating the product requirements. Variation comes from processes, goals come from humans.
6) **Develop Process Goals and Transfer to Operations** – In this step, planners develop controls for the process and arrange to transfer the entire product plan to operations.

By obtaining participation from all departments early in the process many of the common pitfalls of designing new products, or redesigning older products, can be eliminated or reduced. Mike Sullivan